COMPLETION REPORT
PHASE I
CONTRACT NO. EG-77-S-07-1691

VOLUME E
APPENDIX II
OREGON REACH DATA TABLES

A RESOURCE SURVEY OF LOW-HEAD HYDROELECTRIC POTENTIAL PACIFIC NORTHWEST REGION

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UNITED STATES DEPARTMENT OF ENERGY

MARCH 1979

FORWARD

Due to the tremendous volume of information presented in this report, final publication has been split into ten volumes. The first volume (Volume A) contains the main report which describes study methodologies and sample data tables. The remaining nine volumes (Volumes B-J) contain sets of complete data tables for all the streams studied. Page iii of this volume contains a listing of the contents of all of the volumes. A listing of the distribution of the different report volumes is contained on pages 98 and 99 of Volume A.

Those desiring information from or copies of any of the reach sheets should contact the Idaho Water Resources Research Institute or the water research institute in the particular state in which the stream or streams of interest are located. Institute addresses are shown on the distribution list.

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UMATILLA
GRANDE RONDE
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MALHEUR*
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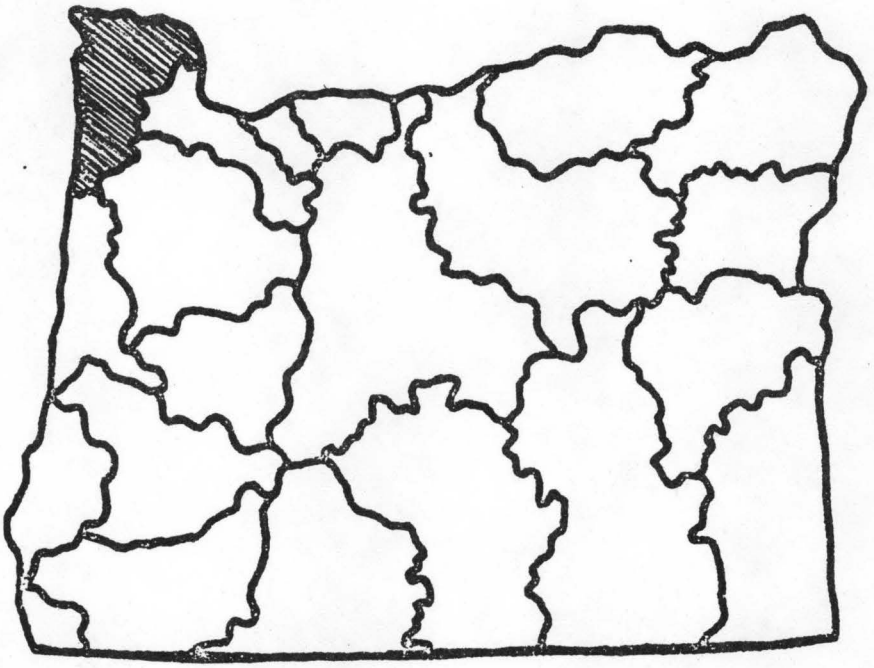
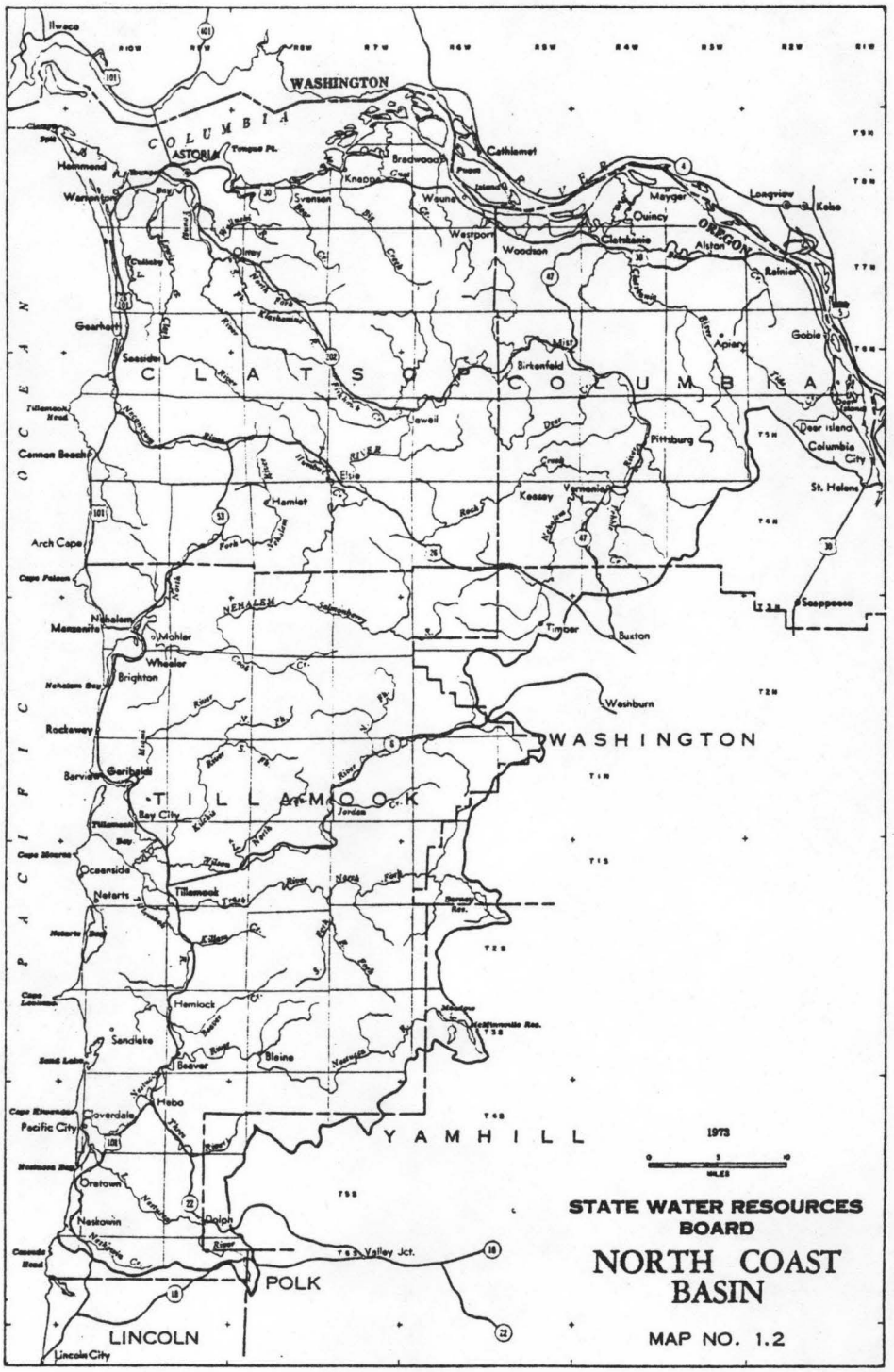


APPENDIX 1

NORTH COAST BASIN


WASHINGTON
COLUMBIA
ASTORIA
OREGON
CLATSOP
COLUMBIA
TILLAMOOK
WASHINGTON
YAMHILL
POLK
LINCOLN
PACIFIC OCEAN
NEHALEM
1973
STATE WATER RESOURCES BOARD
NORTH COAST BASIN
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REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-003-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R9W, Sec.7
D.	Latitude, Longitude	46° 05'N,123° 52'W
E.	Stream Name	Lewis & Clark River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 10.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

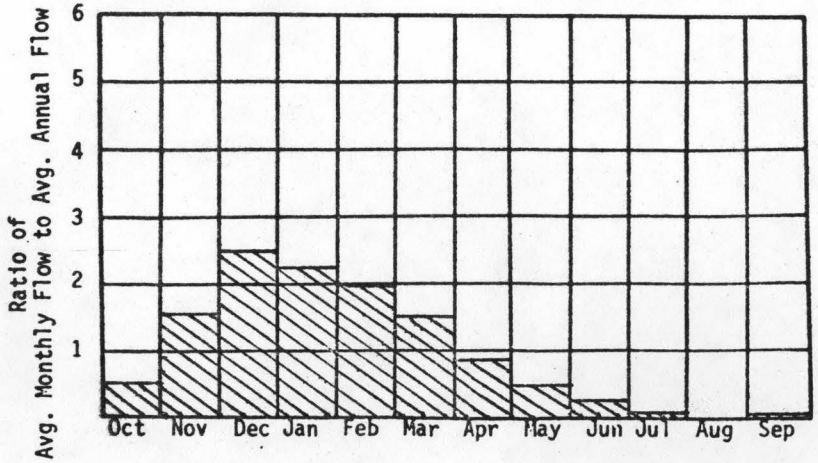
A.	Upstream Elevation of Reach	38	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	38	Ft.
D.	Average Slope in Reach	3.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	60.7	Sq.Mi.
F.	Inflow Classification	Natural	

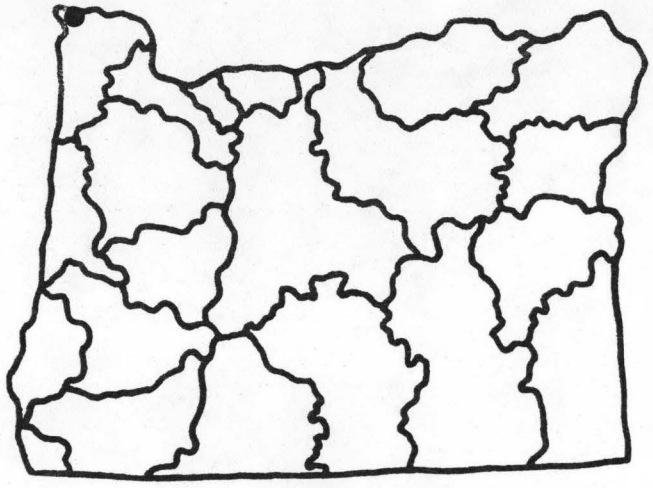
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.3	.04	.38	1.000
80	25.5	.08	.68	.940
50	114.3	.37	2.30	.715
30	254.5	.82	3.89	.541
10	653.3	2.10	6.14	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 252 CFS





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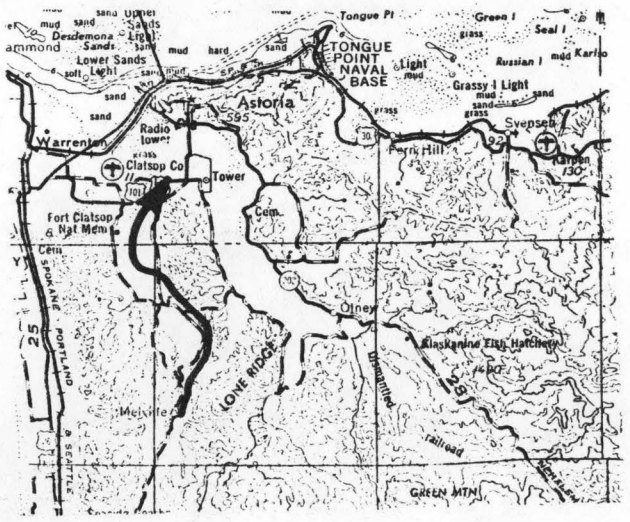
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-003-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T6N, R9W, Sec.18
D.	Latitude, Longitude	45° 58'N,123° 52'W
E.	Stream Name	Lewis & Clark River
F.	Major Basin Name	North Coast
G.	River Mile	10.0 to 19.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

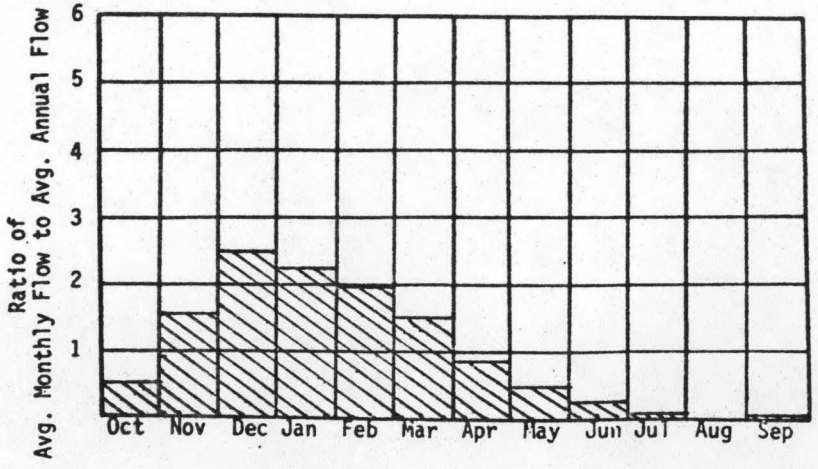
A.	Upstream Elevation of Reach	538	Ft. MSL
B.	Downstream Elevation of Reach	38	Ft. MSL
C.	Total Available Head in Reach	500	Ft.
D.	Average Slope in Reach	55.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	40.3	Sq.Mi.
F.	Inflow Classification	Natural	

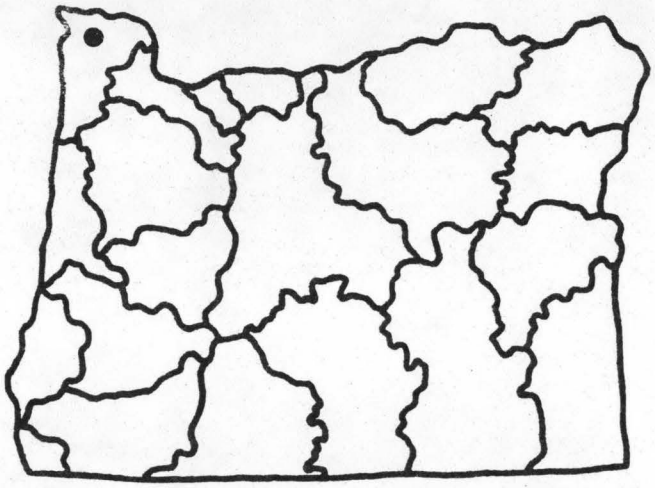
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.5	.36	3.16	1.000
80	16.4	.70	5.74	.940
50	72.6	3.08	19.28	.716
30	163.7	6.94	32.81	.540
10	420.1	17.80	51.84	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 162 CFS





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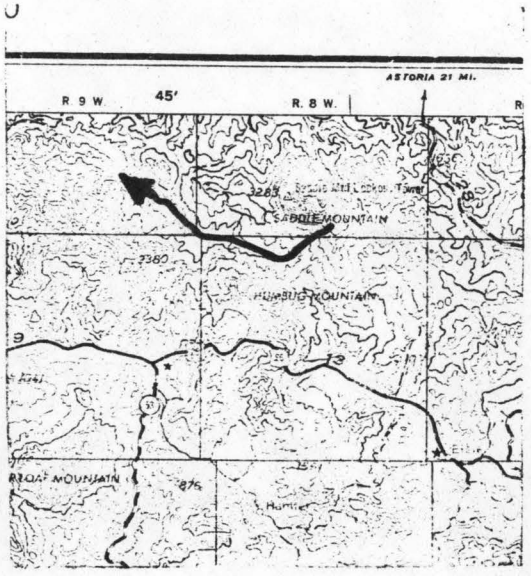


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-003-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T6N, R9W, Sec.22
D.	Latitude, Longitude	45° 59'N,123° 47'W
E.	Stream Name	Lewis & Clark River
F.	Major Basin Name	North Coast
G.	River Mile	19.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

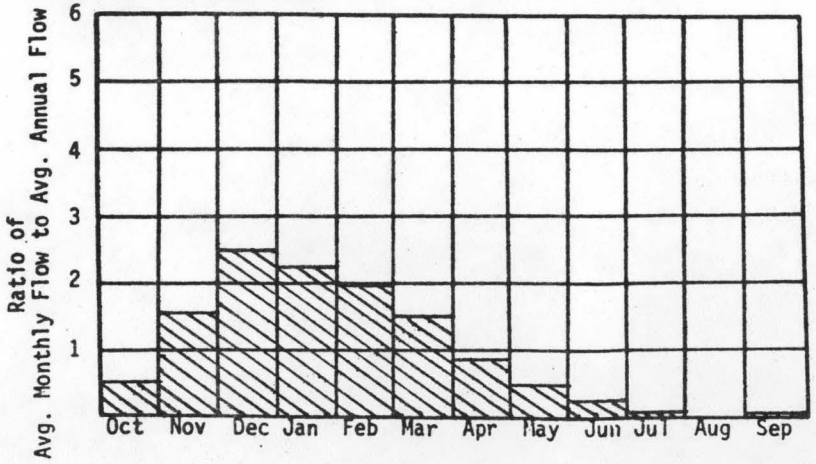
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	17.5	Sq.Mi.
F.	Inflow Classification	Natural	

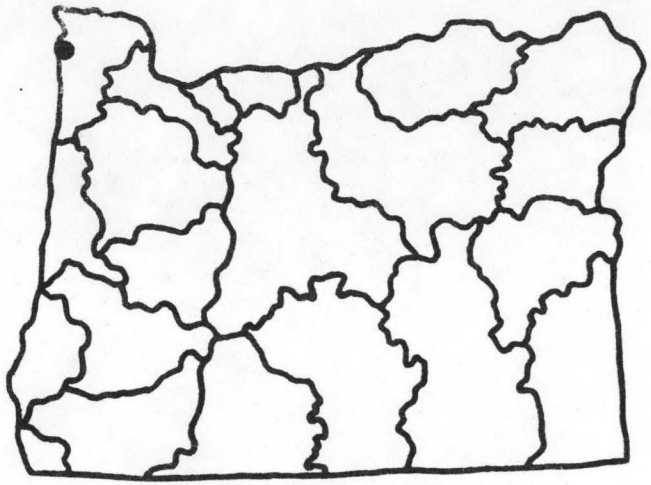
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.5	.03	.27	1.000
80	10.7	.06	.49	.939
50	46.4	.26	1.63	.716
30	105.9	.59	2.79	.539
10	271.7	1.52	4.42	.332

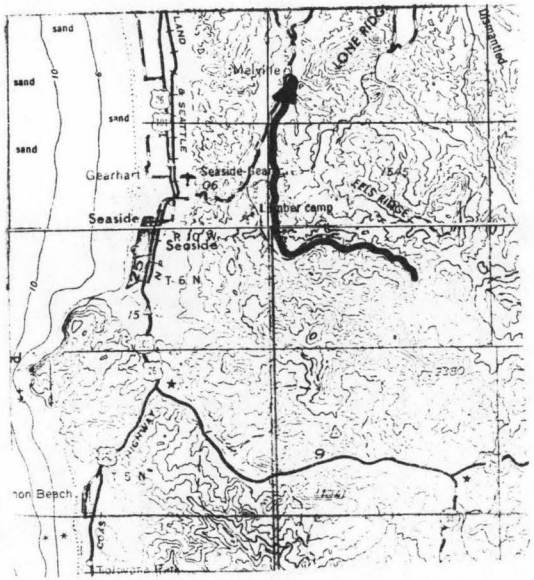
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 105 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T8N, R9W, Sec.8
D.	Latitude, Longitude	46° 9'N,123° 50'W
E.	Stream Name	Youngs River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 1.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

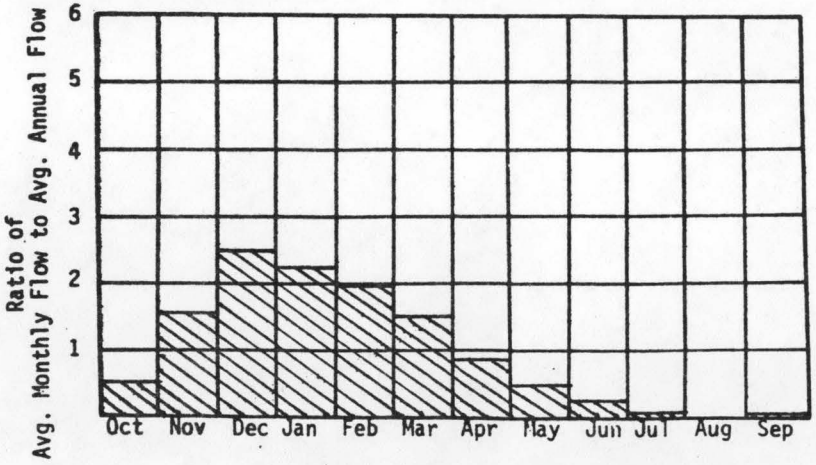
A.	Upstream Elevation of Reach	1.0	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	1.0	Ft.
D.	Average Slope in Reach	0.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	119.3	Sq.Mi.
F.	Inflow Classification	Natural	

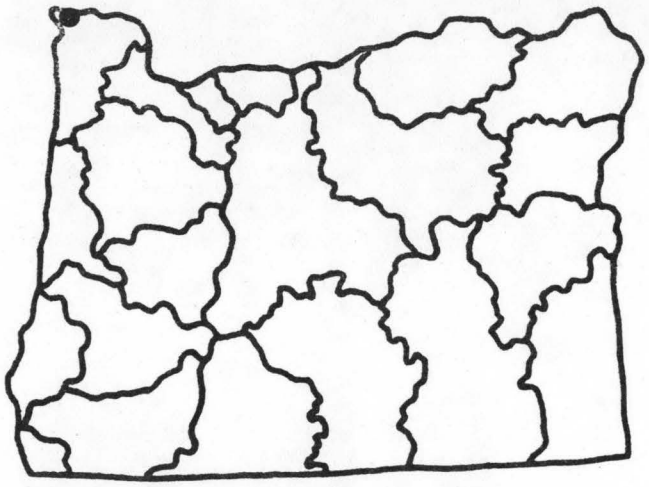
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	30.6	.00	.02	1.000
80	57.7	.00	.04	.941
50	265.2	.02	.14	.713
30	576.3	.05	.23	.544
10	1480.5	.13	.37	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 572 CFS





U.S.G.S. TOPO. SERIES
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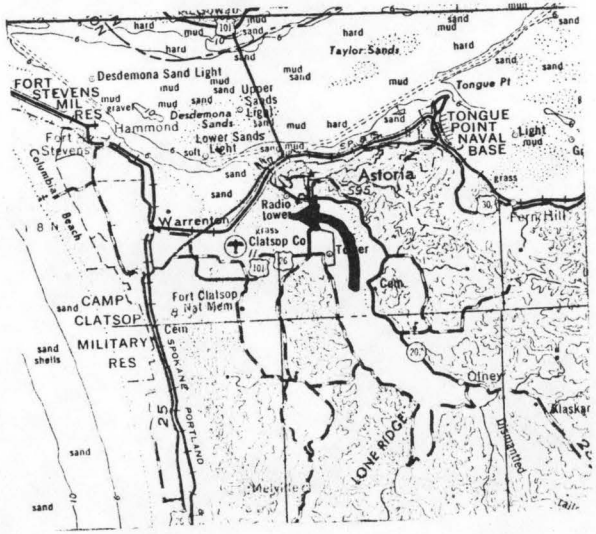
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R9W, Sec.4
D.	Latitude, Longitude	46° 06'N,123° 49'W
E.	Stream Name	Youngs River
F.	Major Basin Name	North Coast
G.	River Mile	1.8 to 6.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

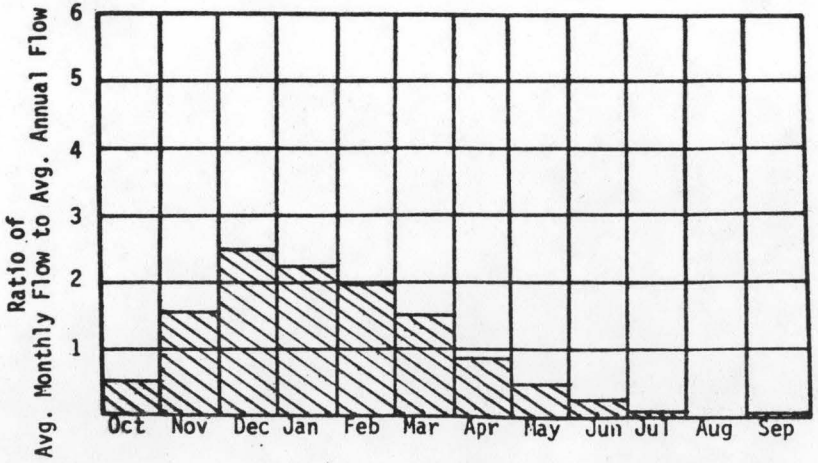
A.	Upstream Elevation of Reach	20	Ft. MSL
B.	Downstream Elevation of Reach	1.0	Ft. MSL
C.	Total Available Head in Reach	19.0	Ft.
D.	Average Slope in Reach	4.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	97.1	Sq.Mi.
F.	Inflow Classification	Natural	

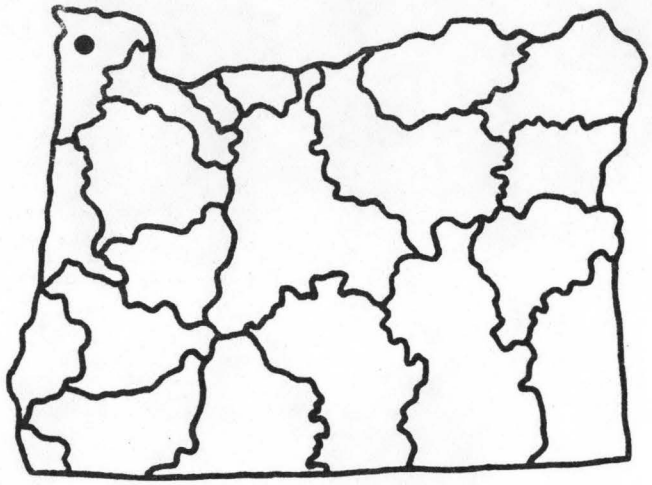
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	24.9	.04	.35	1.000
80	47.2	.08	.63	.941
50	215.7	.35	2.17	.714
30	471.5	.76	3.61	.543
10	1211.2	1.95	5.70	.334

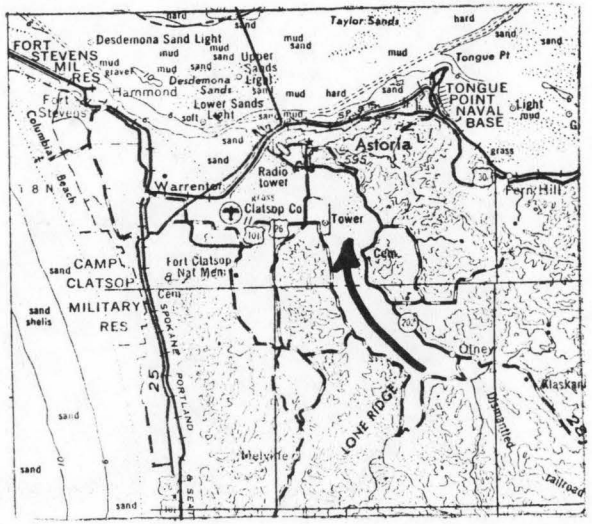
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 468 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-006-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R9W, Sec.14
D.	Latitude, Longitude	46° 06'N,123° 45'W
E.	Stream Name	Klaskanine River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 3.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

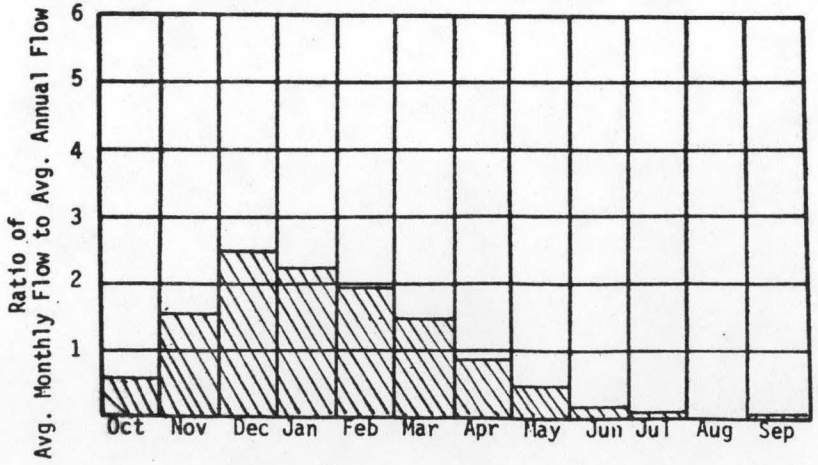
A.	Upstream Elevation of Reach	49	Ft. MSL
B.	Downstream Elevation of Reach	20	Ft. MSL
C.	Total Available Head in Reach	29	Ft.
D.	Average Slope in Reach	9.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	48.4	Sq.Mi.
F.	Inflow Classification	Natural	

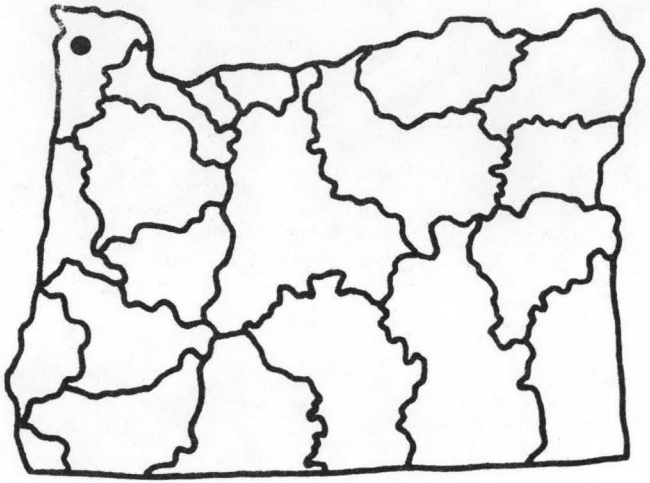
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.7	.03	.30	1.000
80	26.3	.06	.53	.940
50	117.8	.29	1.81	.715
30	262.0	.64	3.05	.542
10	672.5	1.65	4.82	.333

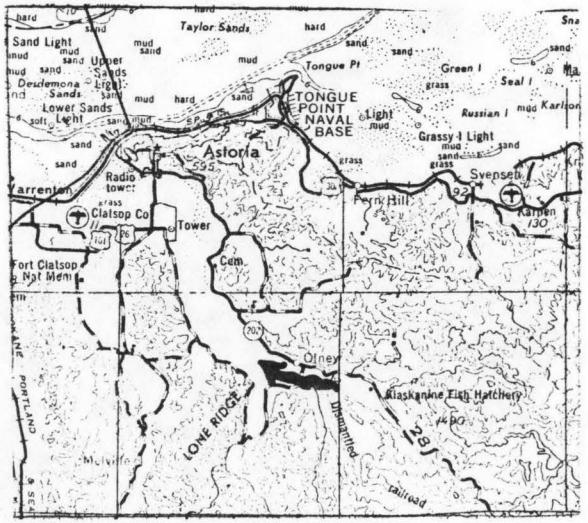
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 260 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-006-002-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R8W, Sec.18
D.	Latitude, Longitude	46° 05'N,123° 44'W
E.	Stream Name	N. Fork Klaskanine River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 2.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

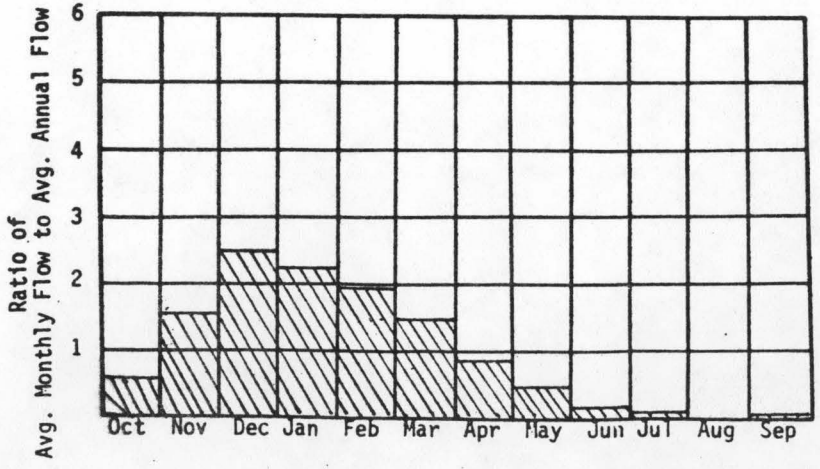
A.	Upstream Elevation of Reach	80	Ft. MSL
B.	Downstream Elevation of Reach	49	Ft. MSL
C.	Total Available Head in Reach	31	Ft.
D.	Average Slope in Reach	13.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	25.9	Sq.Mi.
F.	Inflow Classification	Natural	

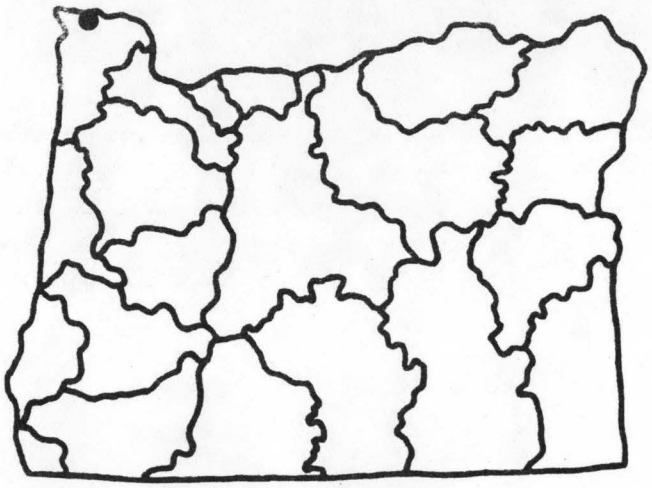
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.8	.02	.13	1.000
80	11.2	.03	.24	.939
50	48.9	.13	.81	.716
30	111.5	.29	1.38	.539
10	286.1	.75	2.19	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 110 CFS





U.S.G.S. TOPO. SERIES
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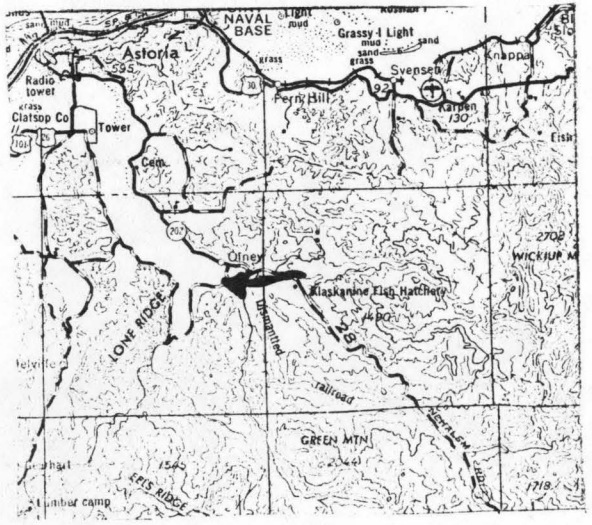
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-006-002-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R8W, Sec.18
D.	Latitude, Longitude	46° 03'N,123° 38'W
E.	Stream Name	N. Fork Klaskanine River
F.	Major Basin Name	North Coast
G.	River Mile	2.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

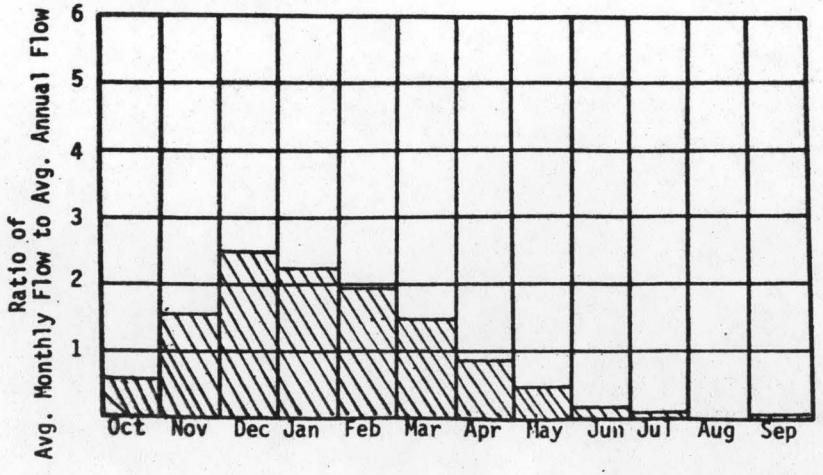
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16.1	Sq.Mi.
F.	Inflow Classification	Natural	

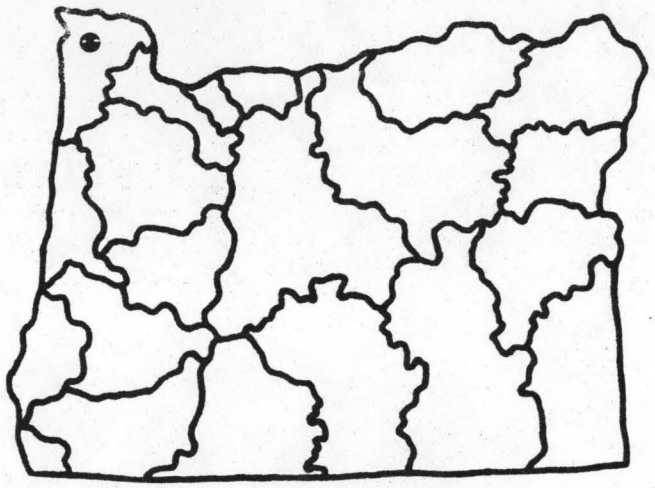
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.5	.03	.22	1.000
80	8.8	.05	.41	.939
50	38.3	.21	1.34	.717
30	87.9	.49	2.32	.538
10	225.4	1.26	3.66	.332

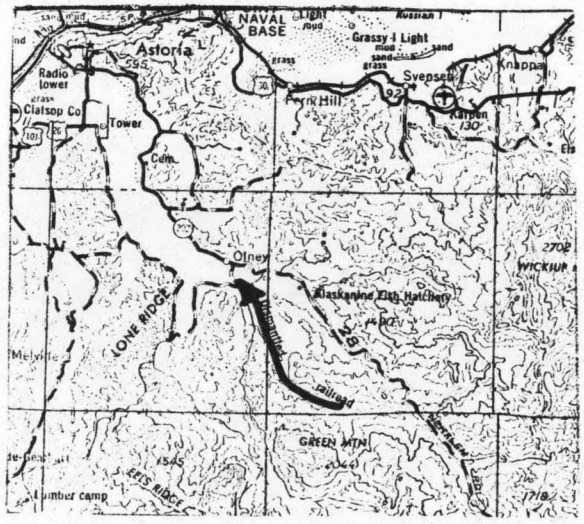
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 87 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-006-003-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R8W, Sec.30
D.	Latitude, Longitude	46° 03'N,123° 45'W
E.	Stream Name	S. Fork Klaskanine River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 5.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

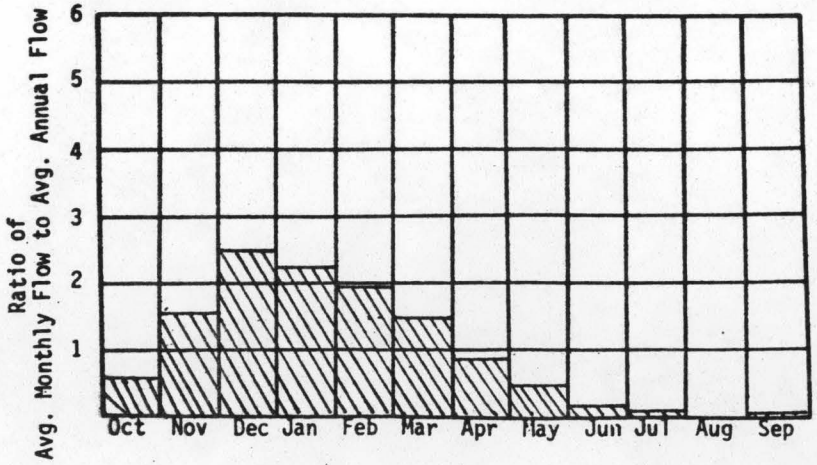
A.	Upstream Elevation of Reach	195	Ft. MSL
B.	Downstream Elevation of Reach	49	Ft. MSL
C.	Total Available Head in Reach	146	Ft.
D.	Average Slope in Reach	29.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	22.5	Sq.Mi.
F.	Inflow Classification	Natural	

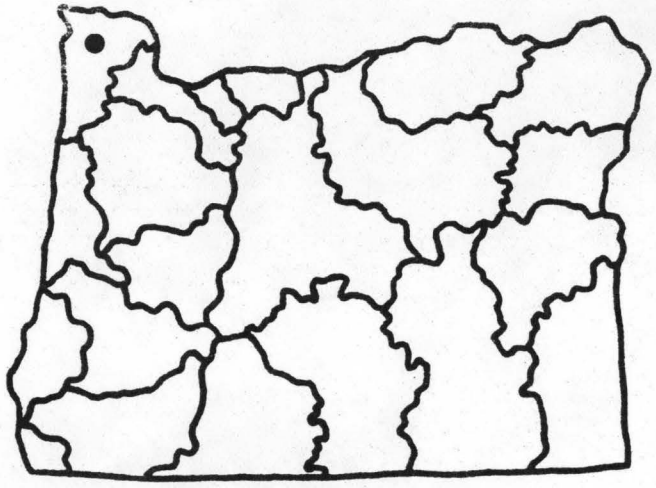
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.07	.61	1.000
80	10.9	.14	1.11	.939
50	47.5	.59	3.69	.716
30	108.5	1.34	6.34	.539
10	278.4	3.44	10.02	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 108 CFS





U.S.G.S. TOPO. SERIES
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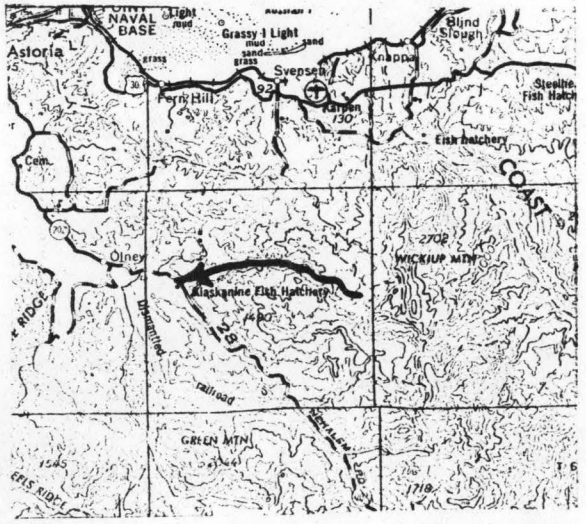


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-006-003-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T6N, R8W, Sec.32
D.	Latitude, Longitude	46° 02'N,123° 37'W
E.	Stream Name	S. Fork Klaskanine River
F.	Major Basin Name	North Coast
G.	River Mile	5.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

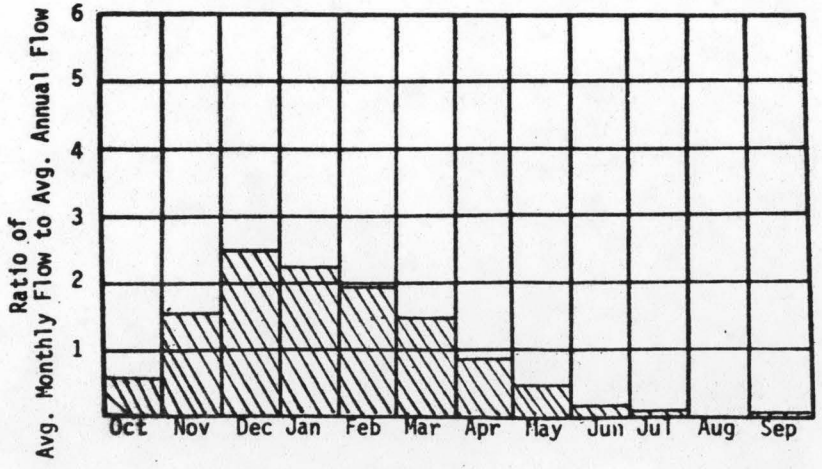
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16.3	Sq.Mi.
F.	Inflow Classification	Natural	

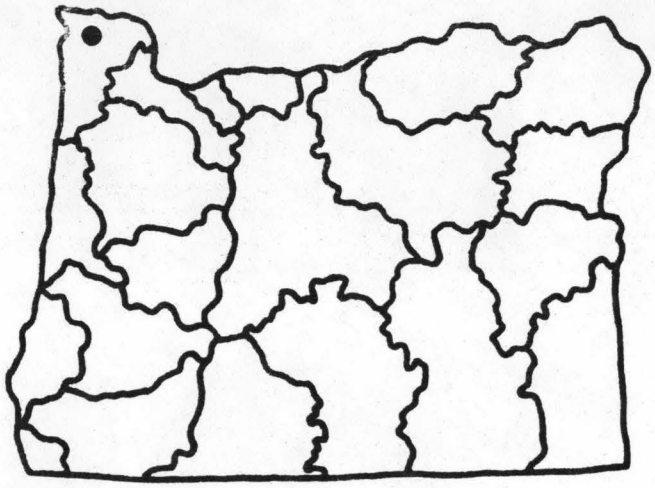
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.03	.24	1.000
80	9.4	.05	.43	.939
50	40.8	.23	1.43	.717
30	93.6	.52	2.47	.538
10	240.1	1.34	3.90	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 93 CFS





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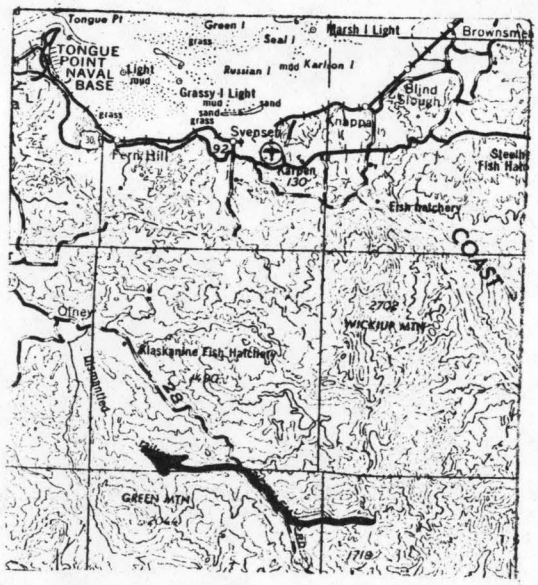
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R9W, Sec.34
D.	Latitude, Longitude	46° 03'N,123° 45'W
E.	Stream Name	Youngs River
F.	Major Basin Name	North Coast
G.	River Mile	6.4 to 17.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

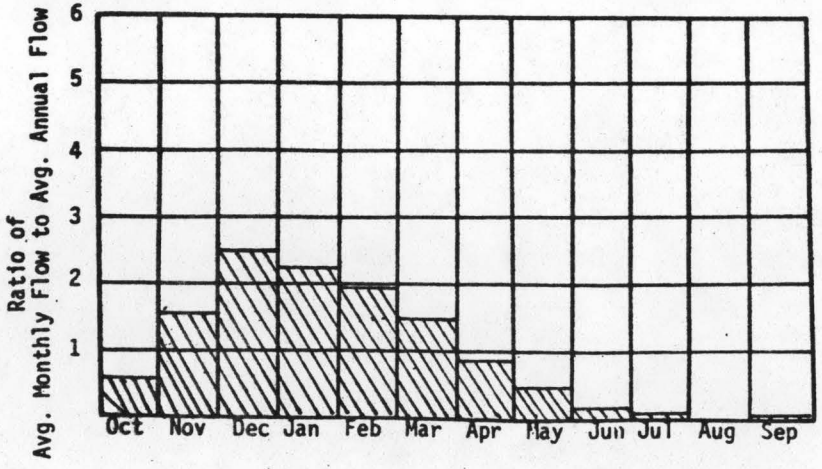
A.	Upstream Elevation of Reach	483	Ft. MSL
B.	Downstream Elevation of Reach	20	Ft. MSL
C.	Total Available Head in Reach	463	Ft.
D.	Average Slope in Reach	43.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	34.9	Sq.Mi.
F.	Inflow Classification	Natural	

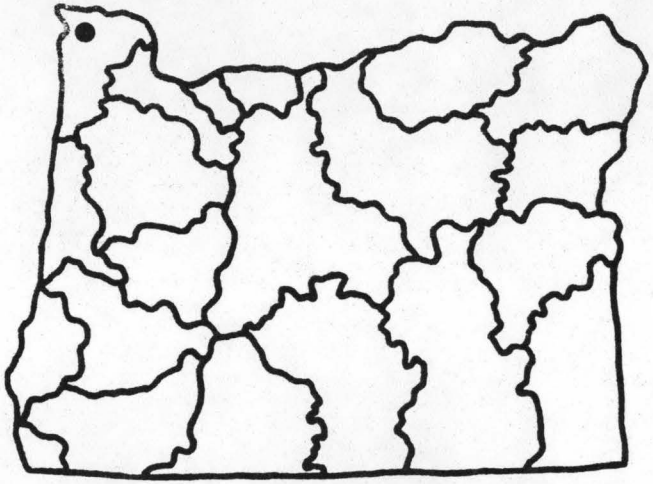
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.2	.28	2.48	1.000
80	14.0	.55	4.51	.939
50	61.4	2.41	15.10	.716
30	139.1	5.46	25.79	.539
10	356.8	14.00	40.76	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 138 CFS





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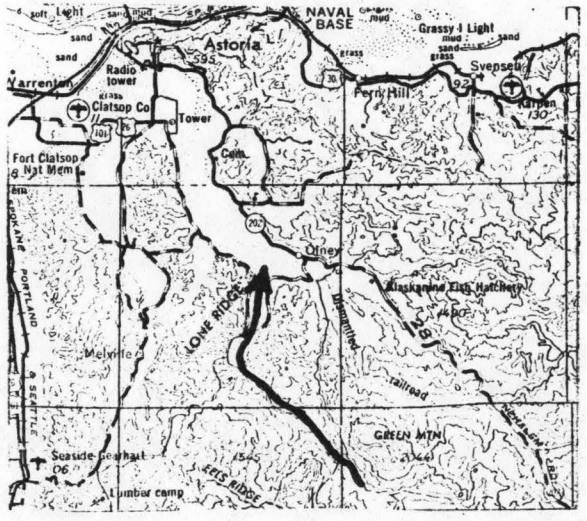


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-005-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T6N, R8W, Sec.18
D.	Latitude, Longitude	45° 59'N,123° 39'W
E.	Stream Name	Youngs River
F.	Major Basin Name	North Coast
G.	River Mile	17.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

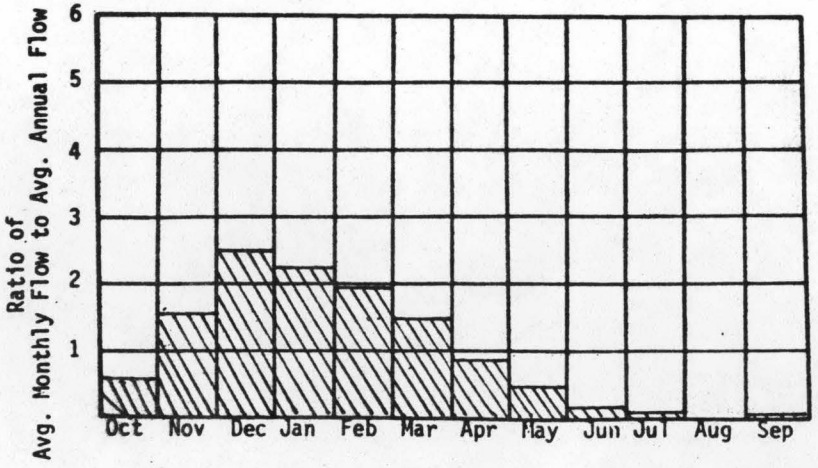
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16.6	Sq.Mi.
F.	Inflow Classification	Natural	

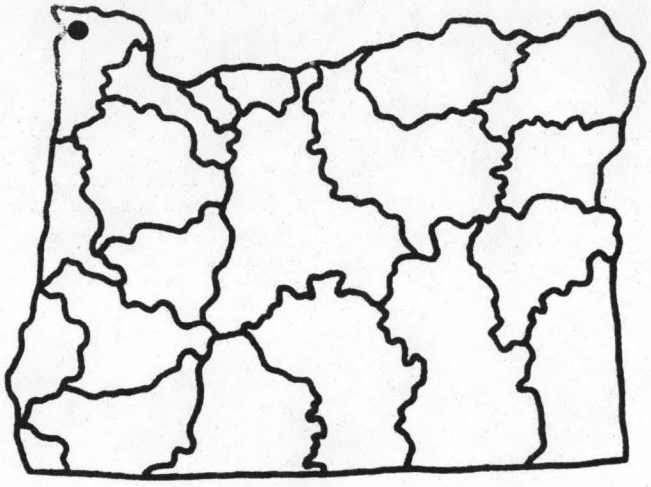
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.7	.03	.23	1.000
80	9.3	.05	.43	.939
50	40.2	.22	1.41	.717
30	92.2	.52	2.43	.538
10	235.5	1.32	3.85	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 92 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME : HOQUIAM-VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-011-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T8N, R7W, Sec.33
D.	Latitude, Longitude	46° 09'N,123° 33'W
E.	Stream Name	Big Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 8.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

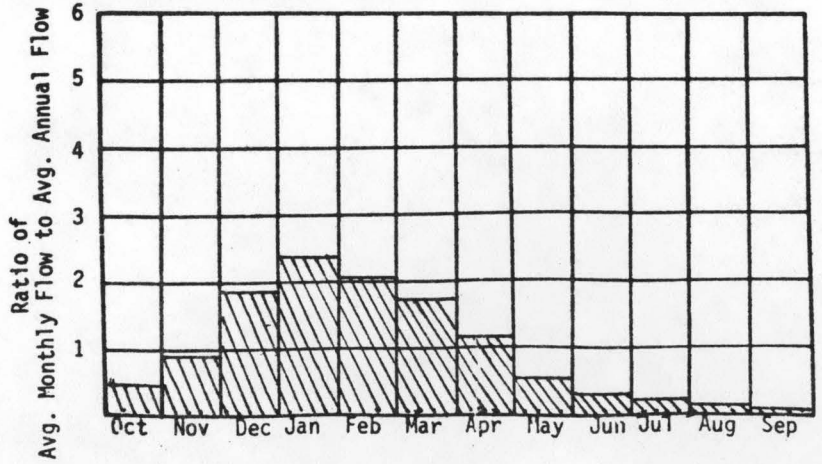
A.	Upstream Elevation of Reach	490	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	490	Ft.
D.	Average Slope in Reach	56.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	35.5	Sq.Mi.
F.	Inflow Classification	Natural	

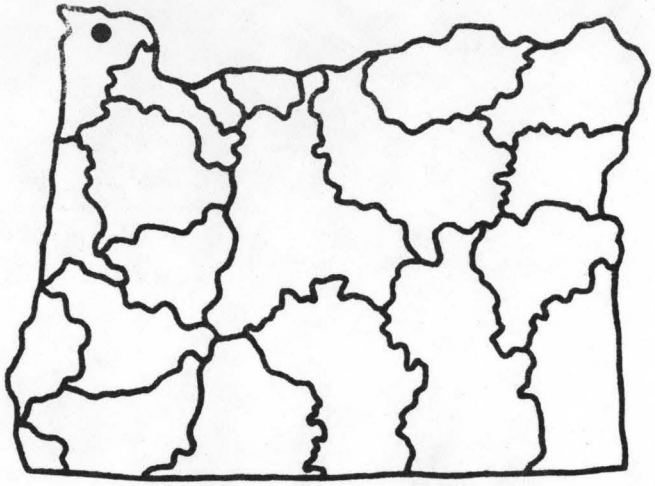
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.1	.30	2.60	1.000
80	13.9	.58	4.74	.939
50	60.9	2.53	15.86	.716
30	138.1	5.73	27.09	.539
10	354.2	14.71	42.82	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 138 CFS





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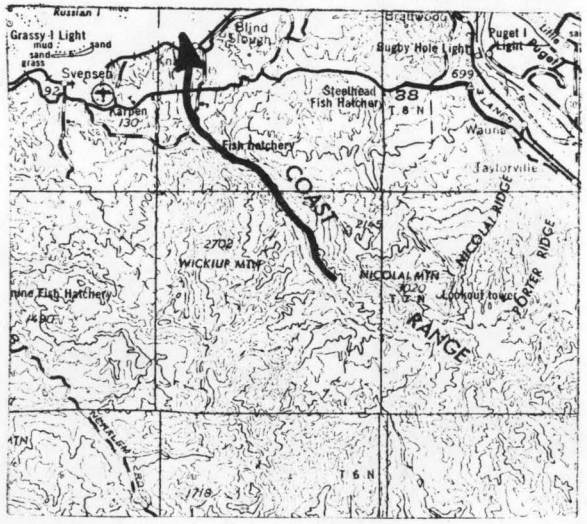
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-011-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T7N, R7W, Sec.14
D.	Latitude, Longitude	46° 04'N.123° 30'W
E.	Stream Name	Big Creek
F.	Major Basin Name	North Coast
G.	River Mile	8.7 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

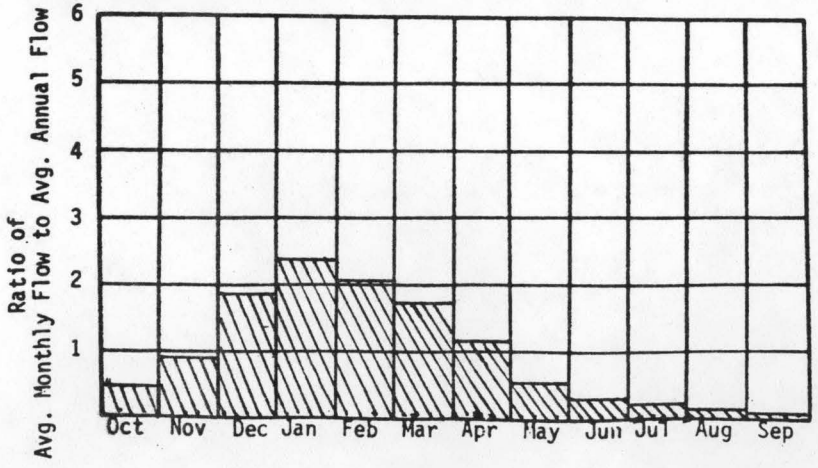
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	183	Sq.Mi.
F.	Inflow Classification	Natural	

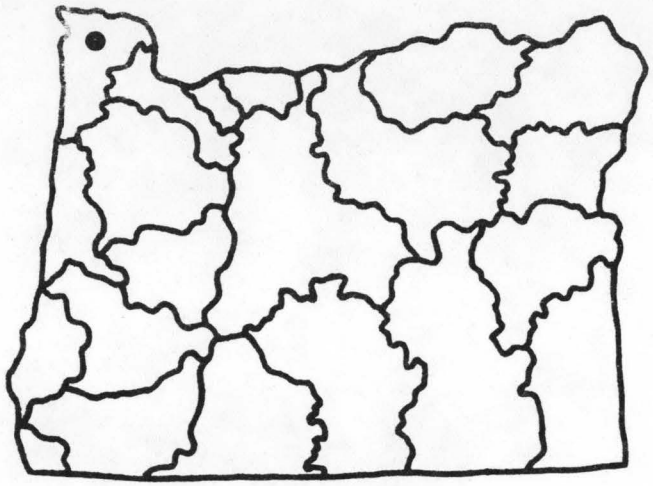
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.03	.25	1.000
80	9.8	.05	.45	.939
50	42.4	.24	1.49	.717
30	97.2	.54	2.56	.538
10	249.3	1.39	4.05	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 97 CFS





U.S.G.S. TOPO. SERIES
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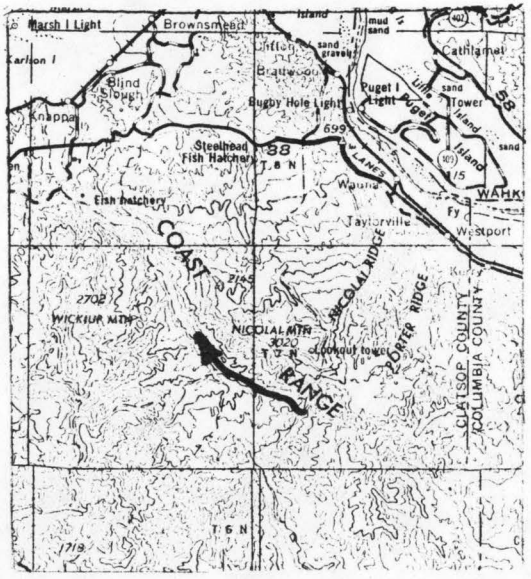
MAP NAME : HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-013-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T8N, R7W, Sec.3
D.	Latitude, Longitude	46° 12'N,123° 03'W
E.	Stream Name	Gnat Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 3.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

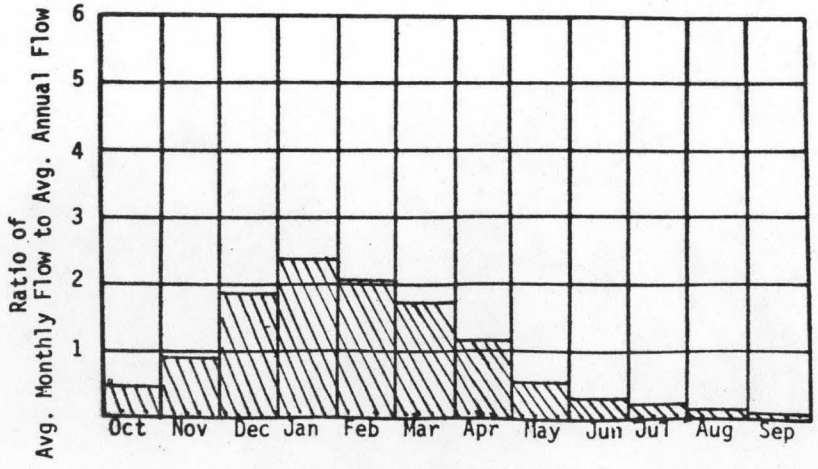
A.	Upstream Elevation of Reach	1.0	Ft. MSL
B.	Downstream Elevation of Reach	0.0	Ft. MSL
C.	Total Available Head in Reach	1.0	Ft.
D.	Average Slope in Reach	0.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	33.0	Sq.Mi.
F.	Inflow Classification	Natural	

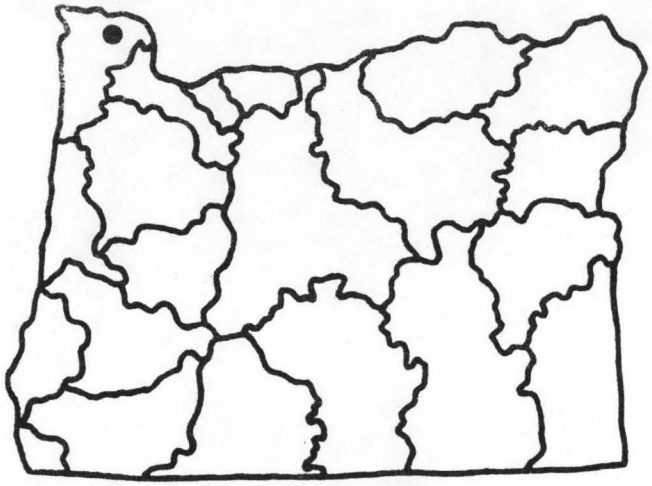
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.5	.00	.00	1.000
80	12.7	.00	.01	.939
50	55.7	.00	.03	.716
30	126.6	.01	.05	.539
10	324.9	.03	.08	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 126 CFS





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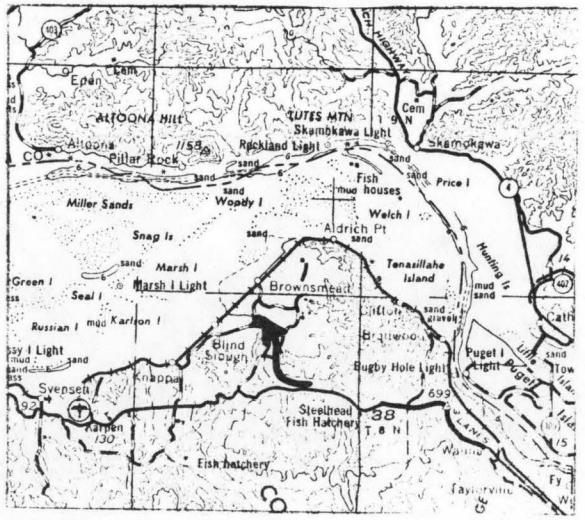


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-013-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T8N, R7W, Sec.15
D.	Latitude, Longitude	46° 09'N,123°30'W
E.	Stream Name	Gnat Creek
F.	Major Basin Name	North Coast
G.	River Mile	3.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

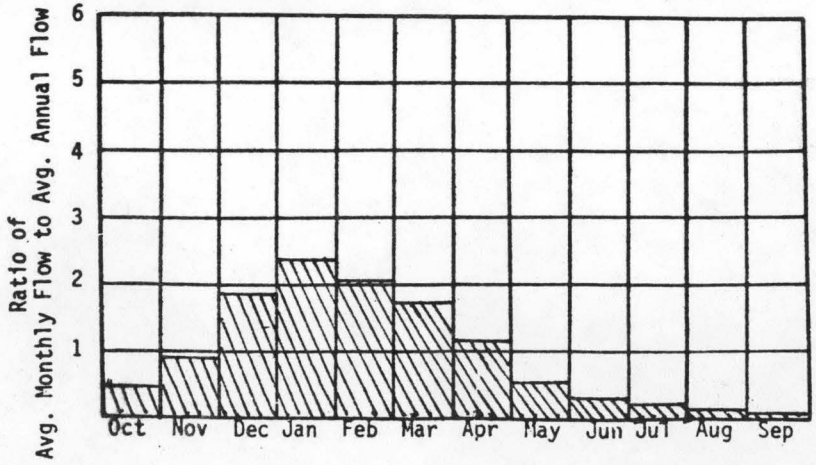
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	24.2	Sq.Mi.
F.	Inflow Classification	Natural	

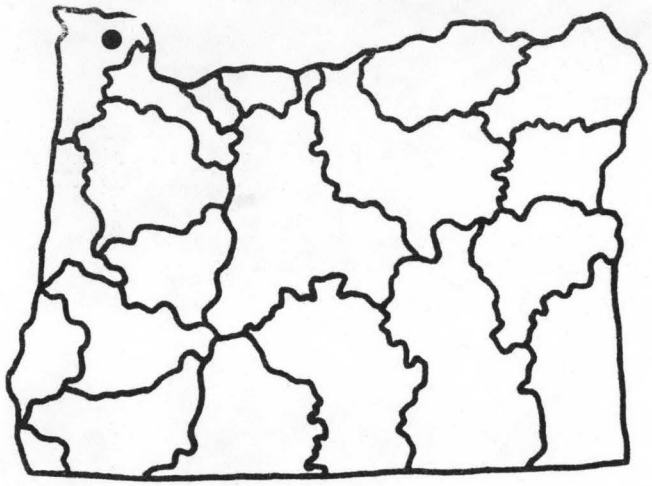
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.03	.27	1.000
80	10.9	.06	.50	.939
50	47.5	.27	1.67	.716
30	108.4	.61	2.86	.539
10	278.0	1.55	4.52	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 108 CFS





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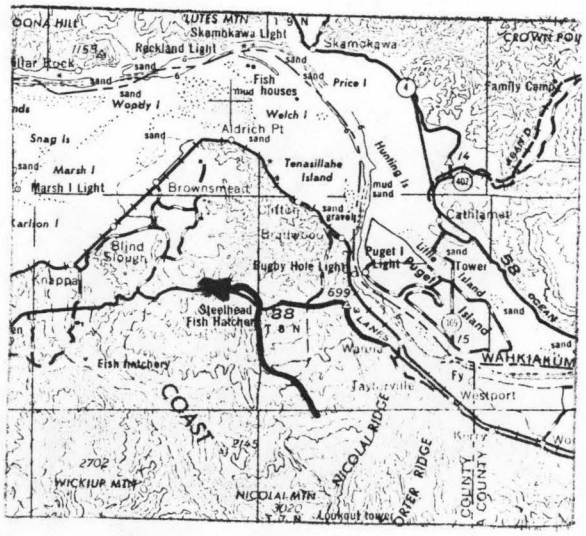


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-015-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T7N, R4W, Sec.16
D.	Latitude, Longitude	46°06'N,123°12'W
E.	Stream Name	Clatskanie River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 7.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

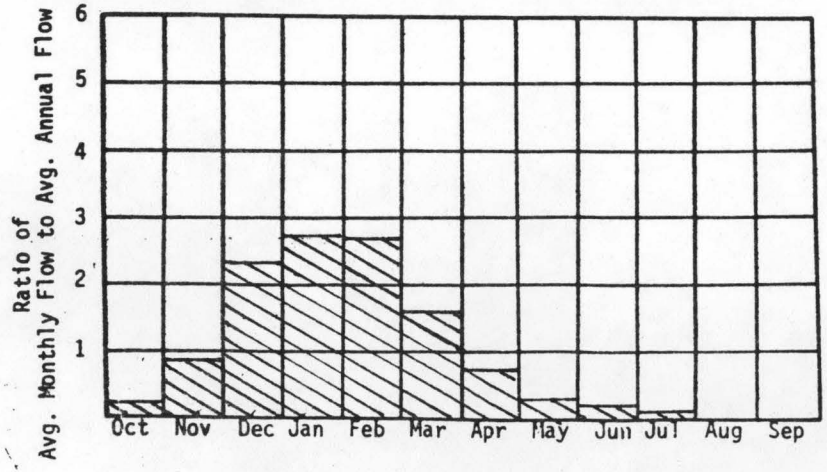
A.	Upstream Elevation of Reach	215	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	215	Ft.
D.	Average Slope in Reach	30.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	95.9	Sq.Mi.
F.	Inflow Classification	Natural	

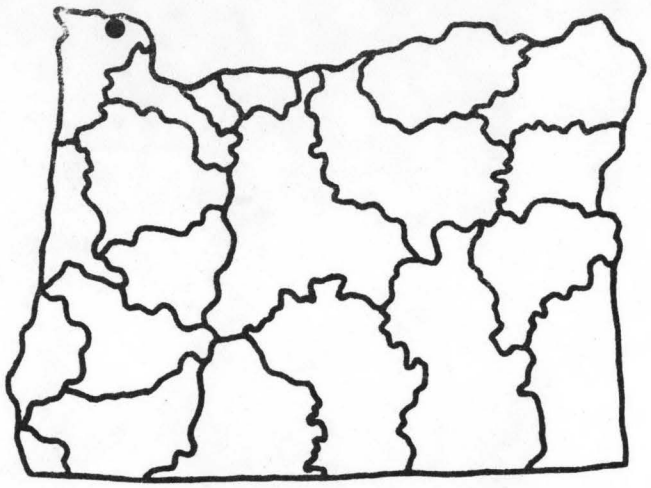
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.9	.23	2.06	1.000
80	24.7	.45	3.71	.940
50	110.6	2.02	12.63	.715
30	246.6	4.49	21.30	.541
10	632.9	11.53	33.64	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 245 CFS





U.S.G.S. TOPO. SERIES
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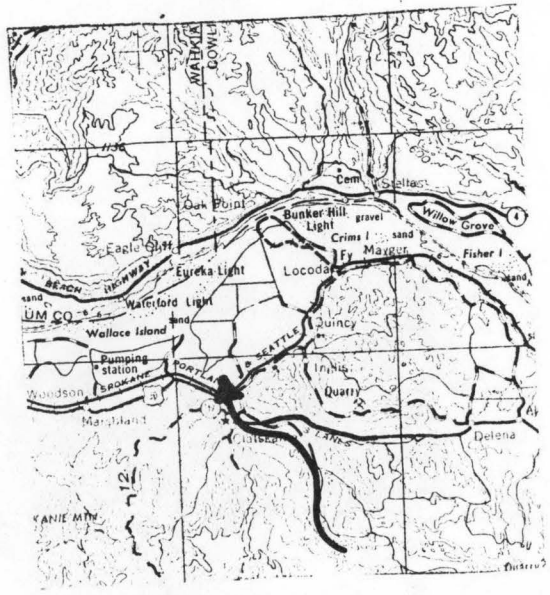


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-015-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T7N, R3W
D.	Latitude, Longitude	46°02'N,123°06'W
E.	Stream Name	Clatskanie River
F.	Major Basin Name	North Coast
G.	River Mile	7.0 to 13.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

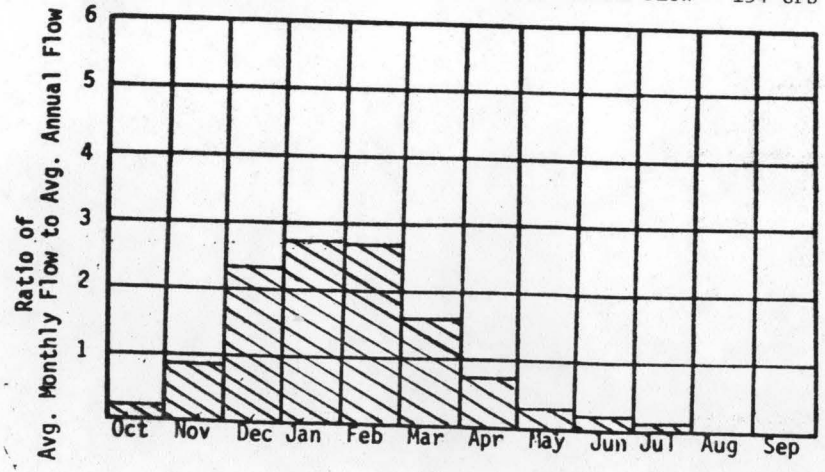
A.	Upstream Elevation of Reach	410	Ft. MSL
B.	Downstream Elevation of Reach	215	Ft. MSL
C.	Total Available Head in Reach	195	Ft.
D.	Average Slope in Reach	32.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	66.9	Sq.Mi.
F.	Inflow Classification	Natural	

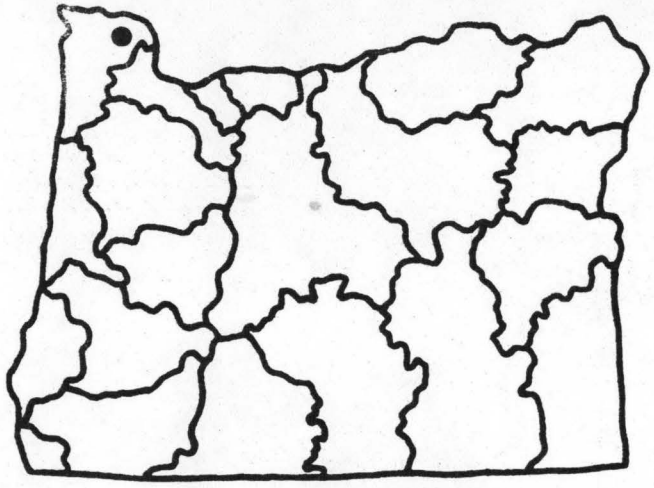
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.1	.13	1.17	1.000
80	15.6	.26	2.12	.940
50	68.7	1.14	7.12	.716
30	155.3	2.57	12.13	.540
10	398.5	6.58	19.18	.332

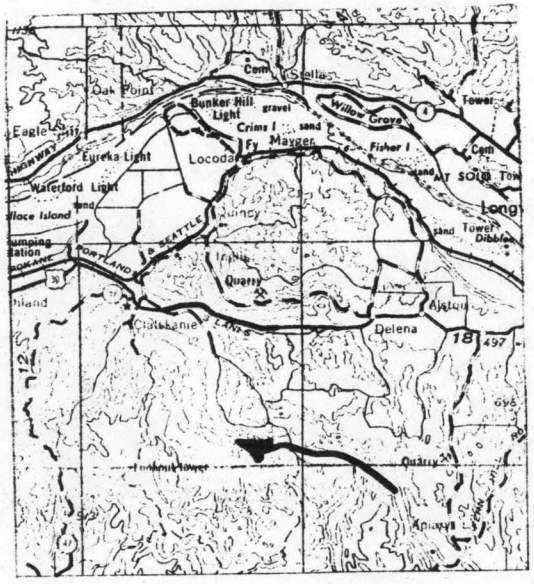
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 154 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-015-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T5N, R3W, Sec.4
D.	Latitude, Longitude	46°02'N,123°03'W
E.	Stream Name	Clatskanie River
F.	Major Basin Name	North Coast
G.	River Mile	13.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

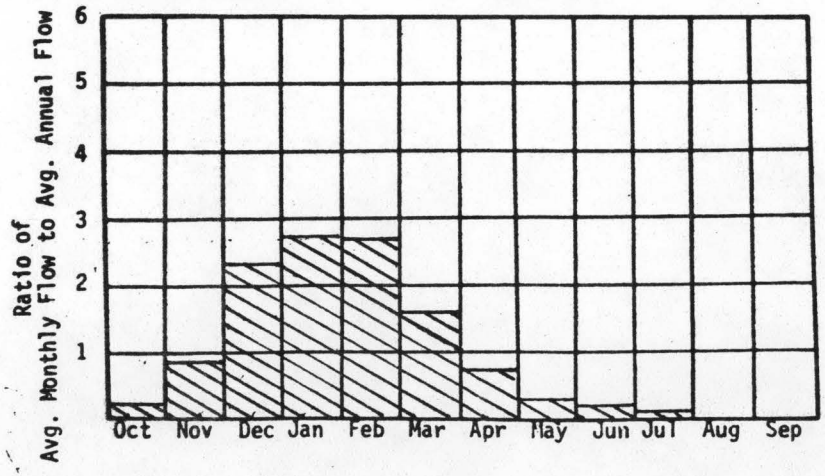
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	34.0	Sq.Mi.
F.	Inflow Classification	Natural	

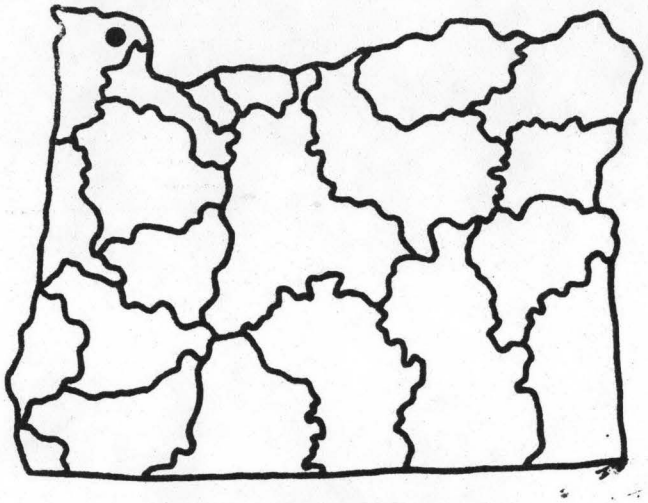
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.4	.03	.27	1.000
80	10.6	.06	.49	.939
50	46.1	.26	1.62	.716
30	105.2	.59	2.78	.538
10	269.9	1.51	4.39	.332

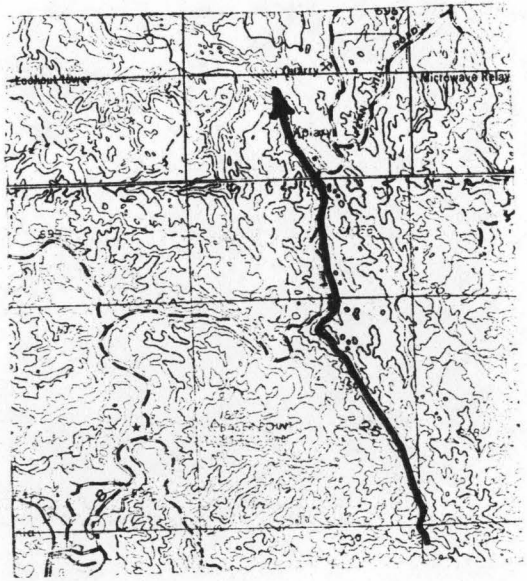
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 105 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-017-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T7N, R4W, Sec.11
D.	Latitude, Longitude	46°09'N,123°09'W
E.	Stream Name	Beaver Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 7.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

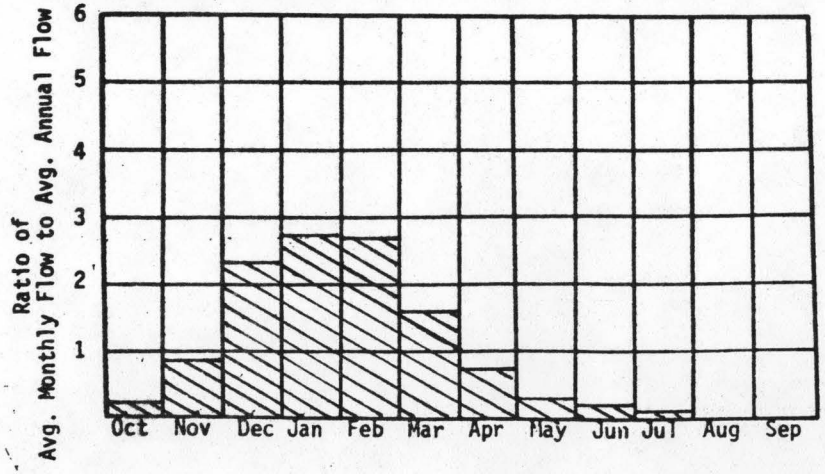
A.	Upstream Elevation of Reach	303	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	303	Ft.
D.	Average Slope in Reach	43.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	44.9	Sq.Mi.
F.	Inflow Classification	Natural	

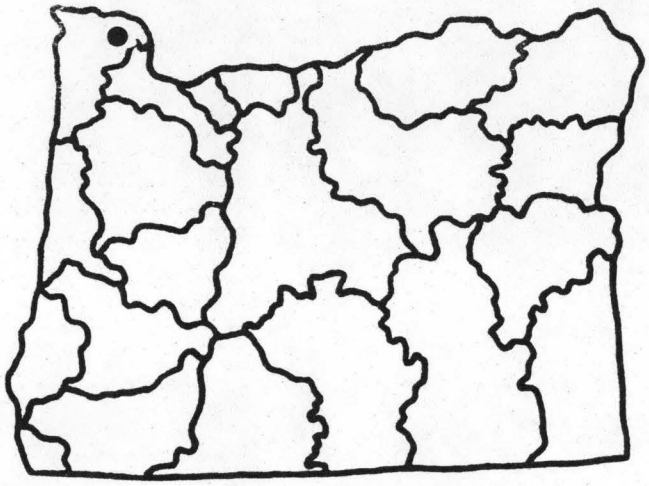
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.2	.16	1.40	1.000
80	12.1	.31	2.56	.939
50	52.9	1.36	8.53	.716
30	120.5	3.09	14.60	.539
10	309.0	7.94	23.09	.332

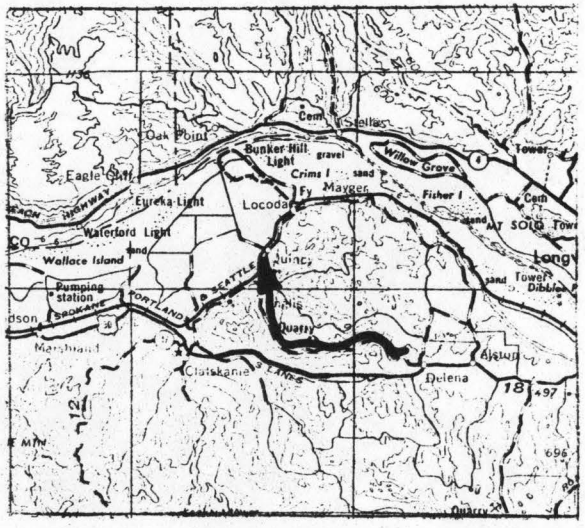
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 120 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-017-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T7N, R3W, Sec.8
D.	Latitude, Longitude	46°05'N,123°05'W
E.	Stream Name	Beaver Creek
F.	Major Basin Name	North Coast
G.	River Mile	7.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

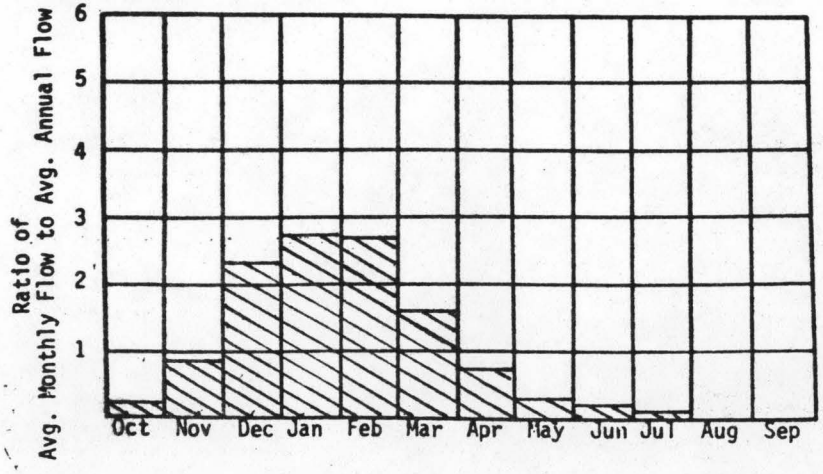
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	39.9	Sq.Mi.
F.	Inflow Classification	Natural	

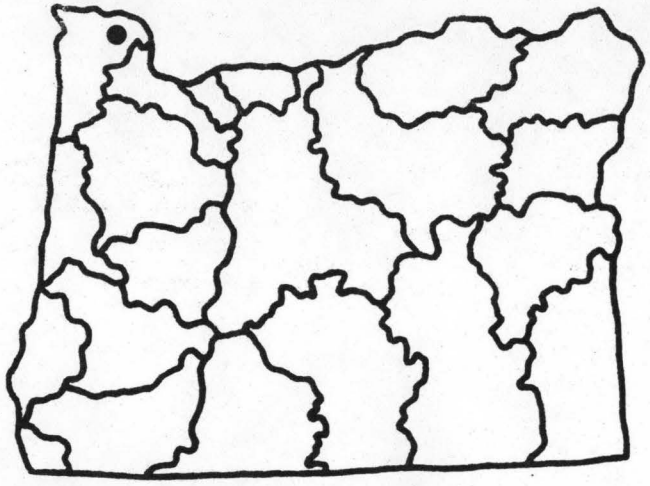
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.2	.03	.26	1.000
80	10.2	.06	.47	.939
50	44.3	.25	1.56	.717
30	101.4	.57	2.68	.538
10	260.1	1.45	4.23	.332

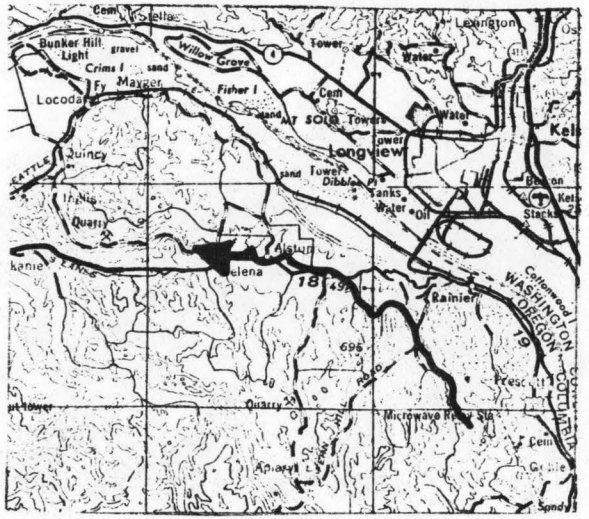
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 101 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-505-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T6N, R10W, Sec. 27
D.	Latitude, Longitude	46°00'N,123°55'W
E.	Stream Name	Necanicum River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 4.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

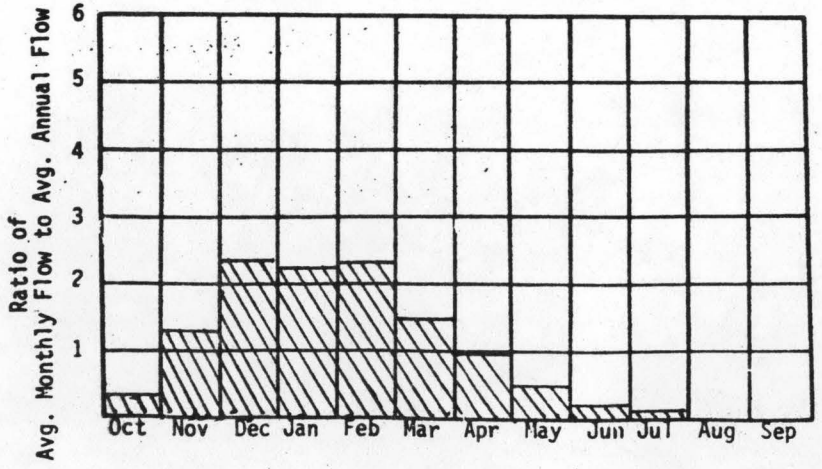
A.	Upstream Elevation of Reach	15	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	15	Ft.
D.	Average Slope in Reach	3.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	75.1	Sq.Mi.
F.	Inflow Classification	Natural	

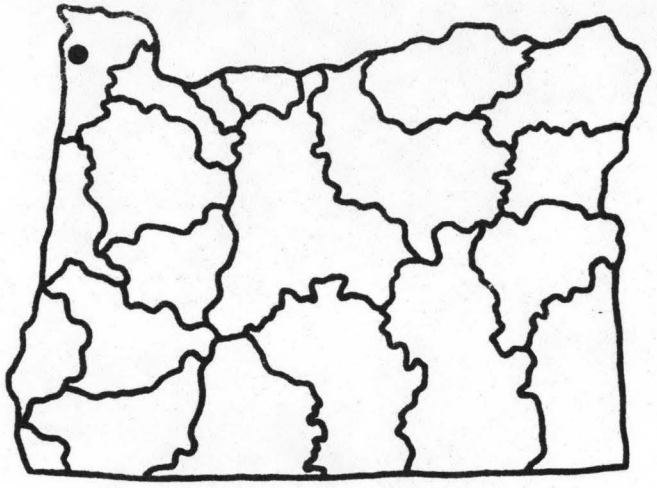
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	20.5	.03	.23	1.000
80	39.0	.05	.41	.941
50	177.2	.23	1.41	.714
30	389.6	.50	2.35	.543
10	1000.5	1.27	3.72	.333

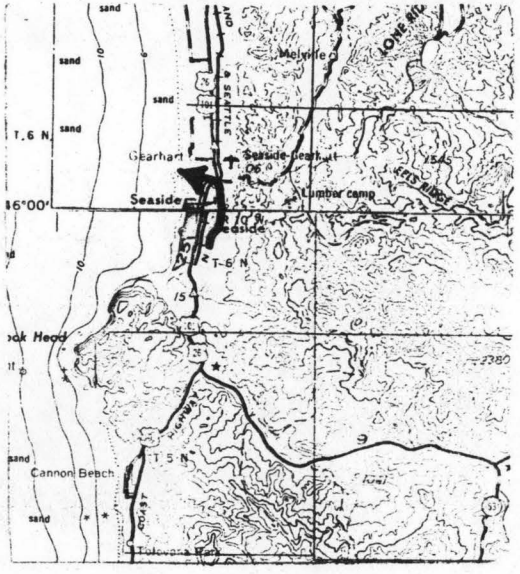
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 386 CFS





U.S.G.S. TOPO SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-505-000-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Clatsop	
C. Township, Range	T5N, R10W, Sec.3	
D. Latitude, Longitude	45°56'N.123°54'W	
E. Stream Name	Necanicum River	
F. Major Basin Name	North Coast	
G. River Mile	4.0 to 11.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

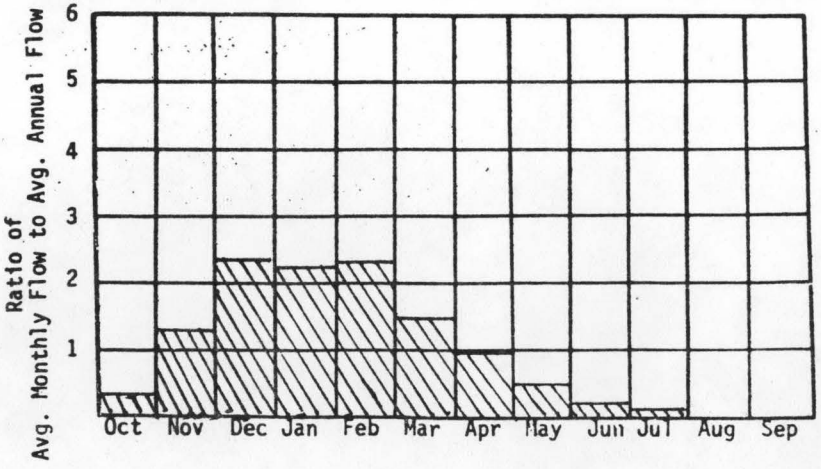
A. Upstream Elevation of Reach	105	Ft. MSL
B. Downstream Elevation of Reach	15.0	Ft. MSL
C. Total Available Head in Reach	90.0	Ft.
D. Average Slope in Reach	12.9	Ft./Mi.
E. Drainage Area above Reach Mouth	64.4	Sq.Mi.
F. Inflow Classification	Natural	

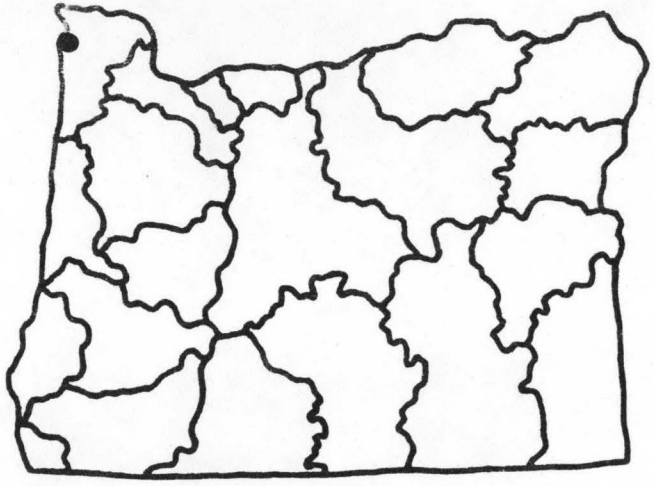
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	16.2	.12	1.08	1.000
80	31.0	.24	1.95	.940
50	139.5	1.06	6.66	.714
30	308.8	2.36	11.19	.542
10	793.0	6.05	17.65	.333

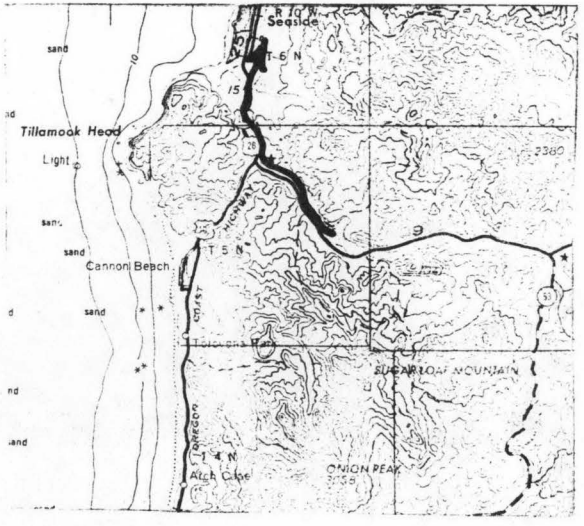
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 306 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-505-000-000-000-R0003

I. LOCATION

A. State	Oregon	
B. County	Clatsop	
C. Township, Range	T5N, R9W, Sec.20	
D. Latitude, Longitude	45°54'N,123°47'W	
E. Stream Name	Necanicum River	
F. Major Basin Name	North Coast	
G. River Mile	11.0 to 17.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

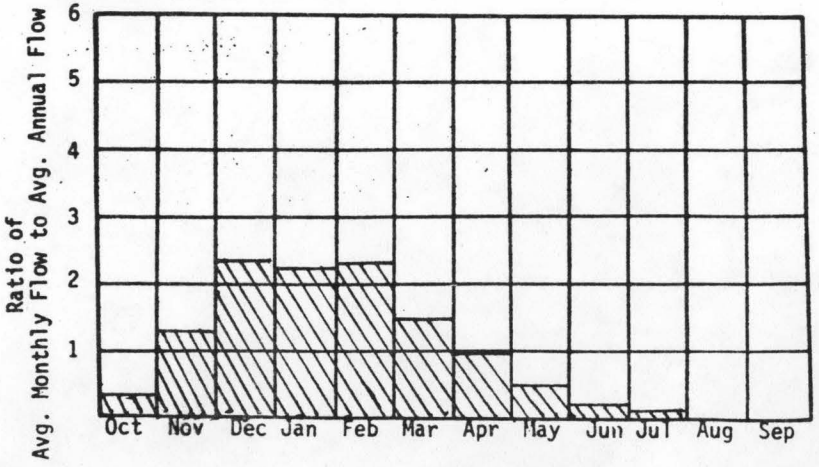
A. Upstream Elevation of Reach	171	Ft. MSL
B. Downstream Elevation of Reach	105	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	11.0	Ft./Mi.
E. Drainage Area above Reach Mouth	41.4	Sq.Mi.
F. Inflow Classification	Natural	

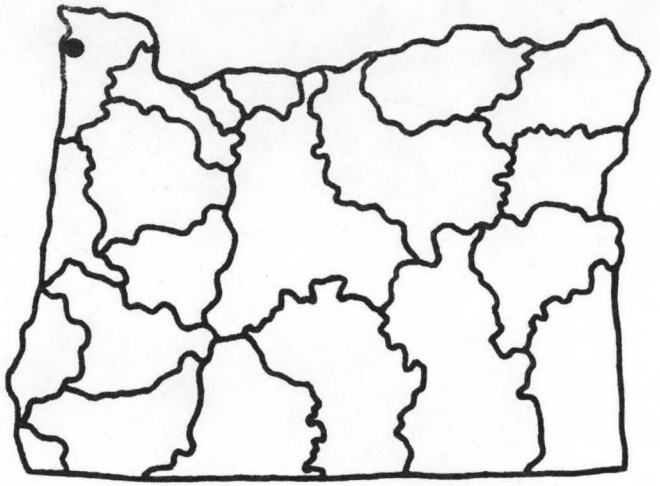
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.9	.05	.44	1.000
80	17.2	.10	.79	.940
50	76.1	.43	2.67	.716
30	171.4	.96	4.53	.540
10	439.7	2.46	7.16	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 170 CFS





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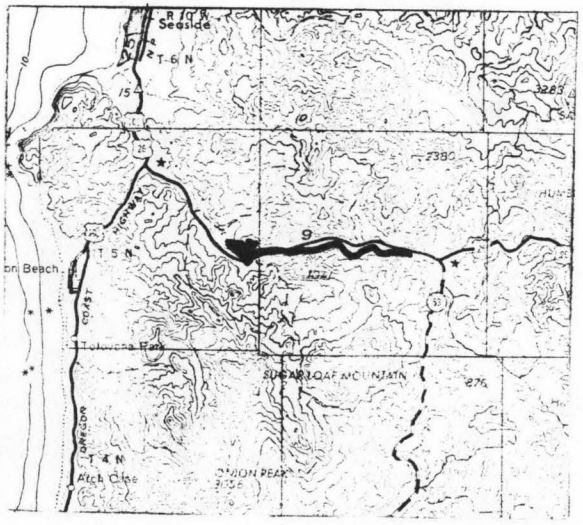
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-505-000-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R9W, Sec.22
D.	Latitude, Longitude	45°57'N,123°43'W
E.	Stream Name	Necanicum River
F.	Major Basin Name	North Coast
G.	River Mile	17.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

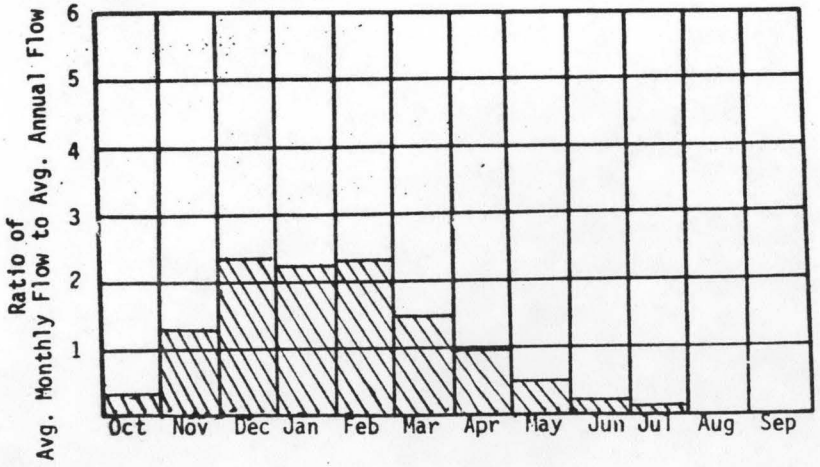
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14.4	Sq.Mi.
F.	Inflow Classification	Natural	

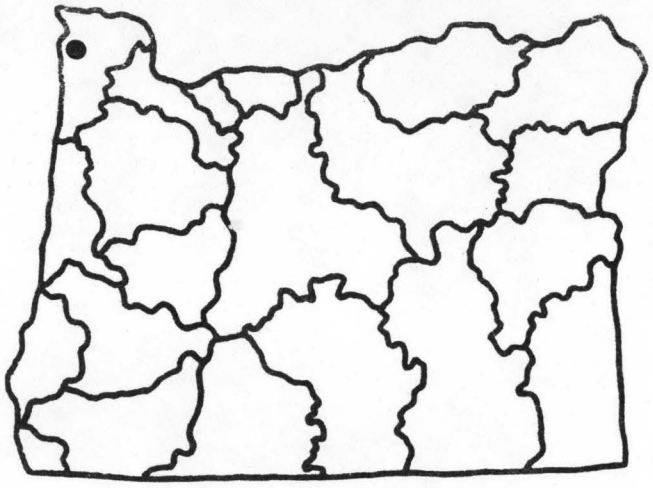
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.7	.03	.23	1.000
80	9.1	.05	.42	.939
50	39.4	.22	1.38	.717
30	90.5	.51	2.39	.538
10	232.1	1.30	3.77	.332

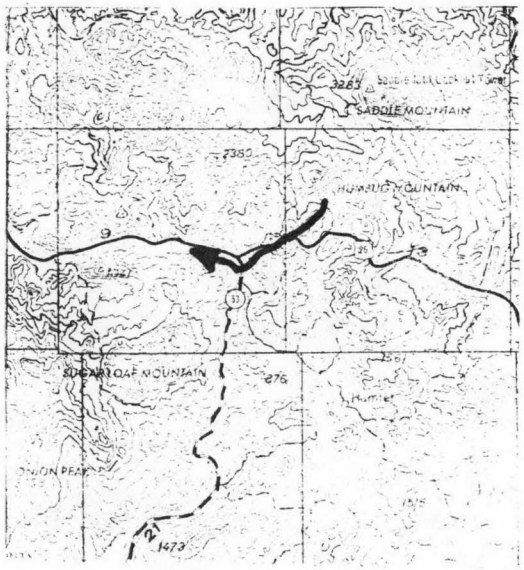
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 90 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-510-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R10W, Sec.29
D.	Latitude, Longitude	45°54'N,123°56'W
E.	Stream Name	Elk Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 2.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

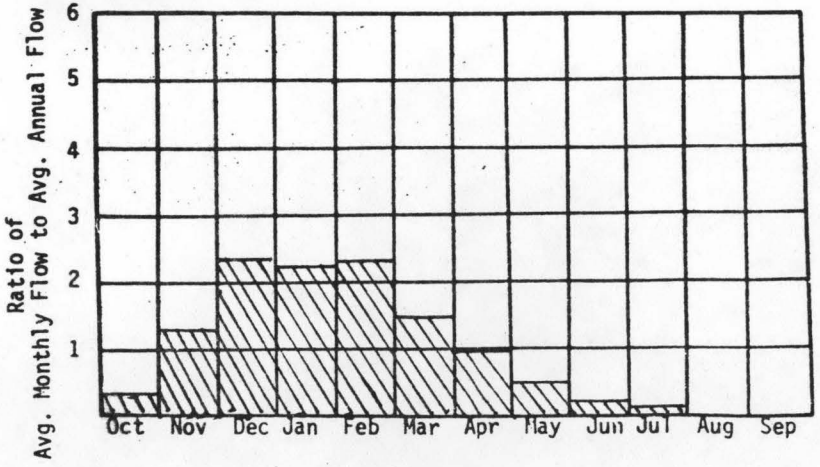
A.	Upstream Elevation of Reach	40	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	18.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	22.3	Sq.Mi.
F.	Inflow Classification	Natural	

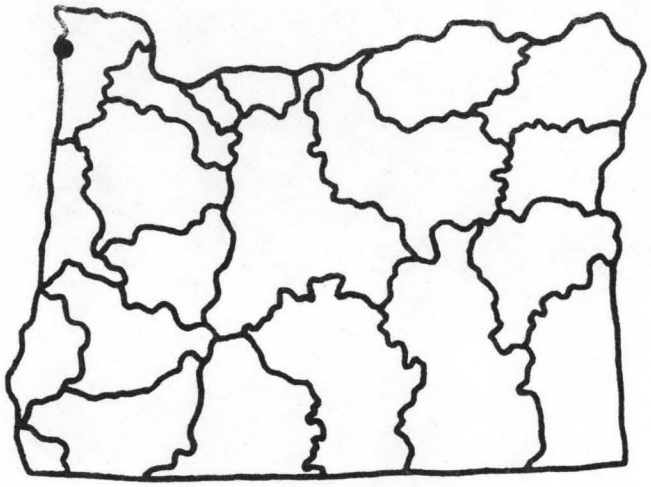
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.4	.02	.19	1.000
80	12.4	.04	.35	.939
50	54.4	.18	1.16	.716
30	123.7	.42	1.98	.539
10	317.3	1.08	3.13	.332

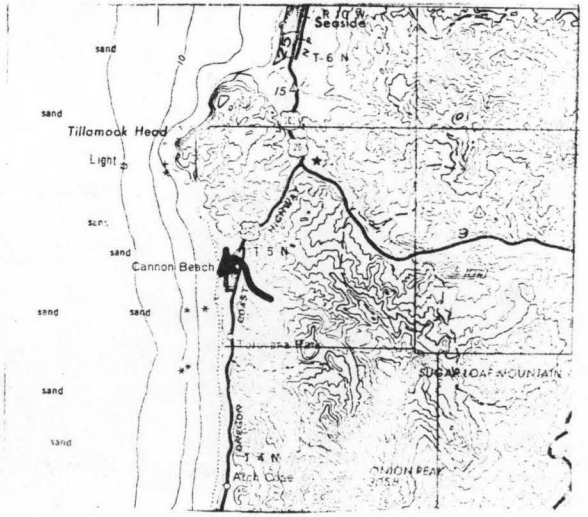
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 123 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-510-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T4-5N, R10W, Sec.29
D.	Latitude, Longitude	45°53'N,123°53'W
E.	Stream Name	Elk Creek
F.	Major Basin Name	North Coast
G.	River Mile	2.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

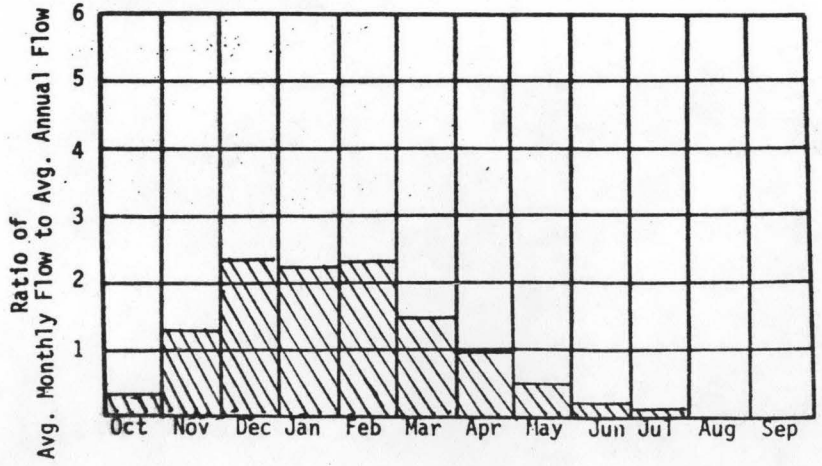
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	18.7	Sq.Mi.
F.	Inflow Classification	Natural	

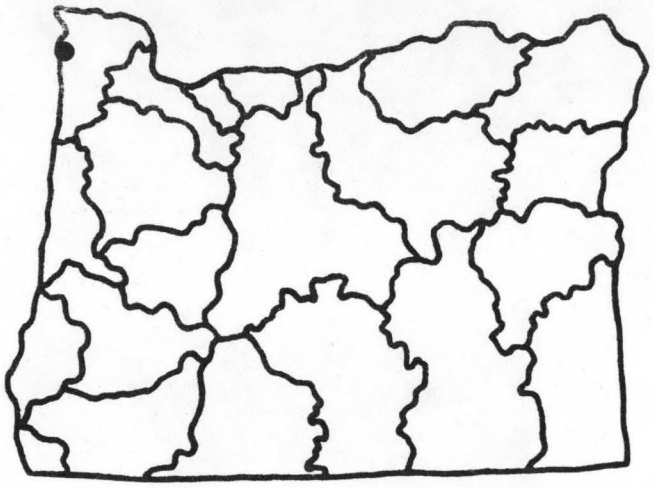
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.03	.29	1.000
80	11.5	.06	.53	.939
50	50.2	.28	1.76	.716
30	114.5	.64	3.02	.539
10	293.7	1.64	4.78	.332

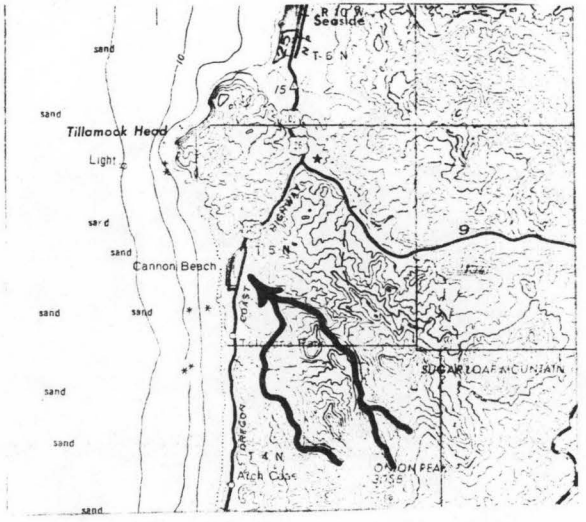
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 114 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3N, R10W, Sec. 27
D.	Latitude, Longitude	45°43'N,123°53'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 3.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

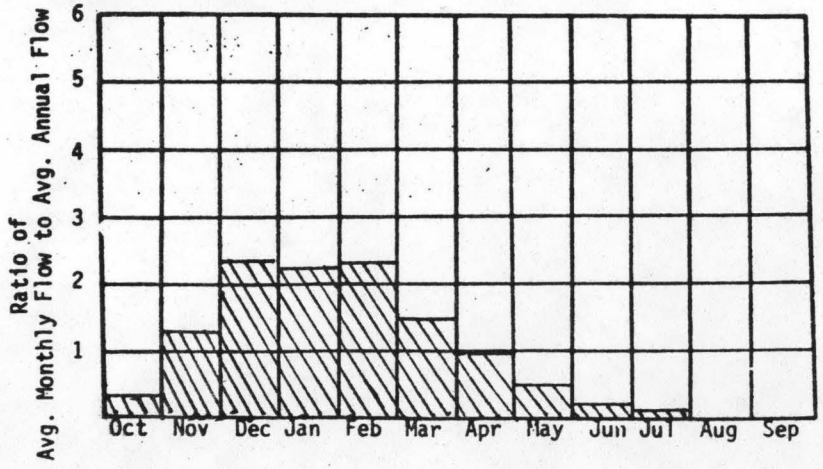
A.	Upstream Elevation of Reach	1.0	Ft. MSL
B.	Downstream Elevation of Reach	0.0	Ft. MSL
C.	Total Available Head in Reach	1.0	Ft.
D.	Average Slope in Reach	0.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	892.9	Sq.Mi.
F.	Inflow Classification	Natural	

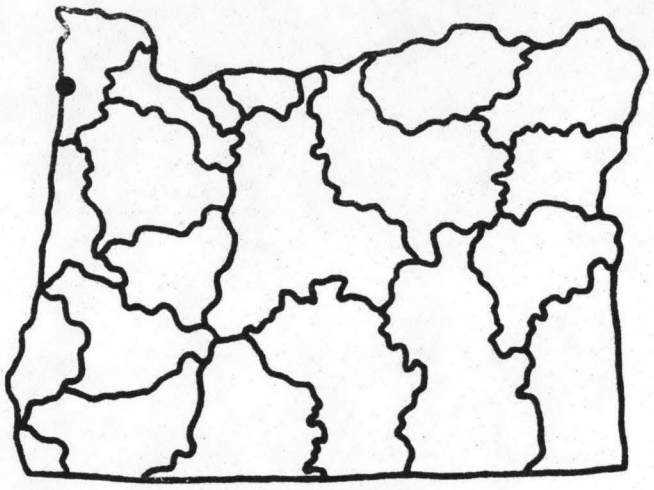
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	201.1	.02	.15	1.000
80	365.7	.03	.26	.944
50	1784.6	.15	.94	.710
30	3672.5	.31	1.50	.551
10	9452.6	.80	2.36	.336

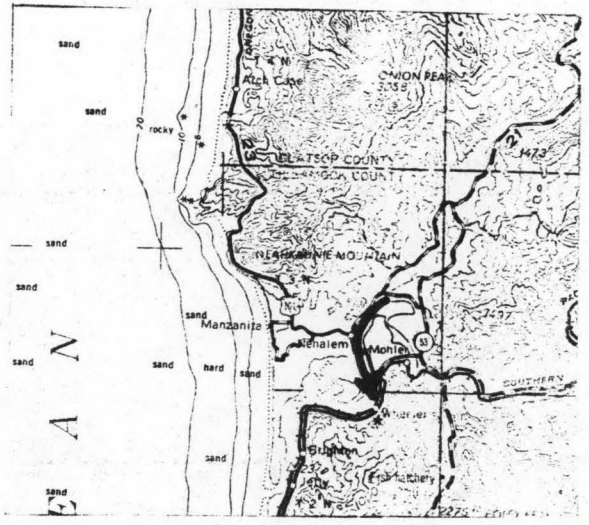
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3635 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-002-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook-Clatsop	
C. Township, Range	T3N, R9W, Sec.6	
D. Latitude, Longitude	45°47'N,123°49'W	
E. Stream Name	North Fork Nehalem River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 10.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

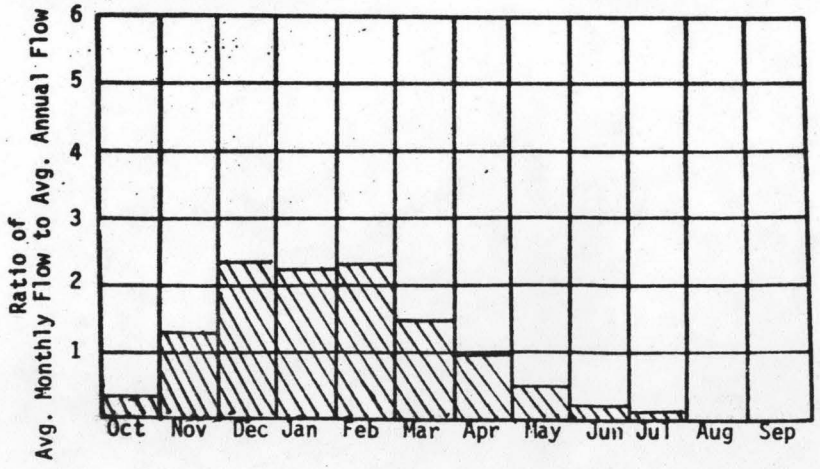
A. Upstream Elevation of Reach	157	Ft. MSL
B. Downstream Elevation of Reach	1	Ft. MSL
C. Total Available Head in Reach	156	Ft.
D. Average Slope in Reach	14.9	Ft./Mi.
E. Drainage Area above Reach Mouth	93.0	Sq.Mi.
F. Inflow Classification	Natural	

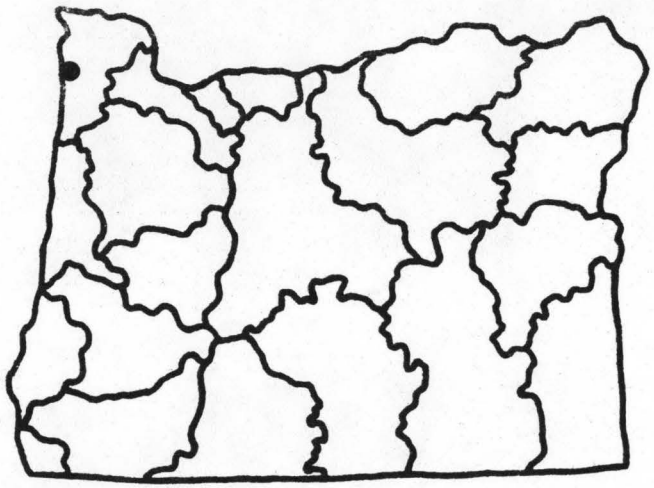
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	24.1	.32	2.79	1.000
80	45.7	.60	4.98	.941
50	208.4	2.76	17.23	.714
30	456.0	6.03	28.70	.543
10	1171.4	15.49	45.27	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 452 CFS





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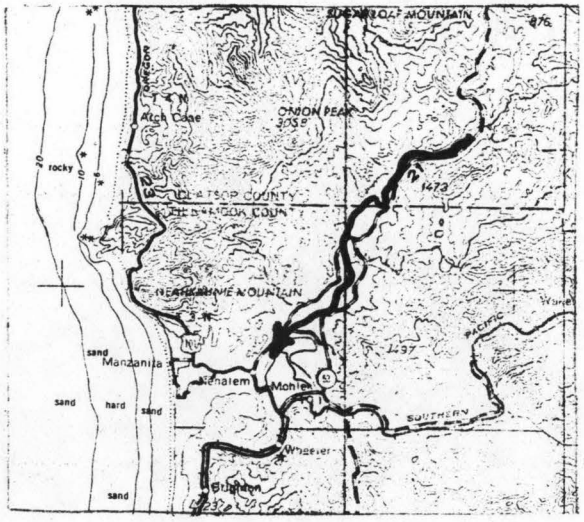
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-002-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T4N. R8W, Sec.19
D.	Latitude, Longitude	45°49'N,123°41'W
E.	Stream Name	North Fork Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	10.5 to 20.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

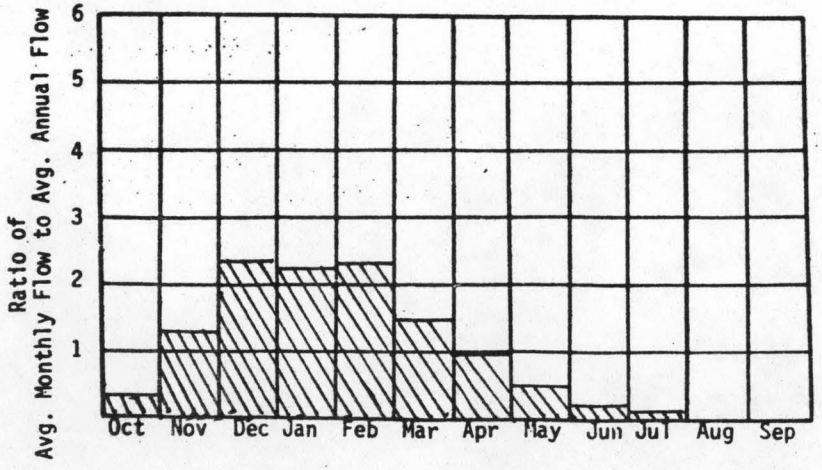
A.	Upstream Elevation of Reach	516	Ft. MSL
B.	Downstream Elevation of Reach	157	Ft. MSL
C.	Total Available Head in Reach	359	Ft.
D.	Average Slope in Reach	37.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	46.8	Sq.Mi.
F.	Inflow Classification	Natural	

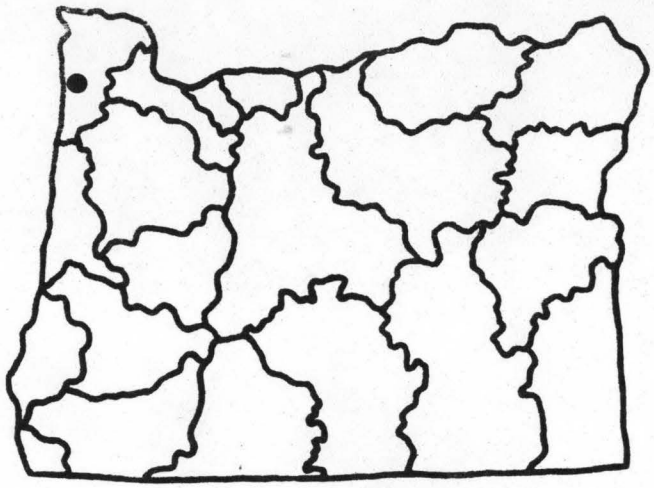
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.8	.30	2.61	1.000
80	18.9	.57	4.72	.940
50	83.6	2.54	15.94	.715
30	187.9	5.72	27.06	.540
10	482.1	14.67	42.74	.333

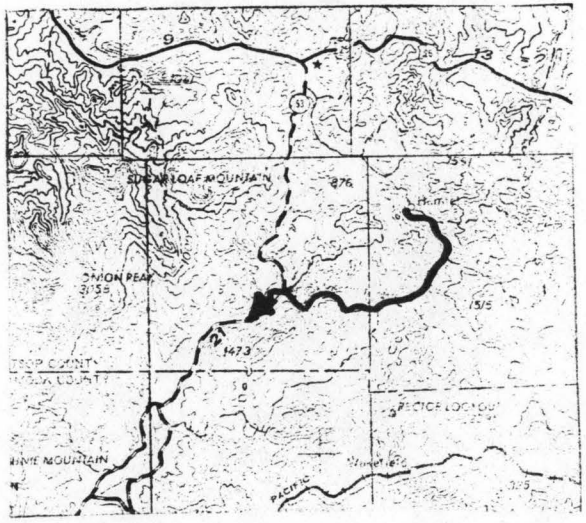
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 186 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-002-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R8W, Sec.8
D.	Latitude, Longitude	45°51'N,123°42'W
E.	Stream Name	North Fork Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	20.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

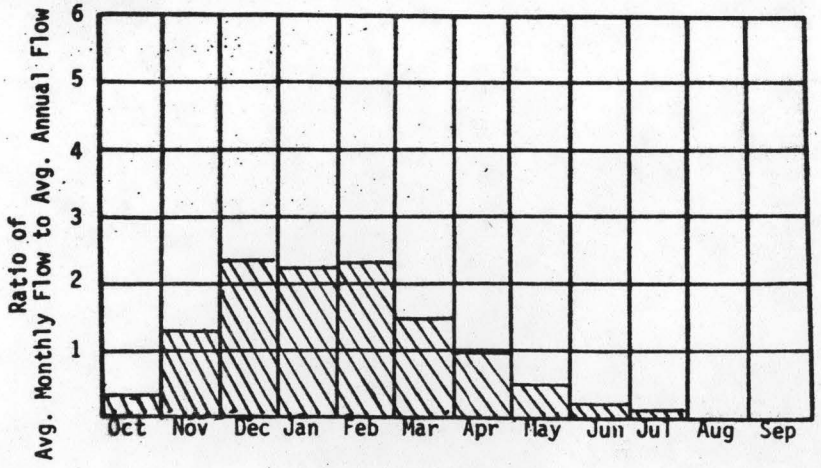
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14.2	Sq.Mi.
F.	Inflow Classification	Natural	

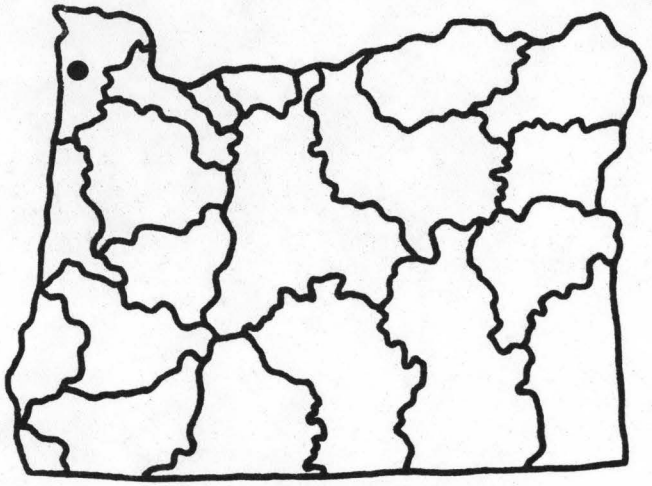
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.5	.03	.22	1.000
80	8.8	.05	.41	.939
50	38.2	.21	1.34	.717
30	87.8	.49	2.31	.538
10	225.2	1.26	3.66	.332

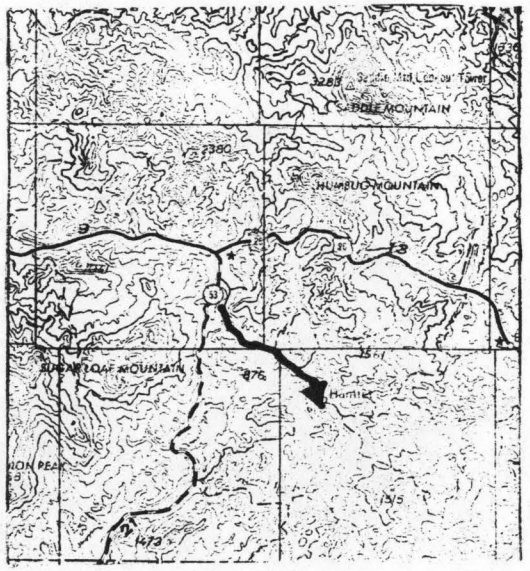
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 87 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3N, R10W, Sec.25
D.	Latitude, Longitude	45°43'N,123°52'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	3.7 to 7.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

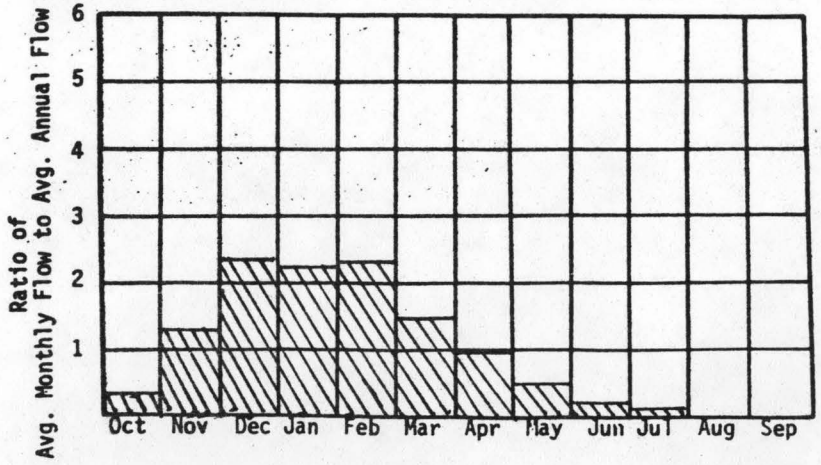
A.	Upstream Elevation of Reach	10	Ft. MSL
B.	Downstream Elevation of Reach	1.0	Ft. MSL
C.	Total Available Head in Reach	9.0	Ft.
D.	Average Slope in Reach	2.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	783.6	Sq.Mi.
F.	Inflow Classification	Natural	

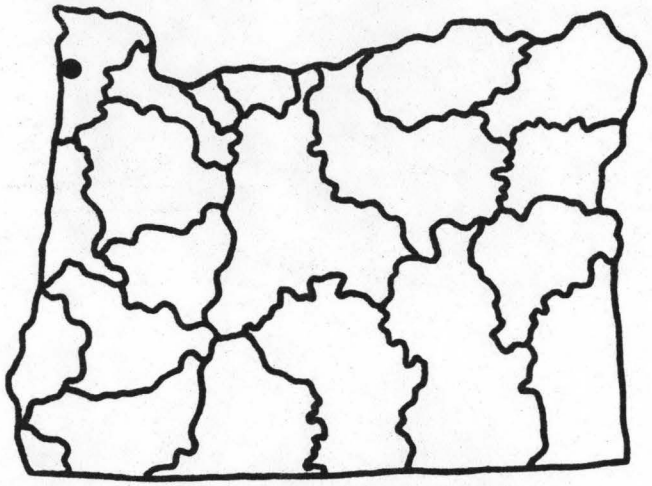
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	169.6	.13	1.13	1.000
80	309.4	.24	1.95	.944
50	1501.6	1.15	7.13	.710
30	3105.5	2.37	11.41	.550
10	7991.9	6.10	17.94	.336

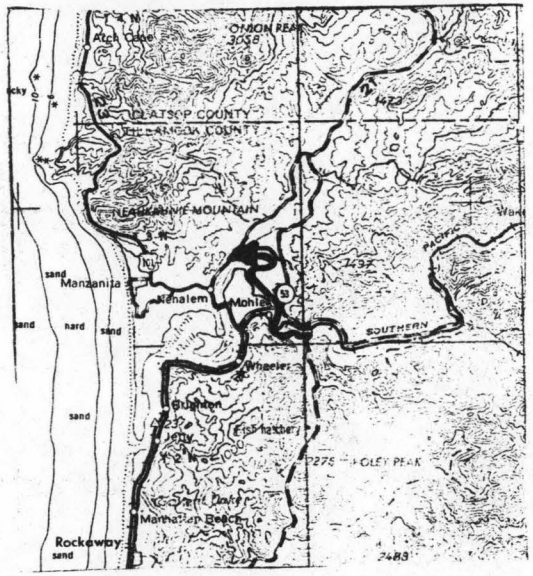
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3074 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-005-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3N, R10W, Sec.36
D.	Latitude, Longitude	45°40'N,123°51'W
E.	Stream Name	Foley Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

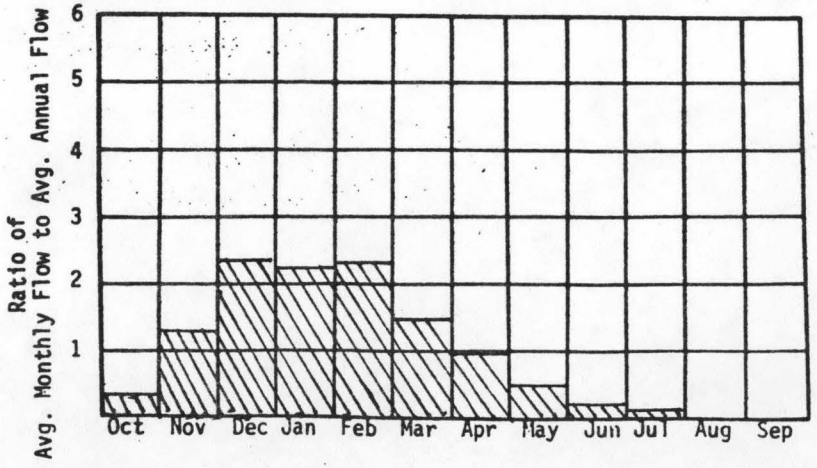
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach		Ft./Mi.
E.	Drainage Area above Reach Mouth	18.0	Sq.Mi.
F.	Inflow Classification	Natural	

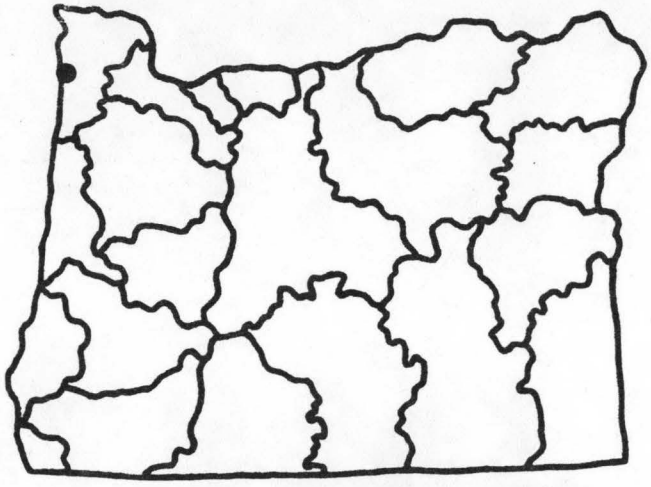
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.3	.03	.26	1.000
80	10.3	.06	.47	.939
50	44.7	.25	1.57	.716
30	102.2	.57	2.70	.538
10	262.2	1.47	4.26	.332

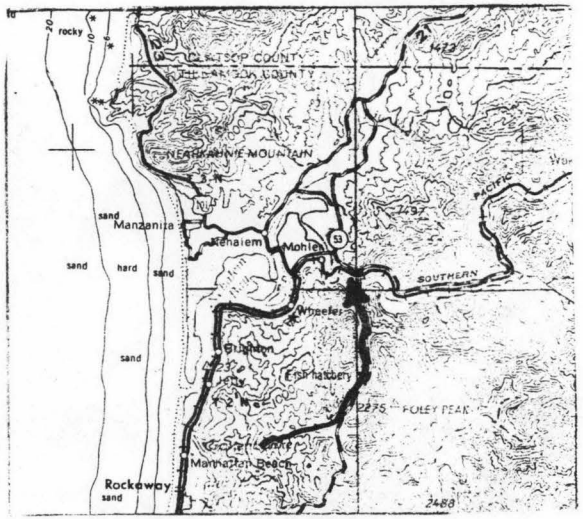
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 102 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R9W, Sec.5
D.	Latitude, Longitude	45°41'N,123°46'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	7.5 to 13.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

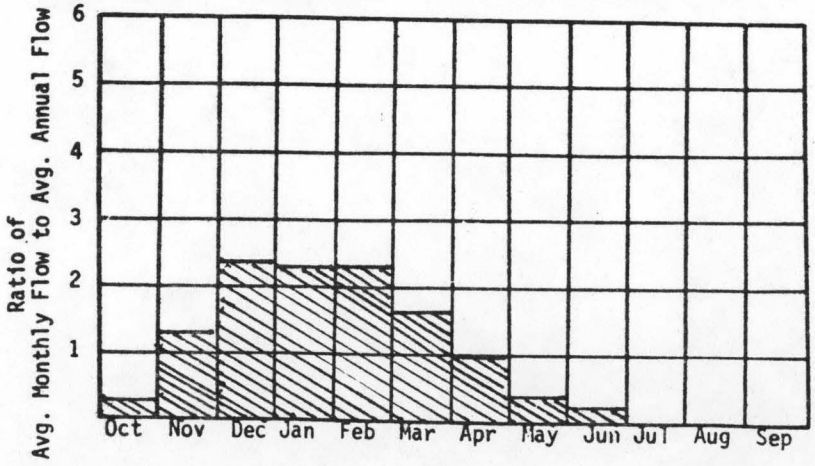
A.	Upstream Elevation of Reach	38.0	Ft. MSL
B.	Downstream Elevation of Reach	10.0	Ft. MSL
C.	Total Available Head in Reach	28	Ft.
D.	Average Slope in Reach	4.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	765.6	Sq.Mi.
F.	Inflow Classification	Natural	

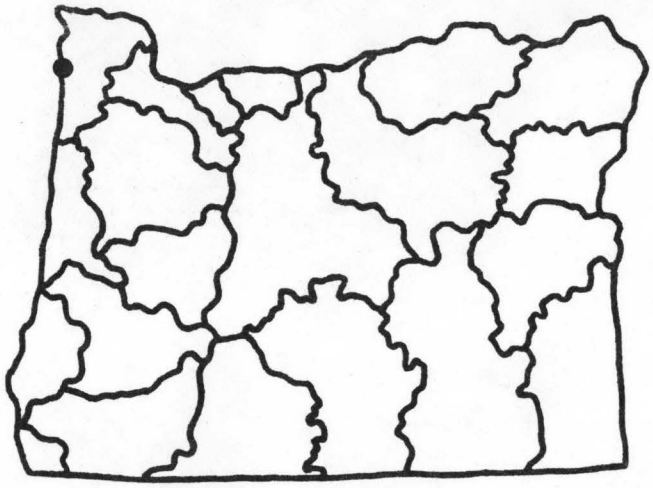
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	161.6	.38	3.36	1.000
80	295.1	.70	5.79	.943
50	1429.8	3.39	21.12	.711
30	2961.2	7.03	33.85	.550
10	7620.2	18.08	53.22	.336

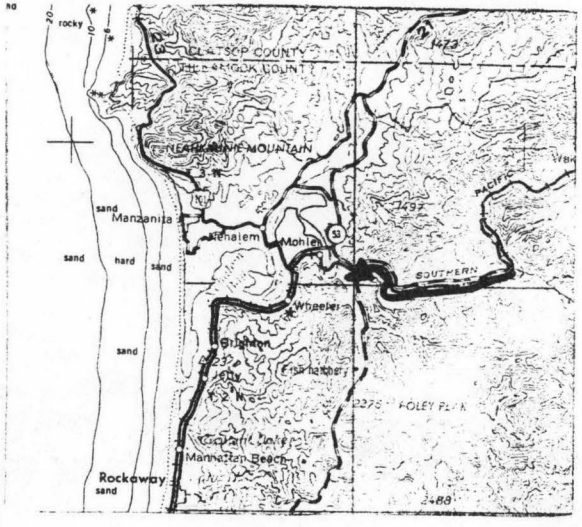
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2932 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-009-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R8W, Sec.6
D.	Latitude, Longitude	45°39'N,123°40'W
E.	Stream Name	Cook Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 5.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

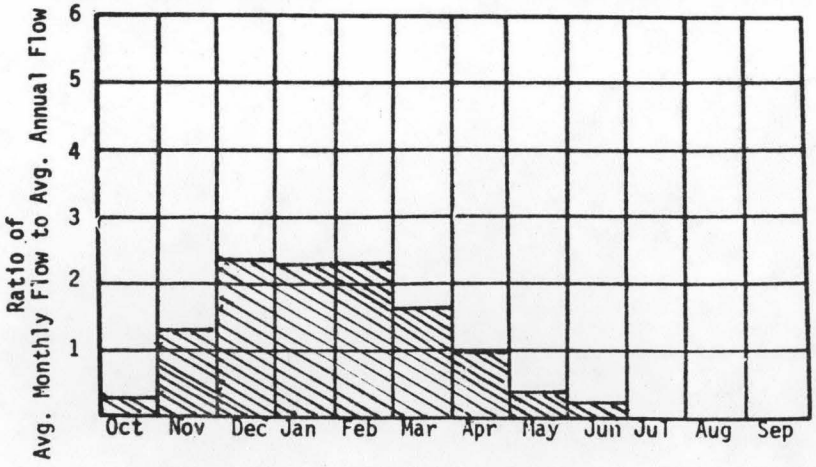
A.	Upstream Elevation of Reach	400	Ft. MSL
B.	Downstream Elevation of Reach	38	Ft. MSL
C.	Total Available Head in Reach	362	Ft.
D.	Average Slope in Reach	71	Ft./Mi.
E.	Drainage Area above Reach Mouth	28.5	Sq.Mi.
F.	Inflow Classification	Natural	

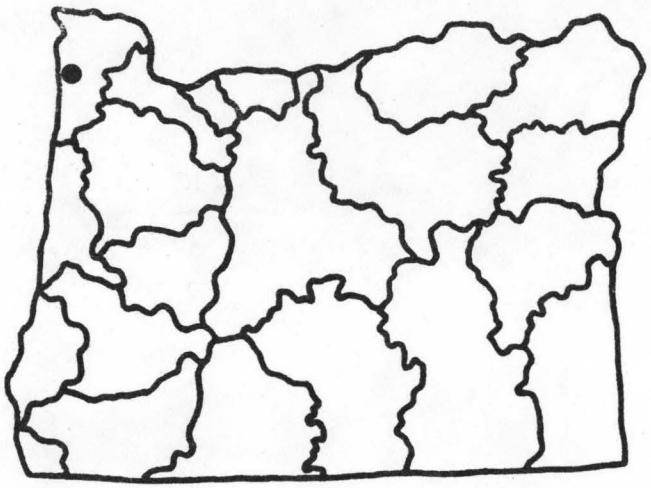
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWh	PLANT FACTOR
95	7.6	.23	2.05	1.000
80	14.8	.45	3.74	.939
50	65.1	2.00	12.52	.716
30	147.3	4.52	21.35	.540
10	377.8	11.59	33.74	.332

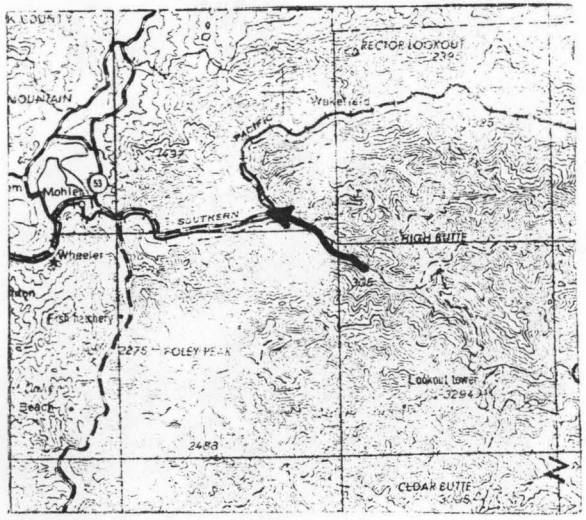
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 146 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-009-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R8W, Sec.4
D.	Latitude, Longitude	45°41'N,123°41'W
E.	Stream Name	Cook Creek
F.	Major Basin Name	North Coast
G.	River Mile	5.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

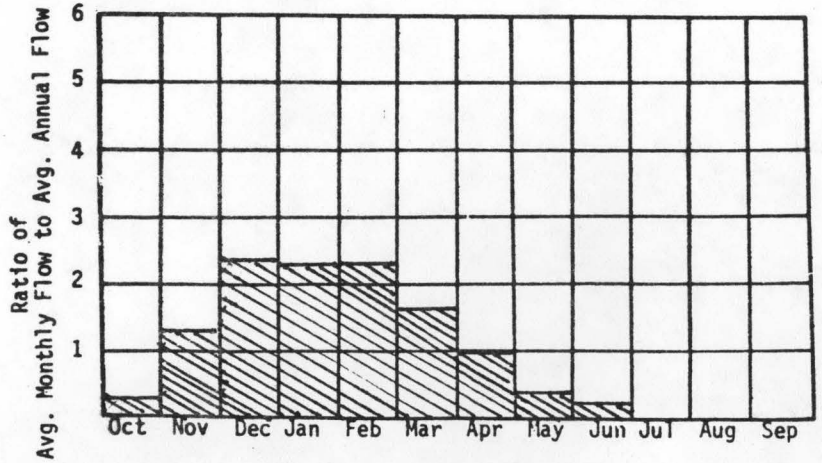
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12.0	Sq.Mi.
F.	Inflow Classification	Natural	

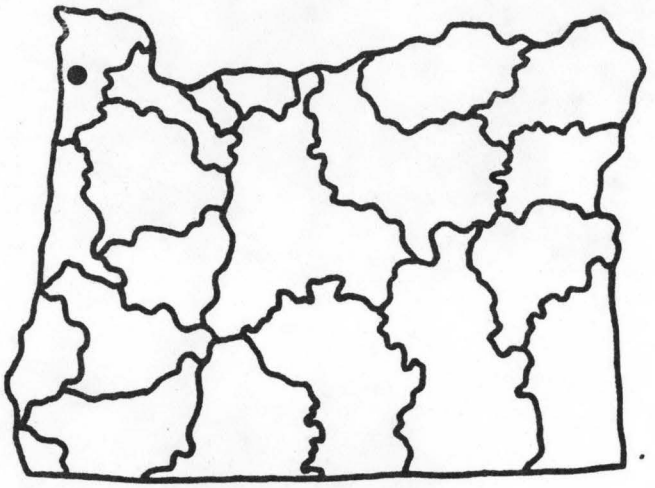
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.6	.03	.23	1.000
80	9.0	.05	.42	.939
50	39.1	.22	1.37	.717
30	89.8	.50	2.37	.538
10	230.2	1.29	3.74	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 89 CFS





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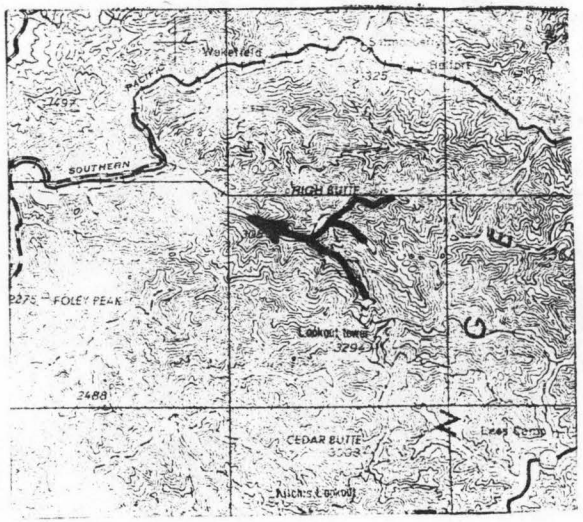


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3N, R9W, Sec.24
D.	Latitude, Longitude	45°44'N,123°41'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	13.3 to 22.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

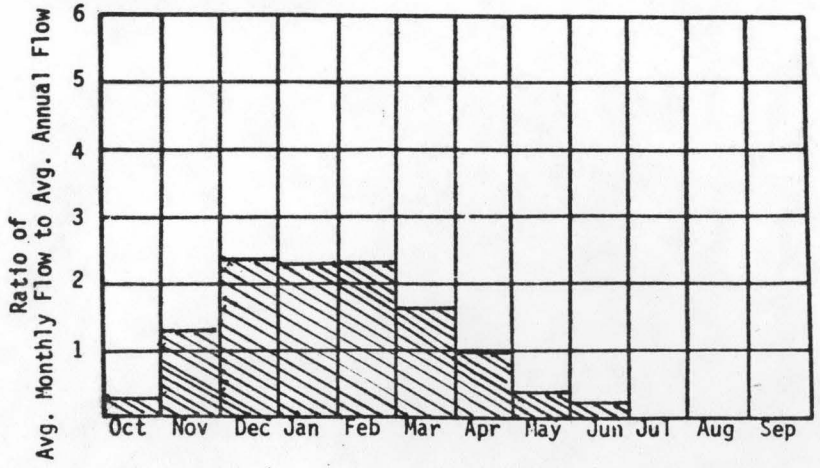
A.	Upstream Elevation of Reach	143	Ft. MSL
B.	Downstream Elevation of Reach	38	Ft. MSL
C.	Total Available Head in Reach	105	Ft.
D.	Average Slope in Reach	11.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	721.9	Sq.Mi.
F.	Inflow Classification	Natural	

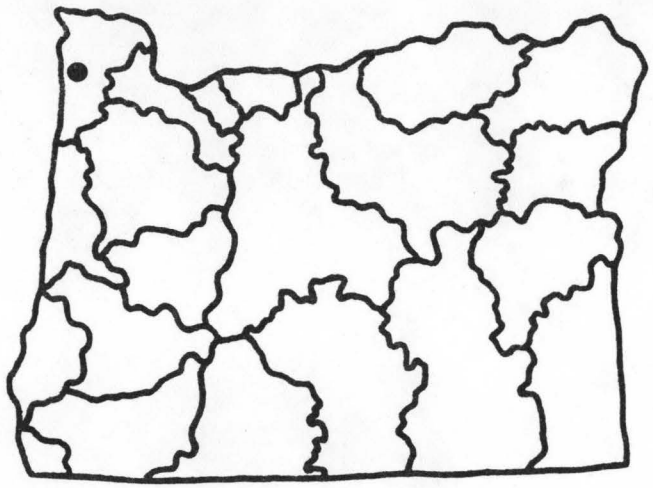
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	143.9	1.28	11.22	1.000
80	263.5	2.34	19.37	.943
50	1272.0	11.32	70.47	.711
30	2643.1	23.52	113.22	.550
10	6800.9	60.52	178.04	.336

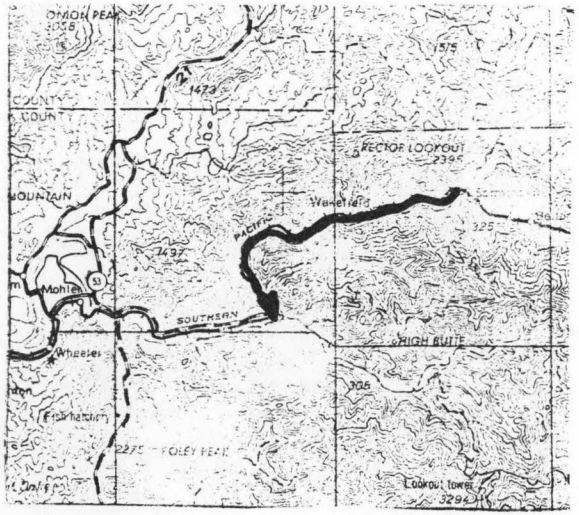
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2617 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-013-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T3N, R7W, Sec.19	
D. Latitude, Longitude	45°43'N,123°35'W	
E. Stream Name	Salmonberry River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 8.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

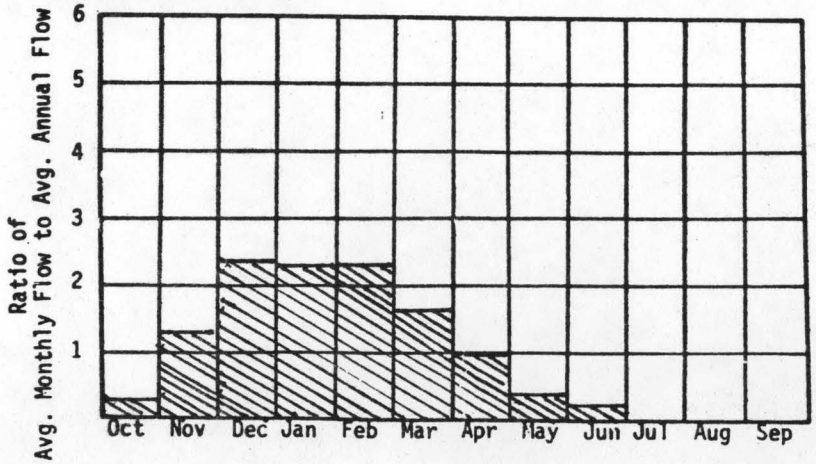
A. Upstream Elevation of Reach	715	Ft. MSL
B. Downstream Elevation of Reach	143	Ft. MSL
C. Total Available Head in Reach	572	Ft.
D. Average Slope in Reach	69.8	Ft./Mi.
E. Drainage Area above Reach Mouth	72.3	Sq.Mi.
F. Inflow Classification	Natural	

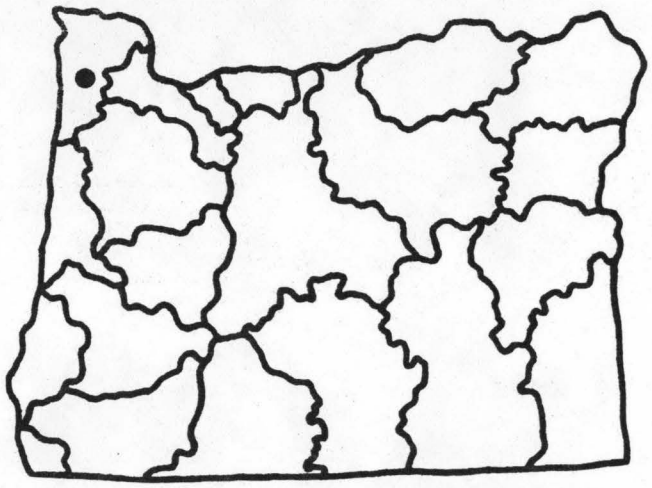
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.1	.88	7.67	1.000
80	34.4	1.67	13.75	.941
50	155.6	7.54	47.20	.714
30	343.4	16.65	79.09	.542
10	881.7	42.74	124.81	.333

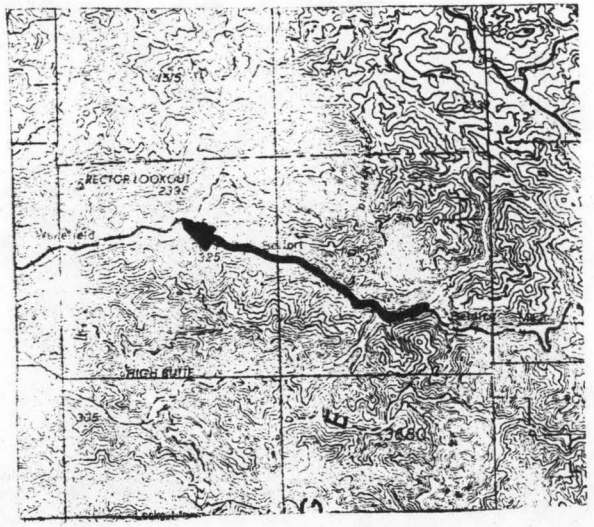
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 340 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-013-001-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T3N, R7W, Sec.24	
D. Latitude, Longitude	45°45'N,123° 31'W	
E. Stream Name	North Fork Salmonberry River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 4.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

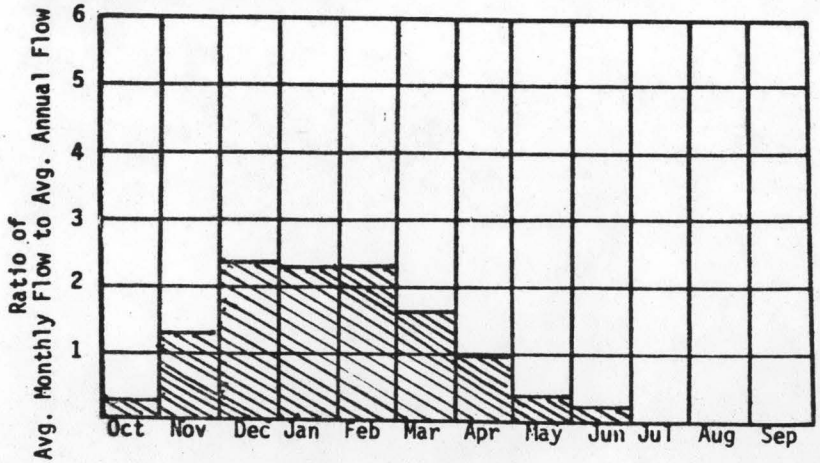
A. Upstream Elevation of Reach	1200	Ft. MSL
B. Downstream Elevation of Reach	715	Ft. MSL
C. Total Available Head in Reach	485	Ft.
D. Average Slope in Reach	112.9	Ft./Mi.
E. Drainage Area above Reach Mouth	23.3	Sq.Mi.
F. Inflow Classification	Natural	

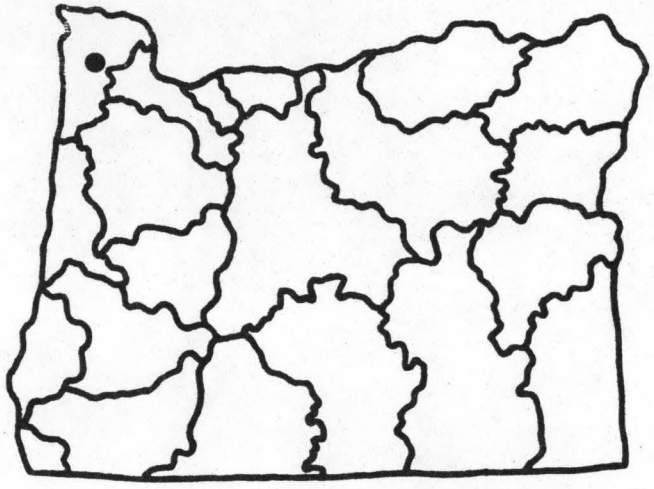
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.5	.23	1.97	1.000
80	10.7	.44	3.62	.939
50	46.5	1.91	12.01	.716
30	106.3	4.37	20.62	.539
10	272.7	11.21	32.60	.332

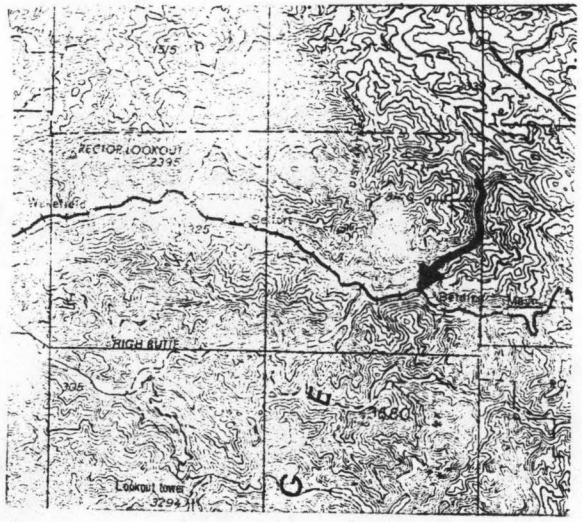
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 106 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-013-001-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook-Clatsop
C.	Township, Range	T3N, R7W, Sec.12
D.	Latitude, Longitude	45°45'N,123°30'W
E.	Stream Name	North Fork Salmonberry River
F.	Major Basin Name	North Coast
G.	River Mile	4.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

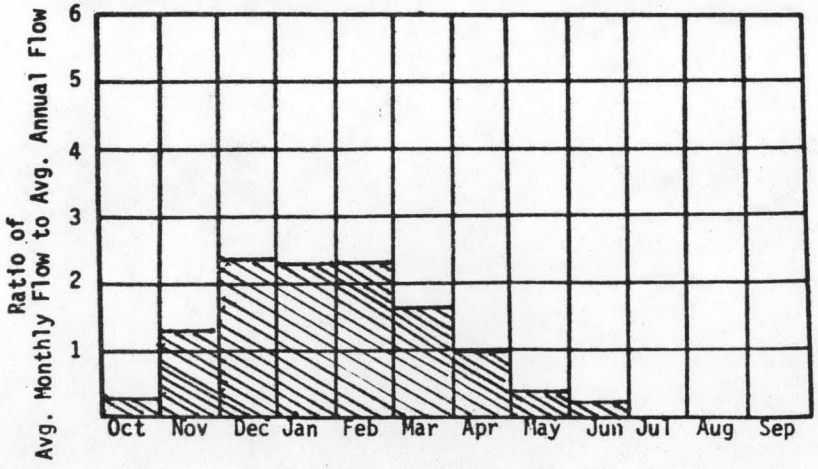
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	15.0	Sq.Mi.
F.	Inflow Classification	Natural	

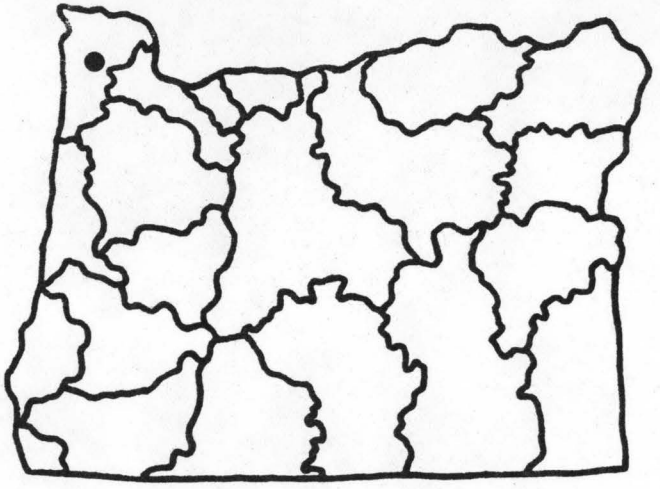
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.3	.02	.21	1.000
80	8.4	.05	.39	.939
50	36.4	.20	1.28	.717
30	83.7	.47	2.21	.538
10	214.6	1.20	3.49	.332

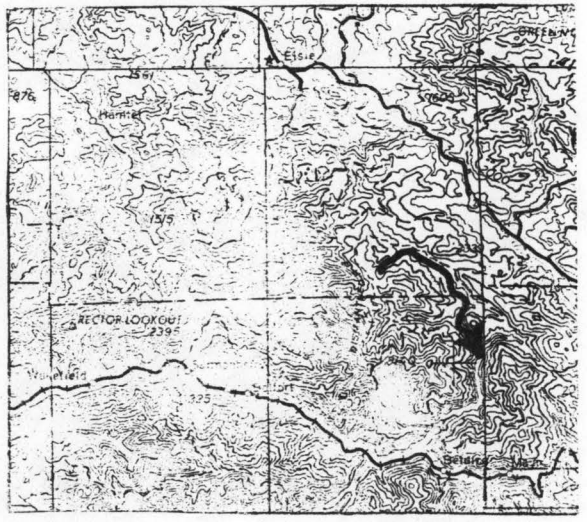
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 83 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-013-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook-Washington
C.	Township, Range	T3N, R7W, Sec.25
D.	Latitude, Longitude	45°41'N,123°29'W
E.	Stream Name	Salmonberry River
F.	Major Basin Name	North Coast
G.	River Mile	8.2 to 12.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

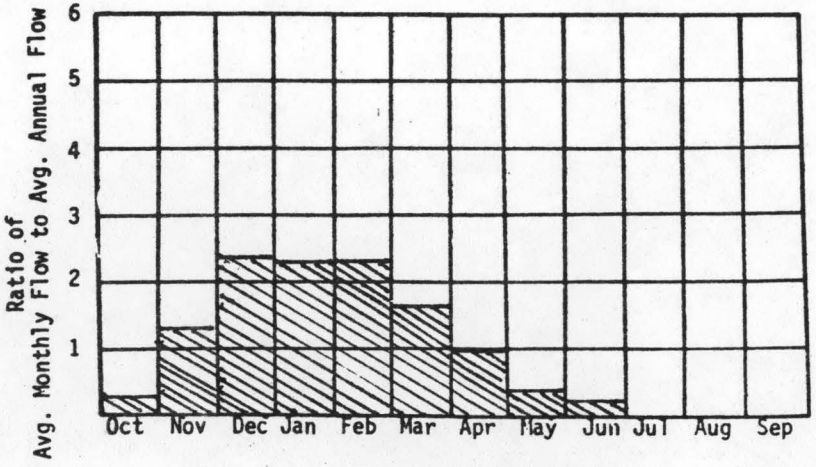
A.	Upstream Elevation of Reach	1096	Ft. MSL
B.	Downstream Elevation of Reach	715	Ft. MSL
C.	Total Available Head in Reach	381	Ft.
D.	Average Slope in Reach	97.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	24.8	Sq.Mi.
F.	Inflow Classification	Natural	

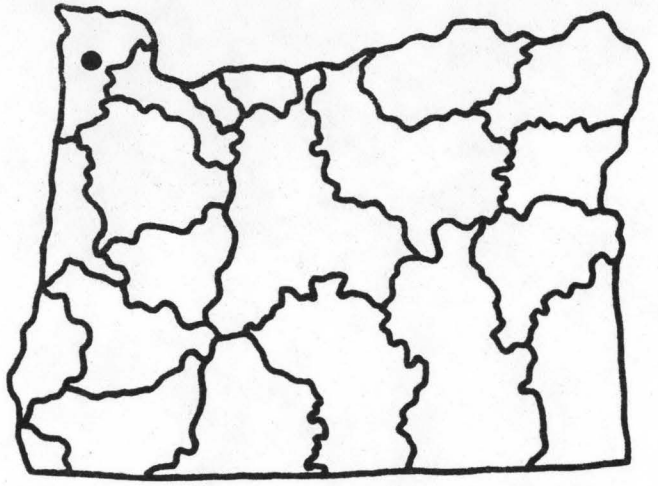
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.19	1.66	1.000
80	11.4	.37	3.03	.939
50	49.8	1.61	10.09	.716
30	113.6	3.67	17.31	.539
10	291.4	9.41	27.36	.332

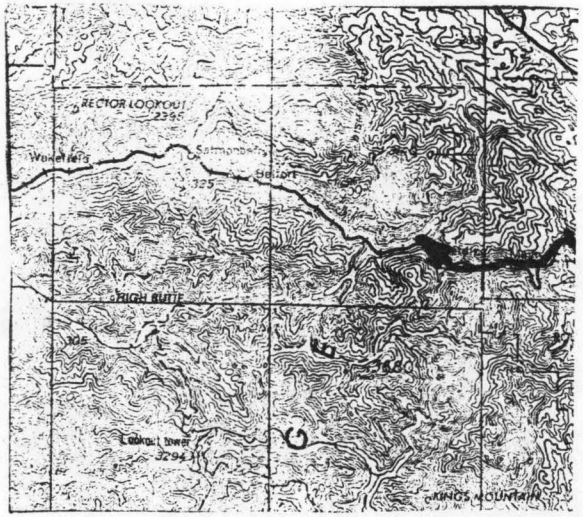
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 113 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-013-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Tillamook-Washington
C.	Township, Range	T3N, R6W, Sec.32
D.	Latitude, Longitude	45°42'N,123°32'W
E.	Stream Name	Salmonberry River
F.	Major Basin Name	North Coast
G.	River Mile	12.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

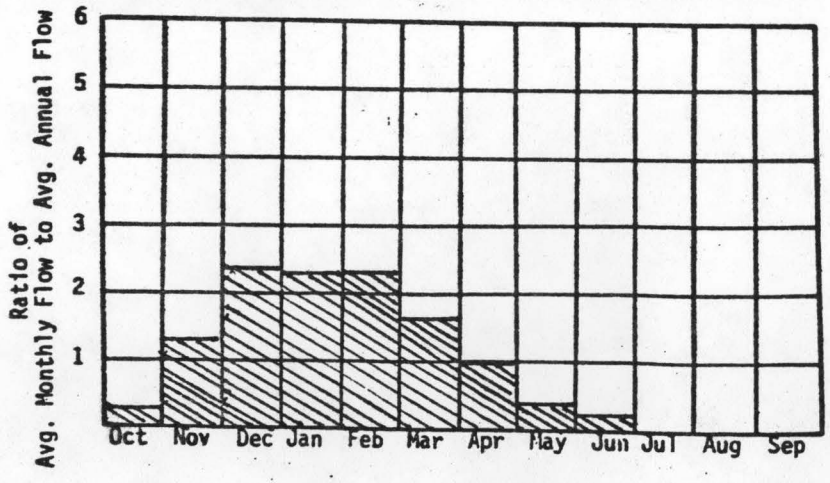
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	15.8	Sq.Mi.
F.	Inflow Classification	Natural	

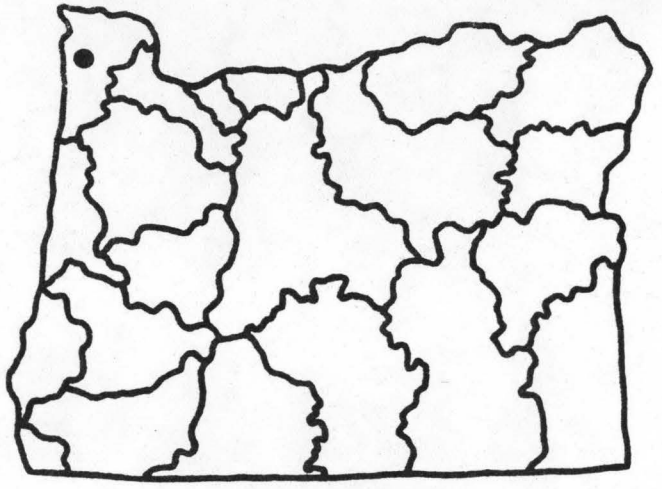
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.5	.03	.22	1.000
80	8.8	.05	.40	.939
50	38.0	.21	1.34	.717
30	87.4	.49	2.30	.538
10	224.1	1.25	3.64	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 87 CFS





U.S.G.S. TOPO. SERIES
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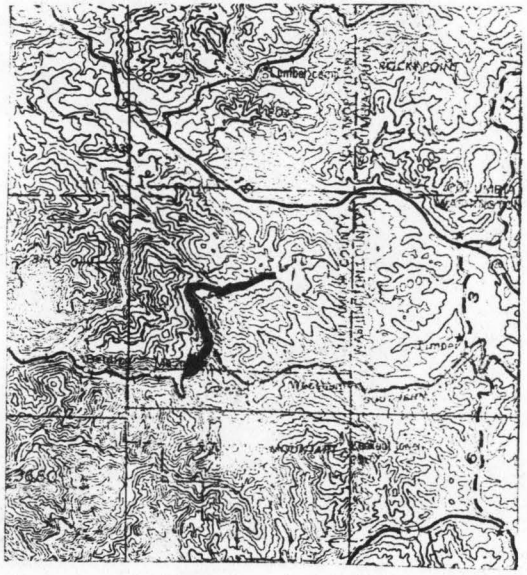


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3N, R8W, Sec.2
D.	Latitude, Longitude	45°46'N,123°39'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	22.3 to 24.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

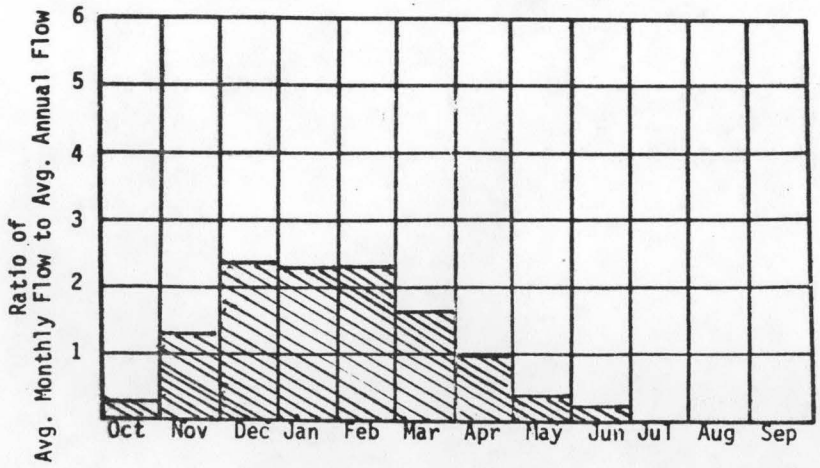
A.	Upstream Elevation of Reach	238	Ft. MSL
B.	Downstream Elevation of Reach	143	Ft. MSL
C.	Total Available Head in Reach	95	Ft.
D.	Average Slope in Reach	43.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	620.9	Sq.Mi.
F.	Inflow Classification	Natural	

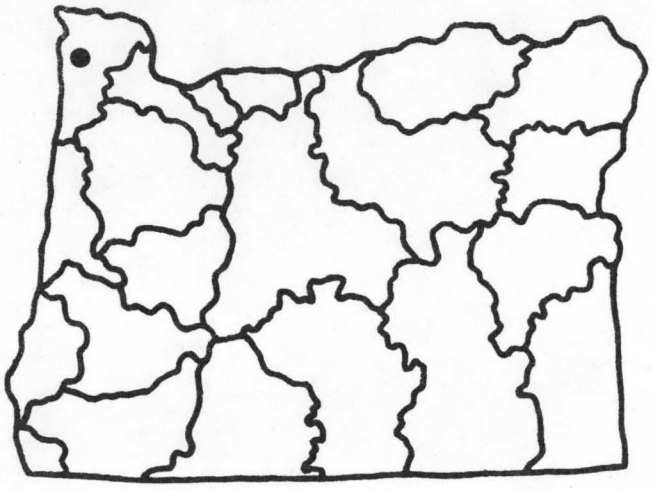
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	116.7	.94	8.23	1.000
80	214.5	1.73	14.27	.943
50	1028.7	8.28	51.59	.711
30	2150.7	17.31	83.24	.549
10	5532.7	44.54	130.95	.336

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2130 CFS





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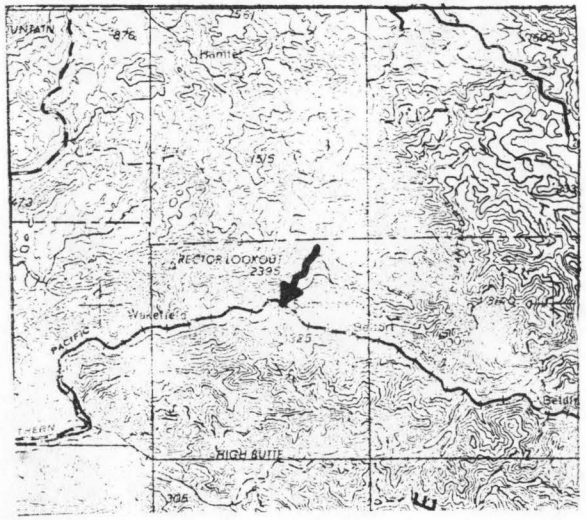


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-017-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook-Clatsop
C.	Township, Range	T3N, R8W, Sec.2
D.	Latitude, Longitude	45°46'N,123°35'W
E.	Stream Name	Cronin Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

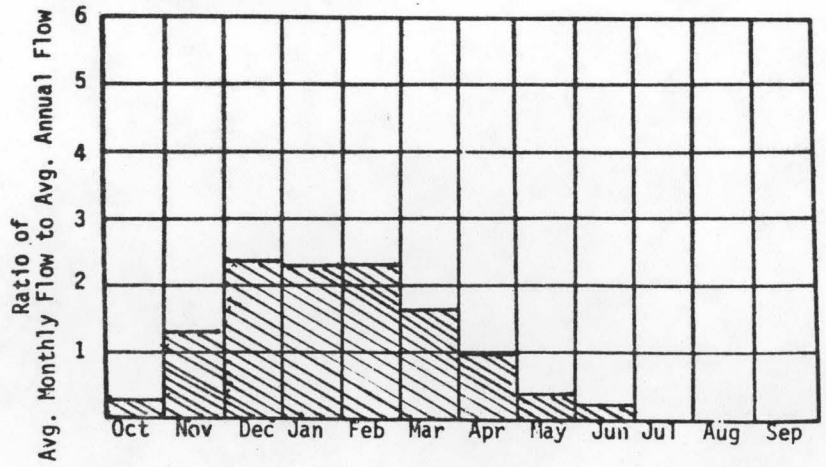
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12.2	Sq.Mi.
F.	Inflow Classification	Natural	

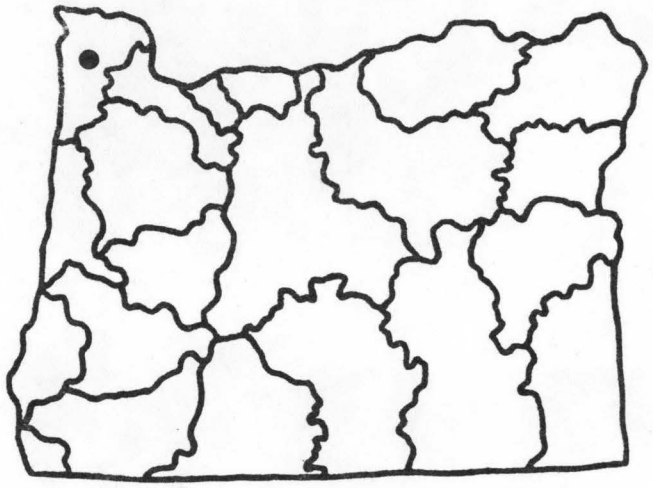
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.9	.02	.19	1.000
80	7.7	.04	.36	.939
50	33.4	.19	1.17	.717
30	76.9	.43	2.03	.537
10	197.3	1.10	3.20	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 76 CFS





U.S.G.S. TOPO. Series
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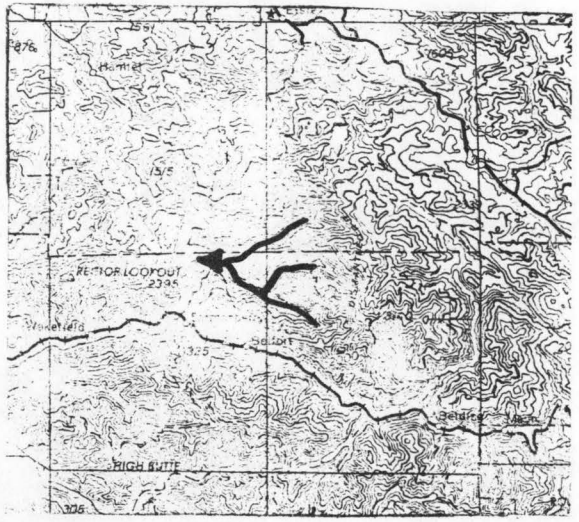
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T4N, R8W, Sec.24
D.	Latitude, Longitude	45°49'N,123°36'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	24.5 to 34.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

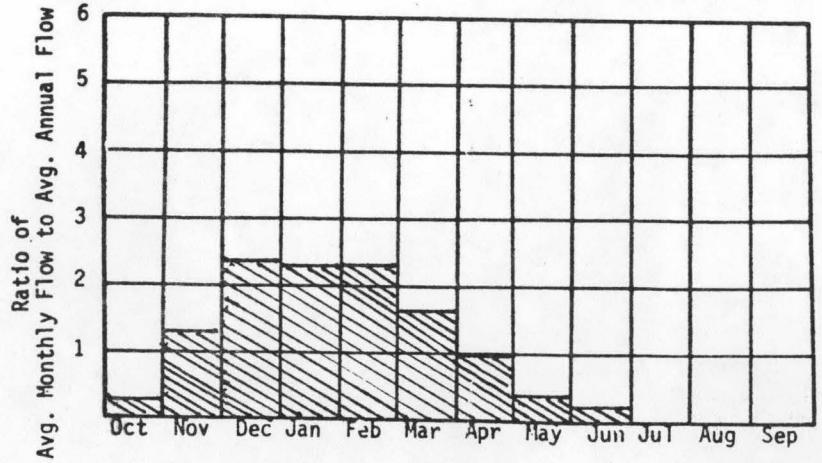
A.	Upstream Elevation of Reach	357	Ft. MSL
B.	Downstream Elevation of Reach	238	Ft. MSL
C.	Total Available Head in Reach	119	Ft.
D.	Average Slope in Reach	11.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	606.4	Sq.Mi.
F.	Inflow Classification	Natural	

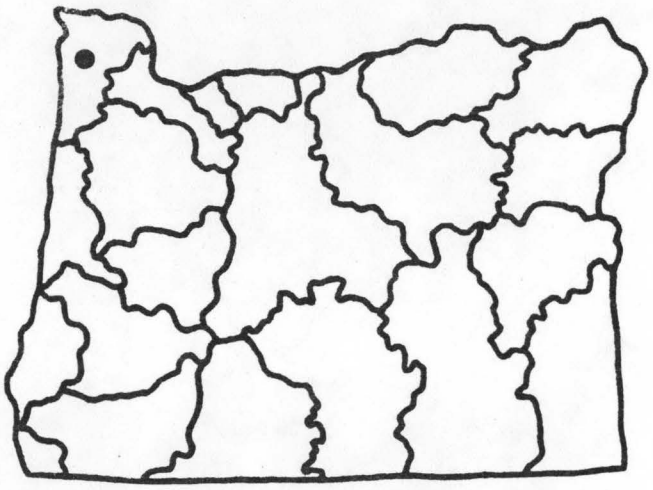
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	108.6	1.10	9.60	1.000
80	199.9	2.02	16.65	.943
50	956.6	9.65	60.11	.711
30	2004.1	20.21	97.12	.549
10	5155.3	51.99	152.80	.335

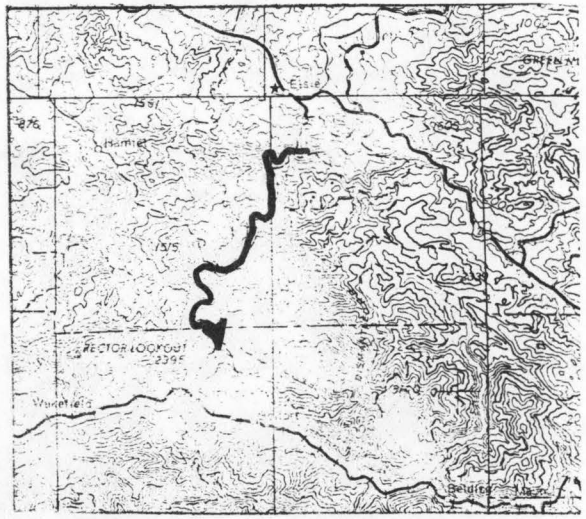
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1985 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-020-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R7W, Sec.31
D.	Latitude, Longitude	45°53'N,123°36'W
E.	Stream Name	Humbug Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 6.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

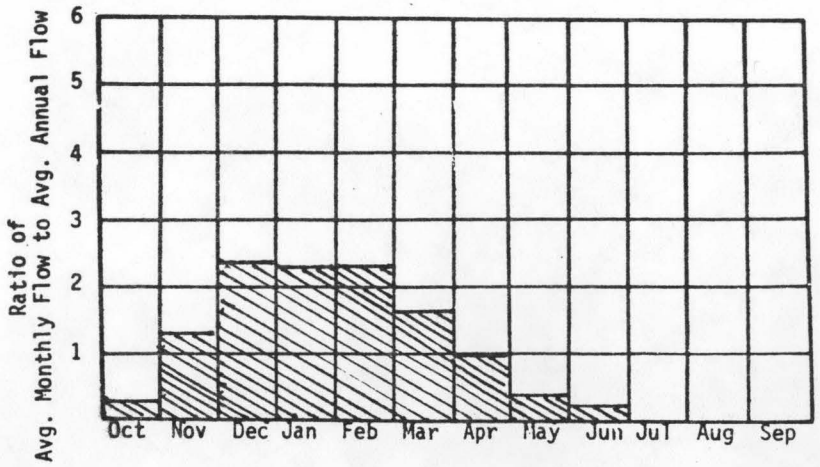
A.	Upstream Elevation of Reach	520	Ft. MSL
B.	Downstream Elevation of Reach	357	Ft. MSL
C.	Total Available Head in Reach	163	Ft.
D.	Average Slope in Reach	23.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	29.2	Sq.Mi.
F.	Inflow Classification	Natural	

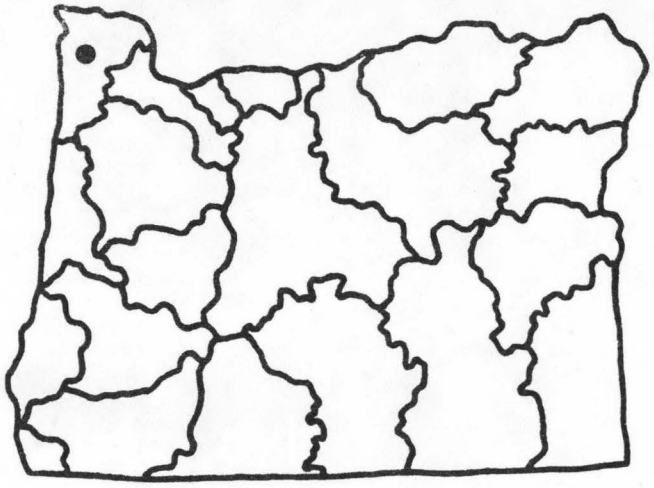
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.8	.09	.83	1.000
80	13.3	.18	1.51	.939
50	58.2	.80	5.04	.716
30	132.1	1.83	8.62	.539
10	339.0	4.68	13.63	.332

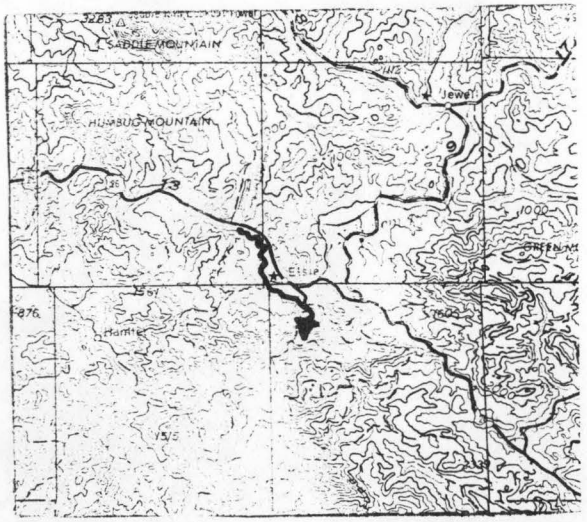
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 132 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-020-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R8W, Sec.25
D.	Latitude, Longitude	45°53'N,123°38'W
E.	Stream Name	Humbug Creek
F.	Major Basin Name	North Coast
G.	River Mile	6.8 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

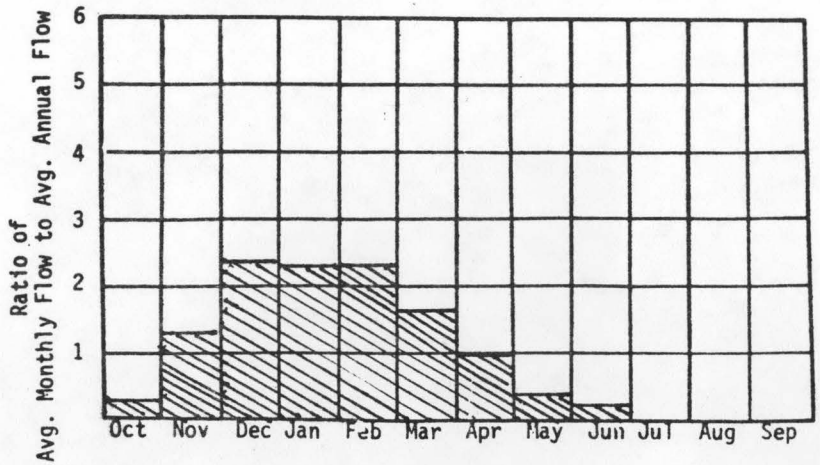
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	18.4	Sq.Mi.
F.	Inflow Classification	Natural	

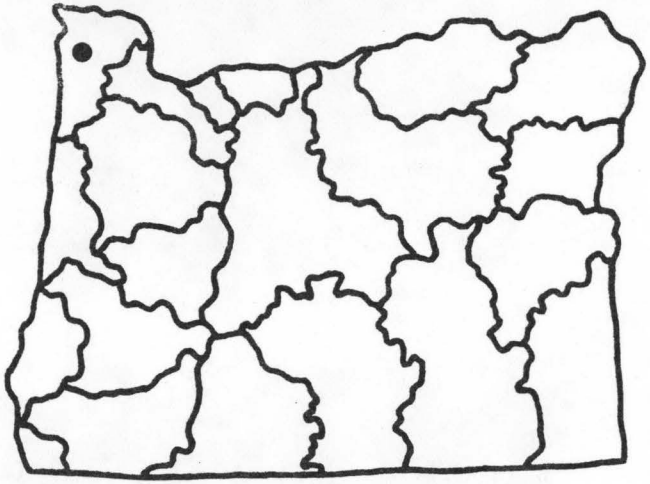
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.3	.03	.26	1.000
80	10.3	.06	.47	.939
50	44.7	.25	1.57	.716
30	102.3	.57	2.70	.538
10	262.4	1.47	4.27	.332

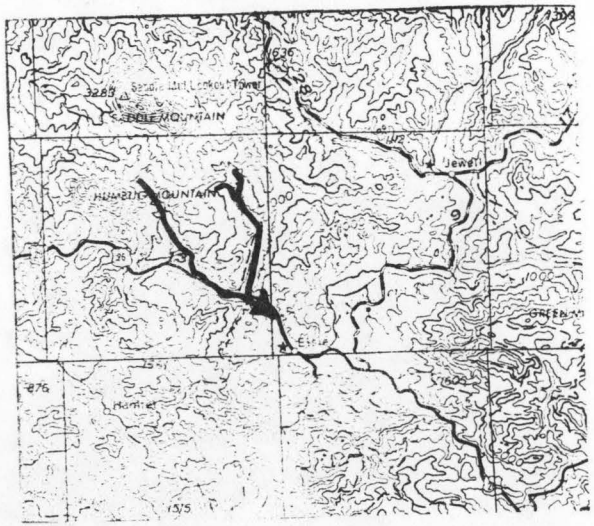
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 102 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R7W, Sec.32
D.	Latitude, Longitude	45°53'N,123°33'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	34.8 to 43.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

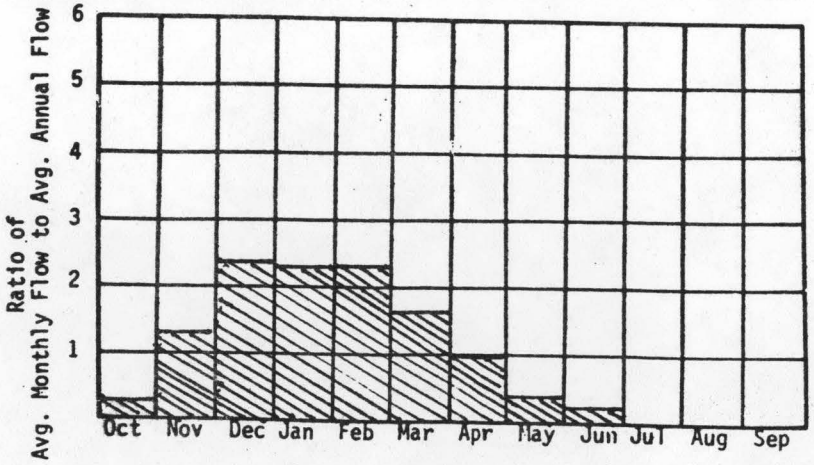
A.	Upstream Elevation of Reach	438	Ft. MSL
B.	Downstream Elevation of Reach	357	Ft. MSL
C.	Total Available Head in Reach	81	Ft.
D.	Average Slope in Reach	8.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	552.8	Sq.Mi.
F.	Inflow Classification	Natural	

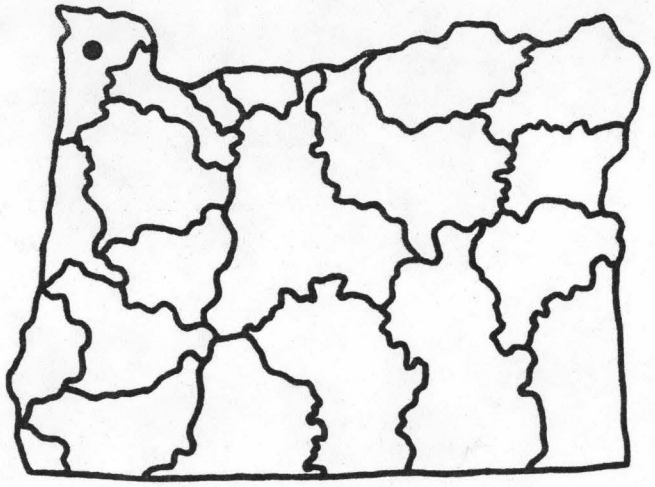
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	92.9	.64	5.59	1.000
80	171.5	1.18	9.72	.943
50	816.4	5.60	34.93	.711
30	1718.2	11.79	56.62	.548
10	4419.0	30.33	89.10	.335

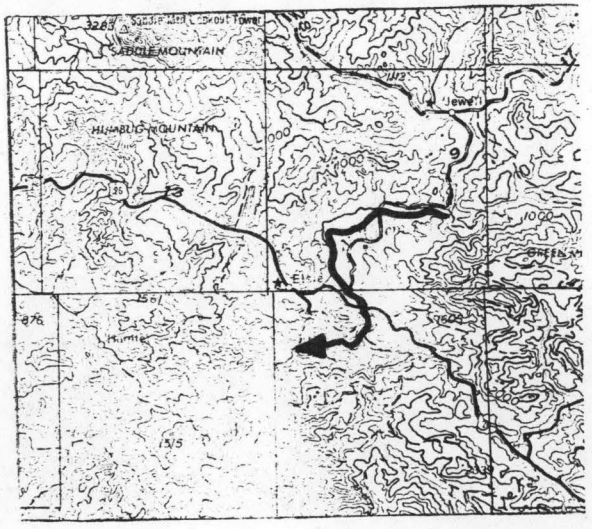
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1702 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-023-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R6W, Sec.23
D.	Latitude, Longitude	45°54'N.123°29'W
E.	Stream Name	Buster Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

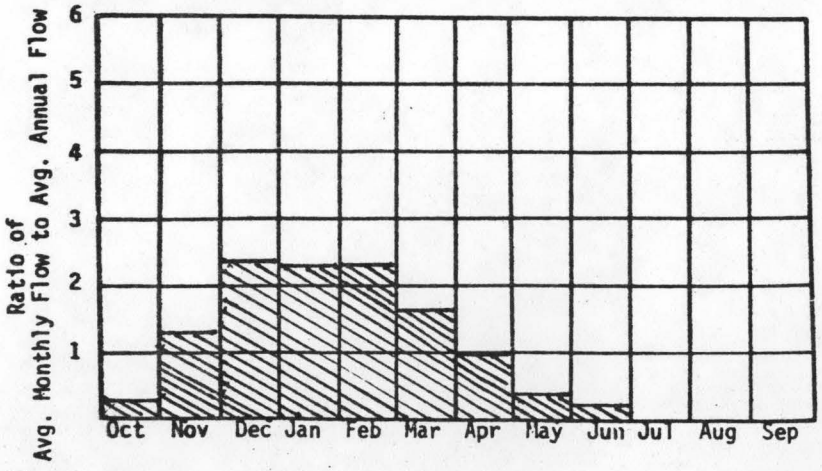
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	17.6	Sq.Mi.
F.	Inflow Classification	Natural	

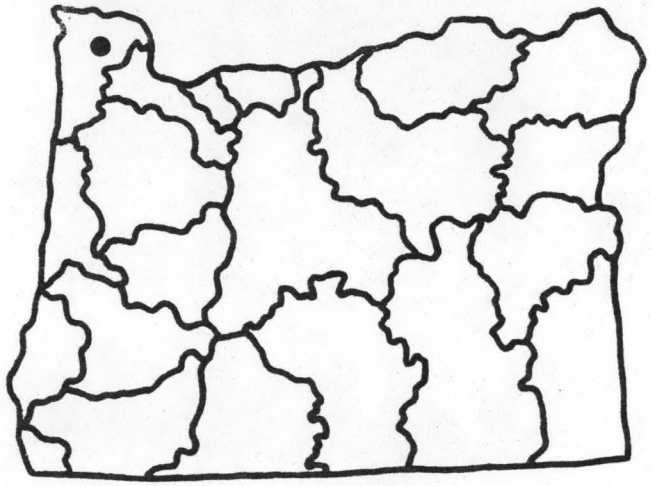
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	8.1	.05	.37	.939
50	34.8	.19	1.22	.717
30	80.2	.45	2.11	.538
10	205.6	1.15	3.34	.332

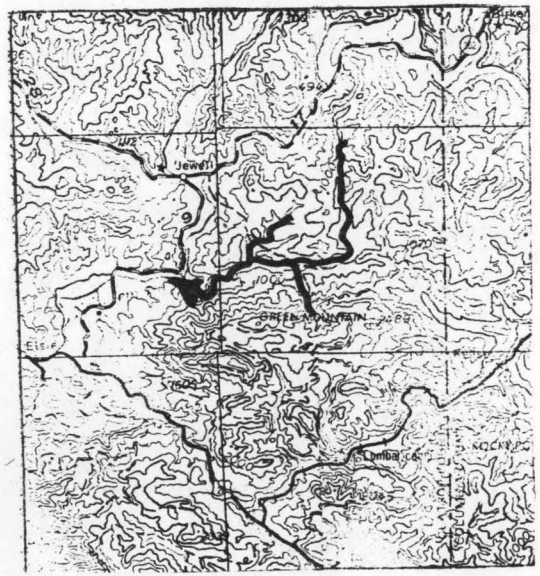
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 80 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0008

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R7W, Sec.13
D.	Latitude, Longitude	45°55'N,123°33'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	43.9 to 46.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

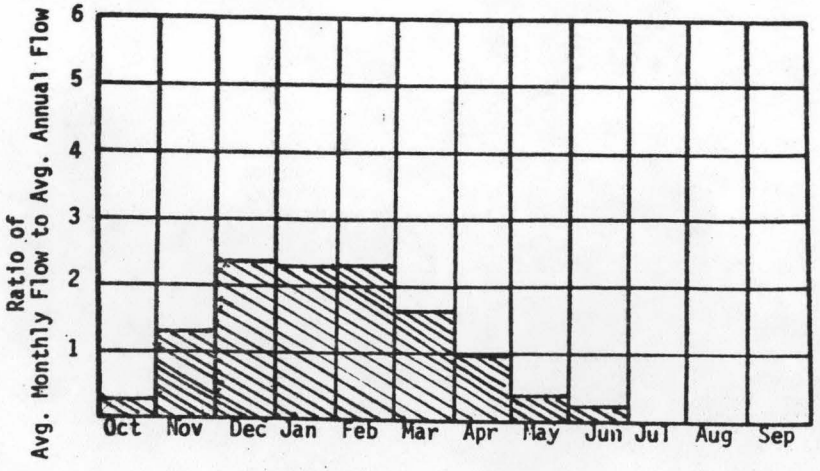
A.	Upstream Elevation of Reach	448	Ft. MSL
B.	Downstream Elevation of Reach	438	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	3.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	509.2	Sq.Mi.
F.	Inflow Classification	Natural	

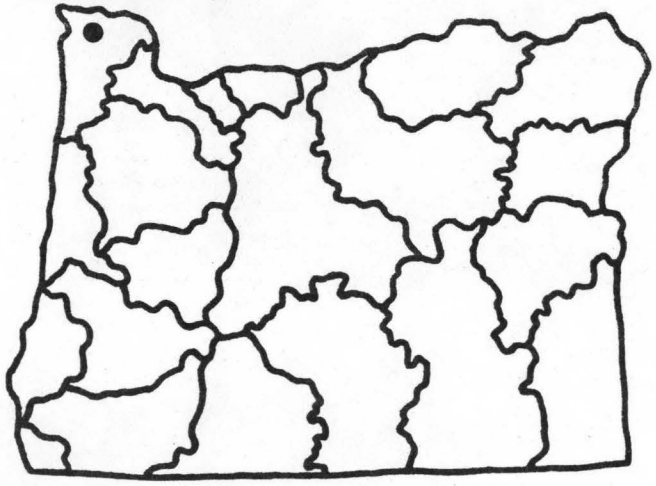
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	84.5	.07	.63	1.000
80	156.3	.13	1.09	.943
50	742.0	.63	3.92	.712
30	1565.9	1.33	6.37	.548
10	4027.1	3.41	10.02	.335

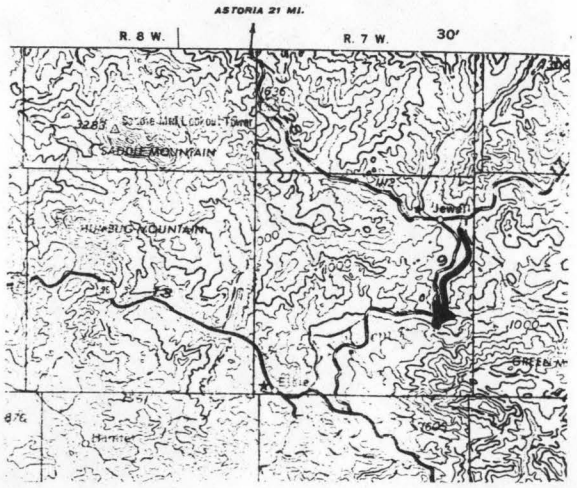
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1551 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-026-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R7W, Sec.12
D.	Latitude, Longitude	45°56'N,123°30'W
E.	Stream Name	Fishhawk River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 0.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

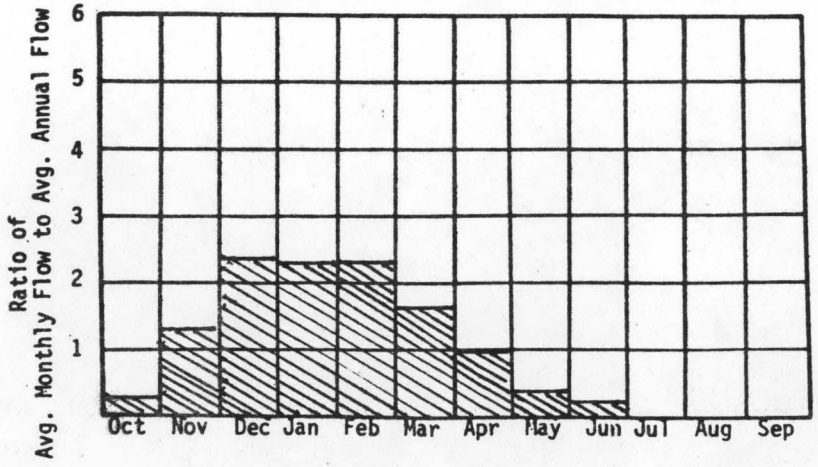
A.	Upstream Elevation of Reach	470	Ft. MSL
B.	Downstream Elevation of Reach	448	Ft. MSL
C.	Total Available Head in Reach	22	Ft.
D.	Average Slope in Reach	44.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	49.8	Sq.Mi.
F.	Inflow Classification	Natural	

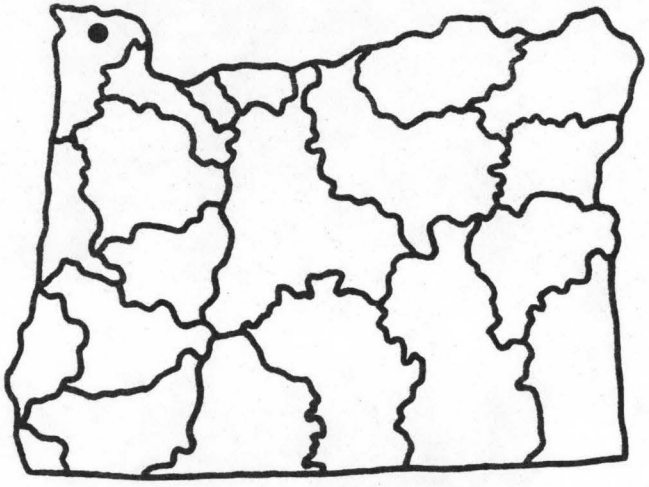
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.1	.02	.20	1.000
80	23.3	.04	.36	.940
50	104.1	.19	1.22	.715
30	232.4	.43	2.05	.541
10	596.6	1.11	3.24	.333

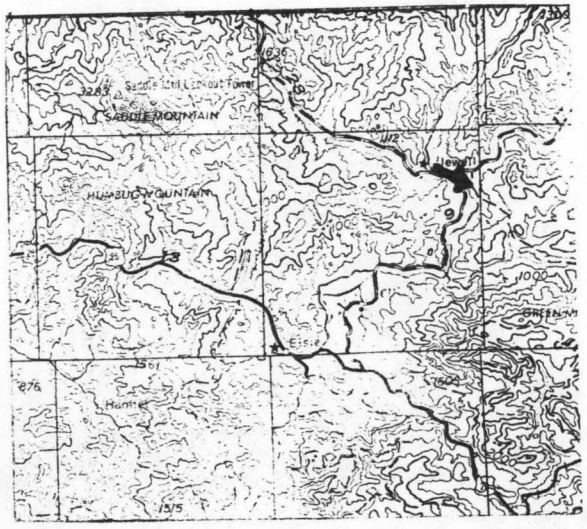
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 231 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-026-001-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Clatsop	
C. Township, Range	T5N, R7W, Sec.12	
D. Latitude, Longitude	45°58'N,123°30'W	
E. Stream Name	Walker Creek	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 3.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

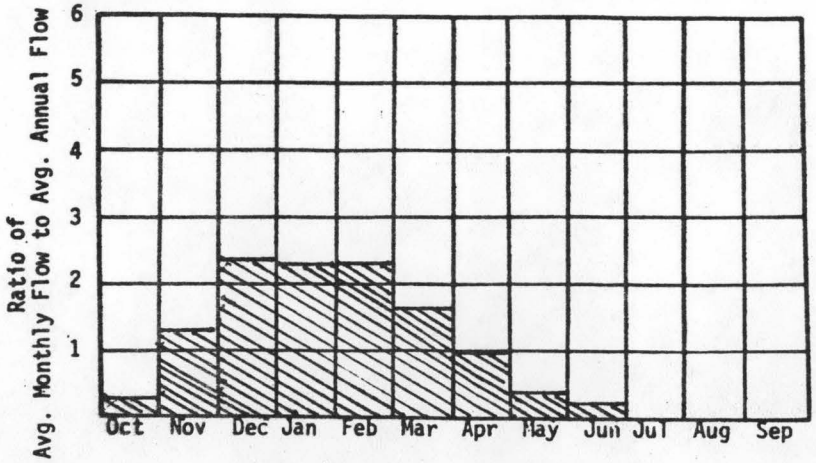
A. Upstream Elevation of Reach	520	Ft. MSL
B. Downstream Elevation of Reach	470	Ft. MSL
C. Total Available Head in Reach	50	Ft.
D. Average Slope in Reach	16.6	Ft./Mi.
E. Drainage Area above Reach Mouth	24.1	Sq.Mi.
F. Inflow Classification	Natural	

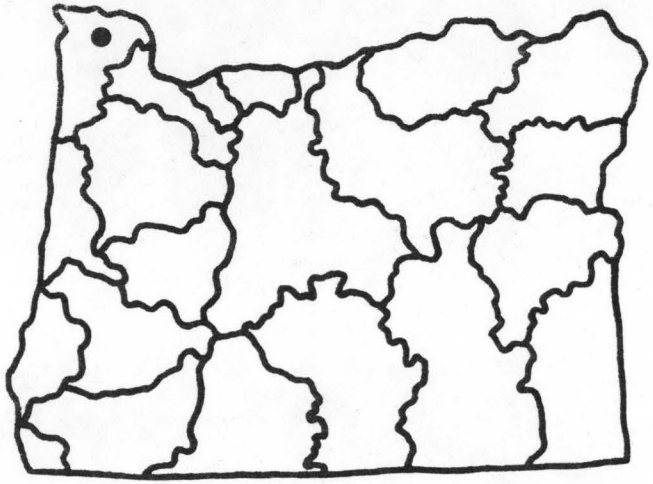
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.03	.22	1.000
80	11.5	.05	.40	.939
50	50.4	.21	1.34	.716
30	114.8	.49	2.30	.539
10	294.6	1.25	3.63	.332

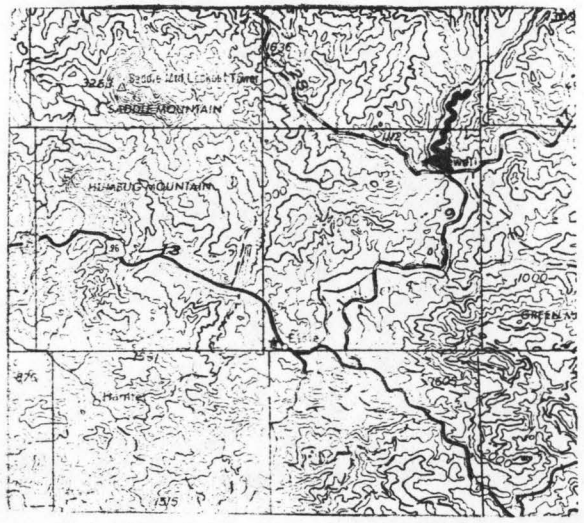
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 114 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-026-001-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T6N, R7W, Sec.25
D.	Latitude, Longitude	45°58'N,123°30'W
E.	Stream Name	Walker Creek
F.	Major Basin Name	North Coast
G.	River Mile	3.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

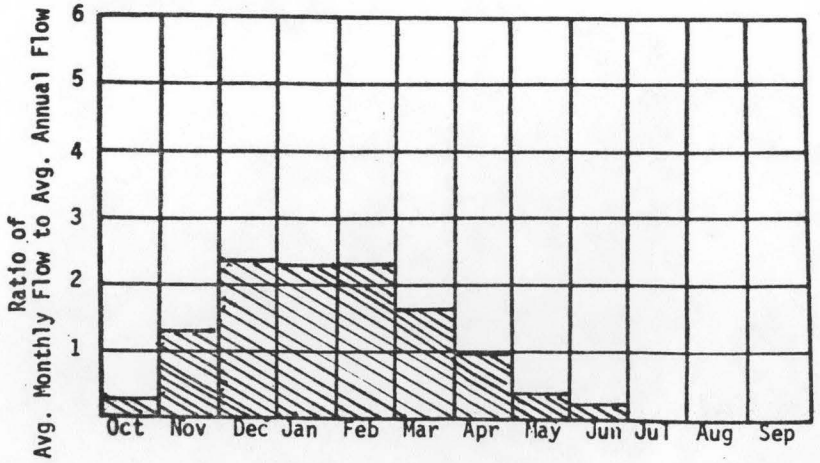
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22.7	Sq.Mi.
F.	Inflow Classification	Natural	

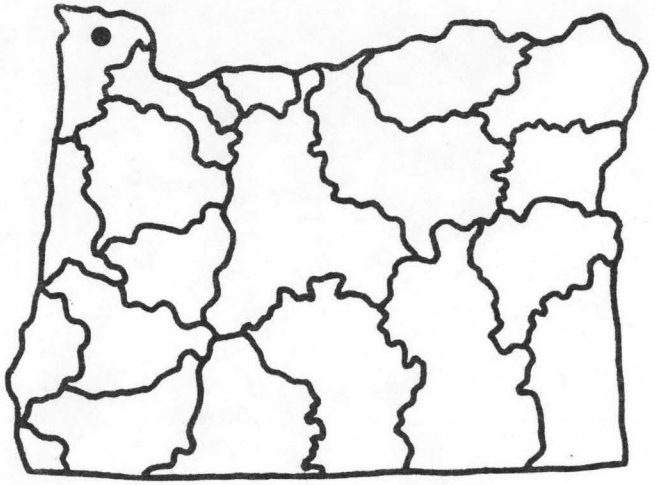
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.8	.03	.28	1.000
80	11.2	.06	.52	.939
50	49.0	.27	1.72	.716
30	111.7	.62	2.95	.539
10	286.4	1.60	4.66	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 111 CFS





U.S.G.S. TOPO. SERIES
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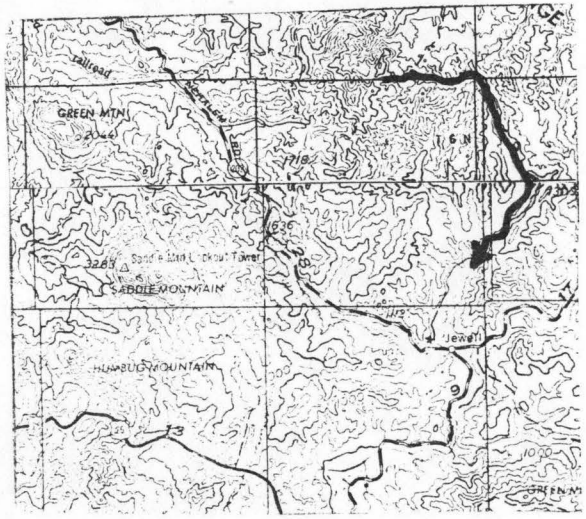
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-026-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R7W, Sec.11
D.	Latitude, Longitude	45°55'N,123°31'W
E.	Stream Name	Fishhawk Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.5 to 1.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

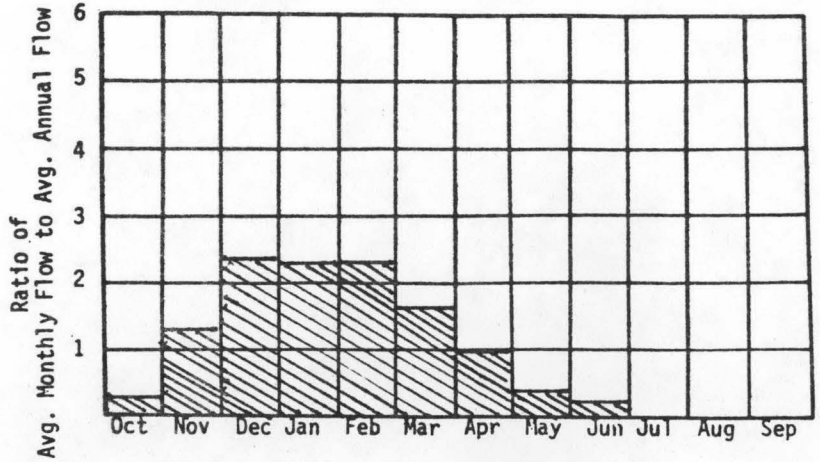
A.	Upstream Elevation of Reach	500	Ft. MSL
B.	Downstream Elevation of Reach	470	Ft. MSL
C.	Total Available Head in Reach	30	Ft.
D.	Average Slope in Reach	23.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	25.2	Sq.Mi.
F.	Inflow Classification	Natural	

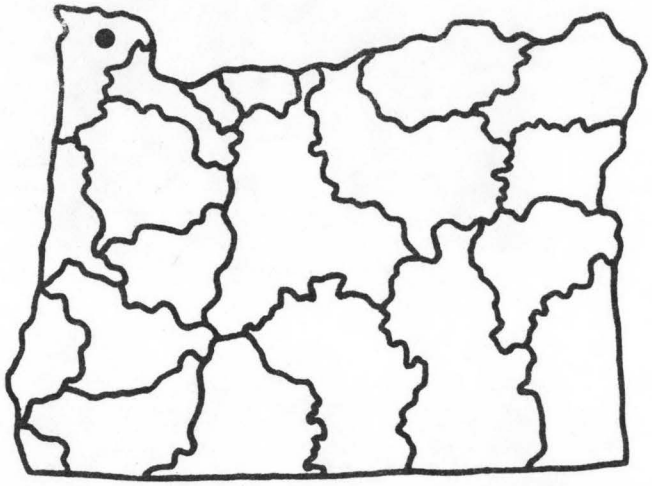
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.4	.01	.12	1.000
80	10.5	.03	.22	.939
50	45.8	.12	.73	.716
30	104.6	.27	1.25	.538
10	268.3	.68	1.98	.332

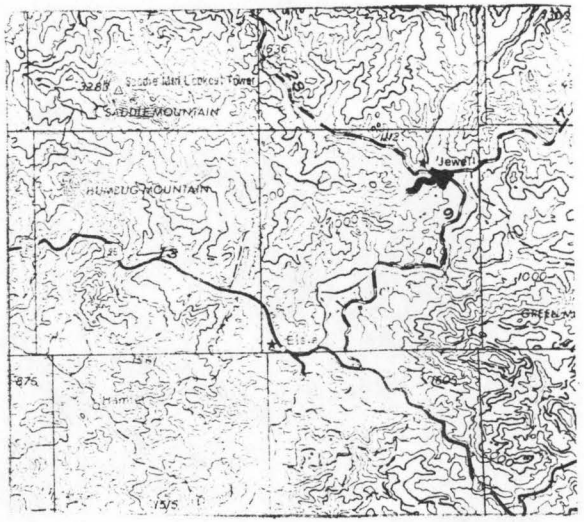
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 104 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-026-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T5N, R7W, Sec.11
D.	Latitude, Longitude	45°56'N,123°32'W
E.	Stream Name	Fishhawk Creek
F.	Major Basin Name	North Coast
G.	River Mile	1.8 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

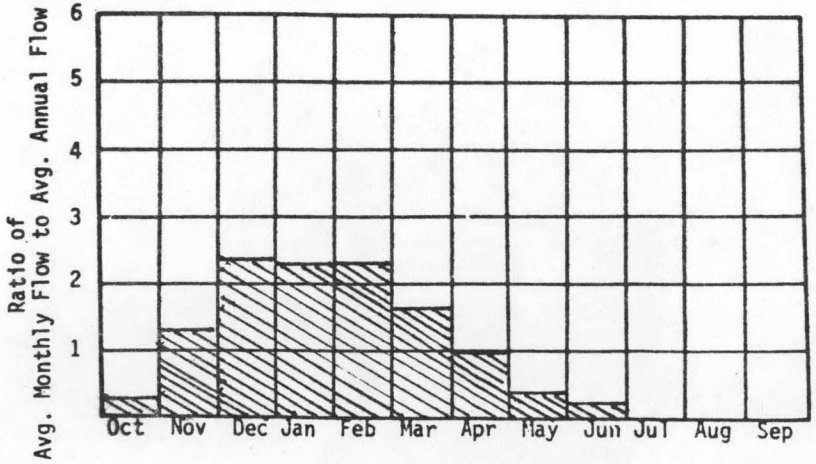
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	19.7	Sq.Mi.
F.	Inflow Classification	Natural	

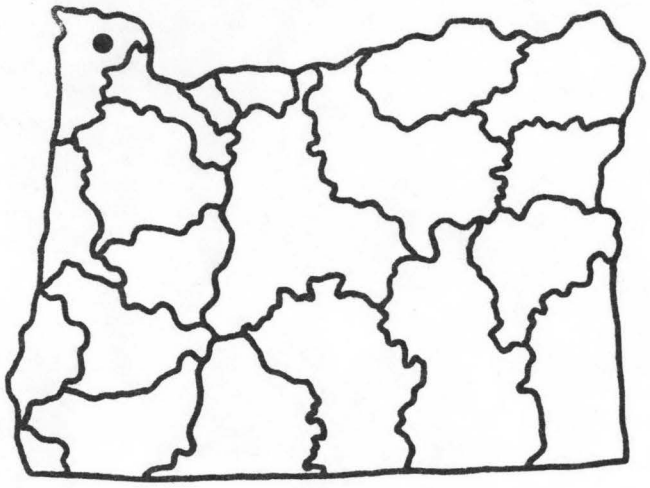
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.03	.23	1.000
80	9.3	.05	.43	.939
50	40.5	.23	1.42	.717
30	92.9	.52	2.45	.538
10	238.3	1.33	3.87	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 92 CFS





U.S.G.S. TOPO SERIES
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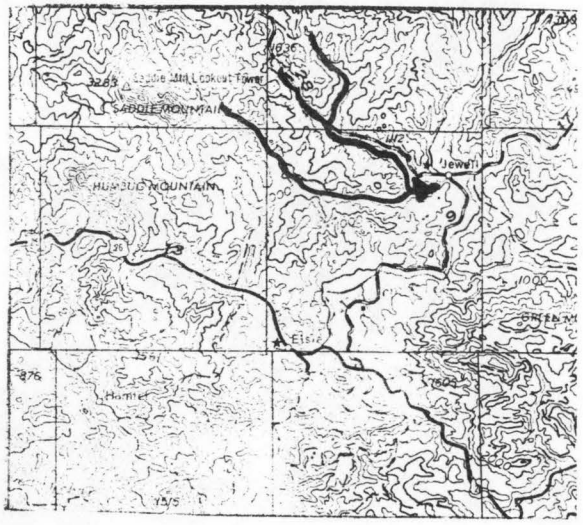


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0009

I. LOCATION

A. State	Oregon	
B. County	Clatsop	
C. Township, Range	T5N, R6W, Sec.4	
D. Latitude, Longitude	45°57'N,123°24'W	
E. Stream Name	Nehalem River	
F. Major Basin Name	North Coast	
G. River Mile	46.9 to 55.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

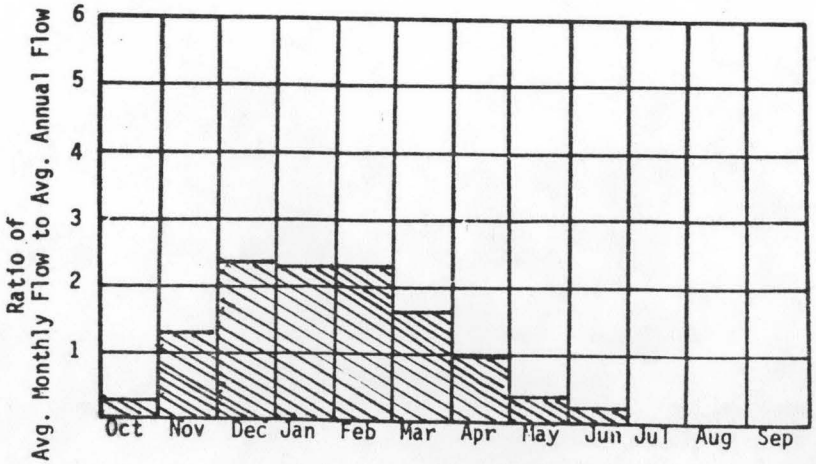
A. Upstream Elevation of Reach	467	Ft. MSL
B. Downstream Elevation of Reach	448	Ft. MSL
C. Total Available Head in Reach	19	Ft.
D. Average Slope in Reach	2.2	Ft./Mi.
E. Drainage Area above Reach Mouth	453.9	Sq.Mi.
F. Inflow Classification	Natural	

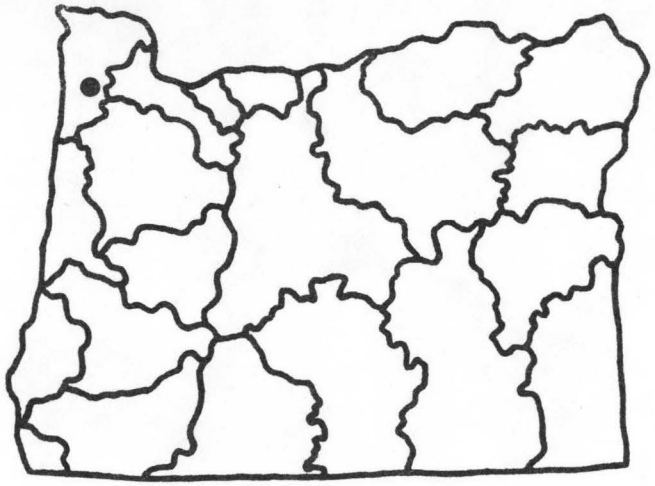
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	69.1	.11	.97	1.000
80	128.3	.21	1.71	.942
50	605.2	.97	6.08	.712
30	1284.6	2.07	9.91	.547
10	3303.0	5.32	15.60	.335

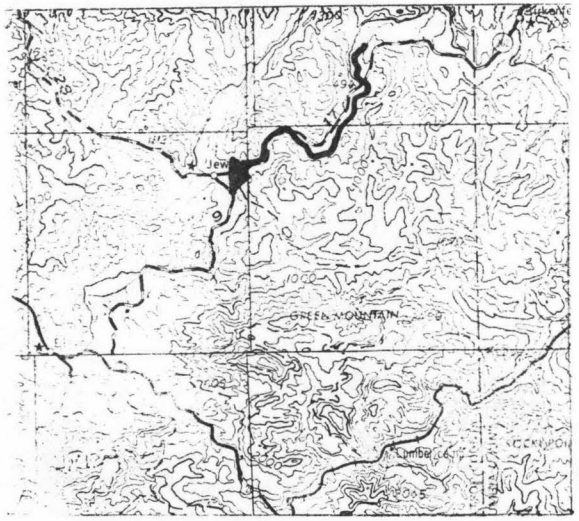
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1273 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0010

I. LOCATION

A.	State	Oregon
B.	County	Clatsop-Columbia
C.	Township, Range	T6N, R6W, Sec.24
D.	Latitude, Longitude	45°59'N,123°21'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	55.5 to 65.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

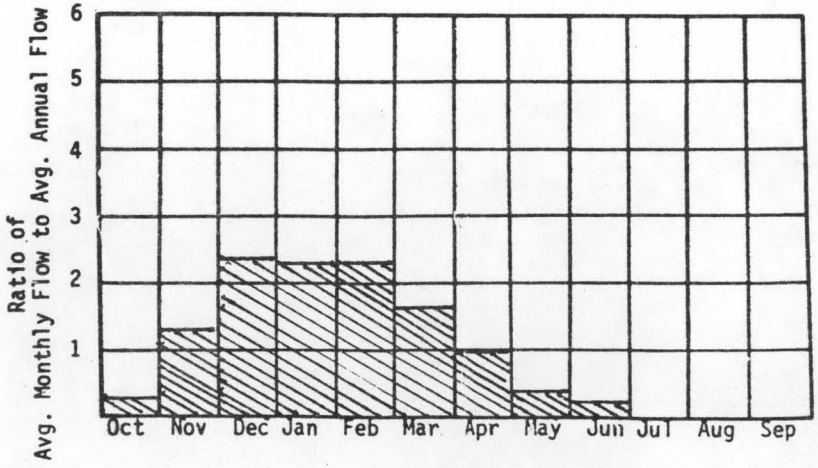
A.	Upstream Elevation of Reach	476	Ft. MSL
B.	Downstream Elevation of Reach	467	Ft. MSL
C.	Total Available Head in Reach	9	Ft.
D.	Average Slope in Reach	1.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	428.8	Sq.Mi.
F.	Inflow Classification	Natural	

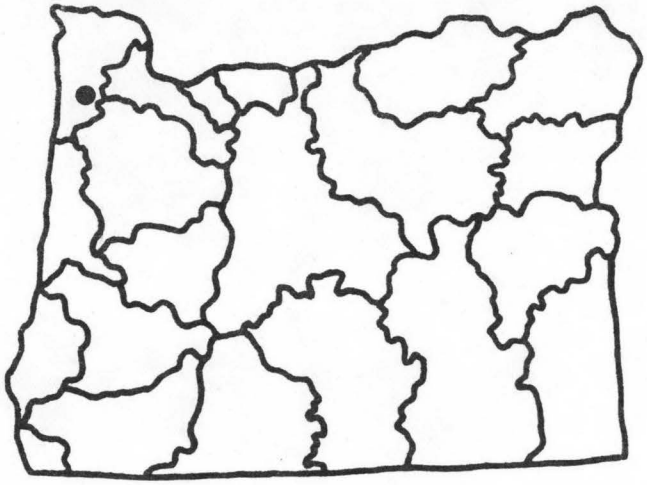
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	63.2	.05	.42	1.000
80	117.6	.09	.74	.942
50	553.1	.42	2.63	.712
30	1177.1	.90	4.30	.547
10	3026.4	2.31	6.77	.335

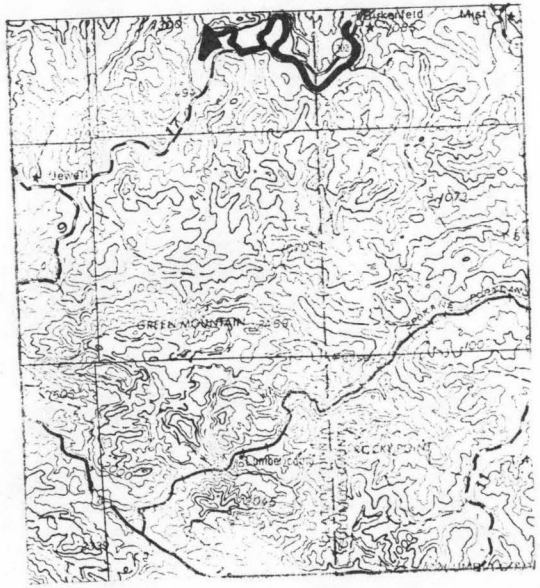
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1166 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER - HOQUIAM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0012

I. LOCATION

A. State	Oregon	
B. County	Columbia	
C. Township, Range	T6N, R5W, Sec.15	
D. Latitude, Longitude	46°00'N,123°15'W	
E. Stream Name	Nehalem	
F. Major Basin Name	North Coast	
G. River Mile	65.0 to 75.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

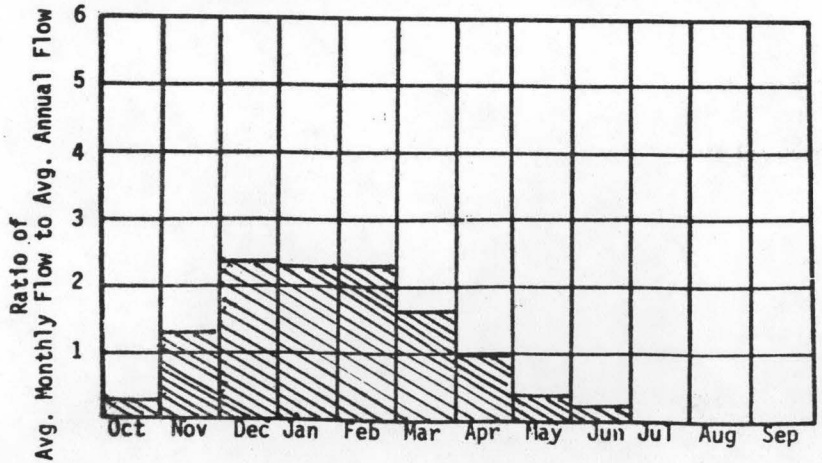
A. Upstream Elevation of Reach	524	Ft. MSL
B. Downstream Elevation of Reach	476	Ft. MSL
C. Total Available Head in Reach	48	Ft.
D. Average Slope in Reach	4.8	Ft./Mi.
E. Drainage Area above Reach Mouth	389.0	Sq.Mi.
F. Inflow Classification	Natural	

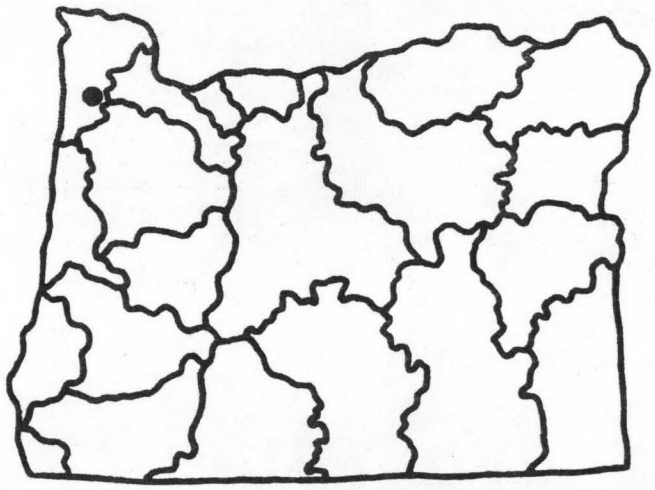
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	54.7	.22	1.95	1.000
80	102.0	.42	3.42	.942
50	477.7	1.94	12.13	.712
30	1020.9	4.15	19.87	.546
10	2624.3	10.68	31.30	.335

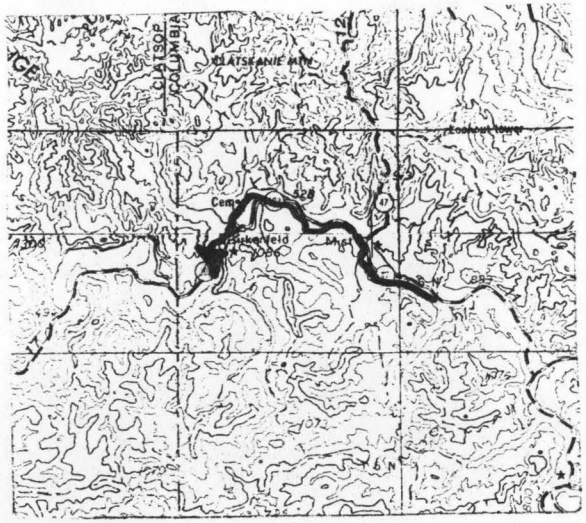
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1012 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: HOQUIAM - VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0013

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T5N. R4W. Sec.3
D.	Latitude, Longitude	45°57'N.123°10'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	75.0 to 84.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

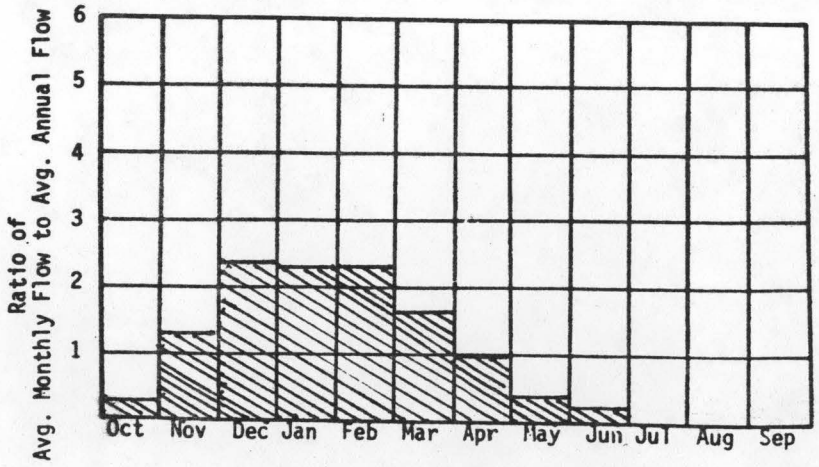
A.	Upstream Elevation of Reach	567	Ft. MSL
B.	Downstream Elevation of Reach	524	Ft. MSL
C.	Total Available Head in Reach	43	Ft.
D.	Average Slope in Reach	4.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	281.7	Sq.Mi.
F.	Inflow Classification	Natural	

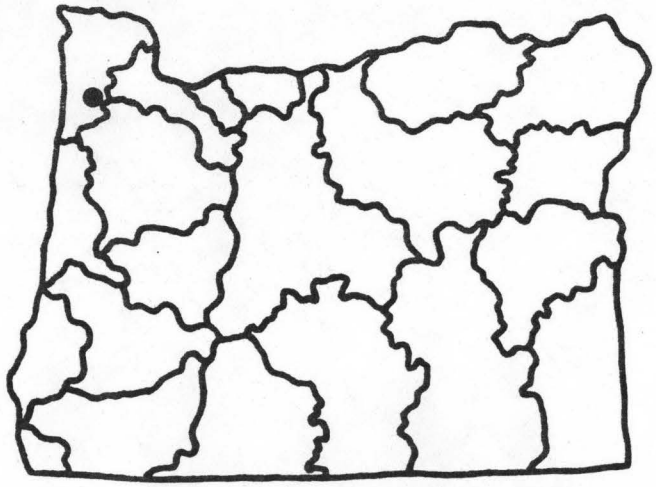
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	44.8	.16	1.43	1.000
80	83.9	.31	2.52	.942
50	390.4	1.42	8.88	.713
30	839.1	3.06	14.61	.545
10	2156.6	7.86	23.02	.334

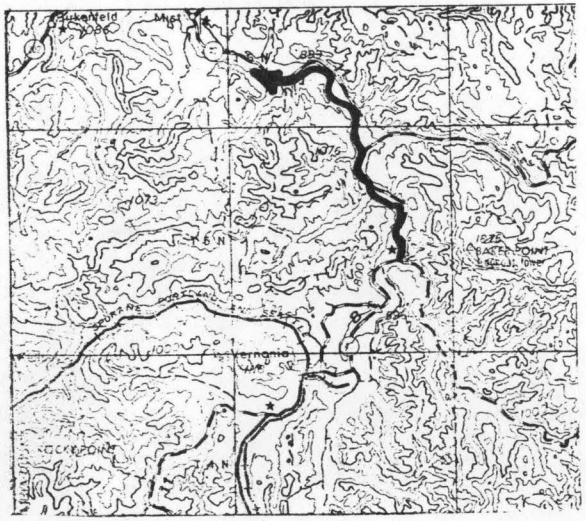
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 832.0 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-040-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T5N. R4W. Sec. 12
D.	Latitude, Longitude	45°53'N.123°07'W
E.	Stream Name	East Fork Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 3.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

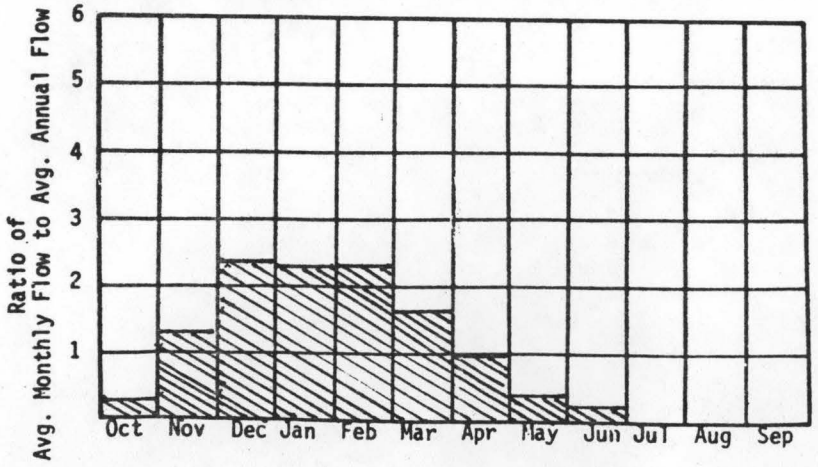
A.	Upstream Elevation of Reach	600	Ft. MSL
B.	Downstream Elevation of Reach	567	Ft. MSL
C.	Total Available Head in Reach	33	Ft.
D.	Average Slope in Reach	8.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	31.5	Sq.Mi.
F.	Inflow Classification	Natural	

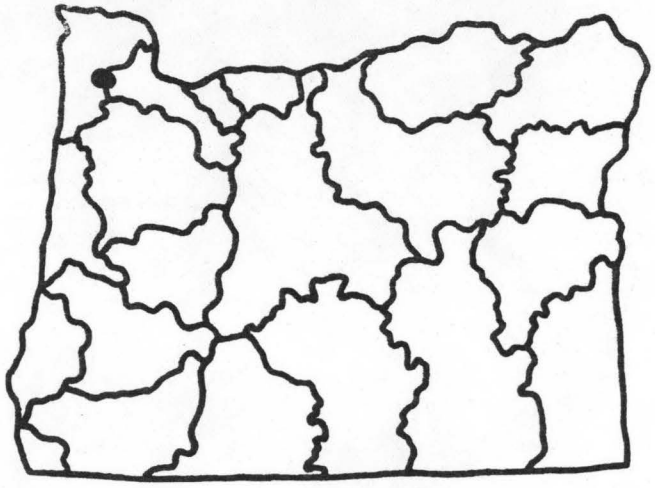
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.01	.12	1.000
80	9.7	.03	.22	.939
50	42.0	.12	.74	.717
30	96.2	.27	1.27	.538
10	246.7	.69	2.01	.332

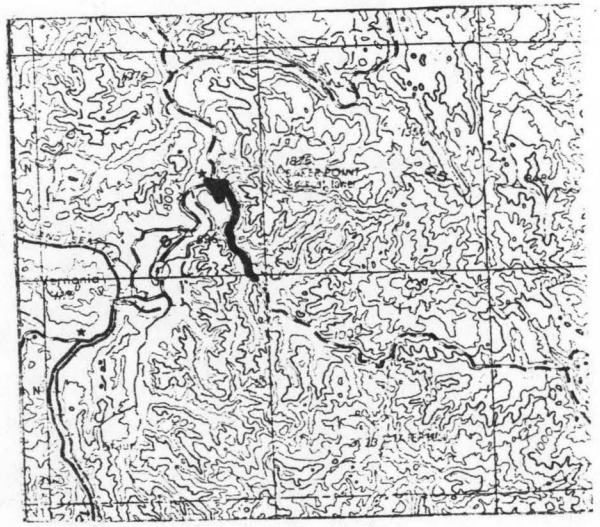
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 96.0 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

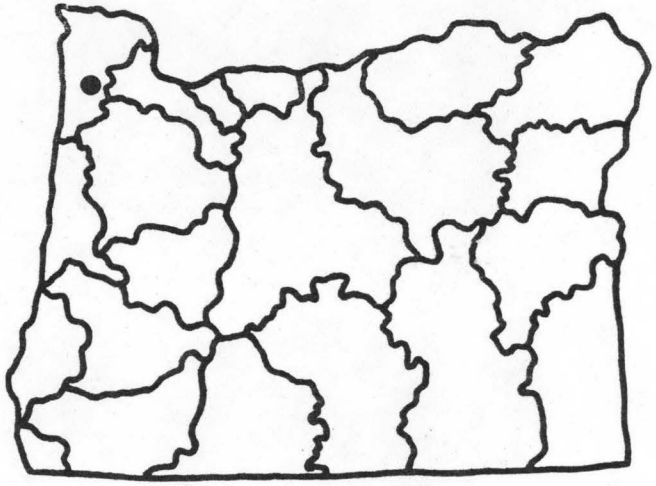


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-040-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T4N. R3W. Sec.13
D.	Latitude, Longitude	45°50'N.123°06'W
E.	Stream Name	East Fork Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	3.8 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	29.0	Sq.Mi.
F.	Inflow Classification	Natural	

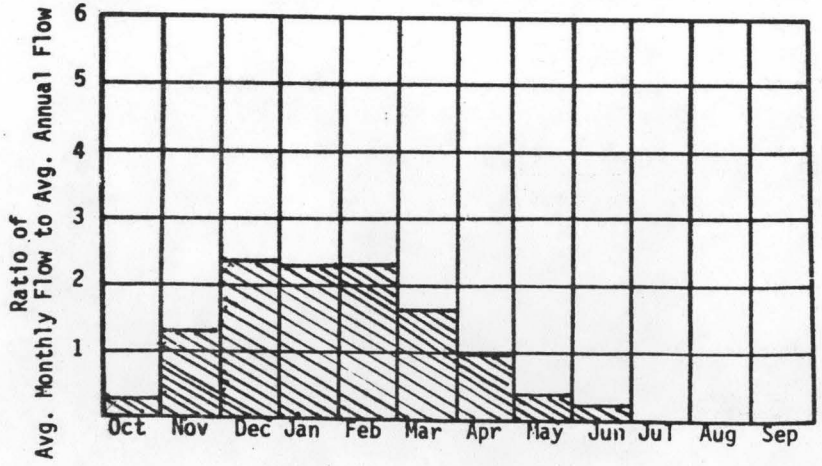
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

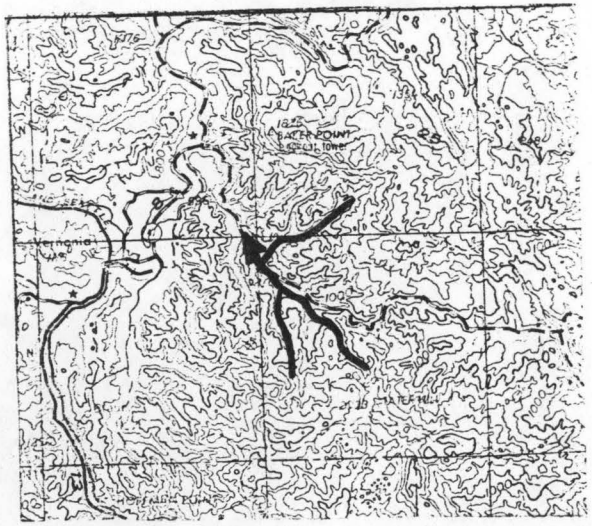
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.03	.23	1.000
80	9.3	.05	.43	.939
50	40.4	.23	1.42	.717
30	92.8	.52	2.45	.538
10	237.9	1.33	3.87	.332

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 92 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0015

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T5N, R4W, Sec.36
D.	Latitude, Longitude	45°52'N,123°06'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	84.0 to 90.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

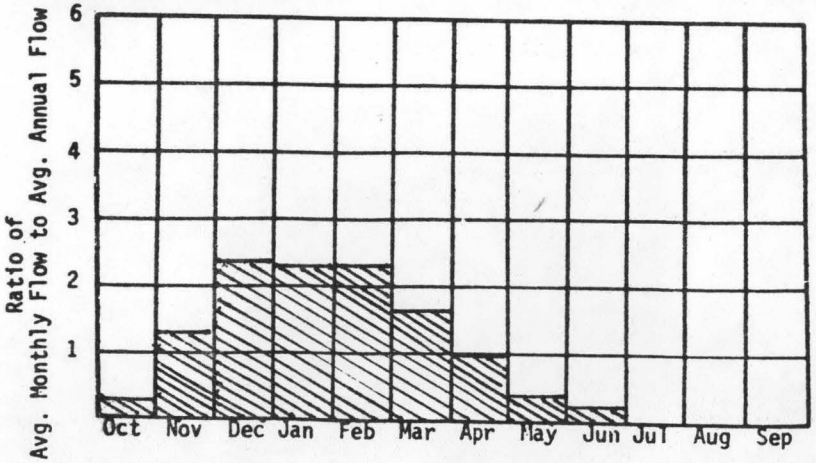
A.	Upstream Elevation of Reach	595	Ft. MSL
B.	Downstream Elevation of Reach	567	Ft. MSL
C.	Total Available Head in Reach	28	Ft.
D.	Average Slope in Reach	4.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	191.2	Sq.Mi.
F.	Inflow Classification	Natural	

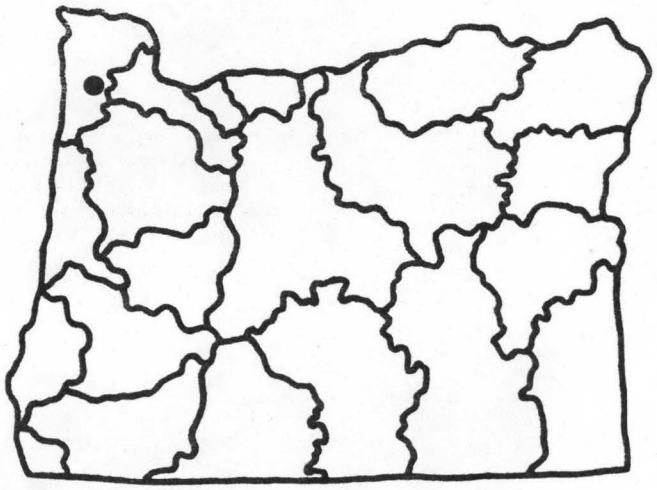
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	32.6	.08	.68	1.000
80	61.4	.15	1.20	.941
50	283.0	.67	4.20	.713
30	613.9	1.46	6.95	.544
10	1577.3	3.74	10.95	.334

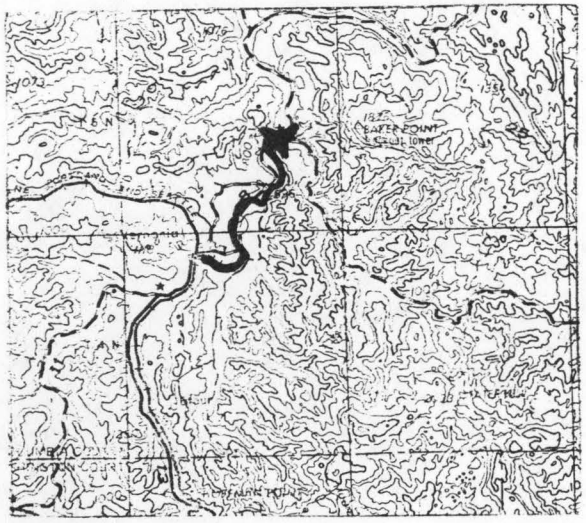
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 609 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-049-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Columbia	
C. Township, Range	T5N, R5W, Sec.36	
D. Latitude, Longitude	45°53'N,123°15'W	
E. Stream Name	Rock Creek	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 10.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

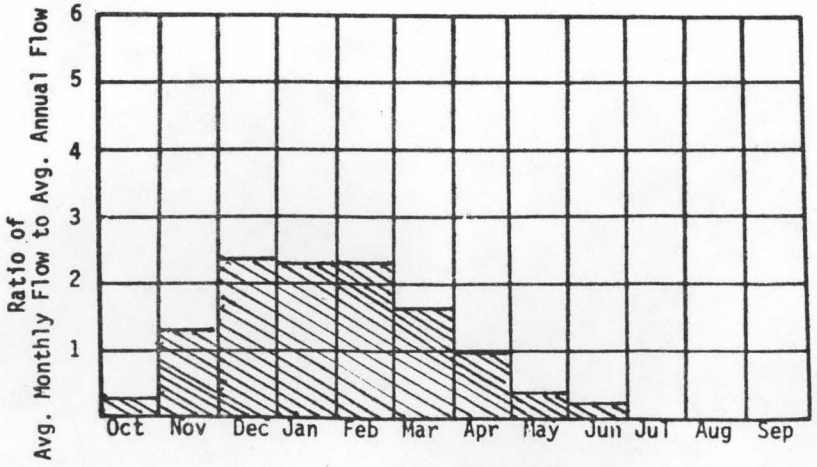
A. Upstream Elevation of Reach	724	Ft. MSL
B. Downstream Elevation of Reach	595	Ft. MSL
C. Total Available Head in Reach	129	Ft.
D. Average Slope in Reach	12.9	Ft./Mi.
E. Drainage Area above Reach Mouth	63.7	Sq.Mi.
F. Inflow Classification	Natural	

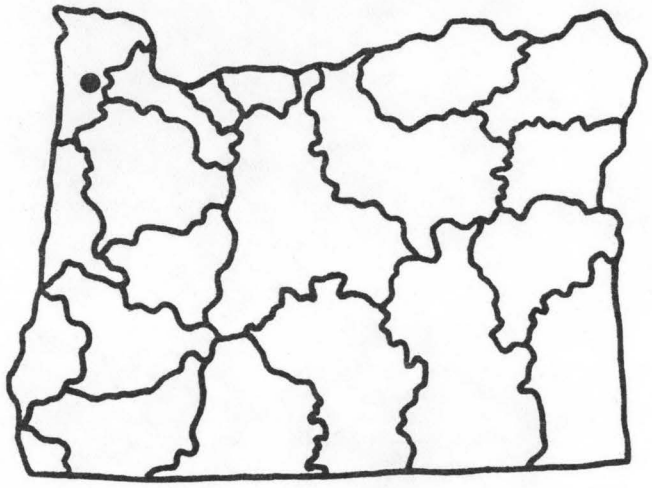
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	11.8	.13	1.13	1.000
80	22.6	.25	2.03	.940
50	100.7	1.10	6.90	.715
30	225.1	2.46	11.66	.541
10	577.7	6.32	18.41	.333

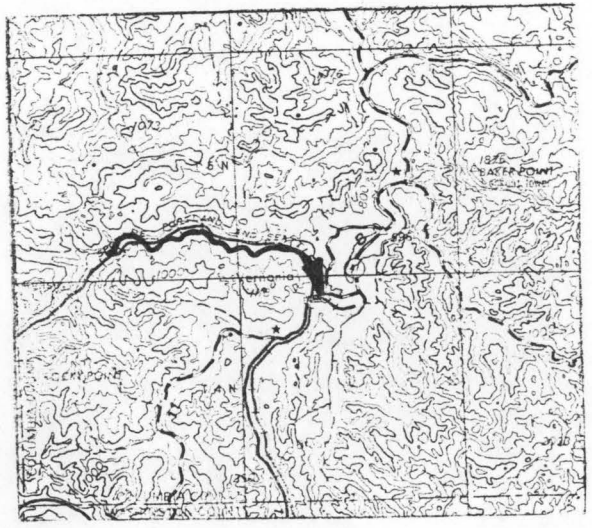
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 224 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-049-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Columbia-Clatsop	
C. Township, Range	T4N, R5W, Sec.5	
D. Latitude, Longitude	45°52'N,123°20'W	
E. Stream Name	Rock Creek	
F. Major Basin Name	North Coast	
G. River Mile	10.0 to 17.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

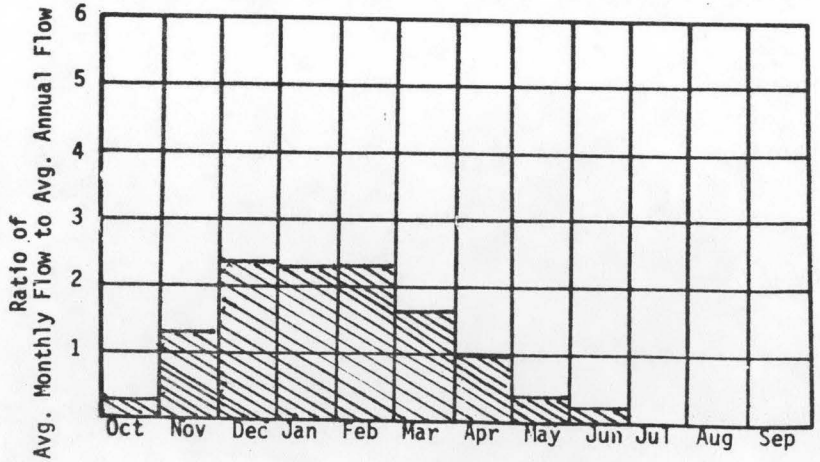
A. Upstream Elevation of Reach	986	Ft. MSL
B. Downstream Elevation of Reach	724	Ft. MSL
C. Total Available Head in Reach	262	Ft.
D. Average Slope in Reach	37.4	Ft./Mi.
E. Drainage Area above Reach Mouth	51.8	Sq.Mi.
F. Inflow Classification	Natural	

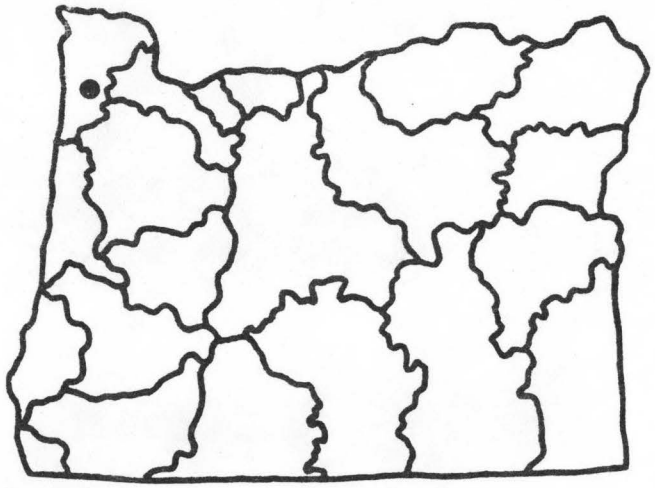
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.5	.21	1.85	1.000
80	18.3	.41	3.35	.940
50	81.1	1.80	11.29	.715
30	182.4	4.05	19.17	.540
10	468.0	10.39	30.28	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG.ANNUAL FLOW = 181 CFS





U.S.G.S. TOPO. SERIES
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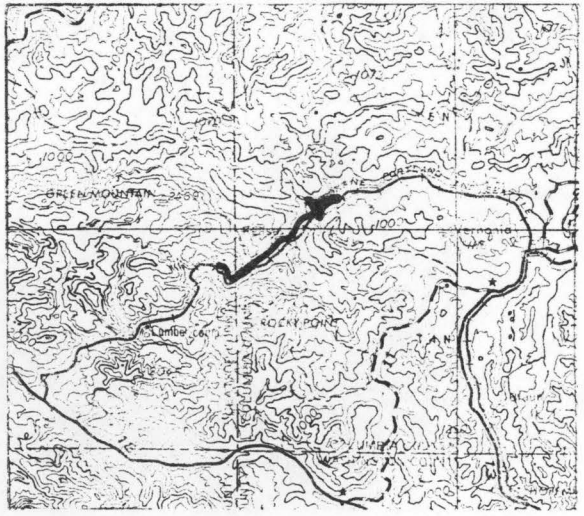
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-049-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T4N, R6W, Sec.14
D.	Latitude, Longitude	45°51'N,123°25'W
E.	Stream Name	Rock Creek
F.	Major Basin Name	North Coast
G.	River Mile	17.0 to 22.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

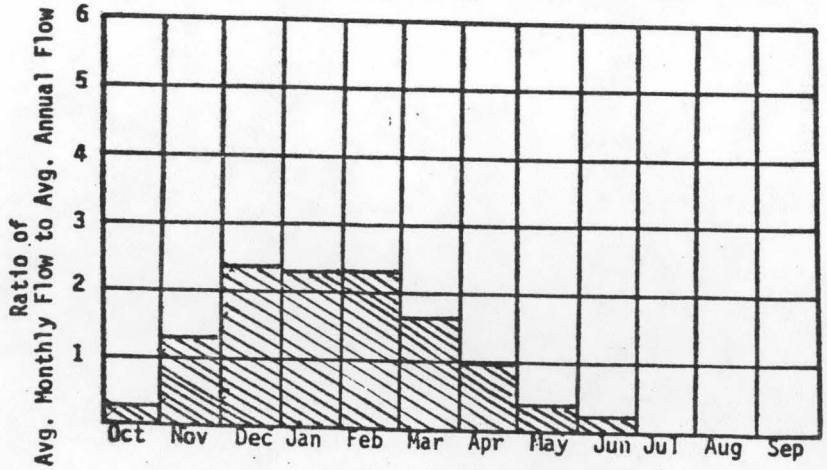
A.	Upstream Elevation of Reach	1224	Ft. MSL
B.	Downstream Elevation of Reach	986	Ft. MSL
C.	Total Available Head in Reach	238	Ft.
D.	Average Slope in Reach	40.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	34.8	Sq.Mi.
F.	Inflow Classification	Natural	

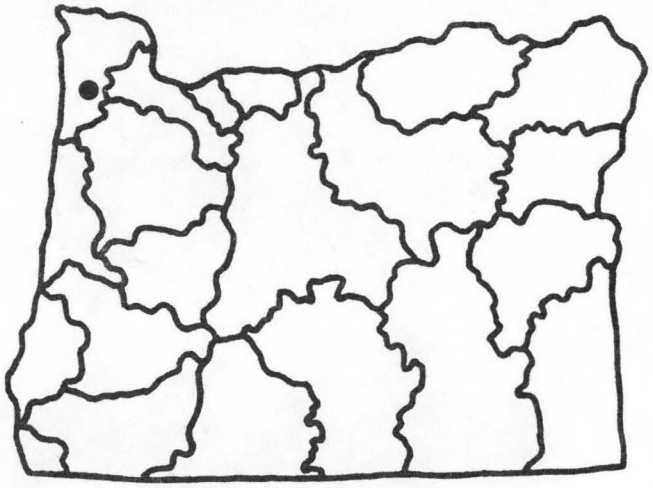
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.9	.14	1.22	1.000
80	13.4	.27	2.22	.939
50	58.7	1.18	7.43	.716
30	133.2	2.69	12.69	.539
10	341.8	6.89	20.07	.332

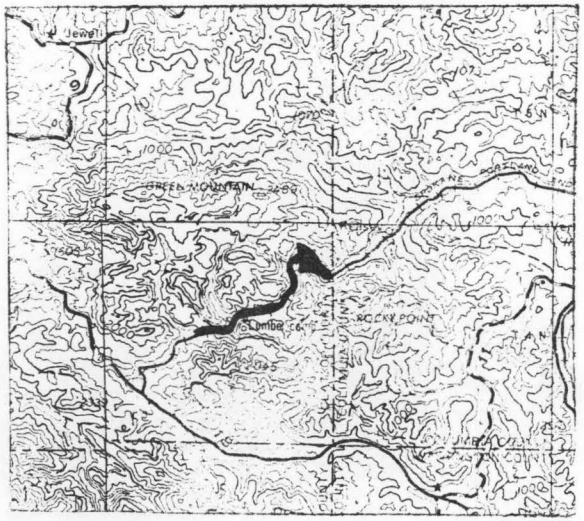
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 132 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-049-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Clatsop
C.	Township, Range	T4N, R6W, Sec.21
D.	Latitude, Longitude	45°49'N,123°26'W
E.	Stream Name	Rock Creek
F.	Major Basin Name	North Coast
G.	River Mile	22.9 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

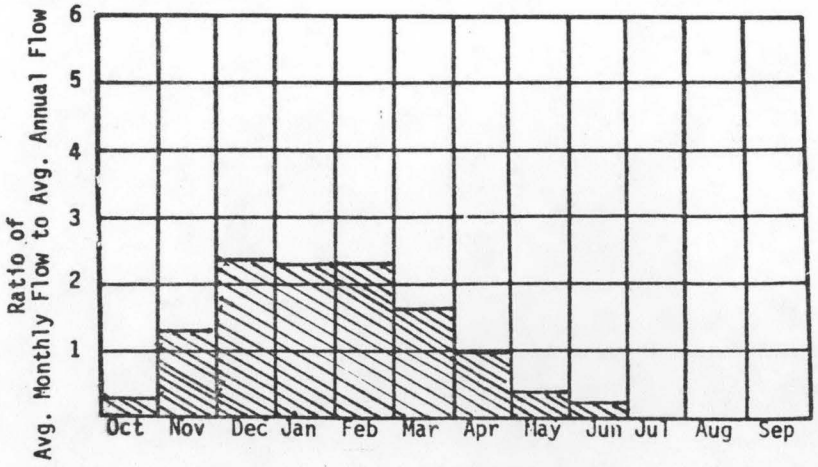
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	23	Sq.Mi.
F.	Inflow Classification	Natural	

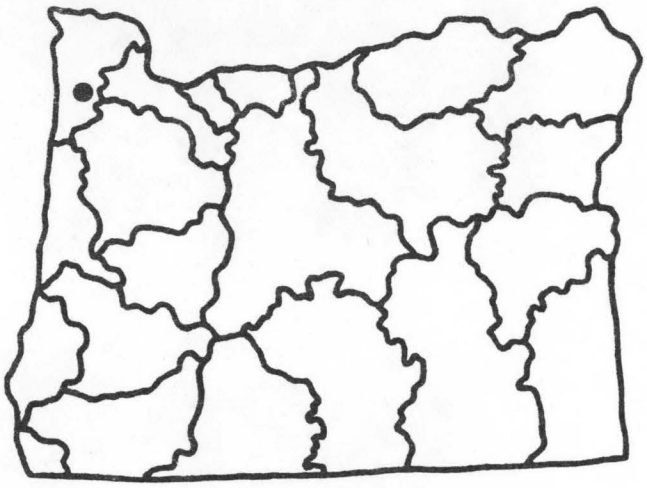
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.7	.03	.28	1.000
80	11.1	.06	.51	.939
50	48.4	.27	1.70	.716
30	110.4	.62	2.91	.539
10	283.1	1.58	4.61	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 110 CFS





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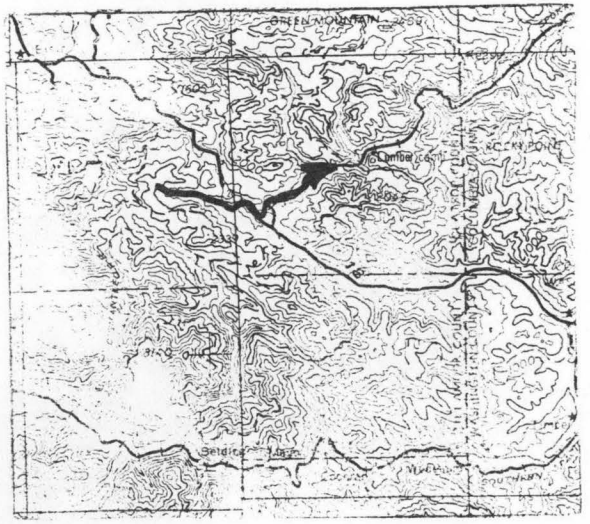
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0016

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T4N, R4W, Sec.7
D.	Latitude, Longitude	45°51'N,123°15'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	90.7 to 97.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

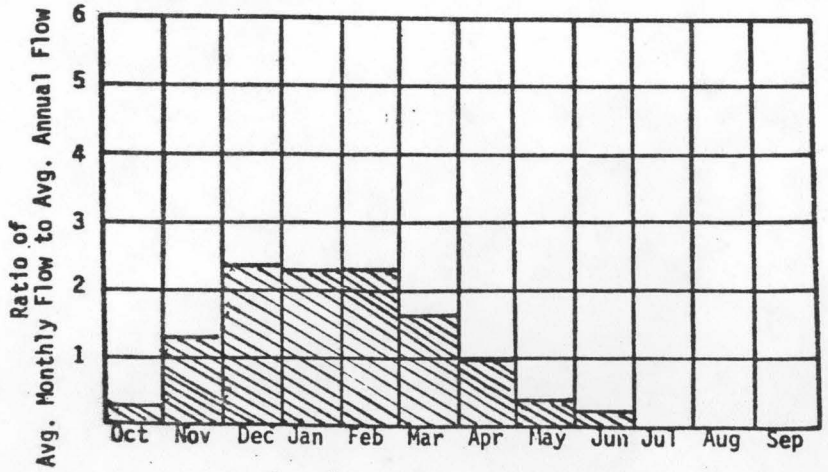
A.	Upstream Elevation of Reach	648	Ft. MSL
B.	Downstream Elevation of Reach	595	Ft. MSL
C.	Total Available Head in Reach	53	Ft.
D.	Average Slope in Reach	8.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	94.5	Sq.Mi.
F.	Inflow Classification	Natural	

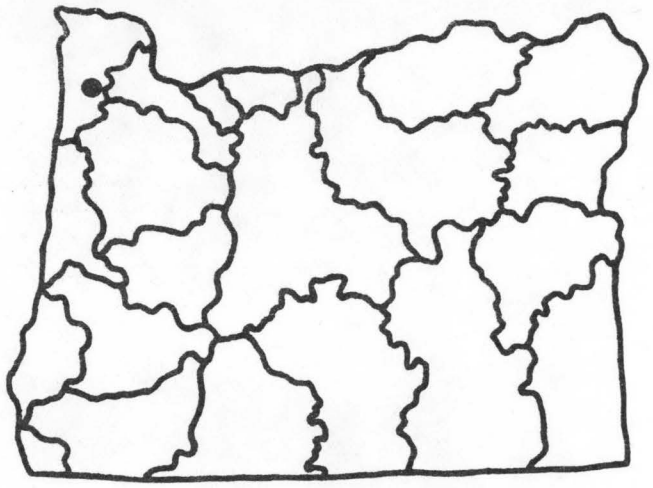
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	15.9	.07	.63	1.000
80	30.5	.14	1.13	.940
50	137.2	.62	3.86	.715
30	303.9	1.36	6.48	.542
10	780.2	3.50	10.23	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 302 CFS





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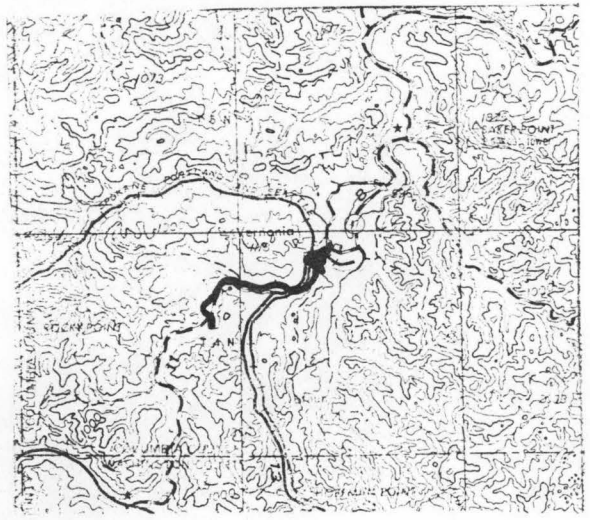


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0017

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	T4N, R5W, Sec.26
D.	Latitude, Longitude	45°49'N,123°19'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	97.0 to 106.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

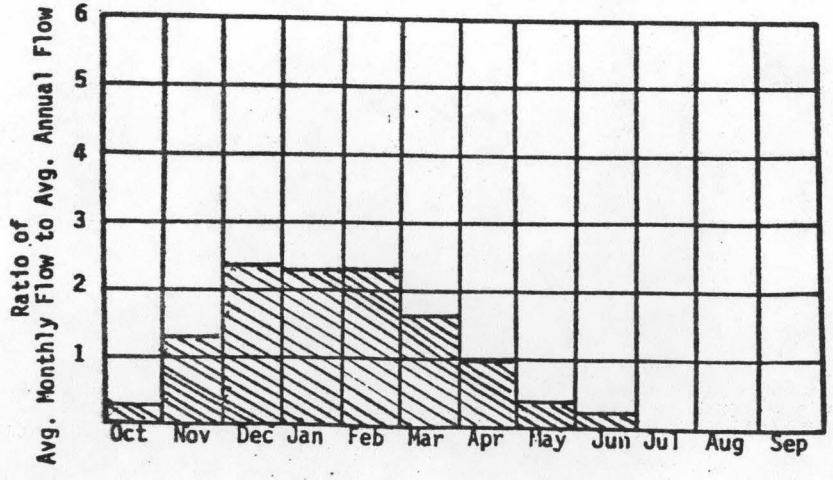
A.	Upstream Elevation of Reach	752	Ft. MSL
B.	Downstream Elevation of Reach	648	Ft. MSL
C.	Total Available Head in Reach	104	Ft.
D.	Average Slope in Reach	10.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	73.0	Sq.Mi.
F.	Inflow Classification	Natural	

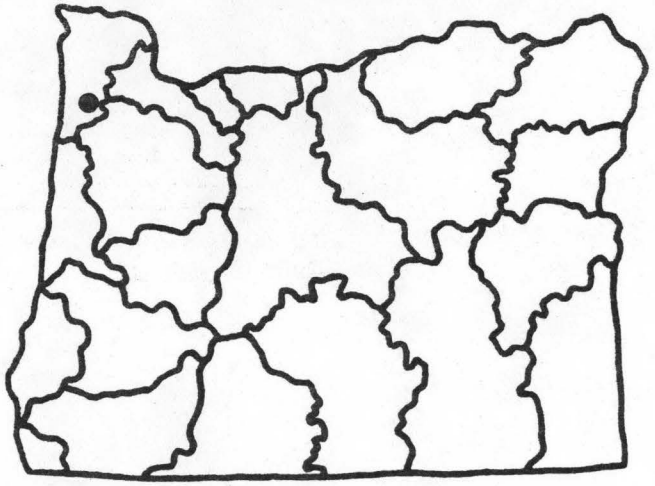
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	11.9	.11	.92	1.000
80	22.9	.20	1.66	.940
50	102.3	.90	5.65	.715
30	228.5	2.01	9.55	.541
10	586.6	5.17	15.08	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 226 CFS





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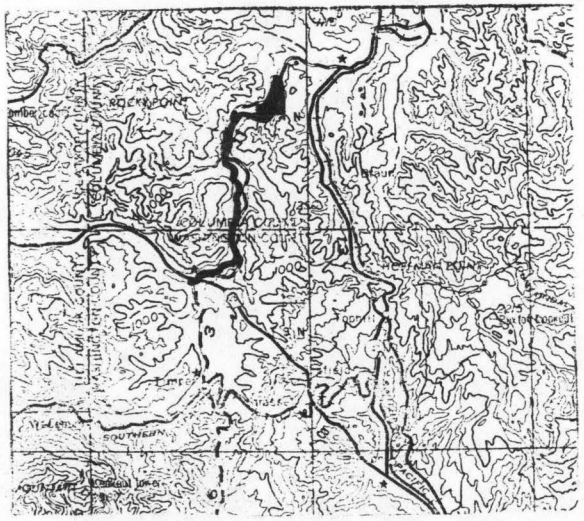


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0018

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	T3N, R5W, Sec.10
D.	Latitude, Longitude	45°45'N,123°20'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	106.8 to 109.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

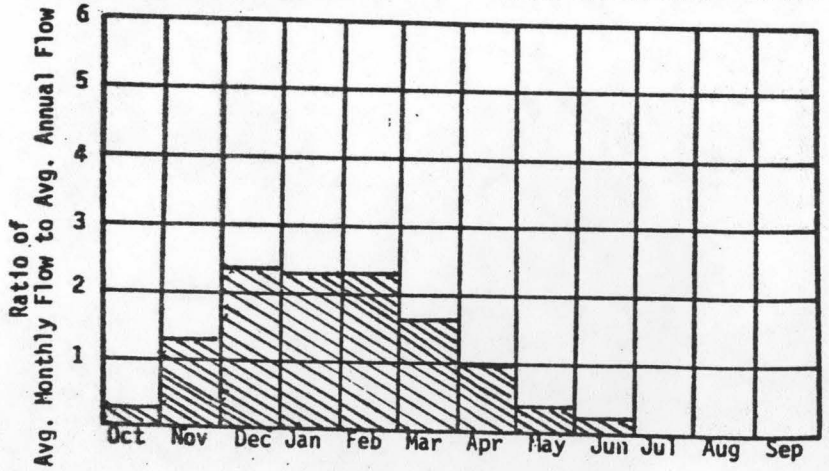
A.	Upstream Elevation of Reach	814	Ft. MSL
B.	Downstream Elevation of Reach	752	Ft. MSL
C.	Total Available Head in Reach	62	Ft.
D.	Average Slope in Reach	26.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	51.0	Sq.Mi.
F.	Inflow Classification	Natural	

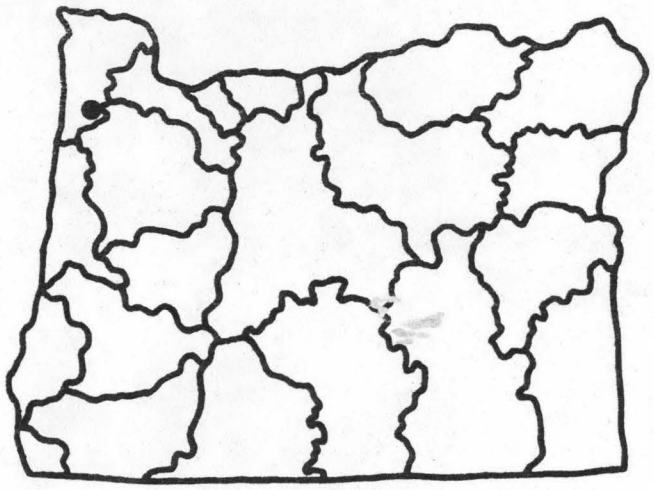
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.03	.23	1.000
80	9.7	.05	.42	.939
50	42.1	.22	1.39	.717
30	96.5	.51	2.39	.538
10	247.4	1.30	3.78	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 96 CFS





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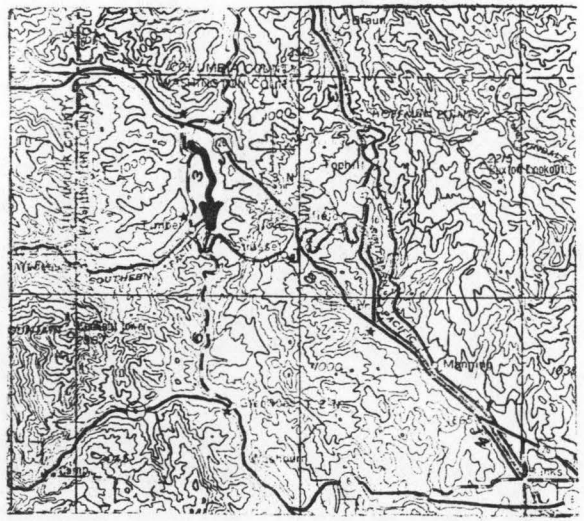


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-515-000-000-000-R0019

I. LOCATION

A.	State	Oregon
B.	County	Washington-Tillamook
C.	Township, Range	T3N, R5W, Sec.15
D.	Latitude, Longitude	45°44'N,123°17'W
E.	Stream Name	Nehalem River
F.	Major Basin Name	North Coast
G.	River Mile	109.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

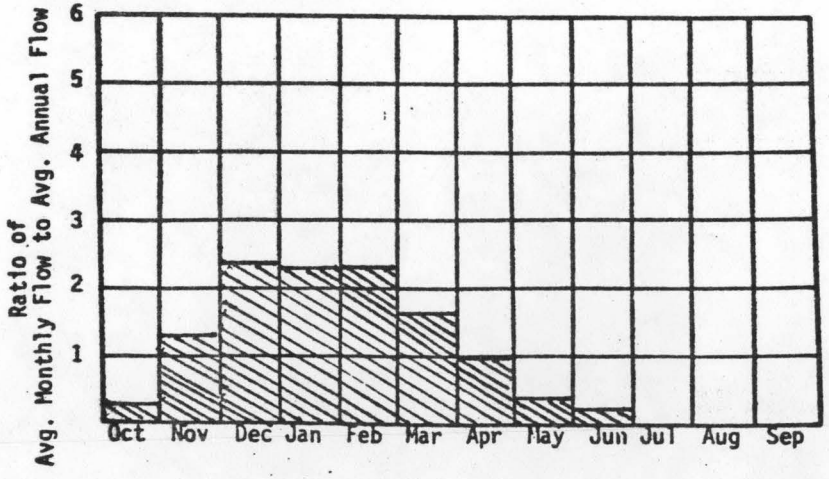
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16.0	Sq.Mi.
F.	Inflow Classification	Natural	

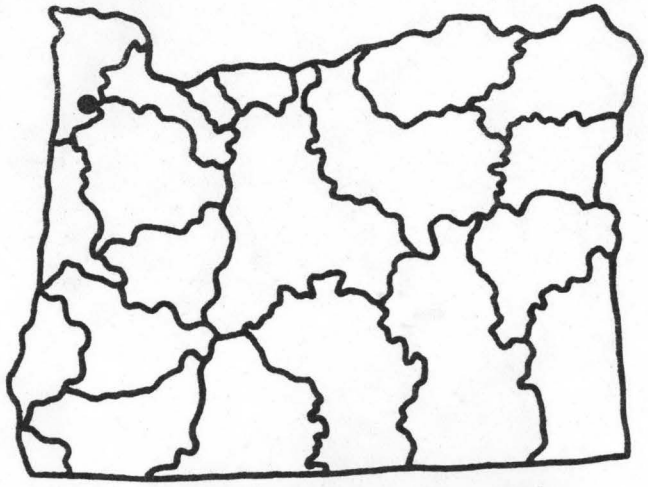
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.02	.18	1.000
80	7.2	.04	.33	.939
50	30.8	.17	1.08	.717
30	71.1	.40	1.87	.537
10	182.3	1.02	2.96	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 71 CFS





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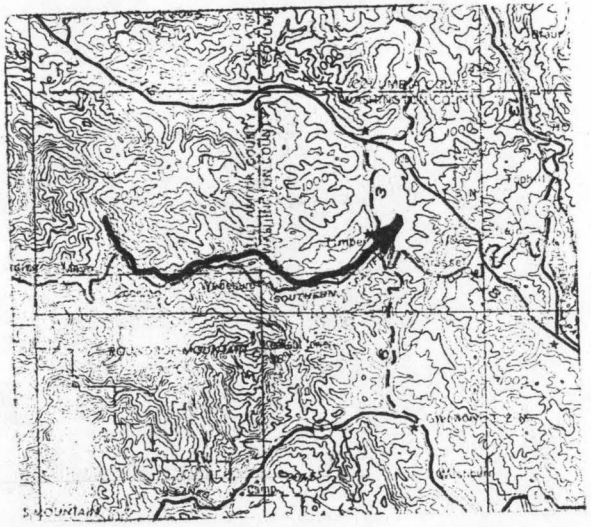


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-520-000-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T1N, R10W, Sec.14	
D. Latitude, Longitude	45°35'N,123°50'W	
E. Stream Name	Miami River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 3.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

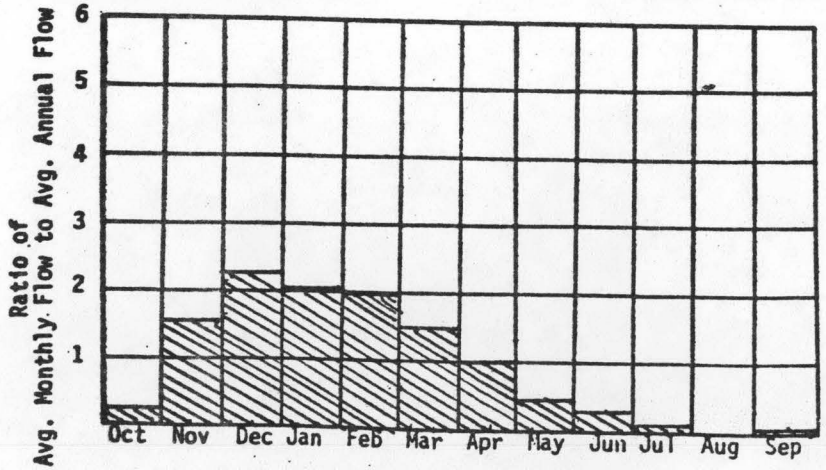
A. Upstream Elevation of Reach	40	Ft. MSL
B. Downstream Elevation of Reach	0	Ft. MSL
C. Total Available Head in Reach	40	Ft.
D. Average Slope in Reach	13.3	Ft./Mi.
E. Drainage Area above Reach Mouth	32.4	Sq.Mi.
F. Inflow Classification	Natural	

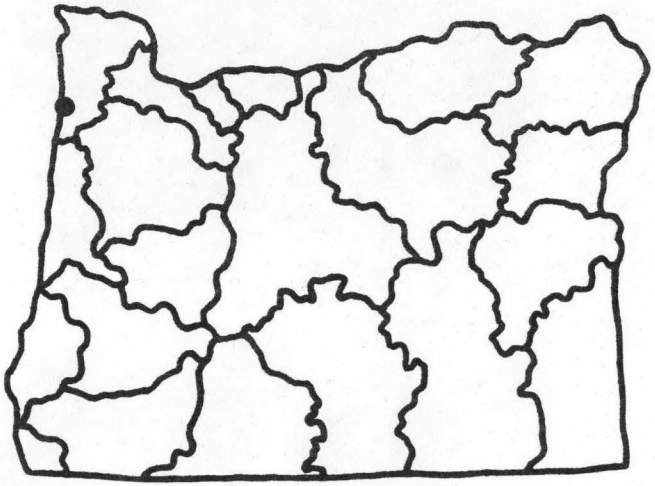
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.1	.03	.27	1.000
80	17.6	.06	.49	.940
50	77.8	.26	1.65	.715
30	175.1	.59	2.81	.540
10	449.4	1.52	4.44	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 174 CFS





U.S.G.S. TOPO. SERIES
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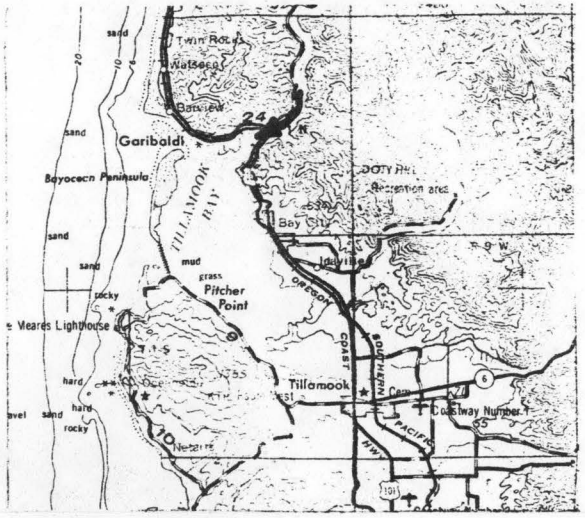


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-520-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N. R10W. Sec.36
D.	Latitude, Longitude	45°38'N.123°50'W
E.	Stream Name	Miami River
F.	Major Basin Name	North Coast
G.	River Mile	3.0 to 8.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

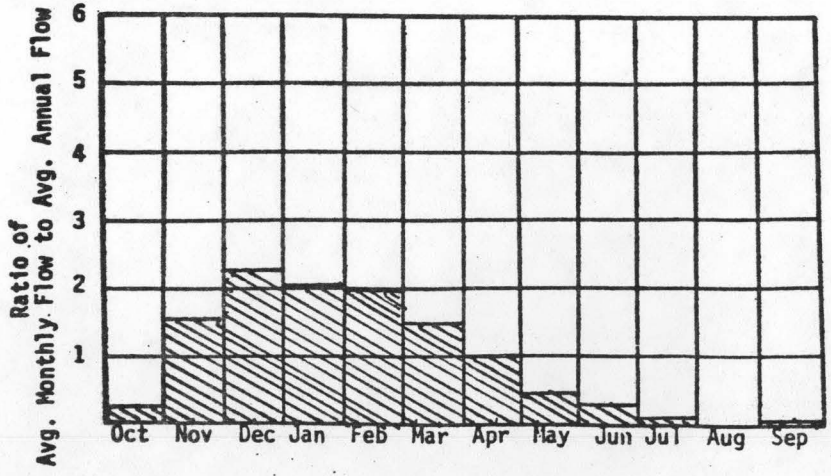
A.	Upstream Elevation of Reach	205	Ft. MSL
B.	Downstream Elevation of Reach	40	Ft. MSL
C.	Total Available Head in Reach	165	Ft.
D.	Average Slope in Reach	33.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	24.4	Sq.Mi.
F.	Inflow Classification	Natural	

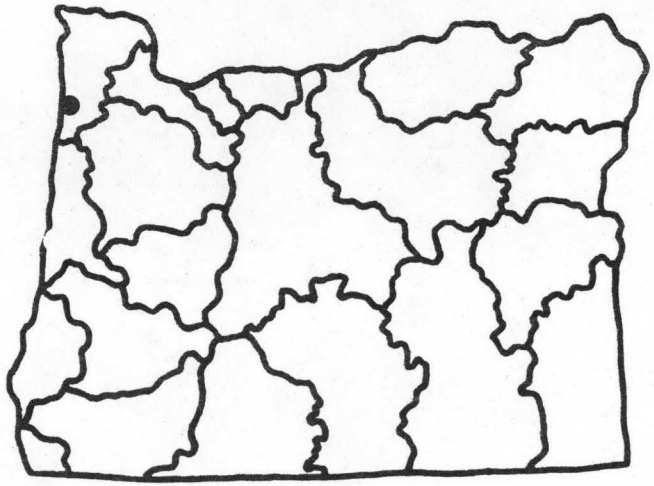
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.7	.08	.70	1.000
80	11.2	.16	1.28	.939
50	48.7	.68	4.27	.716
30	111.1	1.55	7.33	.539
10	284.9	3.98	11.59	.332

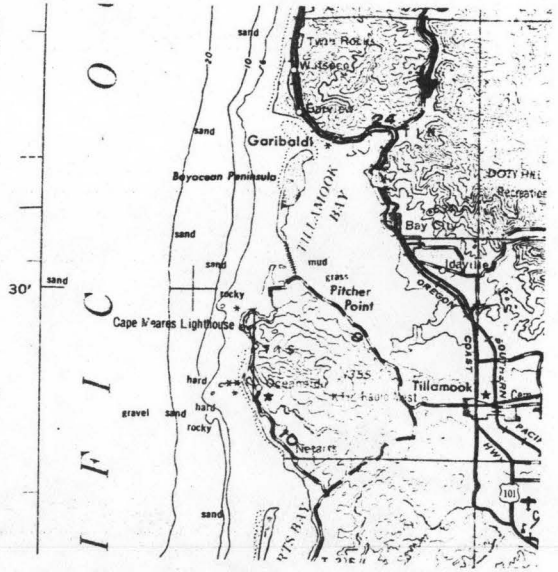
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 110 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-520-000-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R9W, Sec.29
D.	Latitude, Longitude	45°38'N,123°50'W
E.	Stream Name	Miami River
F.	Major Basin Name	North Coast
G.	River Mile	8.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

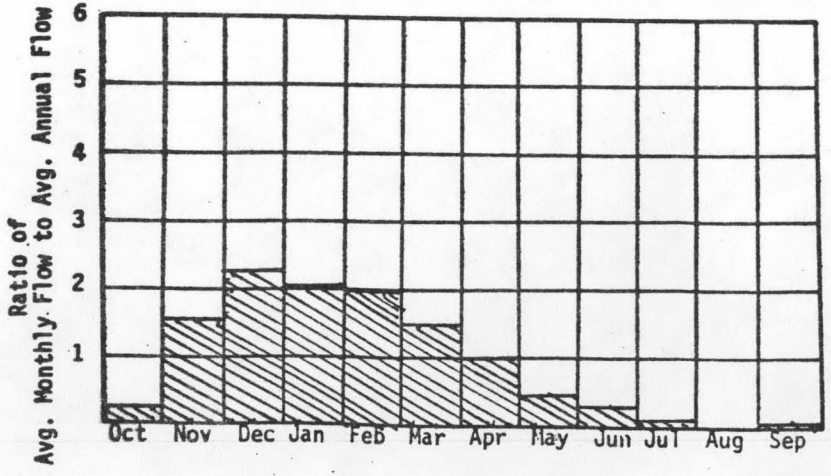
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10.6	Sq.Mi.
F.	Inflow Classification	Natural	

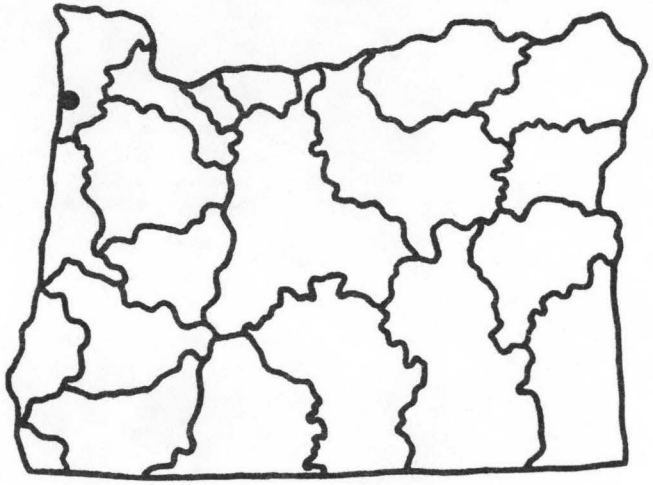
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.02	.18	1.000
80	7.2	.04	.33	.939
50	30.8	.17	1.08	.717
30	71.2	.40	1.87	.537
10	182.4	1.02	2.96	.332

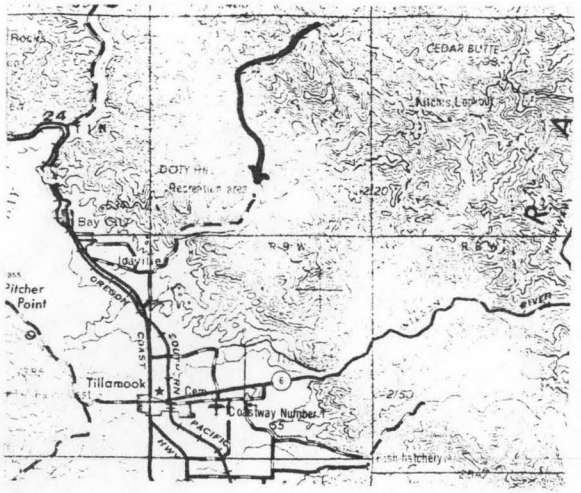
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 71 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-525-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R9W, Sec.1
D.	Latitude, Longitude	45°33'N,123°52'W
E.	Stream Name	Kilchis River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 6.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

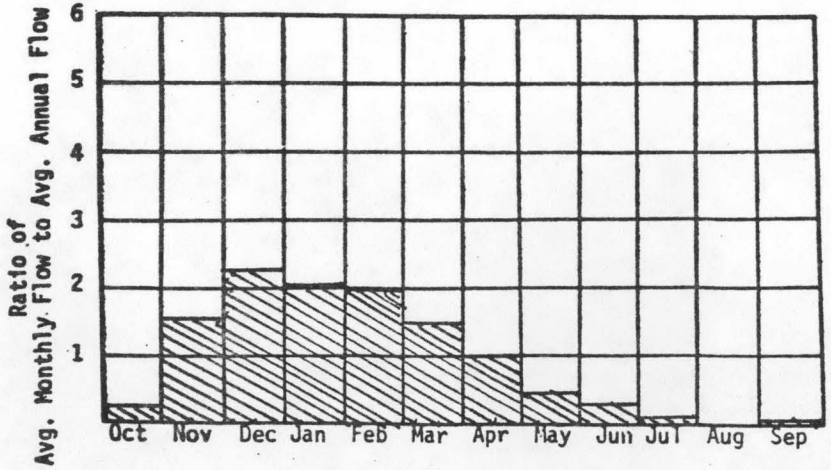
A.	Upstream Elevation of Reach	50	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	50	Ft.
D.	Average Slope in Reach	7.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	66.4	Sq.Mi.
F.	Inflow Classification	Natural	

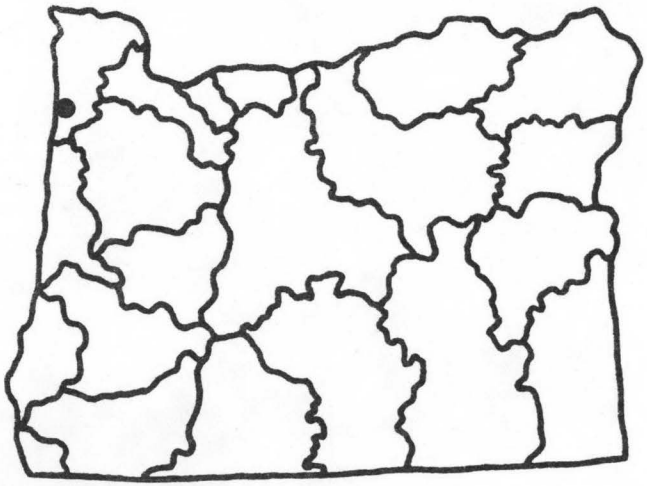
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	21.1	.09	.78	1.000
80	40.2	.17	1.40	.941
50	182.4	.77	4.83	.714
30	400.7	1.70	8.08	.543
10	1029.1	4.36	12.74	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 398 CFS





U.S.G.S. TOPO. SERIES
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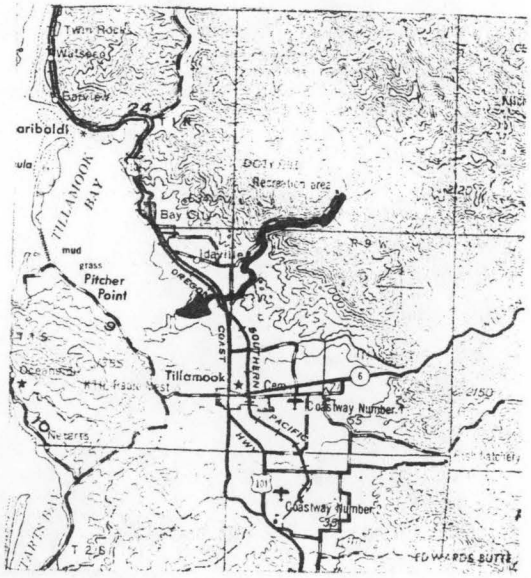

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REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-525-001-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R9W, Sec.28
D.	Latitude, Longitude	45°34'N,123°45'W
E.	Stream Name	Little South Fork
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 1.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

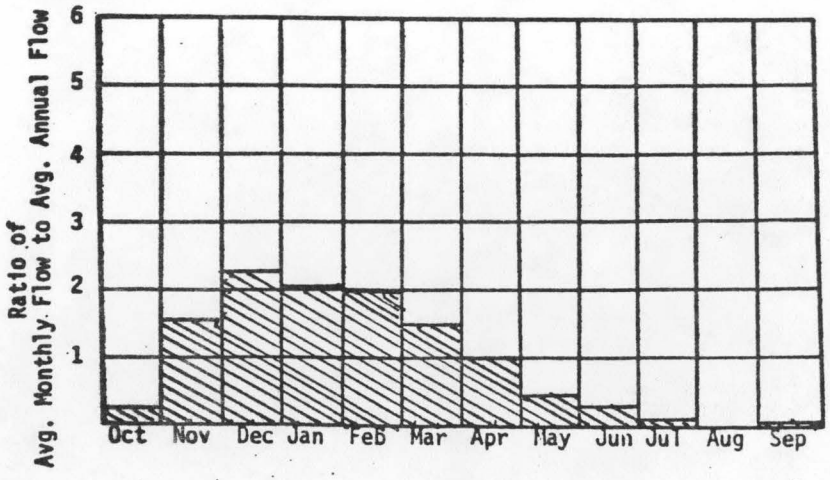
A.	Upstream Elevation of Reach	90	Ft. MSL
B.	Downstream Elevation of Reach	50	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	26.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	11.8	Sq.Mi.
F.	Inflow Classification	Natural	

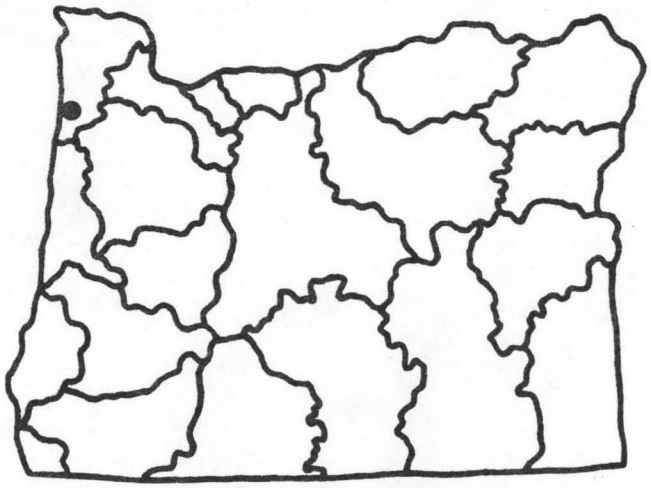
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.0	.01	.12	1.000
80	7.9	.03	.22	.939
50	33.9	.11	.72	.717
30	78.1	.26	1.25	.538
10	200.2	.68	1.97	.332

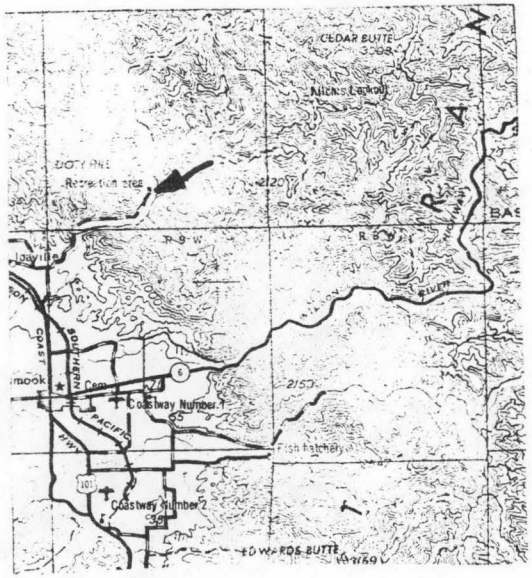
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 78 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-525-001-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R8-9W, Sec.28
D.	Latitude, Longitude	45°33'N,123°47'W
E.	Stream Name	Little South Fork
F.	Major Basin Name	North Coast
G.	River Mile	1.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

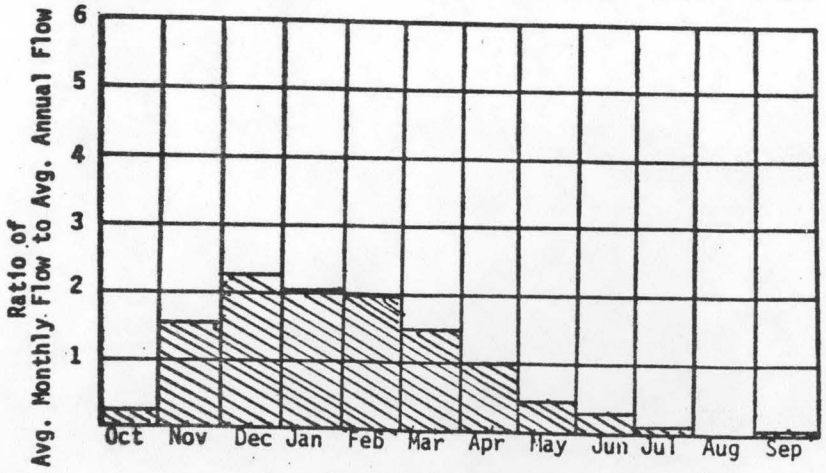
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10.4	Sq.Mi.
F.	Inflow Classification	Natural	

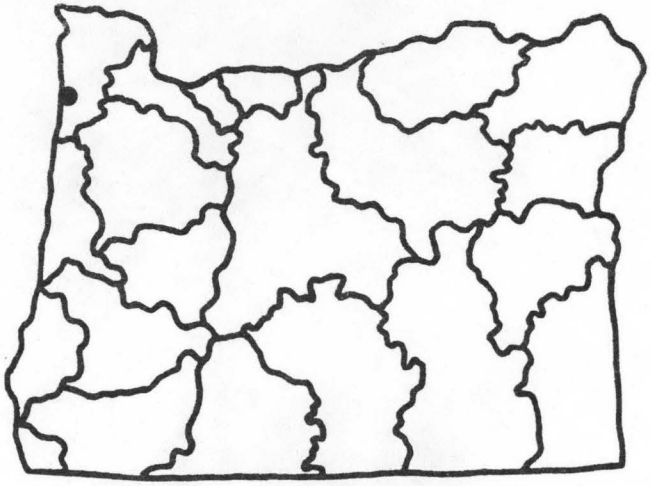
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.8	.02	.18	1.000
80	7.4	.04	.34	.939
50	31.9	.18	1.12	.717
30	73.6	.41	1.94	.537
10	188.6	1.05	3.06	.332

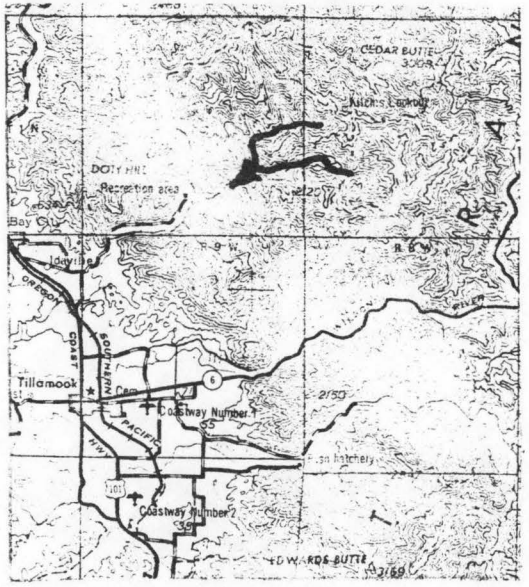
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 73 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-525-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R9W, Sec.9
D.	Latitude, Longitude	45°35'N, 123°49'W
E.	Stream Name	Kilchis River
F.	Major Basin Name	North Coast
G.	River Mile	6.8 to 13.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

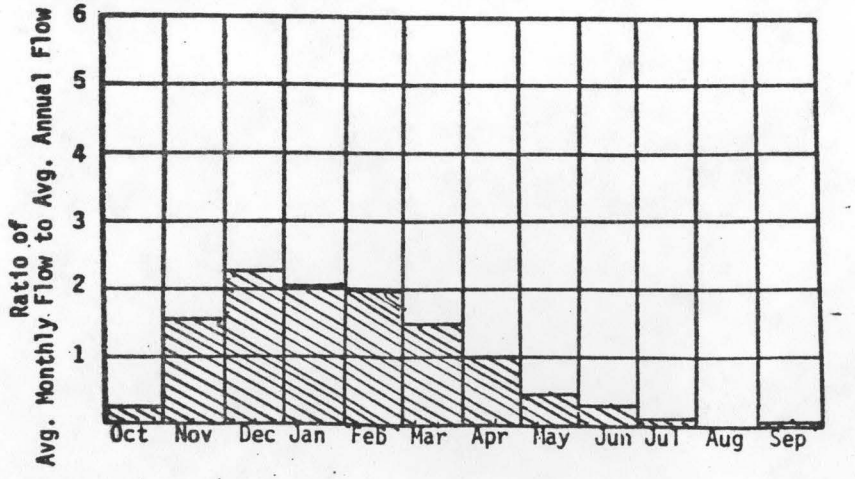
A.	Upstream Elevation of Reach	310	Ft. MSL
B.	Downstream Elevation of Reach	50	Ft. MSL
C.	Total Available Head in Reach	260	Ft.
D.	Average Slope in Reach	38.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	40.0	Sq.Mi.
F.	Inflow Classification	Natural	

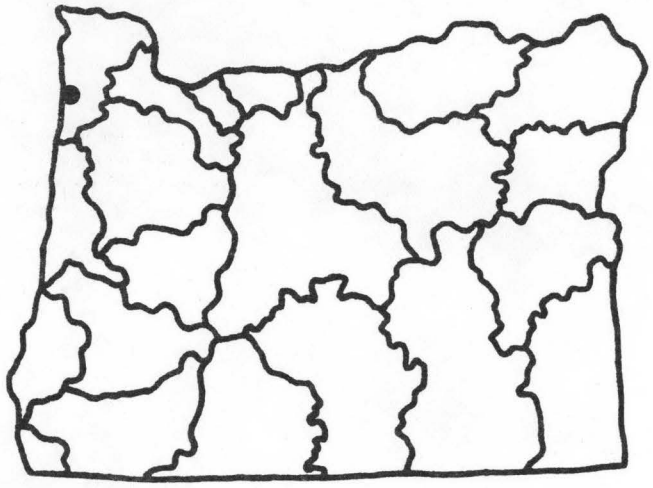
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.5	.28	2.41	1.000
80	24.0	.53	4.35	.940
50	107.2	2.36	14.79	.715
30	239.1	5.27	24.97	.541
10	613.7	13.52	39.43	.333

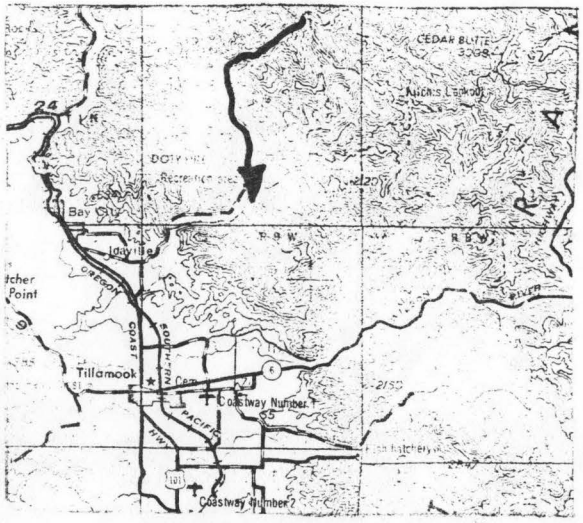
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 238 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-525-005-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R9W, Sec.2
D.	Latitude, Longitude	45°36'N,123°45'W
E.	Stream Name	South Fork Kilchis
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

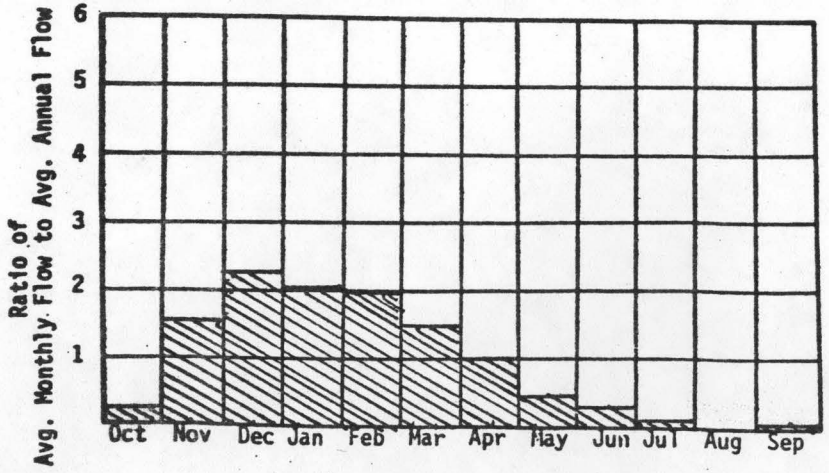
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10.1	Sq.Mi.
F.	Inflow Classification	Natural	

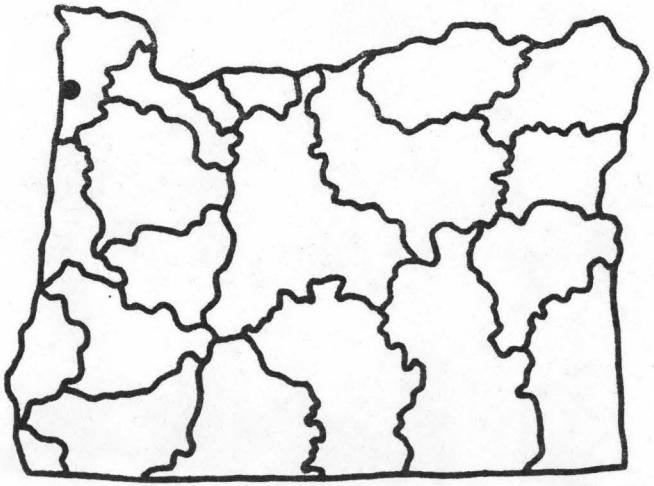
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.9	.02	.19	1.000
80	7.6	.04	.35	.939
50	32.9	.18	1.16	.717
30	76.0	.42	2.00	.537
10	194.8	1.09	3.16	.332

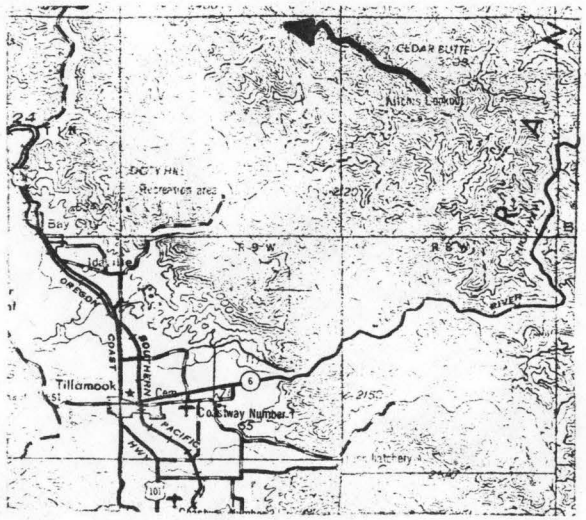
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 75 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-525-008-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T2N, R9W, Sec.26	
D. Latitude, Longitude	45°37'N,123°41'W	
E. Stream Name	North Fork Kilchis	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 3.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

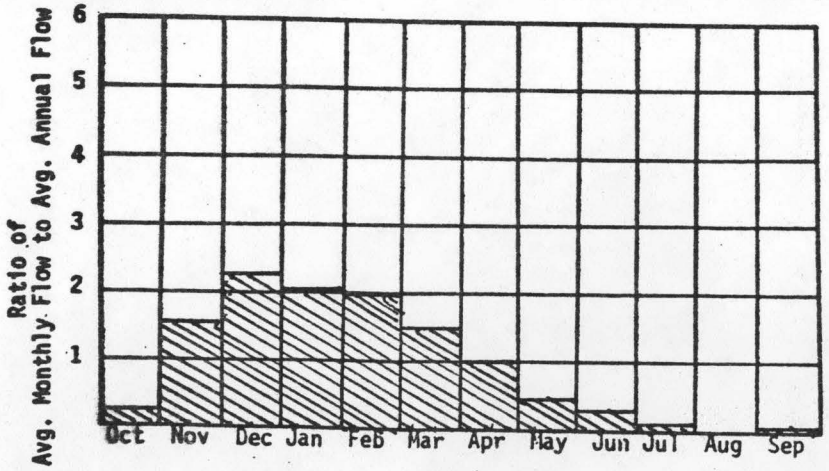
A. Upstream Elevation of Reach	550	Ft. MSL
B. Downstream Elevation of Reach	310	Ft. MSL
C. Total Available Head in Reach	240	Ft.
D. Average Slope in Reach	72.7	Ft./Mi.
E. Drainage Area above Reach Mouth	16.5	Sq.Mi.
F. Inflow Classification	Natural	

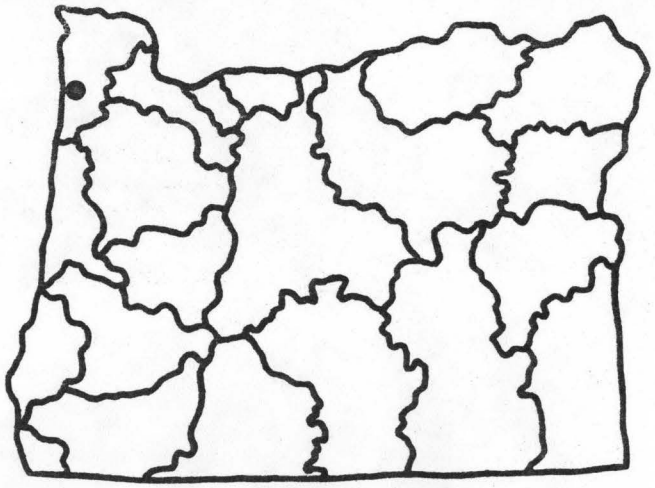
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWh	PLANT FACTOR
95	5.7	.12	1.02	1.000
80	11.1	.23	1.86	.939
50	48.4	.99	6.18	.716
30	110.5	2.25	10.61	.539
10	283.5	5.77	16.77	.332

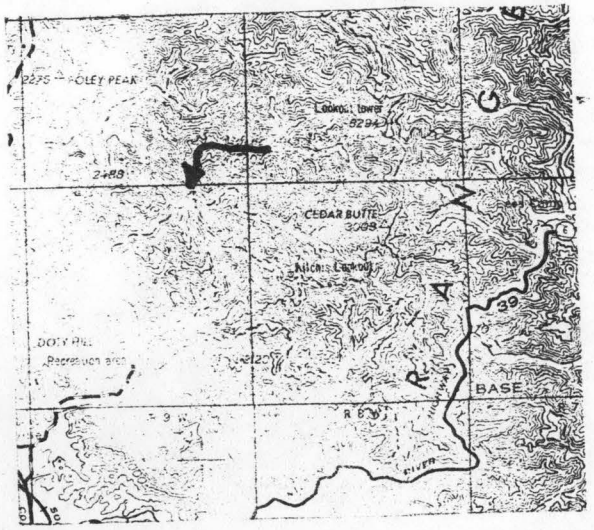
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 110 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-525-008-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R9W, Sec.30
D.	Latitude, Longitude	45°37'N,123°44'W
E.	Stream Name	North Fork Kilchis
F.	Major Basin Name	North Coast
G.	River Mile	3.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

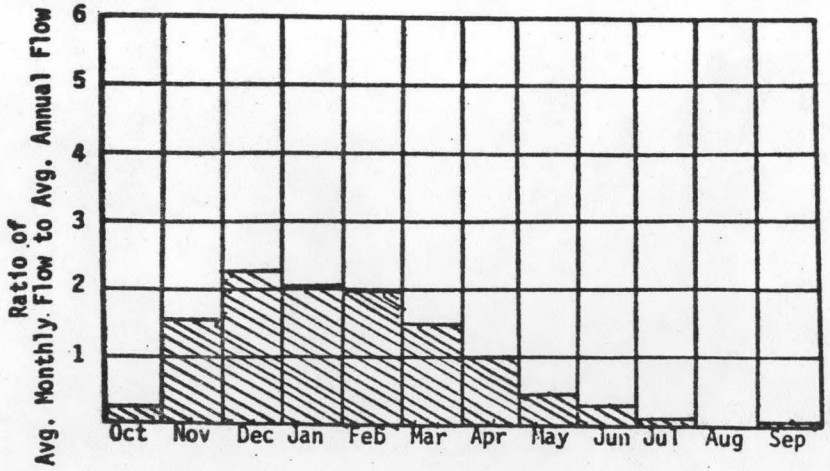
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12.6	Sq.Mi.
F.	Inflow Classification	Natural	

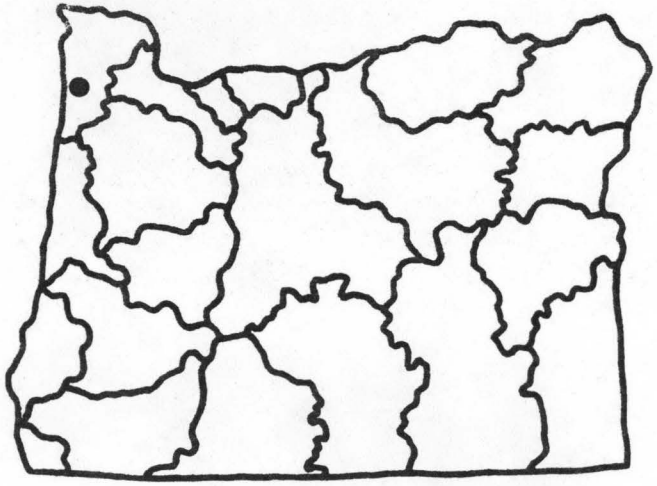
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.03	.25	1.000
80	9.8	.05	.45	.939
50	42.4	.24	1.49	.717
30	97.2	.54	2.56	.538
10	249.2	1.39	4.05	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 97 CFS





U.S.G.S. TOPO. SERIES
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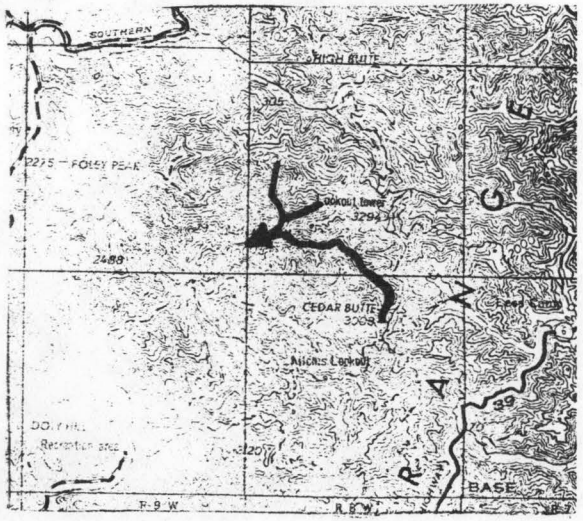
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-000-000-000-R0001

I. LOCATION

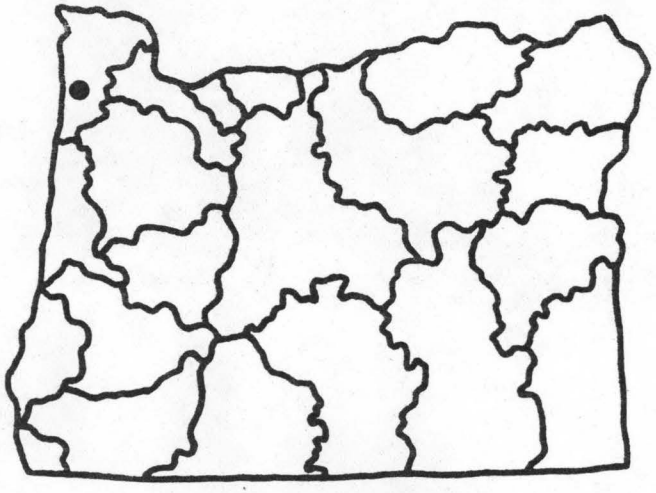
A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1S. R9W. Sec.20
D.	Latitude, Longitude	45°28'N.123°50'W
E.	Stream Name	Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 8.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	43	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	43	Ft.
D.	Average Slope in Reach	5.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	198.8	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

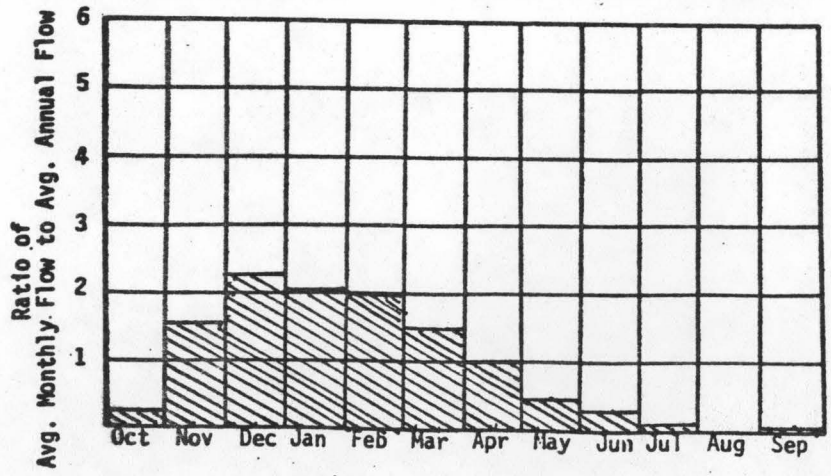
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	60.0	.22	1.91	1.000
80	111.7	.41	3.36	.942
50	524.3	1.91	11.92	.712
30	1117.5	4.07	19.49	.546
10	2872.9	10.47	30.70	.335

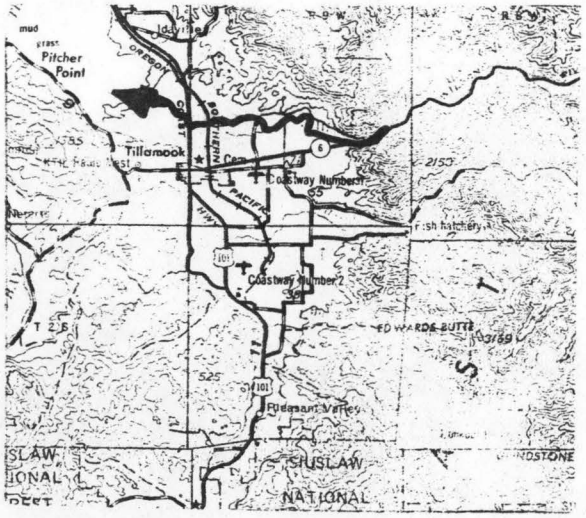


U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1108 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-002-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1S, R9W, Sec.12
D.	Latitude, Longitude	45°29'N,123°46'W
E.	Stream Name	Little North Fork Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 4.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

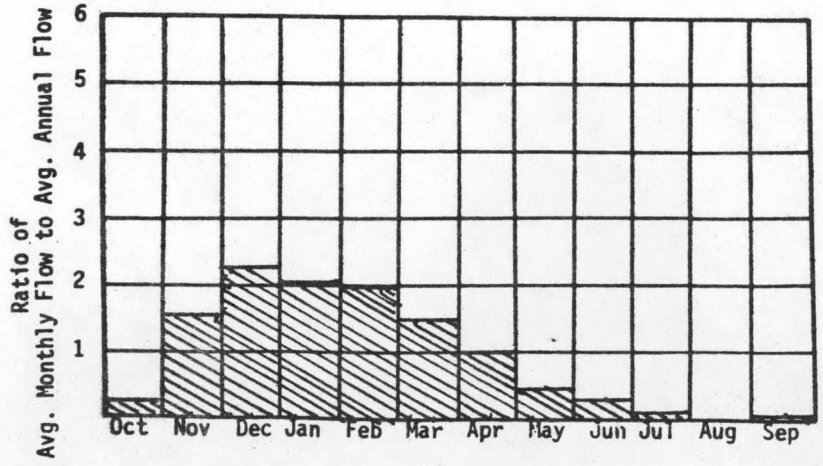
A.	Upstream Elevation of Reach	225	Ft. MSL
B.	Downstream Elevation of Reach	43	Ft. MSL
C.	Total Available Head in Reach	182	Ft.
D.	Average Slope in Reach	45.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	19.1	Sq.Mi.
F.	Inflow Classification	Natural	

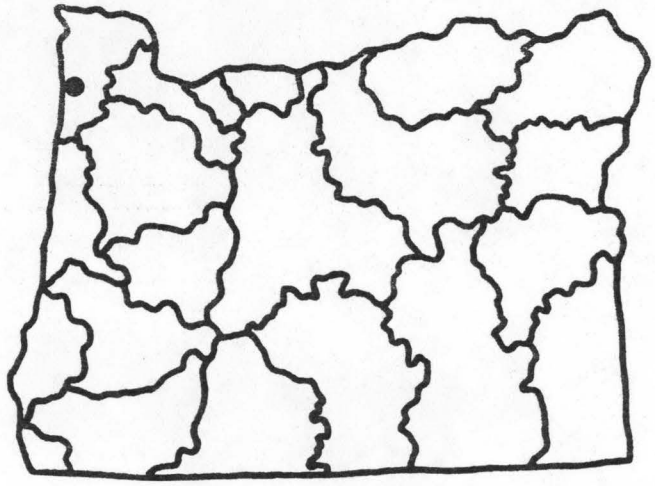
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.08	.68	1.000
80	9.8	.15	1.24	.939
50	42.5	.66	4.12	.717
30	97.4	1.50	7.08	.538
10	249.7	3.85	11.20	.332

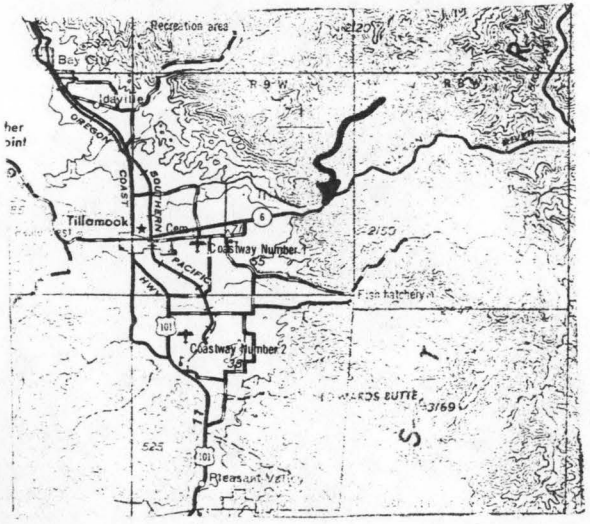
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 97 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-002-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R8W, Sec.6
D.	Latitude, Longitude	45°31'N,123°44'W
E.	Stream Name	Little North Fork Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	4.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

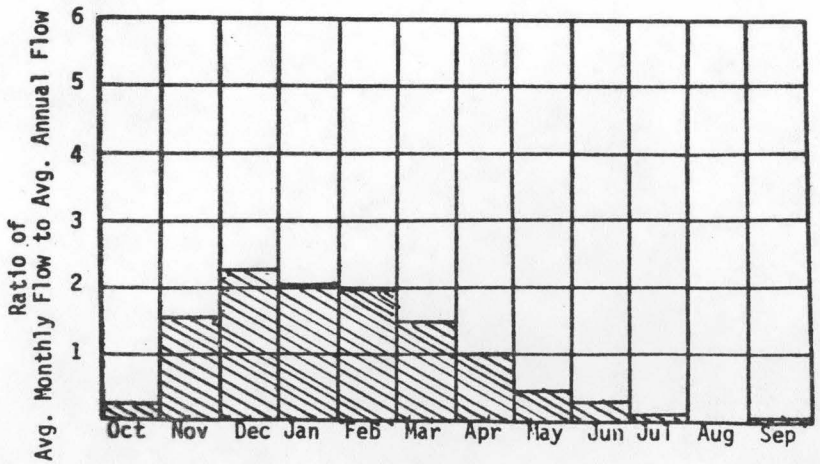
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	13.5	Sq.Mi.
F.	Inflow Classification	Natural	

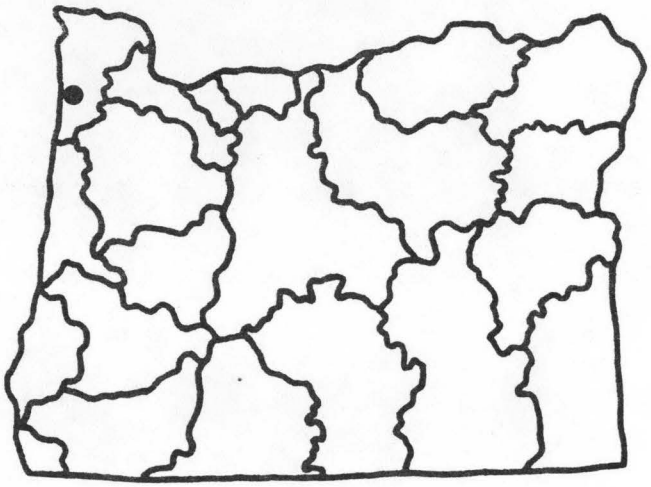
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	8.1	.05	.37	.939
50	34.8	.19	1.22	.717
30	80.1	.45	2.11	.538
10	205.3	1.15	3.34	.332

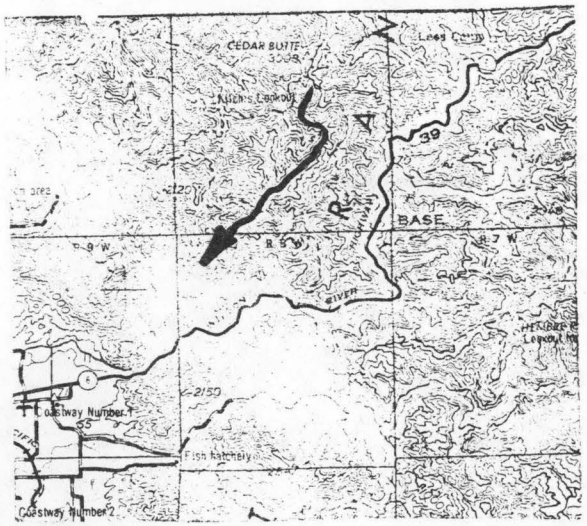
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 80 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

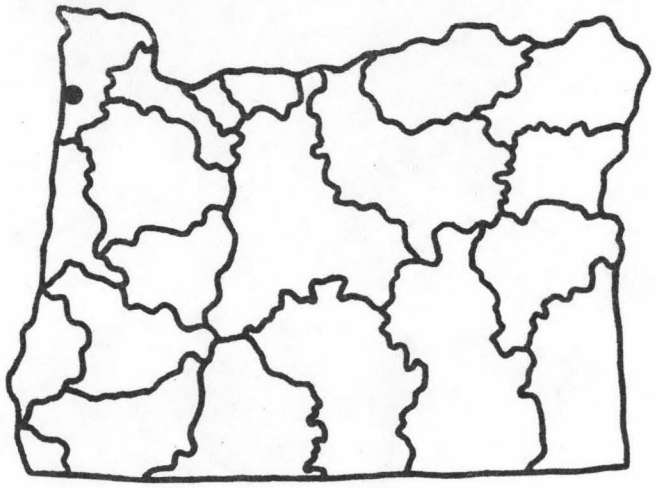


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1S, R8W, Sec.0
D.	Latitude, Longitude	45°29'N,123°40'W
E.	Stream Name	Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	8.3 to 18.0



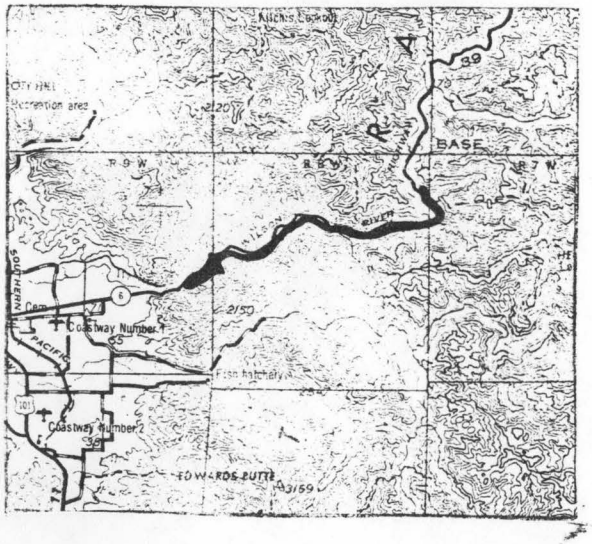
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	224	Ft. MSL
B.	Downstream Elevation of Reach	43	Ft. MSL
C.	Total Available Head in Reach	181	Ft.
D.	Average Slope in Reach	18.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	165.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

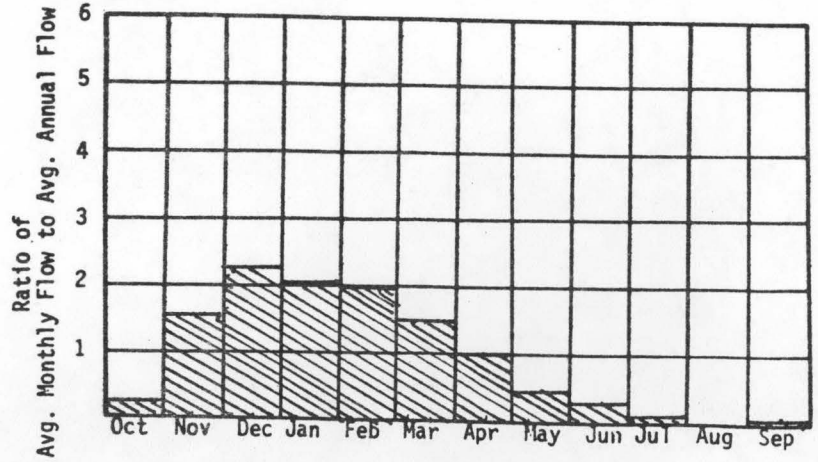
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	48.7	.75	6.54	1.000
80	91.1	1.40	11.52	.942
50	424.8	6.52	40.67	.713
30	910.8	13.97	66.79	.546
10	2341.0	35.91	105.23	.335

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 903 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-000-000-000-R0003

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T1N. R8W. Sec.36	
D. Latitude, Longitude	45°32'N.123°37'W	
E. Stream Name	Wilson River	
F. Major Basin Name	North Coast	
G. River Mile	18.0 to 21.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

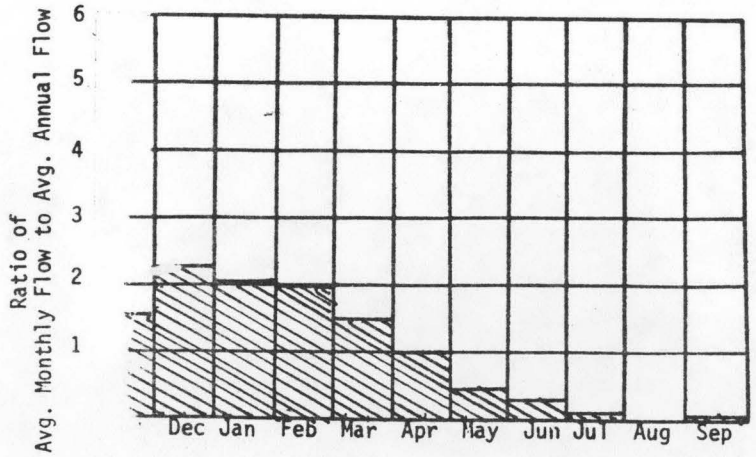
A. Upstream Elevation of Reach	332	Ft. MSL
B. Downstream Elevation of Reach	224	Ft. MSL
C. Total Available Head in Reach	108	Ft.
D. Average Slope in Reach	28.5	Ft./Mi.
E. Drainage Area above Reach Mouth	142.5	Sq.Mi.
F. Inflow Classification	Natural	

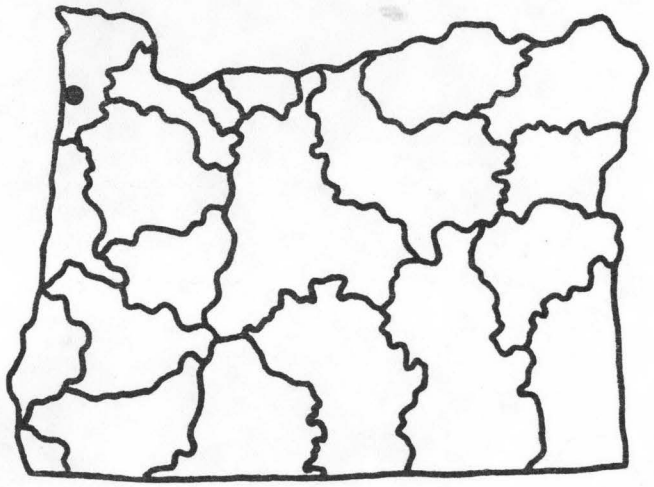
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	43.8	.40	3.51	1.000
80	82.0	.75	6.19	.942
50	381.0	3.49	21.77	.713
30	819.5	7.50	35.84	.545
10	2106.3	19.28	56.47	.334

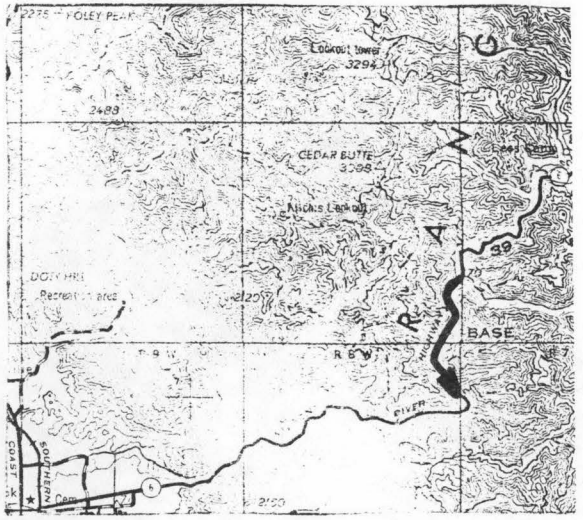
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 812 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-005-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R7W, Sec.28
D.	Latitude, Longitude	45°32'N,123°35'W
E.	Stream Name	Jordan Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 4.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

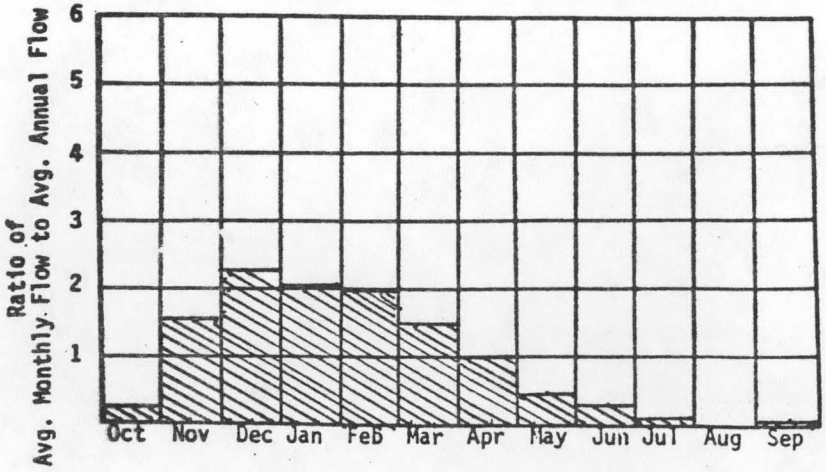
A.	Upstream Elevation of Reach	640	Ft. MSL
B.	Downstream Elevation of Reach	332	Ft. MSL
C.	Total Available Head in Reach	308	Ft.
D.	Average Slope in Reach	73.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	25.8	Sq.Mi.
F.	Inflow Classification	Natural	

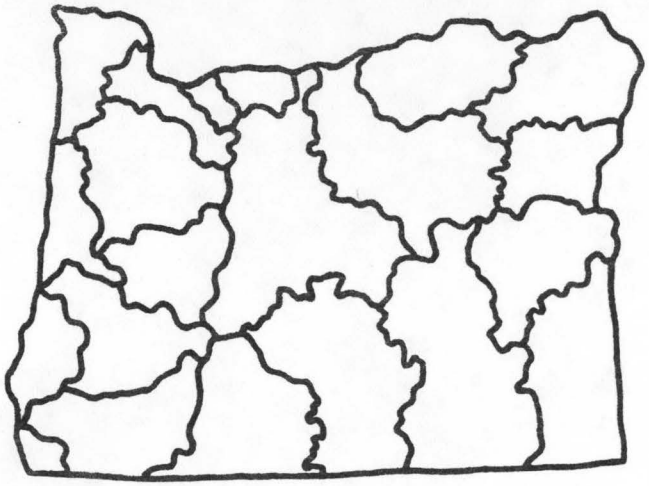
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.1	.16	1.39	1.000
80	11.8	.31	2.54	.939
50	51.7	1.35	8.47	.716
30	117.8	3.07	14.51	.539
10	302.1	7.88	22.94	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 117 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SERIES
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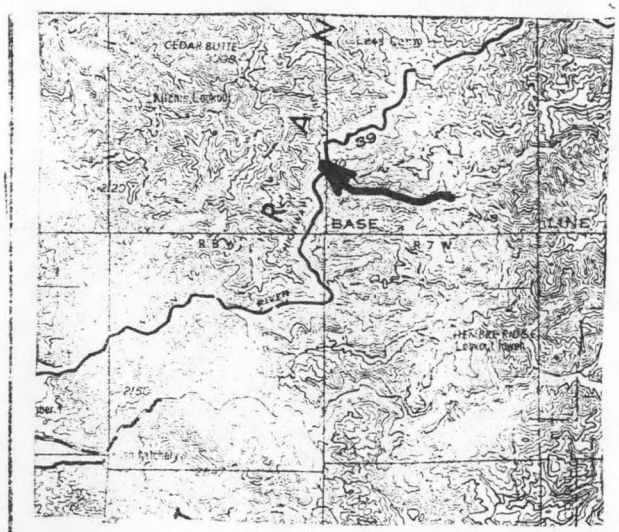


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-005-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T1N, R7W, Sec.27	
D. Latitude, Longitude	45°33'N,123°32'W	
E. Stream Name	Jordan Creek	
F. Major Basin Name	North Coast	
G. River Mile	4.2 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

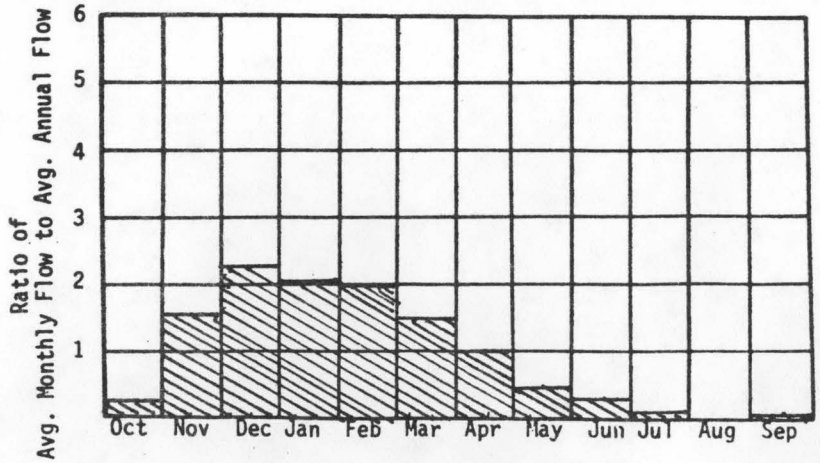
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	11.0	Sq.Mi.
F. Inflow Classification	Natural	

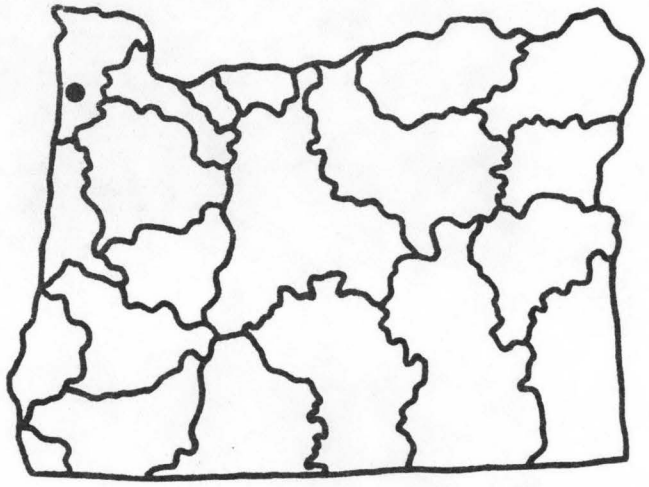
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.02	.18	1.000
80	7.3	.04	.34	.939
50	31.5	.18	1.11	.717
30	72.7	.41	1.91	.537
10	186.3	1.04	3.03	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 72 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
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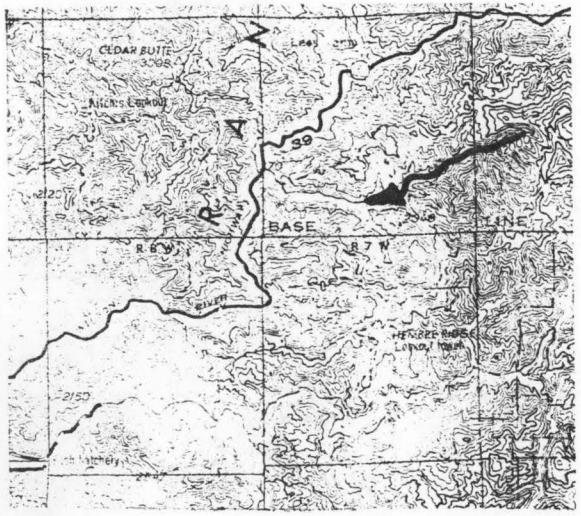


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-000-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R7W, Sec.18
D.	Latitude, Longitude	45°36'N, 123°35'W
E.	Stream Name	Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	21.8 to 25.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

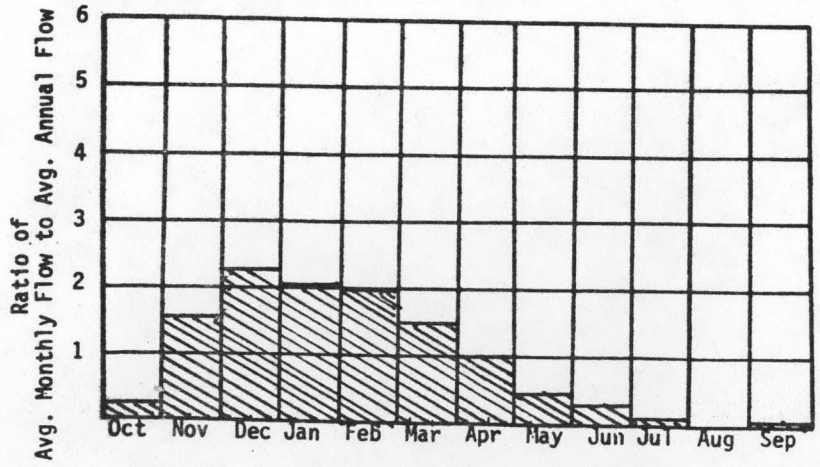
A.	Upstream Elevation of Reach	475	Ft. MSL
B.	Downstream Elevation of Reach	332	Ft. MSL
C.	Total Available Head in Reach	143	Ft.
D.	Average Slope in Reach	35.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	107.3	Sq.Mi.
F.	Inflow Classification	Natural	

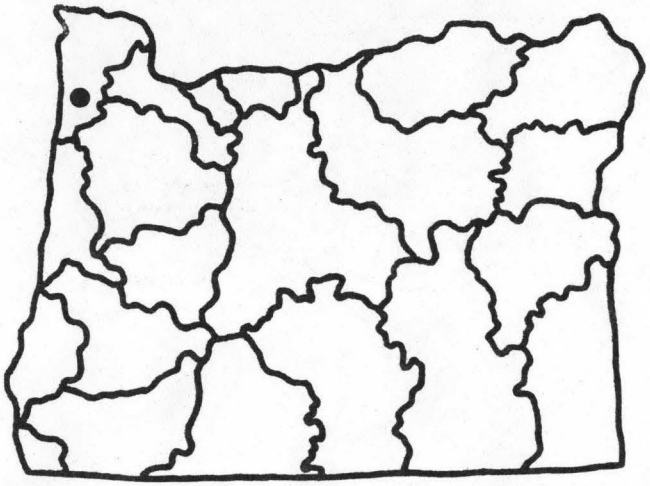
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	33.0	.40	3.51	1.000
80	62.2	.75	6.22	.941
50	286.8	3.48	21.71	.713
30	621.9	7.54	35.94	.544
10	1597.8	19.36	56.66	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 616 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
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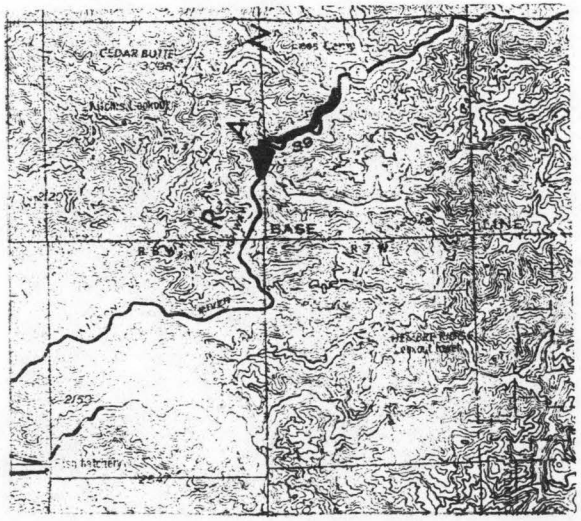


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-008-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R7W, Sec.8
D.	Latitude, Longitude	45°35'N,123°36'W
E.	Stream Name	Cedar Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

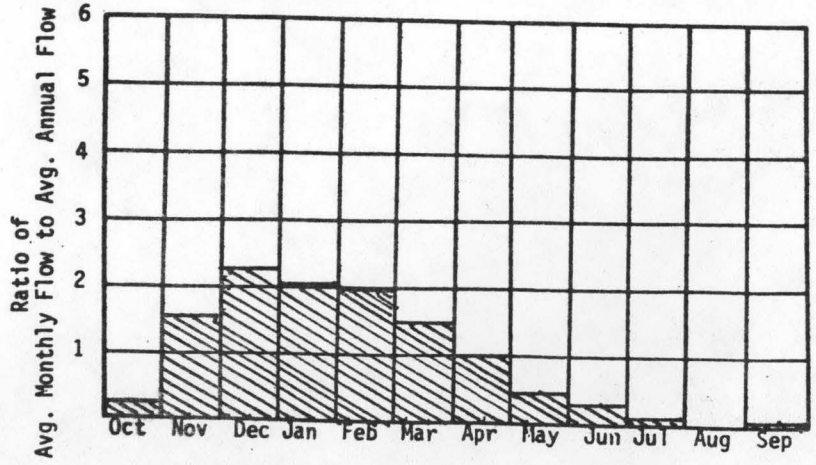
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	9.1	Sq.Mi.
F.	Inflow Classification	Natural	

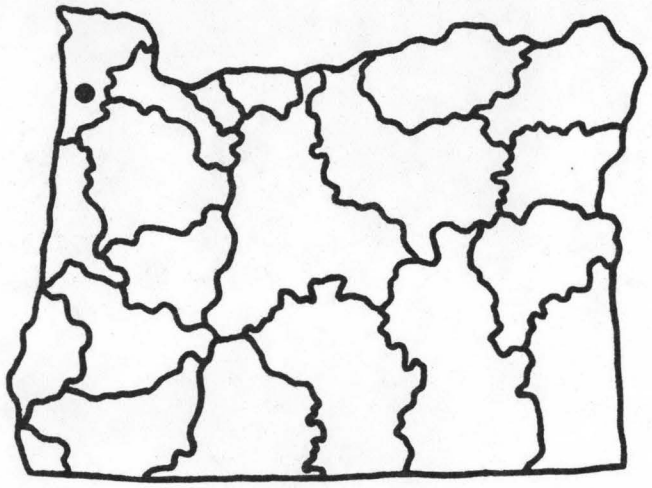
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.02	.16	1.000
80	6.6	.04	.30	.938
50	28.1	.16	.99	.717
30	65.1	.36	1.71	.537
10	166.8	.93	2.71	.331

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 65 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
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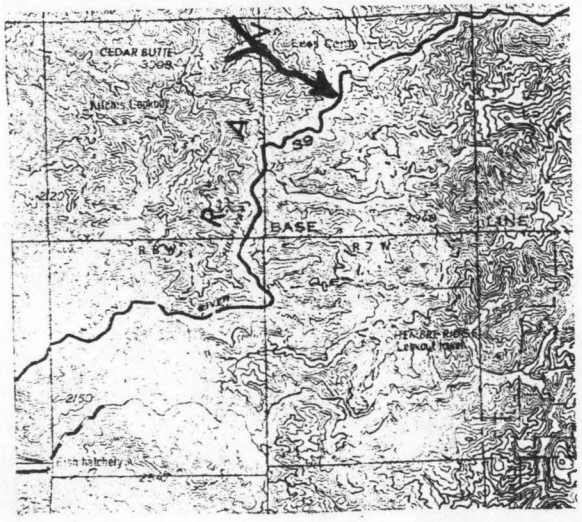


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-000-000-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R7W, Sec.9
D.	Latitude, Longitude	45°35'N,123°34'W
E.	Stream Name	Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	25.8 to 27.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

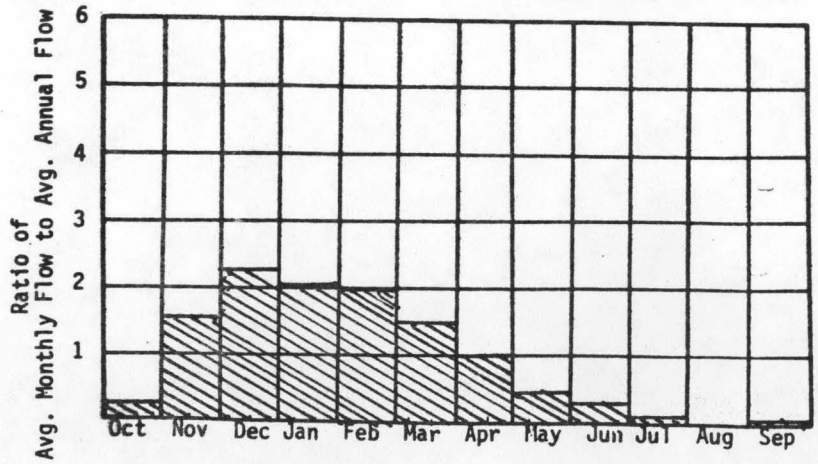
A.	Upstream Elevation of Reach	561	Ft. MSL
B.	Downstream Elevation of Reach	476	Ft. MSL
C.	Total Available Head in Reach	85	Ft.
D.	Average Slope in Reach	40.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	92.0	Sq.Mi.
F.	Inflow Classification	Natural	

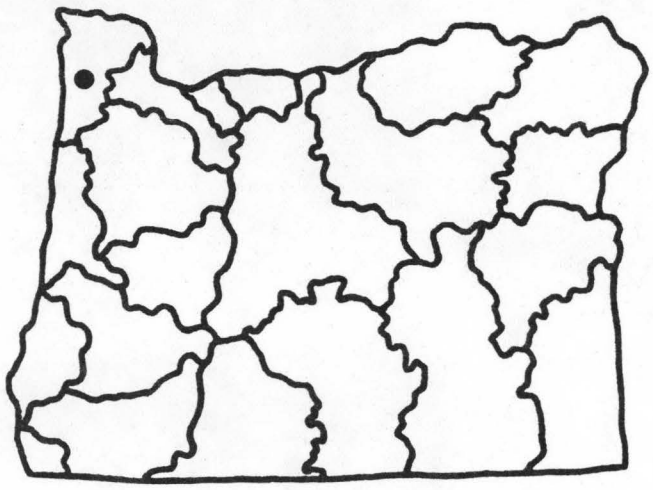
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	28.1	.20	1.77	1.000
80	53.0	.38	3.15	.941
50	243.1	1.75	10.95	.714
30	529.8	3.82	18.18	.544
10	1360.9	9.80	28.67	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 526 CFS





U.S.G.S. TOPO. SERIES
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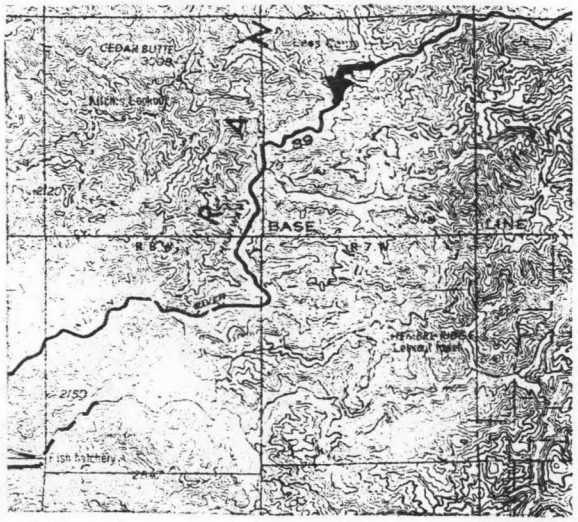
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-012-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N. R7W. Sec.33
D.	Latitude, Longitude	45°37'N.123°33'W
E.	Stream Name	North Fork Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 2.6

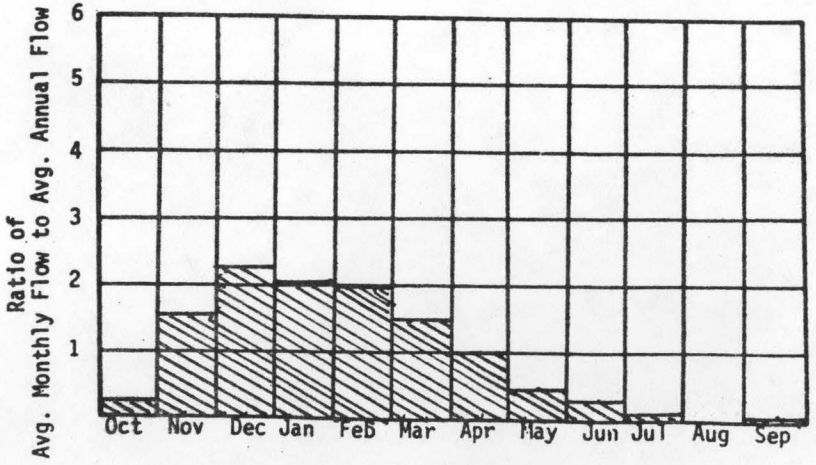
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

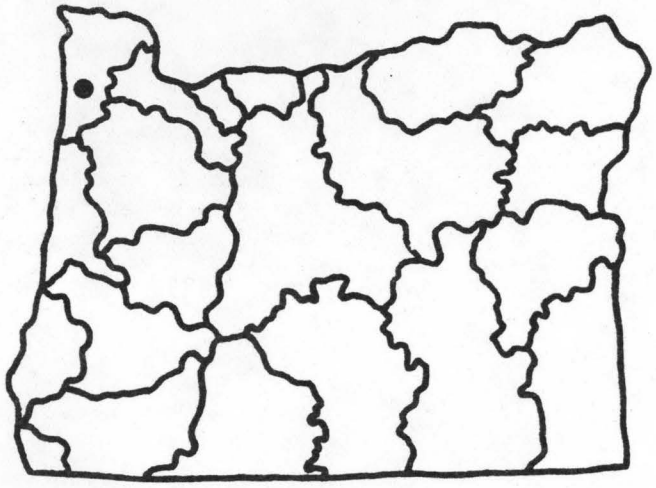
A.	Upstream Elevation of Reach	760	Ft. MSL
B.	Downstream Elevation of Reach	561	Ft. MSL
C.	Total Available Head in Reach	199	Ft.
D.	Average Slope in Reach	26.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	27.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.1	.15	1.35	1.000
80	17.6	.30	2.45	.940
50	78.0	1.31	8.24	.715
30	175.5	2.96	14.01	.540
10	450.4	7.60	22.13	.333

TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 174 CFS





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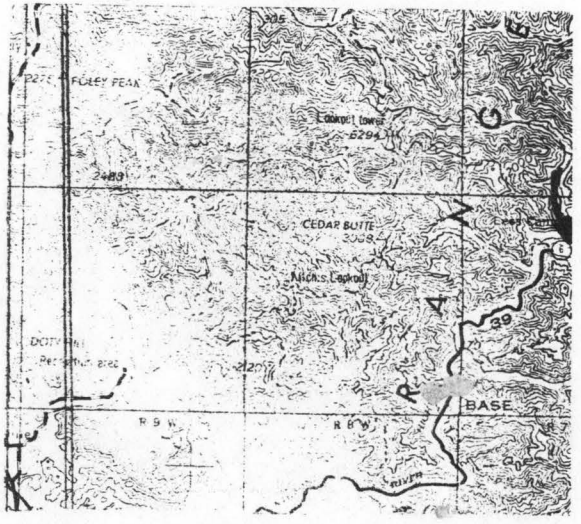
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-012-002-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R7W, Sec.27
D.	Latitude, Longitude	45°38'N,123°33'W
E.	Stream Name	West Fork North Fork Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

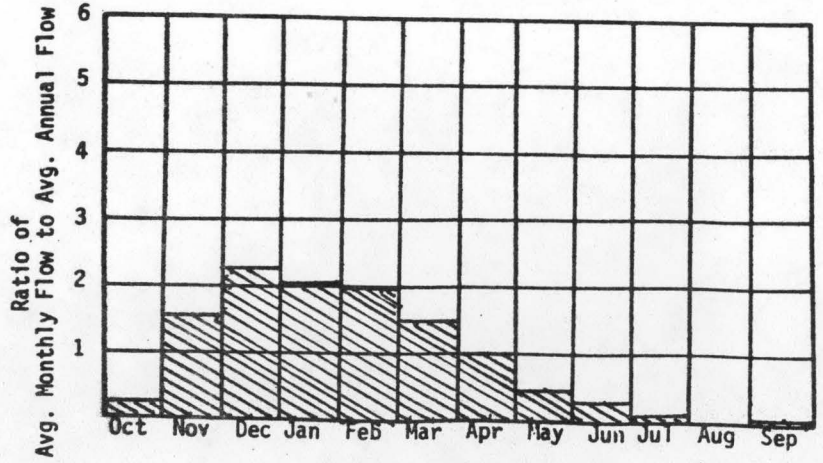
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12.2	Sq.Mi.
F.	Inflow Classification	Natural	

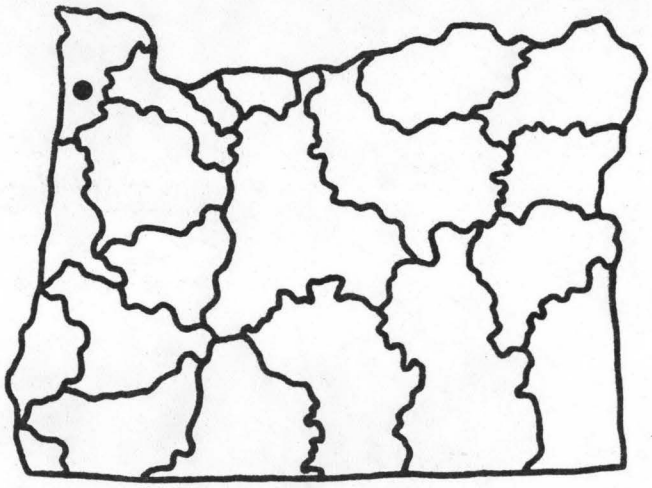
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.7	.03	.23	1.000
80	9.1	.05	.42	.939
50	39.6	.22	1.39	.717
30	90.8	.51	2.39	.538
10	232.8	1.30	3.78	.332

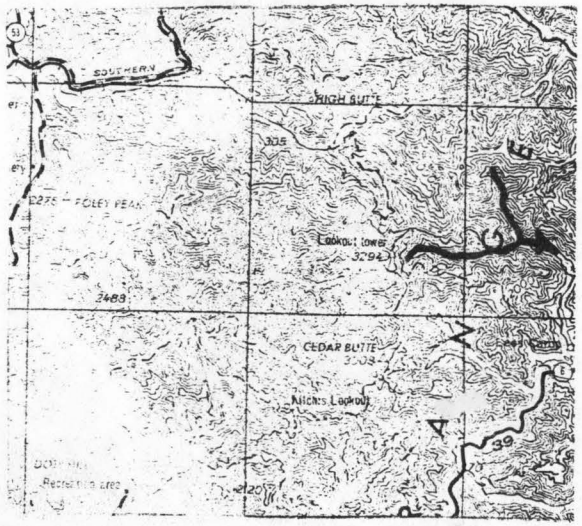
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 90 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-012-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R7W, Sec.27
D.	Latitude, Longitude	45°38'N,123°33'W
E.	Stream Name	North Fork Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	2.6 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

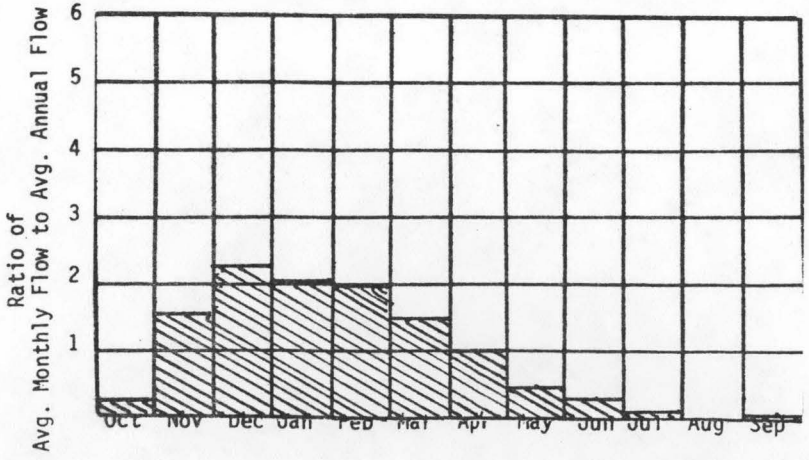
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	11.0	Sq.Mi.
F.	Inflow Classification	Natural	

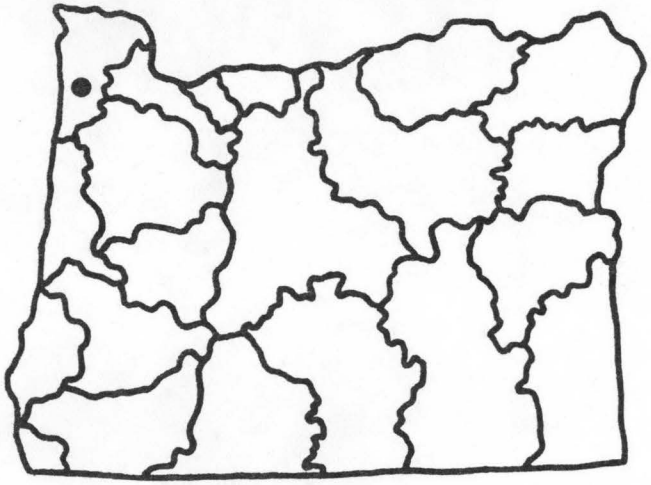
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.02	.18	1.000
80	7.4	.04	.34	.939
50	31.7	.18	1.11	.717
30	73.2	.41	1.93	.537
10	187.7	1.05	3.05	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 73 CFS





U.S.G.S. TOPO. SERIES
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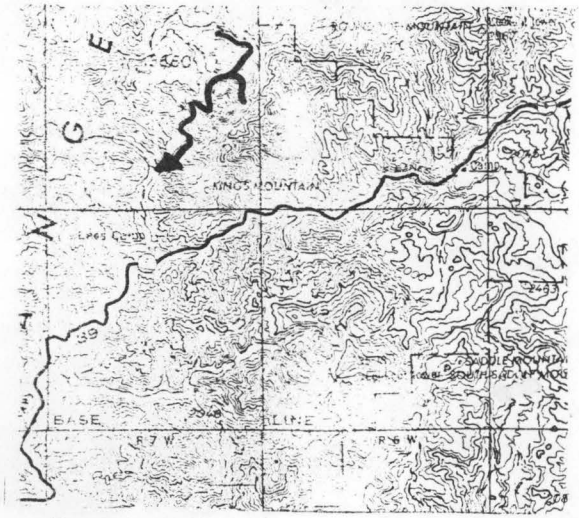
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-000-000-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R7W, Sec.2
D.	Latitude, Longitude	45°36'N,123°30'W
E.	Stream Name	Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	27.9 to 32.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

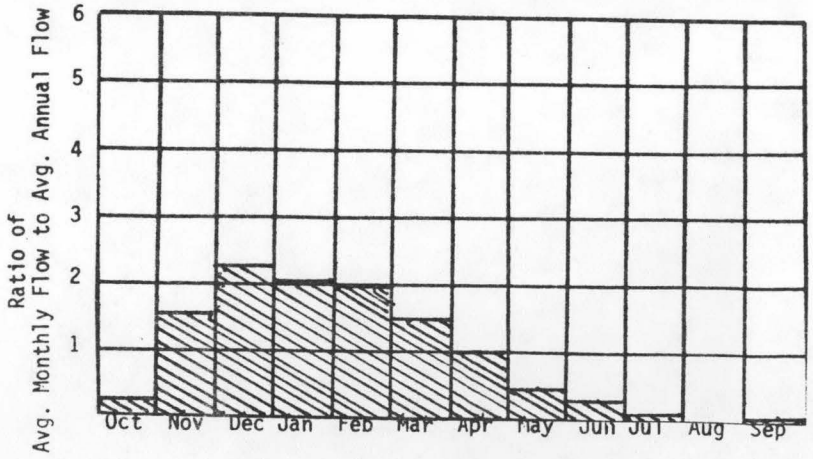
A.	Upstream Elevation of Reach	814	Ft. MSL
B.	Downstream Elevation of Reach	561	Ft. MSL
C.	Total Available Head in Reach	253	Ft.
D.	Average Slope in Reach	50.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	60.0	Sq.Mi.
F.	Inflow Classification	Natural	

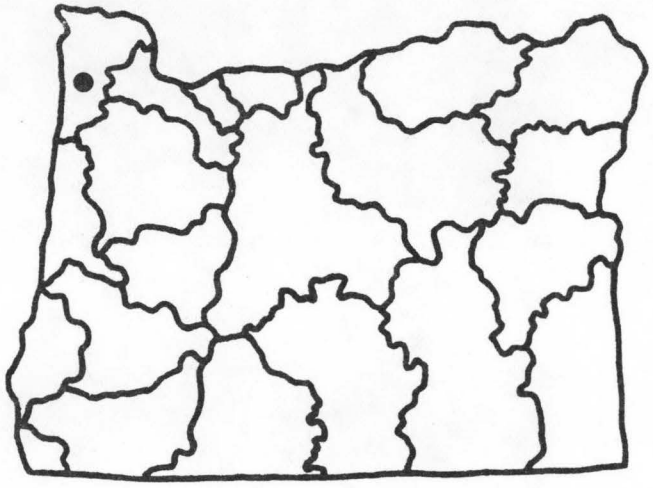
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	16.2	.35	3.04	1.000
80	30.9	.66	5.46	.940
50	139.2	2.99	18.69	.714
30	308.3	6.61	31.38	.542
10	791.5	16.97	49.53	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 306 CFS





U.S.G.S. TOPO. SERIES
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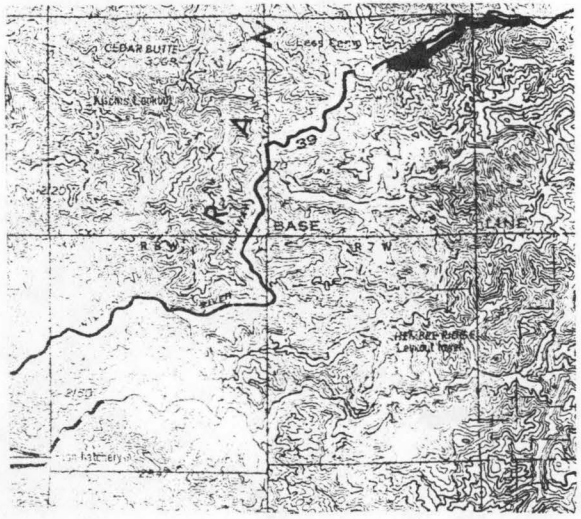
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-000-000-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N, R6W, Sec.31
D.	Latitude, Longitude	45°36'N,123°28'W
E.	Stream Name	Wilson River
F.	Major Basin Name	North Coast
G.	River Mile	32.9 to 33.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

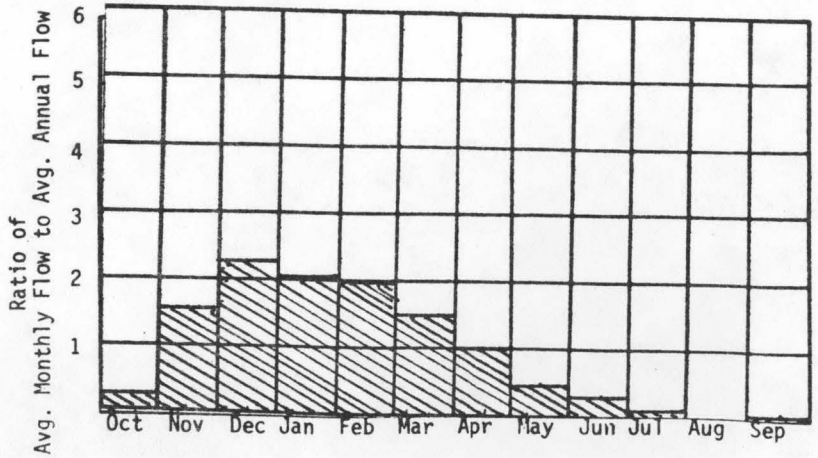
A.	Upstream Elevation of Reach	842	Ft. MSL
B.	Downstream Elevation of Reach	814	Ft. MSL
C.	Total Available Head in Reach	28	Ft.
D.	Average Slope in Reach	94.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	42.8	Sq.Mi.
F.	Inflow Classification	Natural	

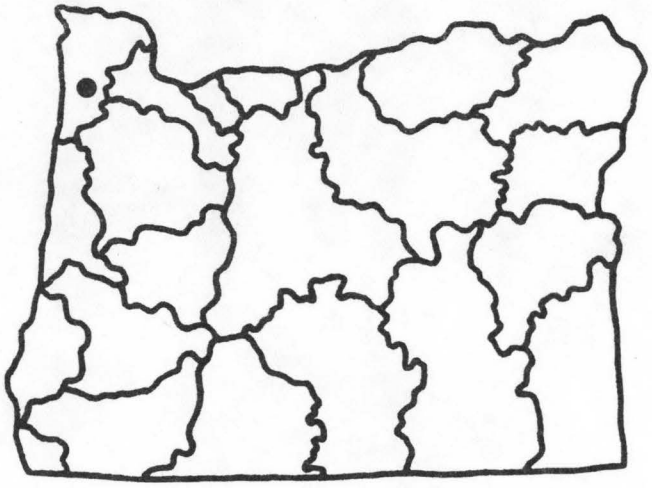
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.0	.03	.25	1.000
80	23.1	.05	.45	.940
50	103.2	.24	1.53	.715
30	230.4	.55	2.59	.541
10	591.4	1.40	4.09	.333

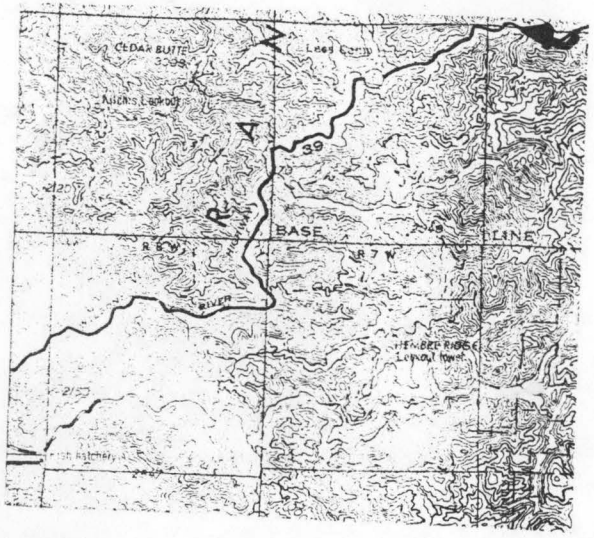
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 229 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-020-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T2N, R6W, Sec.33	
D. Latitude, Longitude	45°36'N,123°26'W	
E. Stream Name	Devils Lake Fork	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 3.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

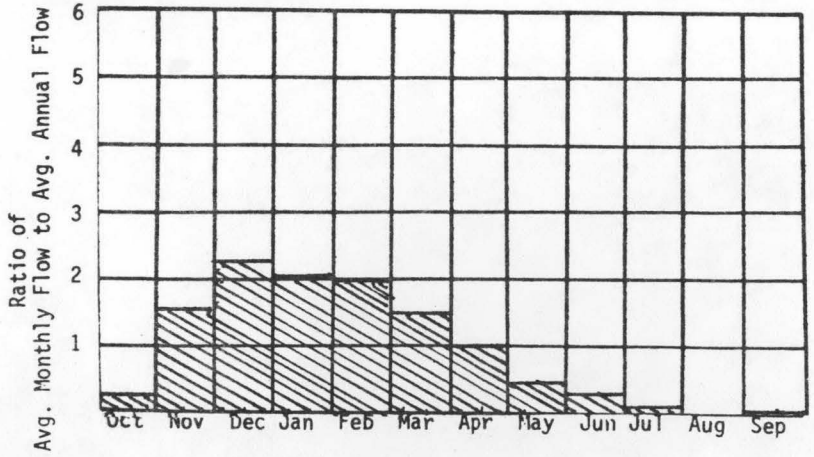
A. Upstream Elevation of Reach	1120	Ft. MSL
B. Downstream Elevation of Reach	842	Ft. MSL
C. Total Available Head in Reach	278	Ft.
D. Average Slope in Reach	81.8	Ft./Mi.
E. Drainage Area above Reach Mouth	15.4	Sq.Mi.
F. Inflow Classification	Natural	

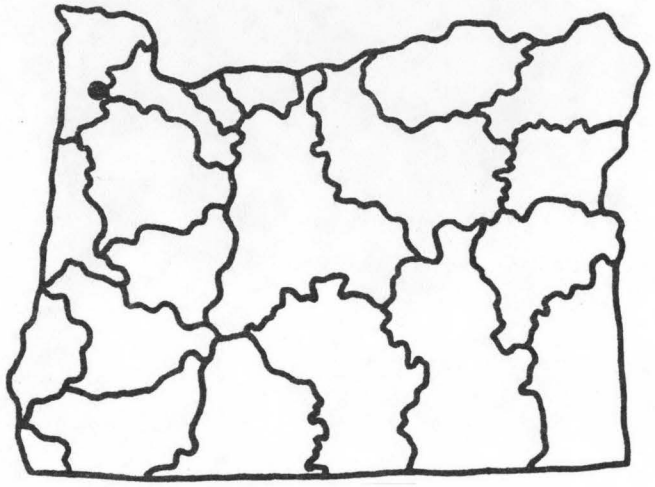
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.8	.14	1.20	1.000
80	11.4	.27	2.21	.939
50	49.6	1.17	7.33	.716
30	113.1	2.67	12.58	.539
10	290.2	6.84	19.89	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 112 CFS





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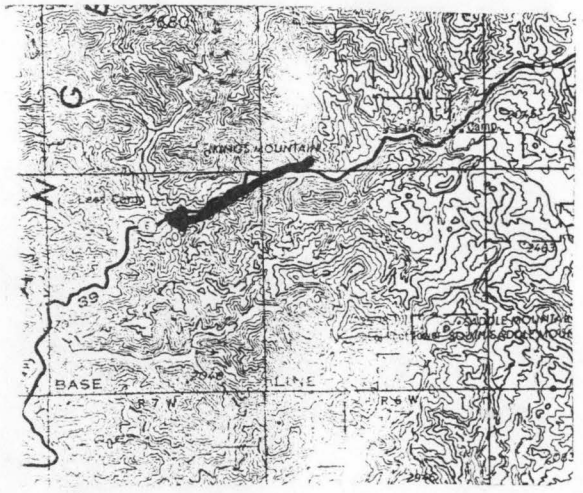


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-020-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2N. R6W. Sec.34
D.	Latitude, Longitude	45°37'N.123°24'W
E.	Stream Name	Devils Lake Fork
F.	Major Basin Name	North Coast
G.	River Mile	3.4 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

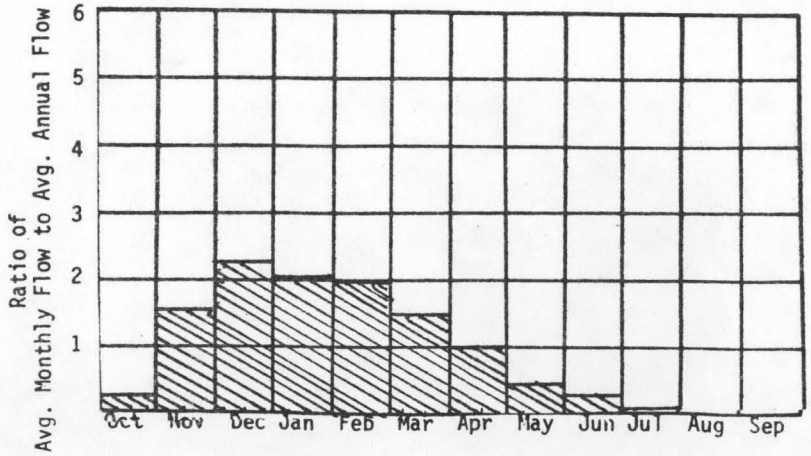
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14.7	Sq.Mi.
F.	Inflow Classification	Natural	

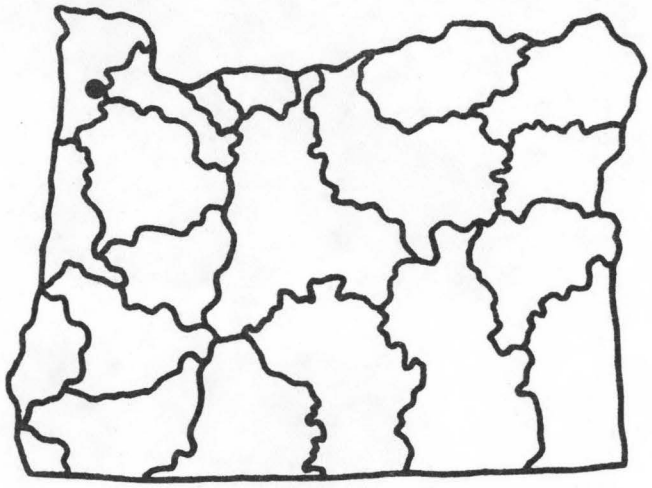
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.4	.02	.22	1.000
80	8.7	.05	.40	.939
50	37.6	.21	1.32	.717
30	86.3	.48	2.27	.538
10	221.3	1.24	3.60	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 86 CFS





U.S.G.S. TOPO. SERIES
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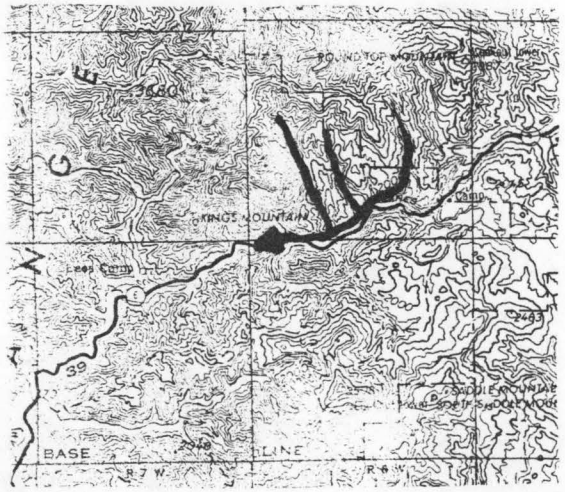
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-023-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T1N, R6W, Sec.6	
D. Latitude, Longitude	45°36'N,123°29'W	
E. Stream Name	South Fork	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 1.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

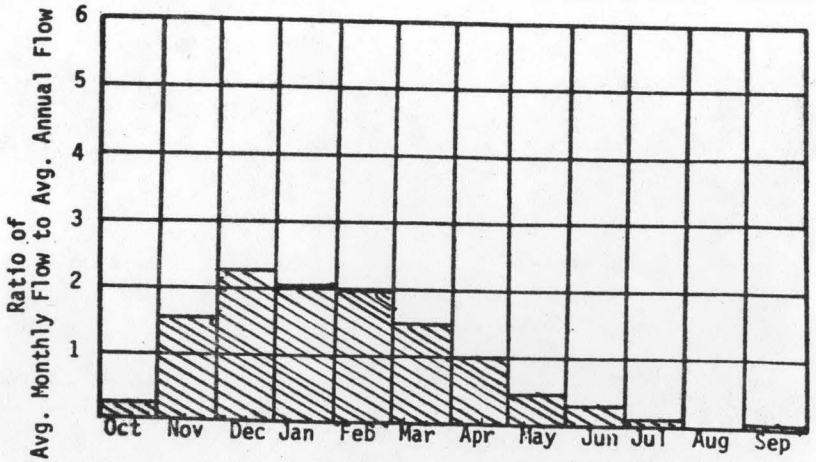
A. Upstream Elevation of Reach	935	Ft. MSL
B. Downstream Elevation of Reach	842	Ft. MSL
C. Total Available Head in Reach	93	Ft.
D. Average Slope in Reach	77.6	Ft./Mi.
E. Drainage Area above Reach Mouth	27.0	Sq.Mi.
F. Inflow Classification	Natural	

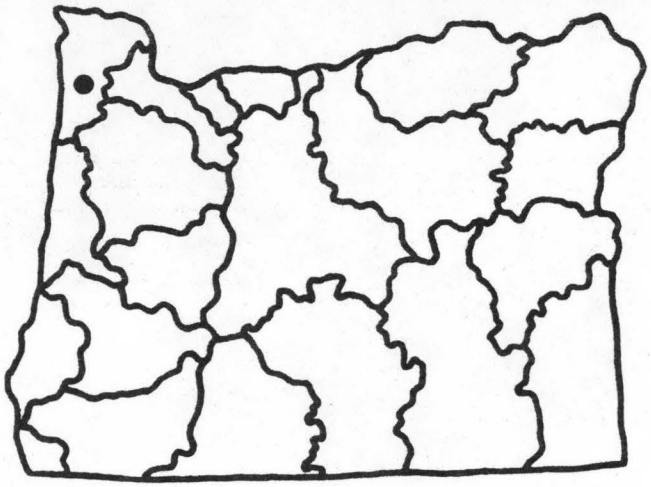
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.6	.04	.32	1.000
80	9.1	.07	.59	.939
50	39.2	.31	1.94	.717
30	90.0	.71	3.34	.538
10	230.8	1.82	5.29	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 89 CFS





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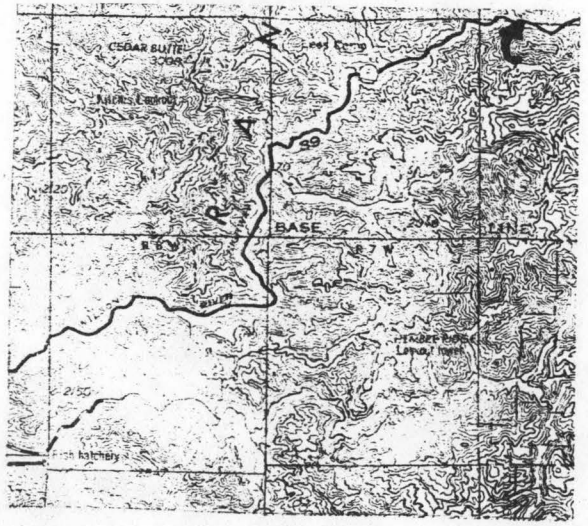


0 1-98

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-530-023-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1N, R6W, Sec.6
D.	Latitude, Longitude	45°36'N,123°29'W
E.	Stream Name	South Fork
F.	Major Basin Name	North Coast
G.	River Mile	1.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

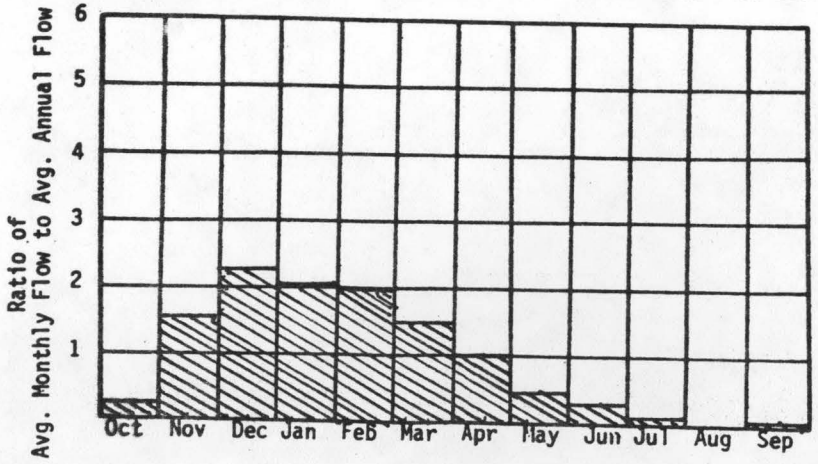
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	17.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.5	.03	.22	1.000
80	8.8	.05	.41	.939
50	38.3	.21	1.34	.717
30	87.9	.49	2.32	.538
10	225.4	1.26	3.66	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 87 CFS



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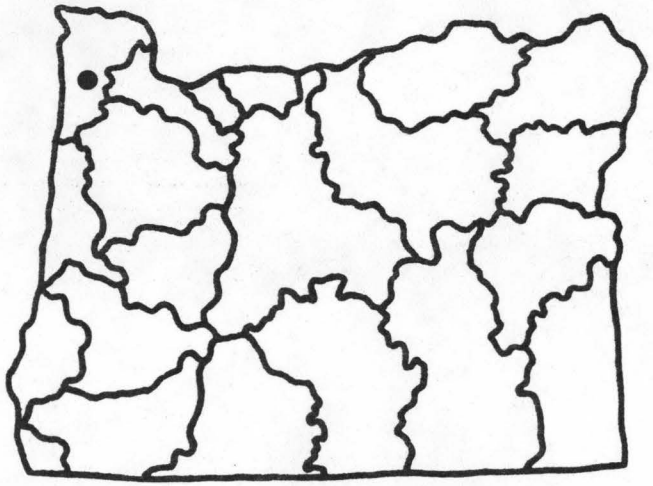
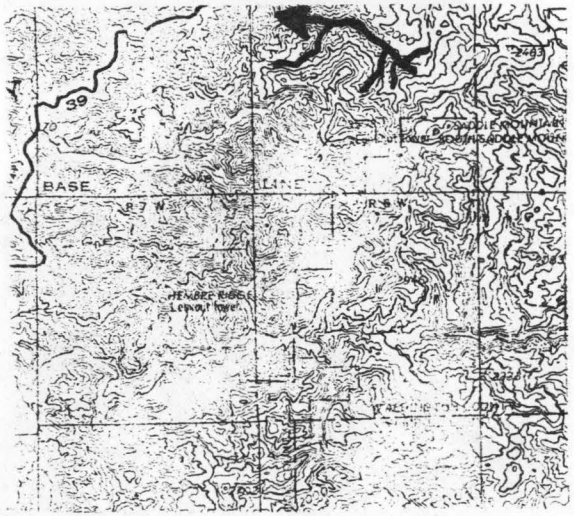


U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-000-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T2S, R9W, Sec.5	
D. Latitude, Longitude	45°26'N,123°48'W	
E. Stream Name	Trask River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 10.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

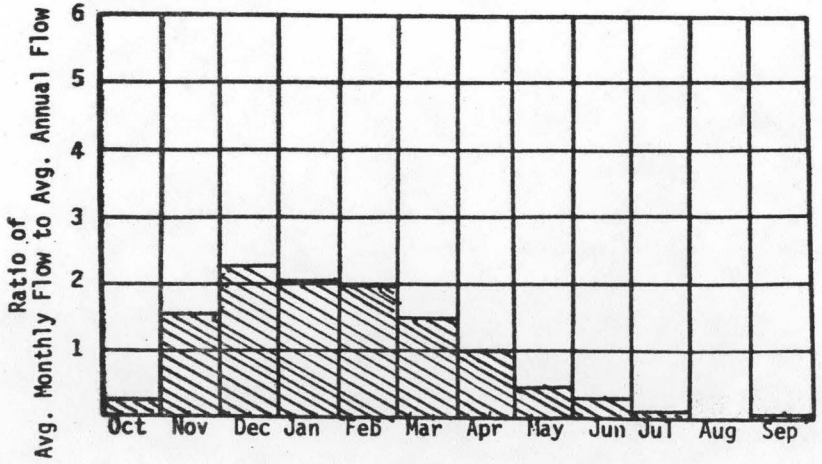
A. Upstream Elevation of Reach	58	Ft. MSL
B. Downstream Elevation of Reach	0	Ft. MSL
C. Total Available Head in Reach	58	Ft.
D. Average Slope in Reach	5.6	Ft./Mi.
E. Drainage Area above Reach Mouth	175.1	Sq.Mi.
F. Inflow Classification	Natural	

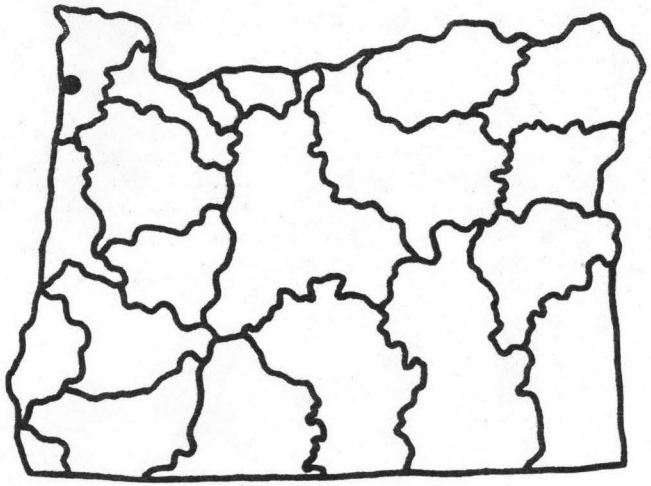
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	51.0	.25	2.20	1.000
80	95.2	.47	3.86	.942
50	444.8	2.19	13.65	.712
30	952.5	4.68	22.39	.546
10	2448.4	12.03	35.27	.335

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 944 CFS





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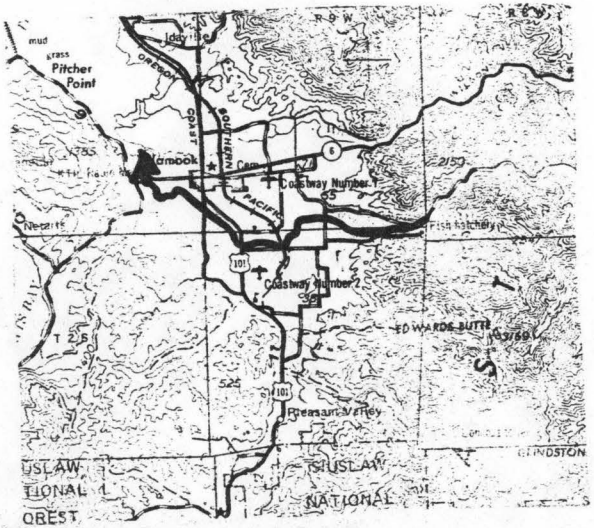


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-000-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T1S, R8W, Sec.28	
D. Latitude, Longitude	45°26'N,123°41'W	
E. Stream Name	Trask River	
F. Major Basin Name	North Coast	
G. River Mile	10.4 to 18.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

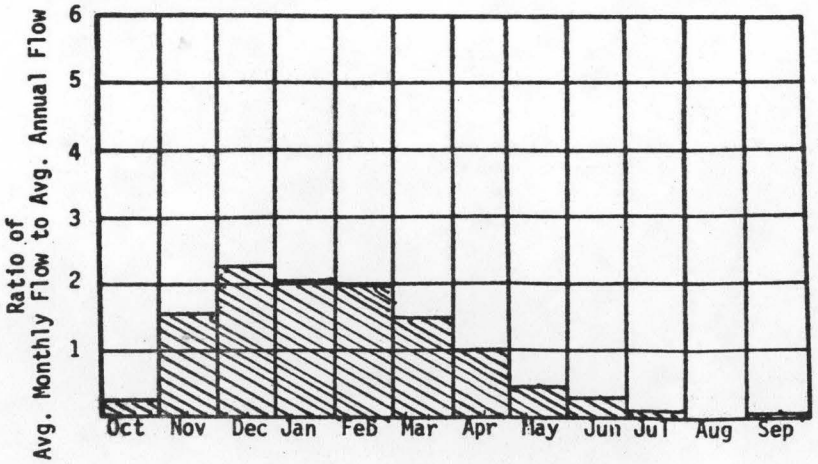
A. Upstream Elevation of Reach	265	Ft. MSL
B. Downstream Elevation of Reach	58	Ft. MSL
C. Total Available Head in Reach	207	Ft.
D. Average Slope in Reach	26.5	Ft./Mi.
E. Drainage Area above Reach Mouth	147.9	Sq.Mi.
F. Inflow Classification	Natural	

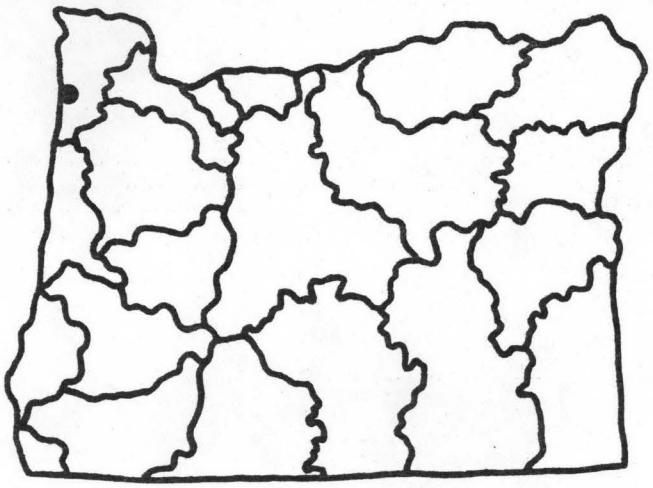
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	44.9	.79	6.91	1.000
80	84.1	1.48	12.18	.942
50	391.5	6.87	42.88	.713
30	841.4	14.76	70.53	.545
10	2162.5	37.93	111.13	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 834 CFS





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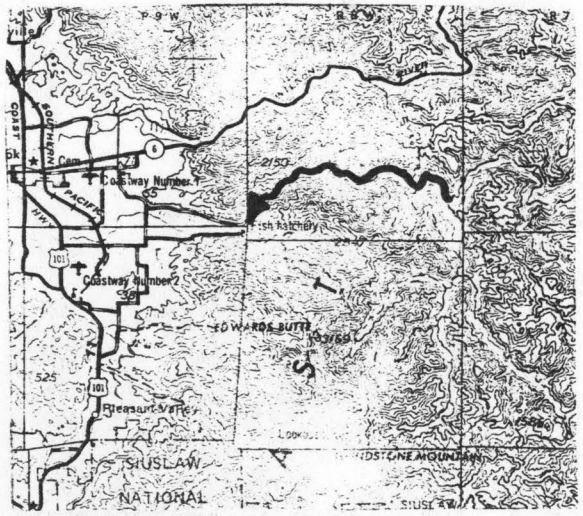


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-003-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R8W, Sec.1
D.	Latitude, Longitude	45°25'N,123°37'W
E.	Stream Name	South Fork Trask River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 2.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

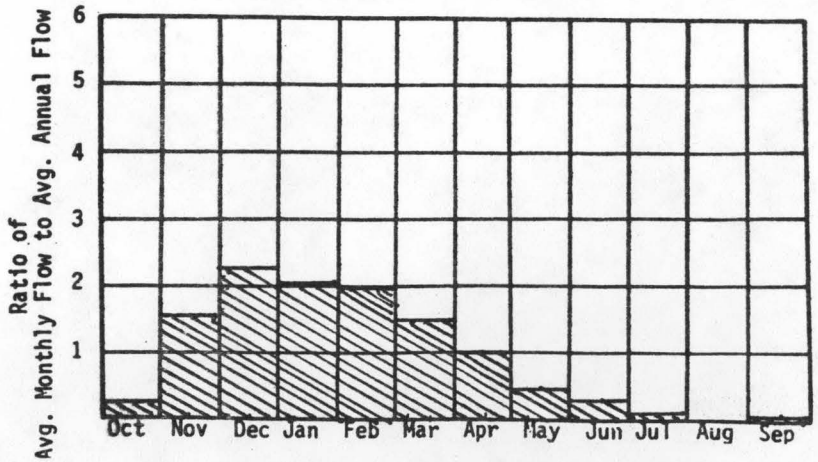
A.	Upstream Elevation of Reach	366	Ft. MSL
B.	Downstream Elevation of Reach	265	Ft. MSL
C.	Total Available Head in Reach	101	Ft.
D.	Average Slope in Reach	50.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	57.3	Sq.Mi.
F.	Inflow Classification	Natural	

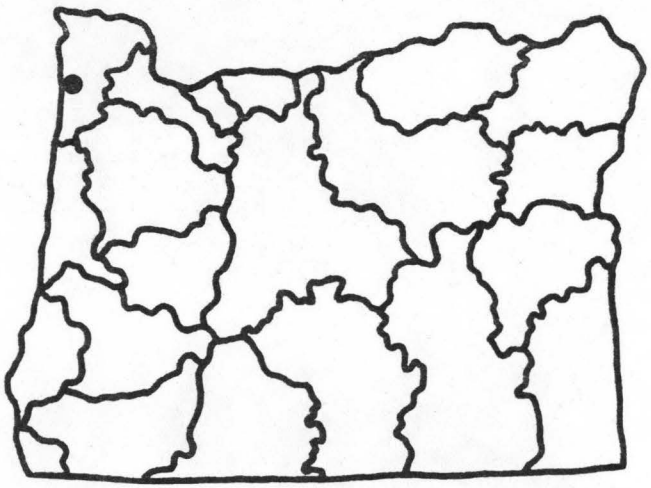
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	16.8	.14	1.26	1.000
80	32.0	.27	2.26	.940
50	144.2	1.23	7.72	.714
30	318.9	2.73	12.97	.542
10	818.9	7.01	20.46	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 316 CFS





U.S.G.S. TOPO. SERIES
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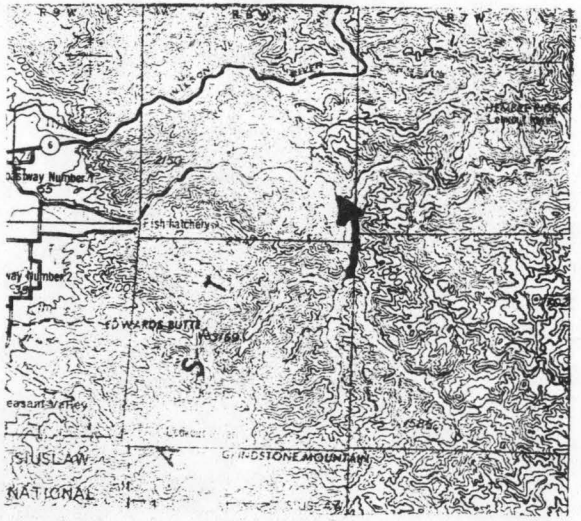


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-003-002-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T2S, R7W, Sec.19	
D. Latitude, Longitude	45°23'N,123°35'W	
E. Stream Name	East Fork South Fork Trask River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 5.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

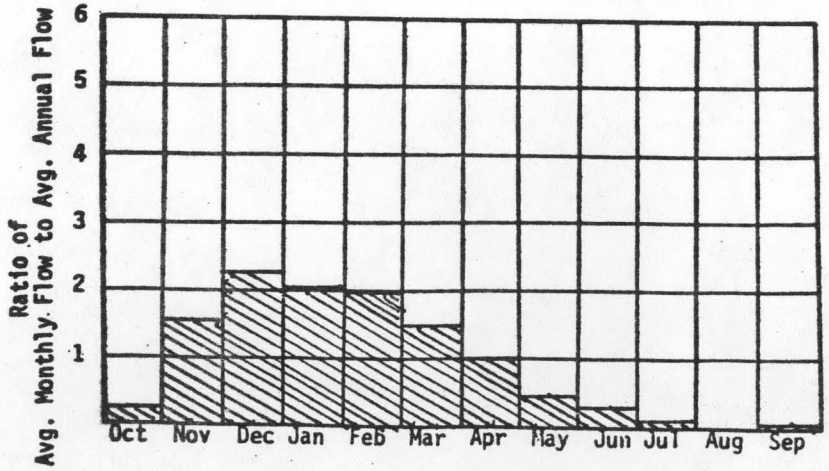
A. Upstream Elevation of Reach	840	Ft. MSL
B. Downstream Elevation of Reach	366	Ft. MSL
C. Total Available Head in Reach	474	Ft.
D. Average Slope in Reach	86.2	Ft./Mi.
E. Drainage Area above Reach Mouth	29.3	Sq.Mi.
F. Inflow Classification	Natural	

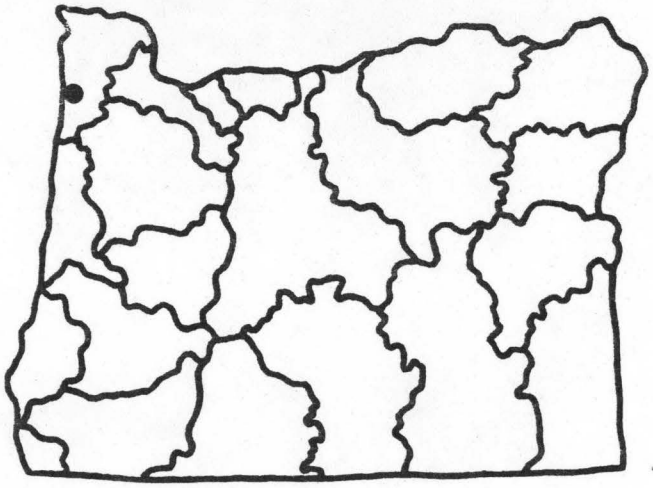
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.2	.29	2.52	1.000
80	13.9	.56	4.60	.939
50	61.1	2.45	15.38	.716
30	138.4	5.56	26.27	.539
10	355.0	14.26	41.51	.332

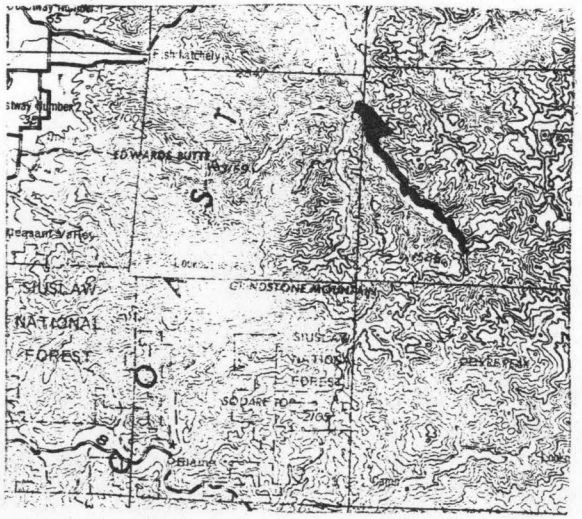
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 138 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-003-002-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T2S. R6W. Sec.28	
D. Latitude, Longitude	45°22'N,123°32'W	
E. Stream Name	East Fork South Fork Trask River	
F. Major Basin Name	North Coast	
G. River Mile	5.5 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

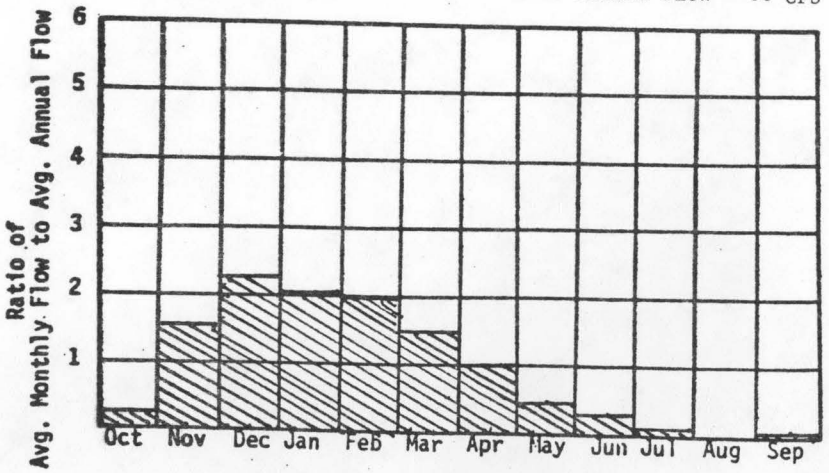
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	12.6	Sq.Mi.
F. Inflow Classification	Natural	

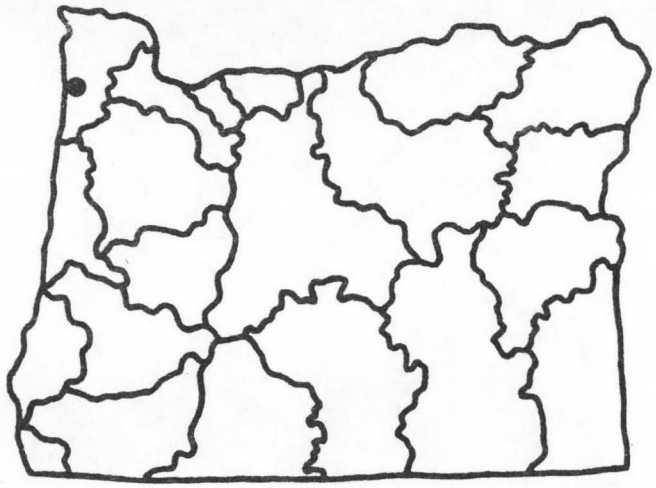
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.4	.02	.22	1.000
80	8.7	.05	.40	.939
50	37.6	.21	1.32	.717
30	86.5	.48	2.28	.538
10	221.9	1.24	3.61	.332

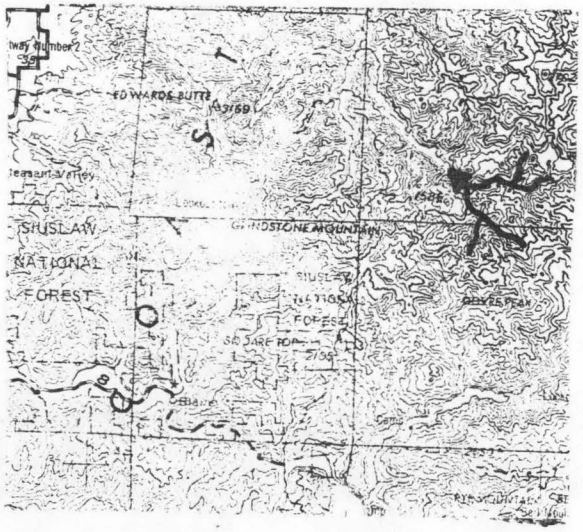
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 86 CFS





U.S.G.S. TOPO SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-003-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R8W, Sec.12
D.	Latitude, Longitude	45°24'N,123°36'W
E.	Stream Name	South Fork Trask River
F.	Major Basin Name	North Coast
G.	River Mile	2.0 to 3.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

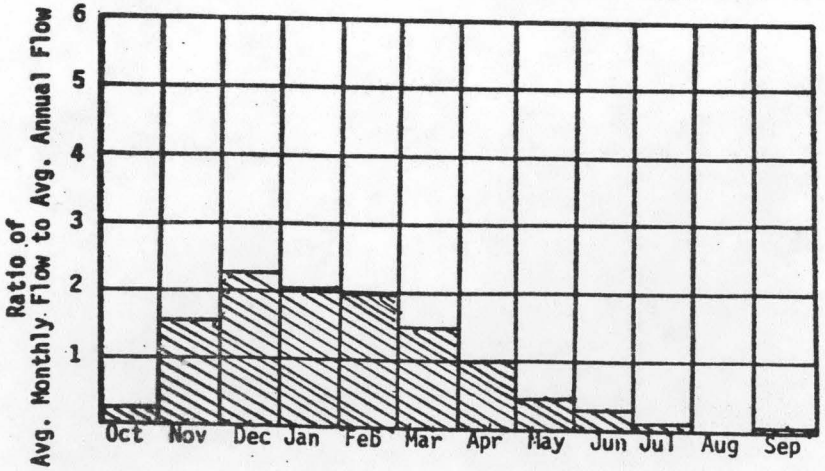
A.	Upstream Elevation of Reach	445	Ft. MSL
B.	Downstream Elevation of Reach	366	Ft. MSL
C.	Total Available Head in Reach	79	Ft.
D.	Average Slope in Reach	66	Ft./Mi.
E.	Drainage Area above Reach Mouth	20.1	Sq.Mi.
F.	Inflow Classification	Natural	

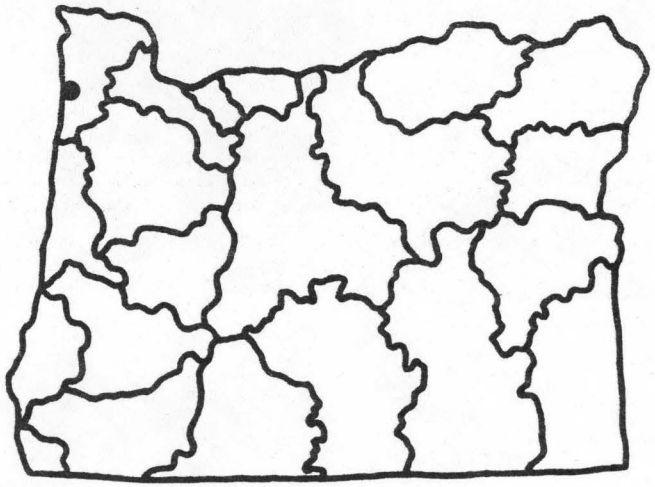
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.4	.04	.32	1.000
80	10.5	.07	.58	.939
50	45.7	.31	1.92	.716
30	104.4	.70	3.30	.538
10	267.7	1.79	5.21	.332

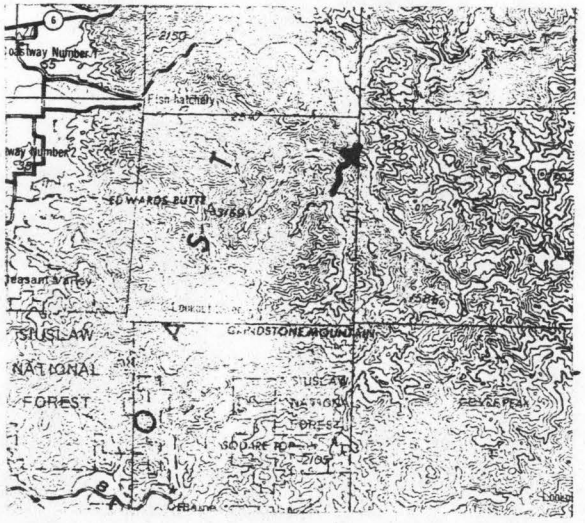
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 104 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

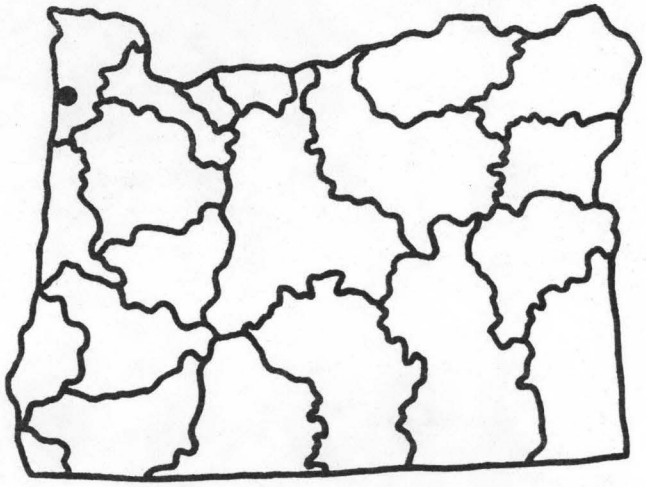


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-003-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R8W, Sec.12
D.	Latitude, Longitude	45°24'N.123°38'W
E.	Stream Name	South Fork Trask River
F.	Major Basin Name	North Coast
G.	River Mile	3.2 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	13.6	Sq.Mi.
F.	Inflow Classification	Natural	

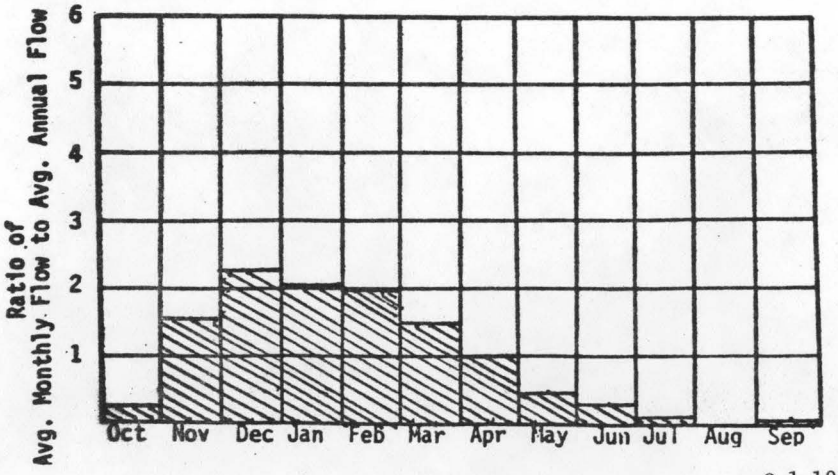
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

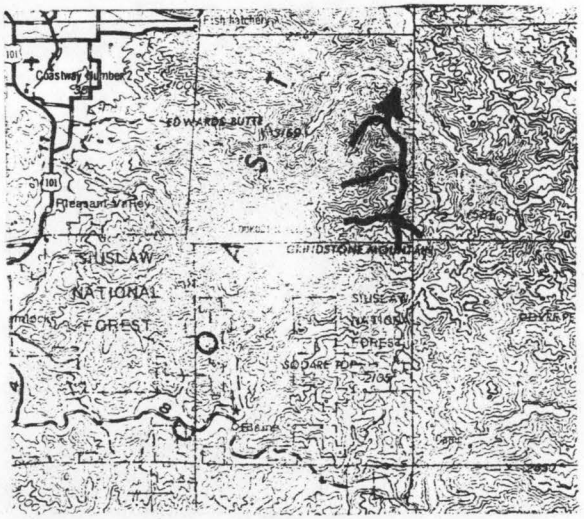
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.4	.02	.21	1.000
80	8.5	.05	.39	.939
50	36.9	.21	1.30	.717
30	84.9	.47	2.24	.538
10	217.6	1.22	3.54	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 84 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T1S, R7W, Sec.30	
D. Latitude, Longitude	45°27'N,123°34'W	
E. Stream Name	North Fork Trask River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to 4.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

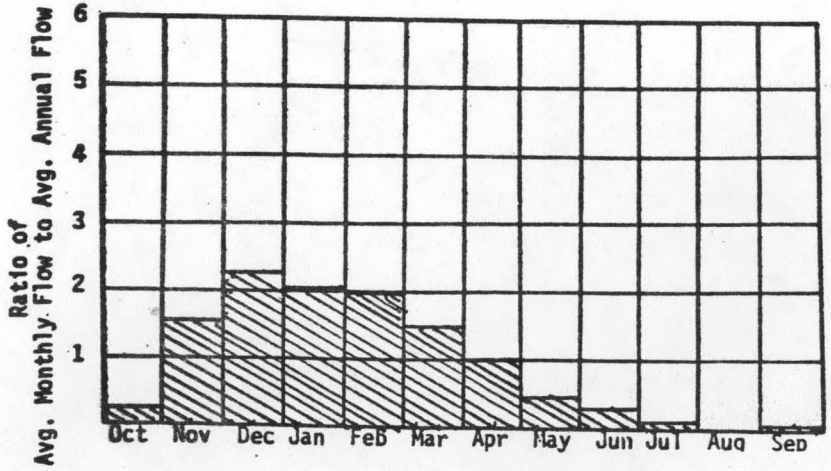
A. Upstream Elevation of Reach	472	Ft. MSL
B. Downstream Elevation of Reach	366	Ft. MSL
C. Total Available Head in Reach	106	Ft.
D. Average Slope in Reach	23.5	Ft./Mi.
E. Drainage Area above Reach Mouth	81.4	Sq.Mi.
F. Inflow Classification	Natural	

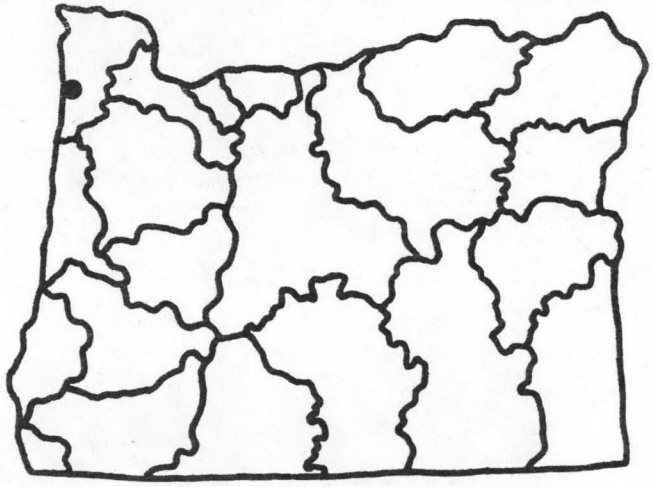
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	24.5	.22	1.93	1.000
80	46.4	.42	3.43	.941
50	211.6	1.90	11.88	.714
30	462.8	4.16	19.79	.543
10	1188.7	10.68	31.22	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 459 CFS





U.S.G.S. TOPO. SERIES
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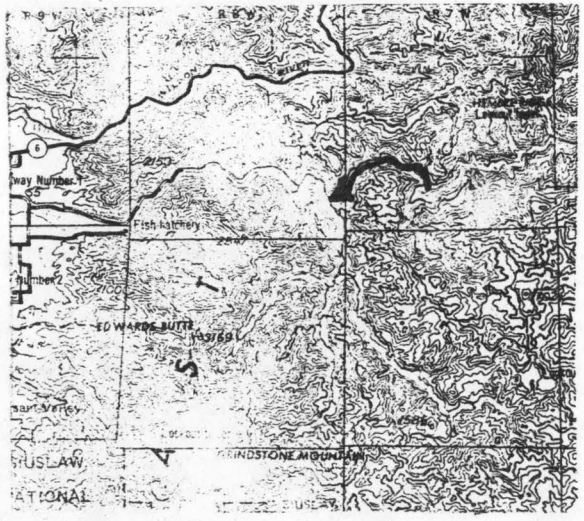
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-003-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R7W, Sec.33
D.	Latitude, Longitude	45°26'N,123°35'W
E.	Stream Name	Bark Shanty (North Fork Trask River)
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

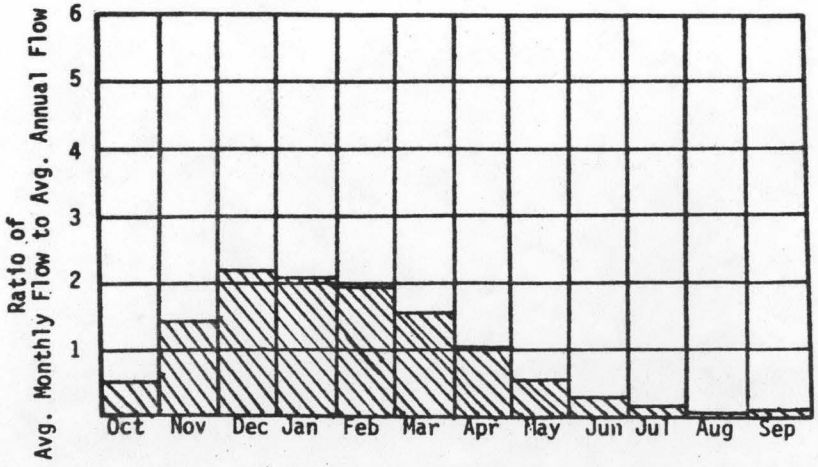
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10.0	Sq.Mi.
F.	Inflow Classification	Natural	

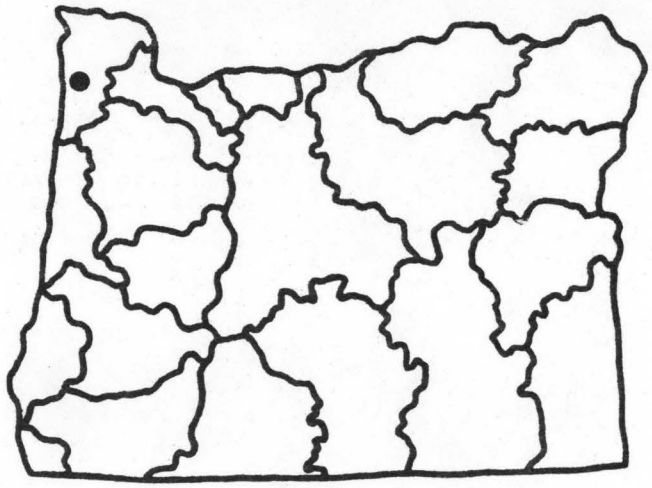
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.4	.02	.17	1.000
80	6.8	.04	.31	.938
50	29.0	.16	1.02	.717
30	67.3	.38	1.77	.537
10	172.4	.96	2.80	.331

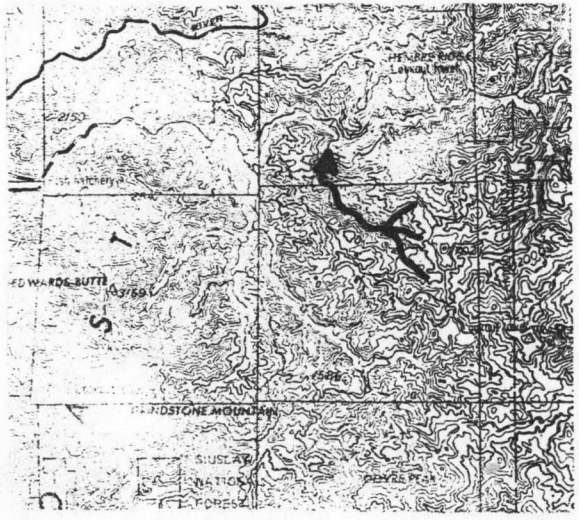
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 67 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T1S, R7W, Sec.26	
D. Latitude, Longitude	45°27'N.123°30'W	
E. Stream Name	North Fork Trask River	
F. Major Basin Name	North Coast	
G. River Mile	4.5 to 11.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

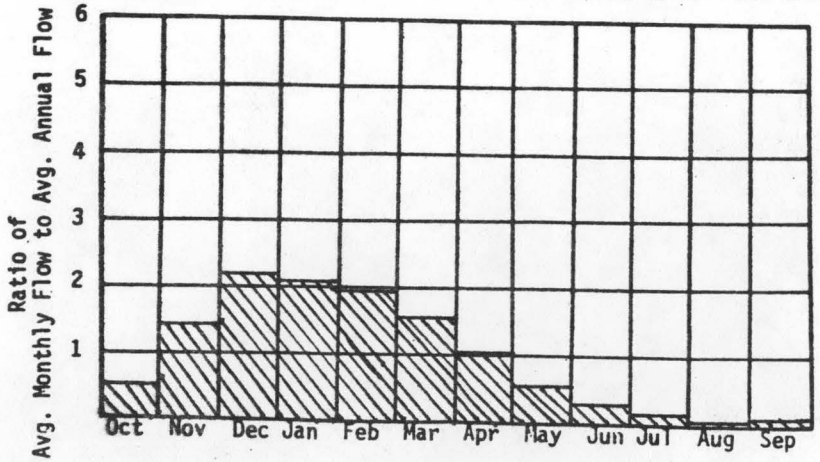
A. Upstream Elevation of Reach	800	Ft. MSL
B. Downstream Elevation of Reach	472	Ft. MSL
C. Total Available Head in Reach	328	Ft.
D. Average Slope in Reach	46.2	Ft./Mi.
E. Drainage Area above Reach Mouth	64.4	Sq.Mi.
F. Inflow Classification	Natural	

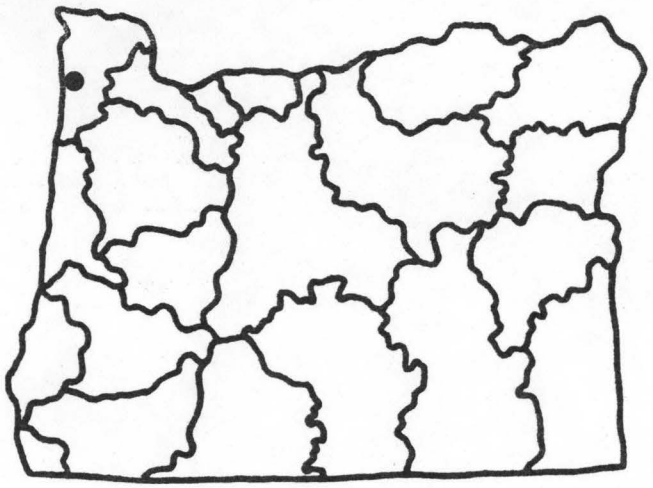
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	16.5	.46	4.02	1.000
80	31.5	.88	7.21	.940
50	142.0	3.95	24.70	.714
30	314.1	8.73	41.46	.542
10	806.5	22.42	65.44	.333

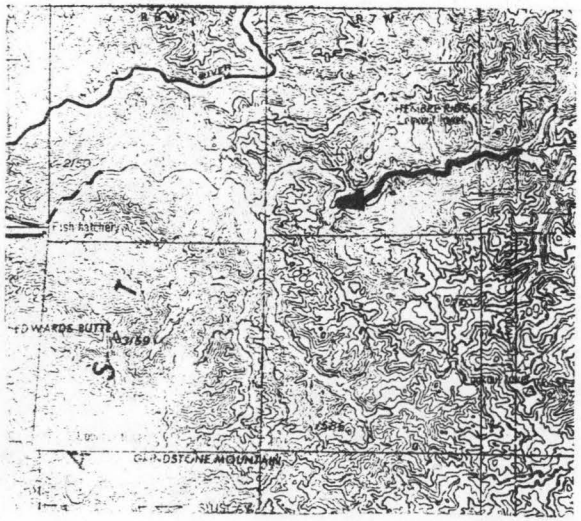
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 312 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-006-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Washington	
C. Township, Range	T1S, R6W, Sec.29	
D. Latitude, Longitude	45°28'N,123°28'W	
E. Stream Name	North Fork of North Fork Trask River	
F. Major Basin Name	North Coast	
G. River Mile	0.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

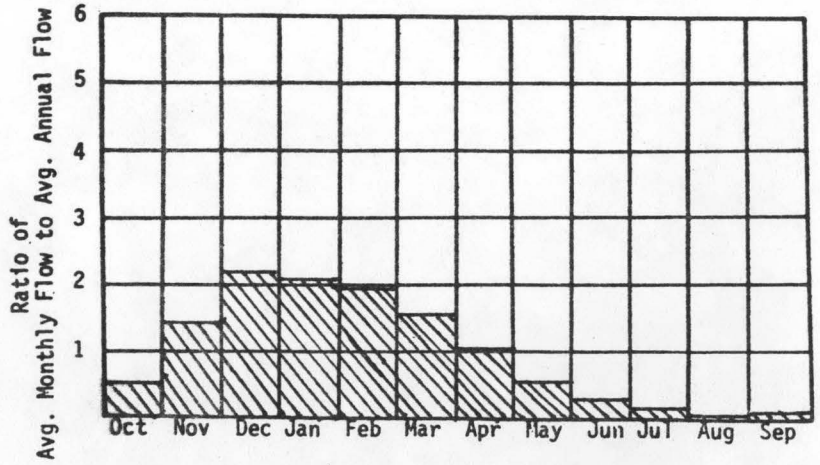
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	12.4	Sq.Mi.
F. Inflow Classification	Natural	

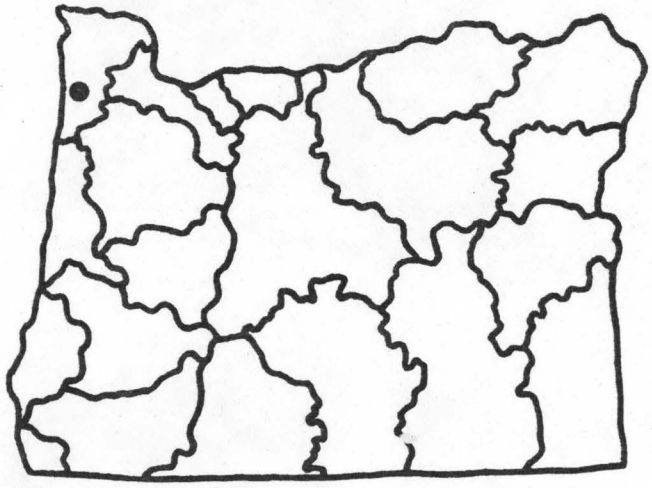
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.0	.02	.19	1.000
80	7.8	.04	.36	.939
50	33.6	.19	1.18	.717
30	77.5	.43	2.04	.537
10	198.8	1.11	3.23	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 77 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-008-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T1S, R6W, Sec.29
D.	Latitude, Longitude	45°27'N,123°27'W
E.	Stream Name	Middle Fork of North Fork Trask River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 1.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

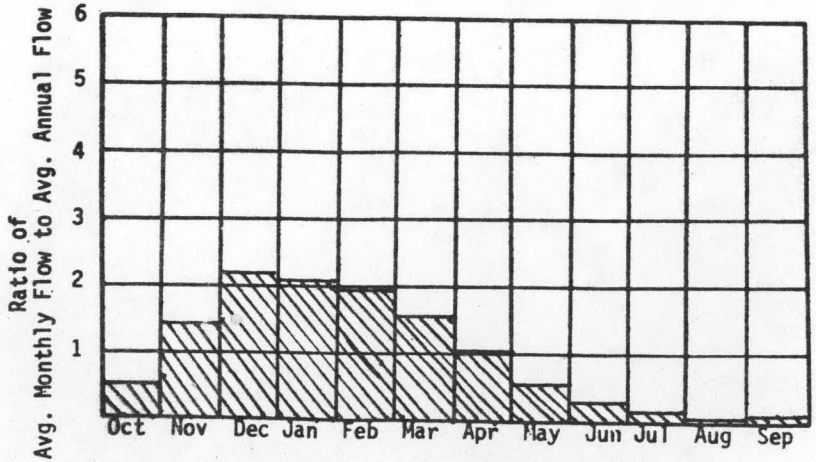
A.	Upstream Elevation of Reach	945	Ft. MSL
B.	Downstream Elevation of Reach	800	Ft. MSL
C.	Total Available Head in Reach	145	Ft.
D.	Average Slope in Reach	96.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	31.8	Sq.Mi.
F.	Inflow Classification	Natural	

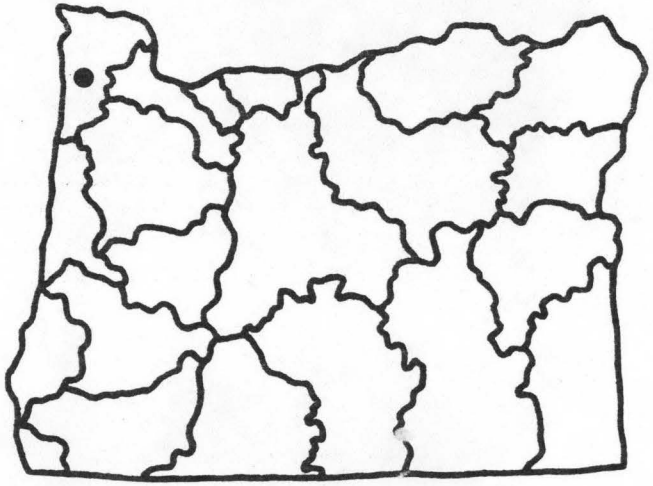
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.9	.11	.96	1.000
80	17.3	.21	1.75	.940
50	76.3	.94	5.88	.716
30	171.9	2.11	9.99	.540
10	441.1	5.42	15.79	.333

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 170 CFS





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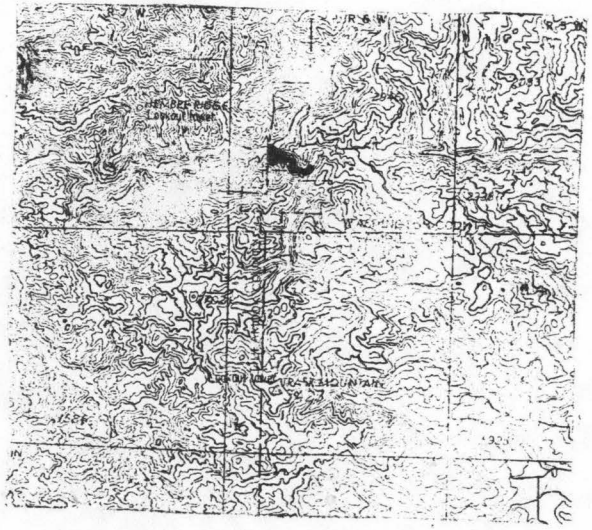


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-008-001-R0001

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	T1S, R6W, Sec.32
D.	Latitude, Longitude	45°26'N,123°25'W
E.	Stream Name	Elkhorn Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 2.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

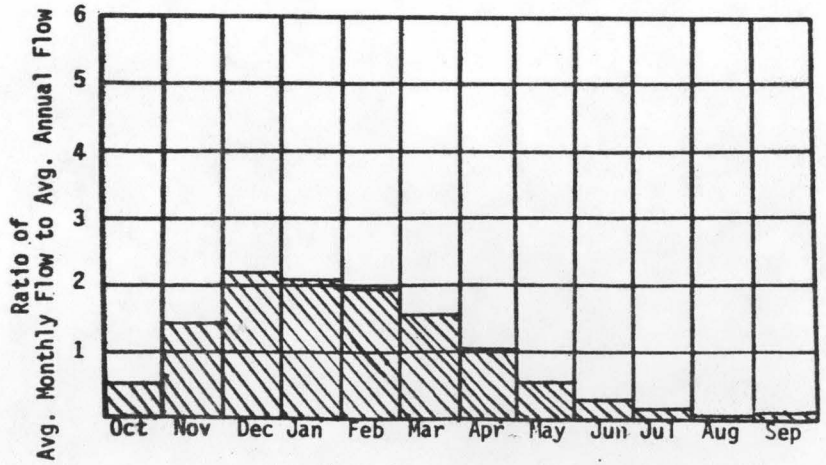
A.	Upstream Elevation of Reach	1270	Ft. MSL
B.	Downstream Elevation of Reach	945	Ft. MSL
C.	Total Available Head in Reach	325	Ft.
D.	Average Slope in Reach	125	Ft./Mi.
E.	Drainage Area above Reach Mouth	16.8	Sq.Mi.
F.	Inflow Classification	Natural	

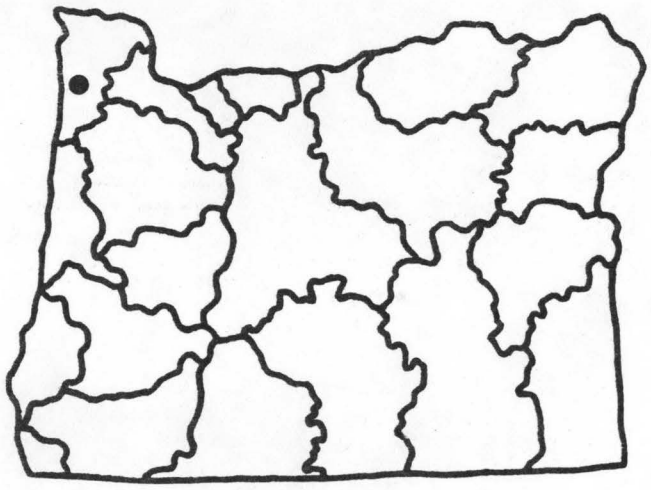
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.9	.14	1.19	1.000
80	9.6	.27	2.18	.939
50	41.8	1.15	7.23	.717
30	95.8	2.64	12.44	.538
10	245.7	6.77	19.67	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 95 CFS





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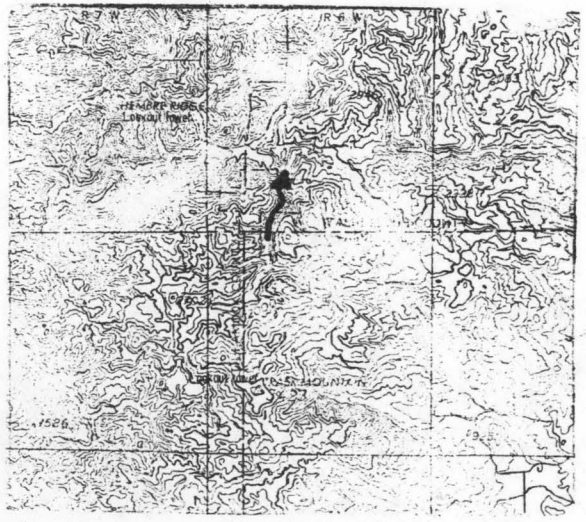
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-008-001-R0002

I. LOCATION

A.	State	Oregon
B.	County	Yamhill-Tillamook
C.	Township, Range	T2S, R6W, Sec.5
D.	Latitude, Longitude	45°25'N,123°27'W
E.	Stream Name	Elkhorn Creek
F.	Major Basin Name	North Coast
G.	River Mile	2.6 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

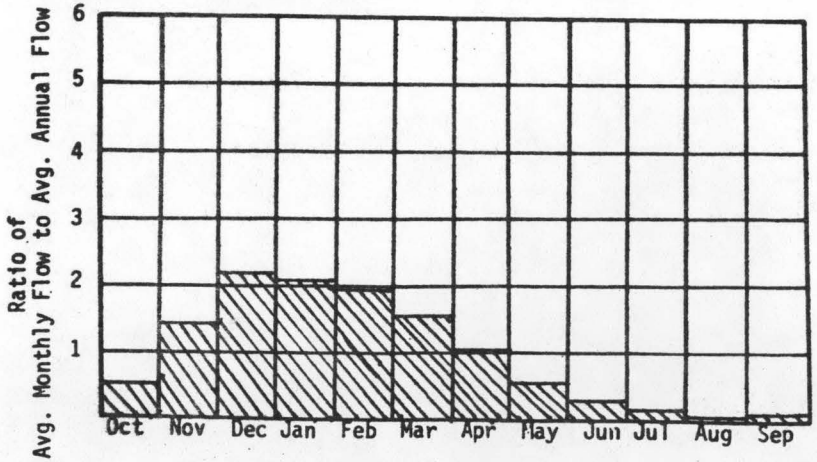
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12.4	Sq.Mi.
F.	Inflow Classification	Natural	

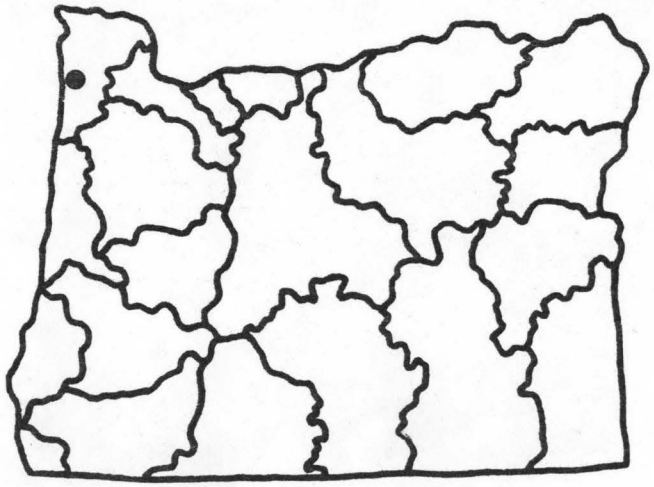
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.2	.02	.21	1.000
80	8.3	.05	.38	.939
50	35.9	.20	1.26	.717
30	82.7	.46	2.18	.538
10	212.0	1.19	3.45	.332

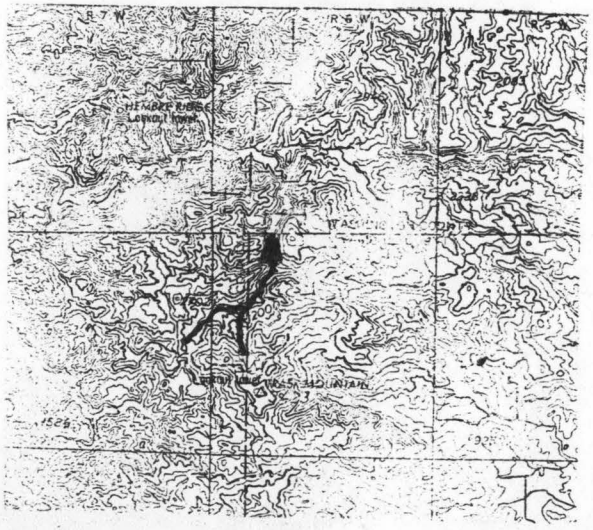
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 82 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-535-004-008-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Washington	
C. Township, Range	T1S. R6W. Sec.28	
D. Latitude, Longitude	45°27'N.123°25'W	
E. Stream Name	Middle Fork of North Fork Trask River	
F. Major Basin Name	North Coast	
G. River Mile	1.5 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

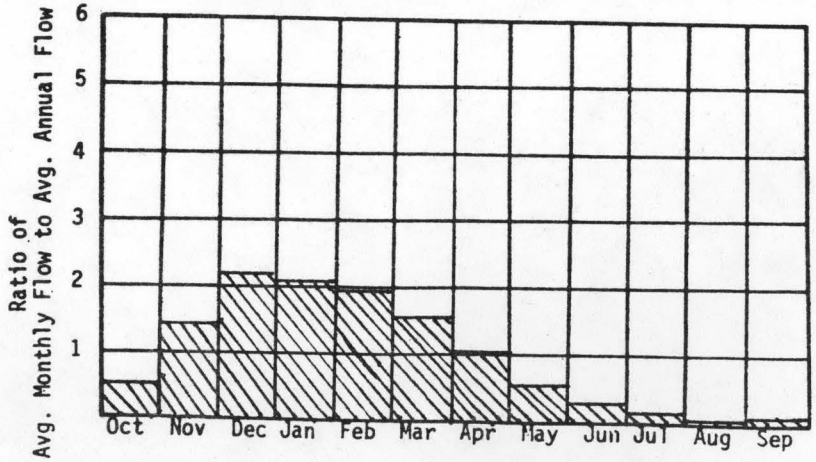
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	13.8	Sq.Mi.
F. Inflow Classification	Natural	

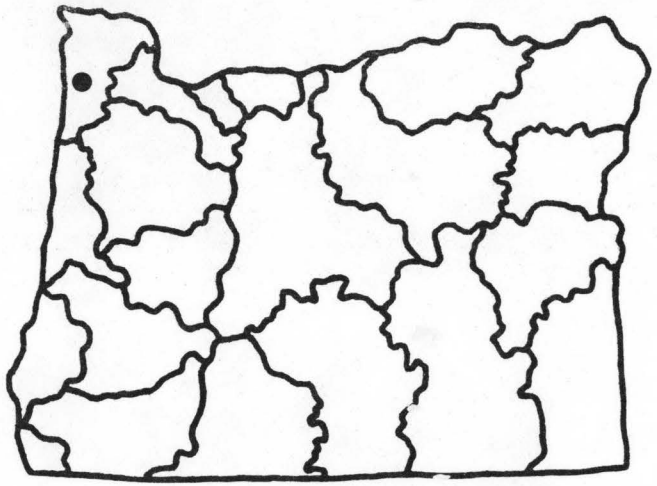
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.1	.02	.15	1.000
80	6.2	.03	.28	.938
50	26.5	.15	.93	.717
30	61.5	.34	1.62	.537
10	157.7	.88	2.56	.331

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 61 CFS





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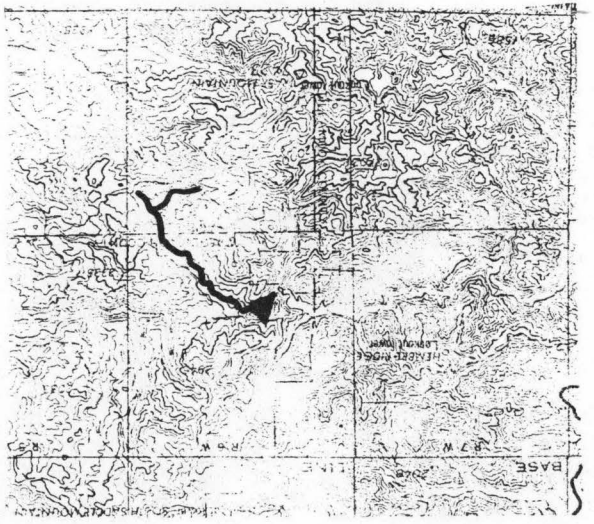


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-540-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R10W, Sec.1
D.	Latitude, Longitude	45°25'N,123°52'W
E.	Stream Name	Tillamook River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 6.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

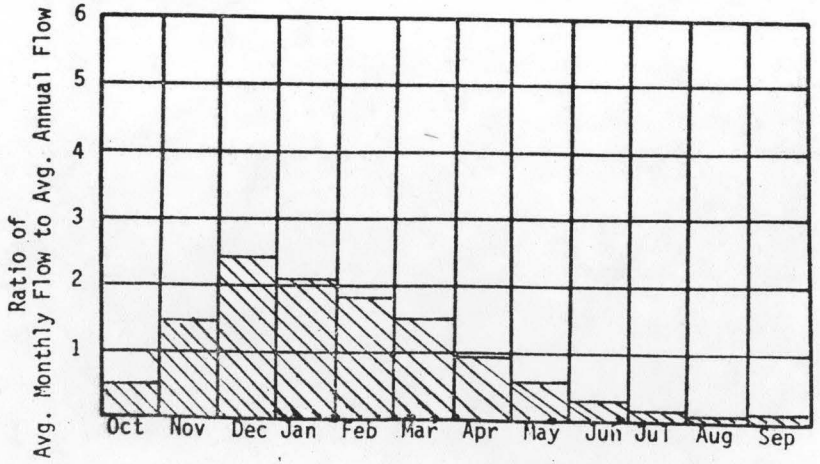
A.	Upstream Elevation of Reach	19	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	19	Ft.
D.	Average Slope in Reach	3.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	50.0	Sq.Mi.
F.	Inflow Classification	Natural	

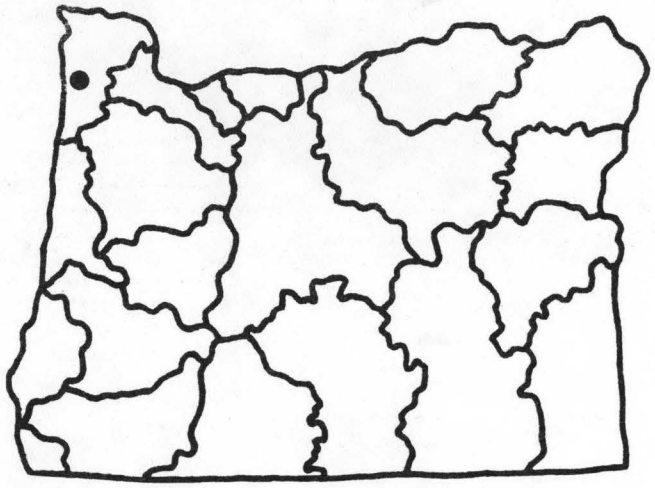
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.8	.02	.21	1.000
80	28.3	.05	.37	.940
50	127.0	.20	1.28	.715
30	281.8	.45	2.15	.542
10	723.5	1.17	3.40	.333

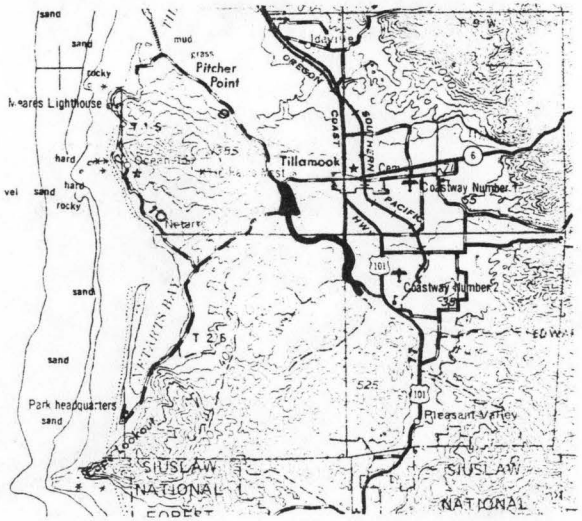
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 280 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-540-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R9W, Sec.17
D.	Latitude, Longitude	45°24'N,123°50'W
E.	Stream Name	Tillamook River
F.	Major Basin Name	North Coast
G.	River Mile	6.0 to 8.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

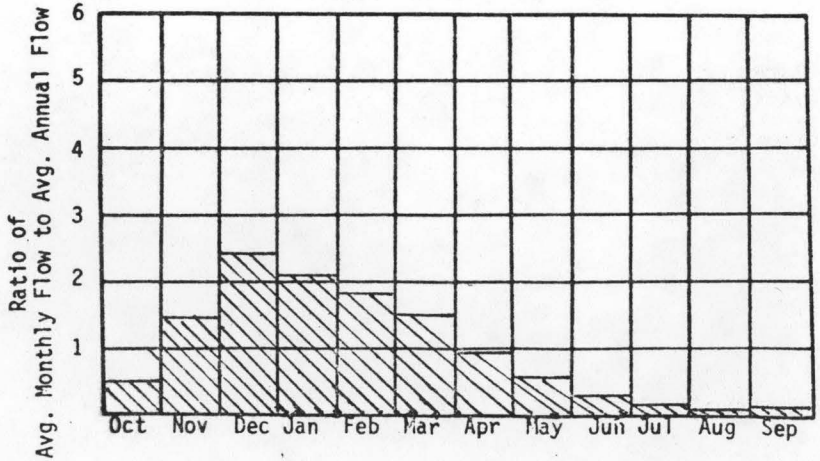
A.	Upstream Elevation of Reach	51	Ft. MSL
B.	Downstream Elevation of Reach	19	Ft. MSL
C.	Total Available Head in Reach	32	Ft.
D.	Average Slope in Reach	12.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	35.9	Sq.Mi.
F.	Inflow Classification	Natural	

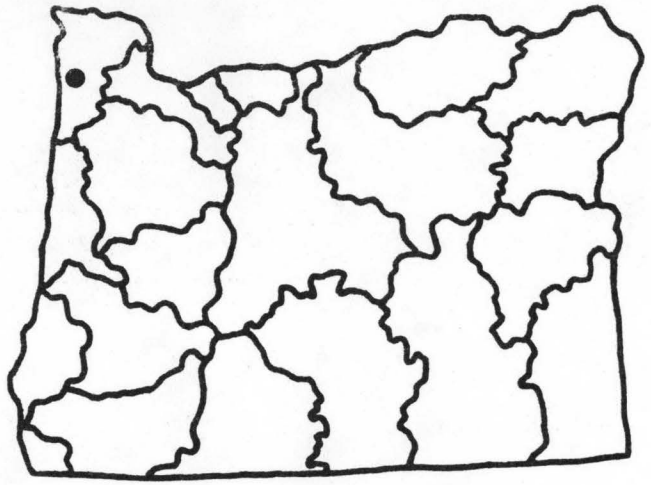
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.7	.03	.25	1.000
80	20.6	.06	.46	.940
50	91.5	.25	1.56	.715
30	205.1	.56	2.63	.541
10	526.4	1.43	4.16	.333

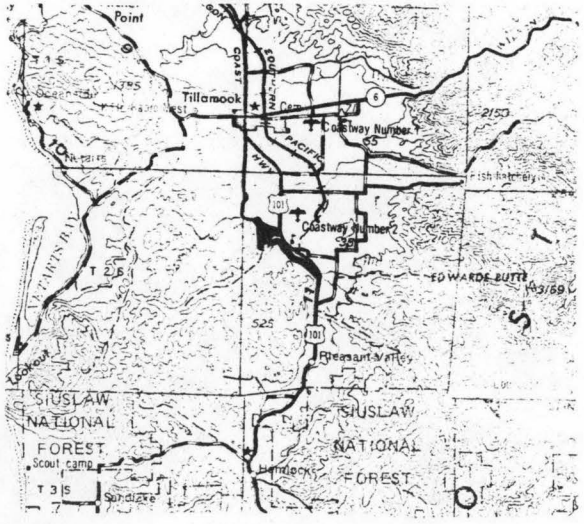
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 204 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-540-000-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R9W, Sec.19
D.	Latitude, Longitude	45°23'N,123°49'W
E.	Stream Name	Tillamook River
F.	Major Basin Name	North Coast
G.	River Mile	8.6 to 11.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

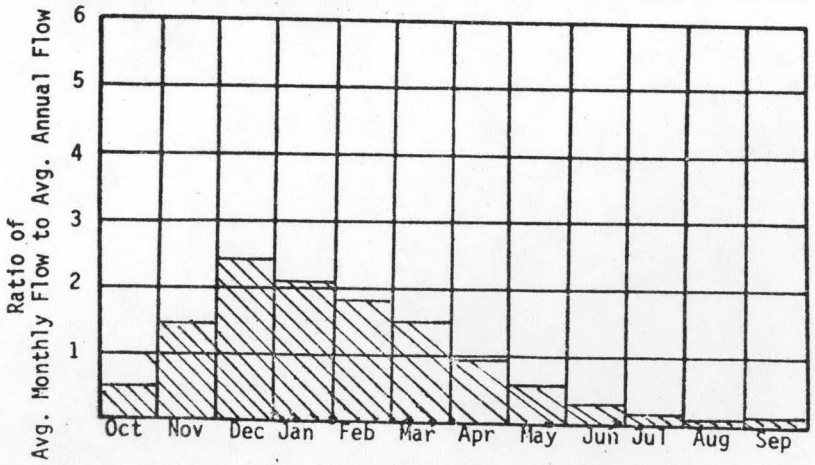
A.	Upstream Elevation of Reach	113	Ft. MSL
B.	Downstream Elevation of Reach	51	Ft. MSL
C.	Total Available Head in Reach	62	Ft.
D.	Average Slope in Reach	26	Ft./Mi.
E.	Drainage Area above Reach Mouth	21.8	Sq.Mi.
F.	Inflow Classification	Natural	

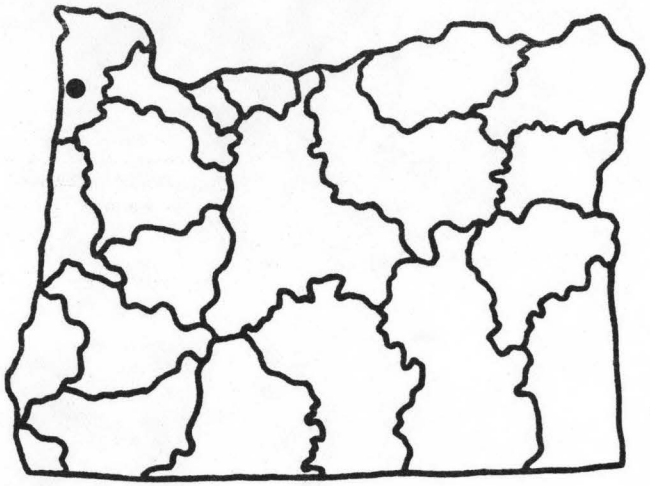
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.03	.27	1.000
80	11.5	.06	.50	.939
50	50.4	.26	1.66	.716
30	114.9	.60	2.85	.539
10	294.6	1.55	4.50	.332

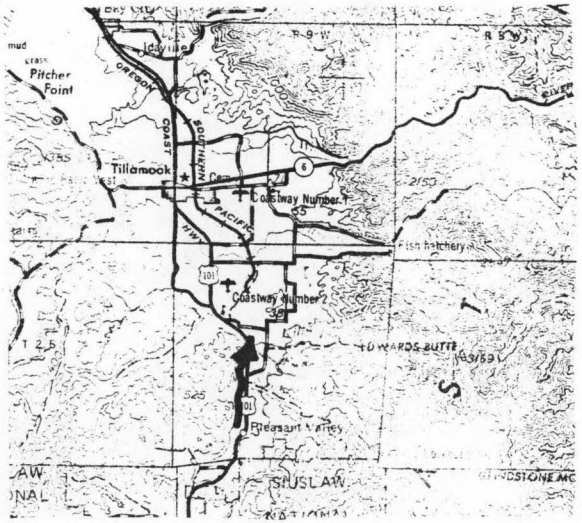
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 114 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-540-000-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T2S, R10W. Sec.29
D.	Latitude, Longitude	45°20'N,123°50'W
E.	Stream Name	Tillamook River
F.	Major Basin Name	North Coast
G.	River Mile	11.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

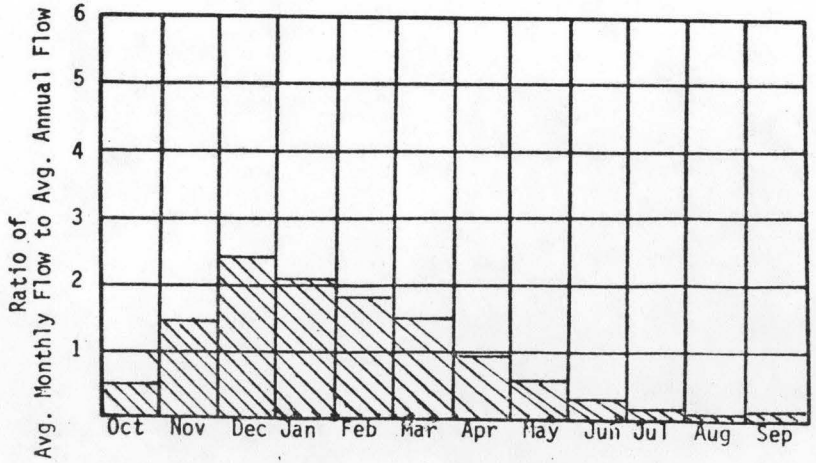
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	11.1	Sq.Mi.
F.	Inflow Classification	Natural	

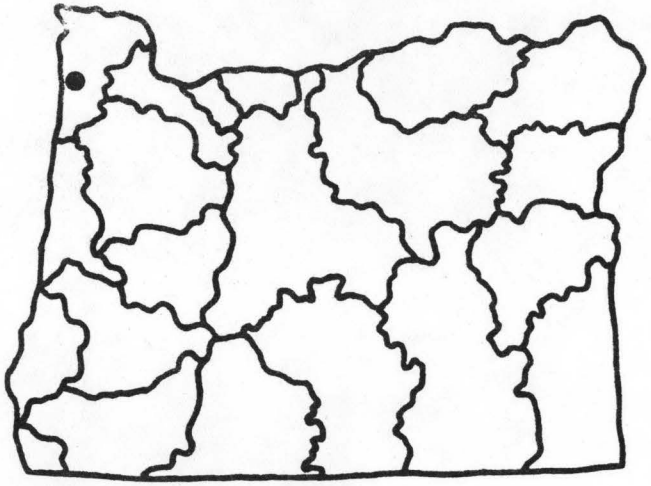
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.02	.16	1.000
80	6.5	.04	.30	.938
50	27.7	.15	.97	.717
30	64.2	.36	1.69	.537
10	164.6	.92	2.67	.331

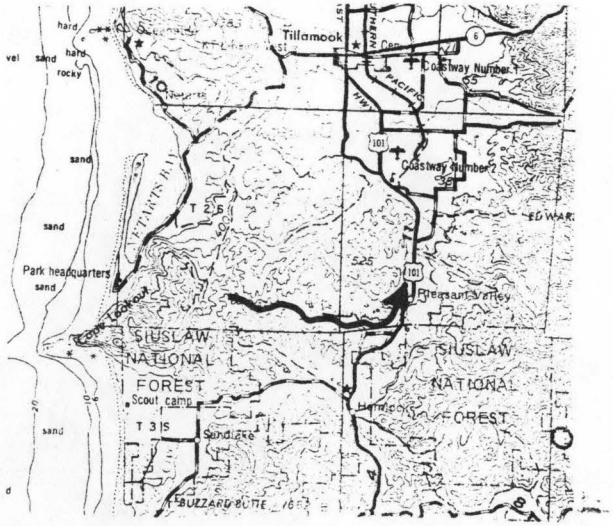
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 64 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T4S, R10W, Sec.28
D.	Latitude, Longitude	45°11'N,123°55'W
E.	Stream Name	Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 9.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

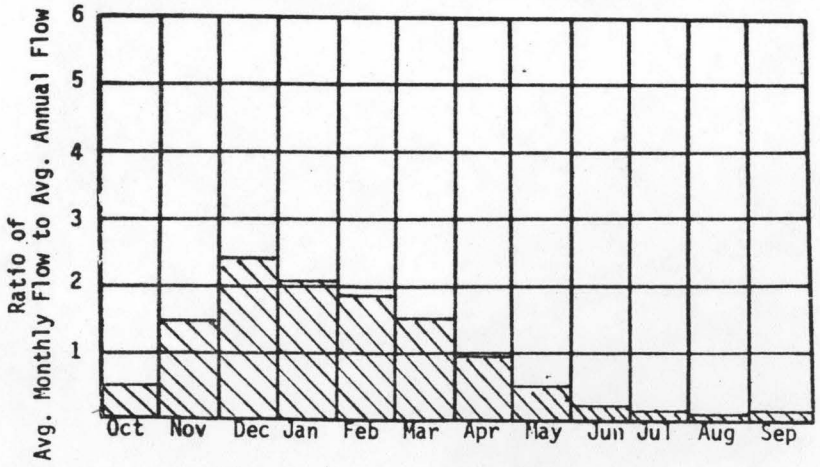
A.	Upstream Elevation of Reach	28	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	28	Ft.
D.	Average Slope in Reach	2.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	257.9	Sq.Mi.
F.	Inflow Classification	Regulated	

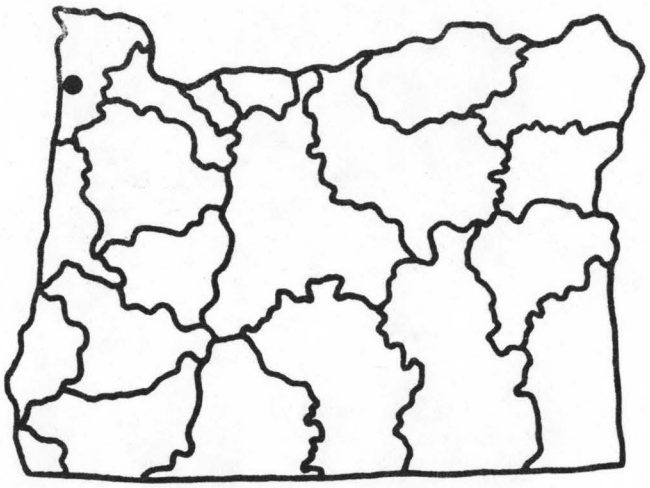
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	66.7	.16	1.39	1.000
80	123.9	.29	2.43	.942
50	583.6	1.38	8.64	.712
30	1240.0	2.94	14.10	.547
10	3188.1	7.57	22.19	.335

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1228 CFS





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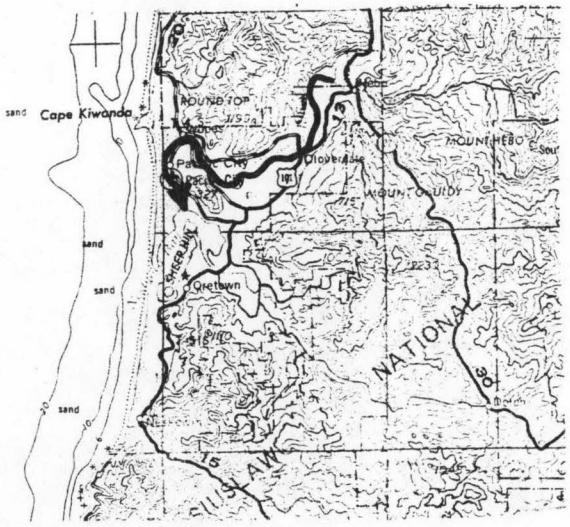
1:250,000 SCALE
MAP NAME: VANCOUVER

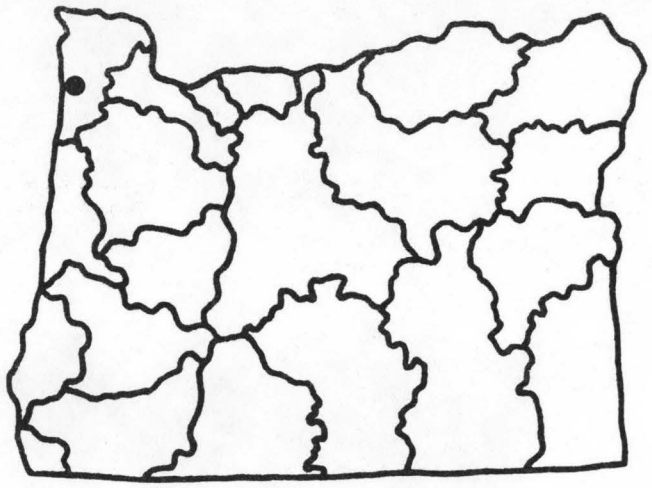


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-003-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T4S, R9W, Sec.30
D.	Latitude, Longitude	45°12'N,123°50'W
E.	Stream Name	Three Rivers
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 6.4



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	323	Ft. MSL
B.	Downstream Elevation of Reach	28	Ft. MSL
C.	Total Available Head in Reach	295	Ft.
D.	Average Slope in Reach	46.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	38.7	Sq.Mi.
F.	Inflow Classification	Natural	

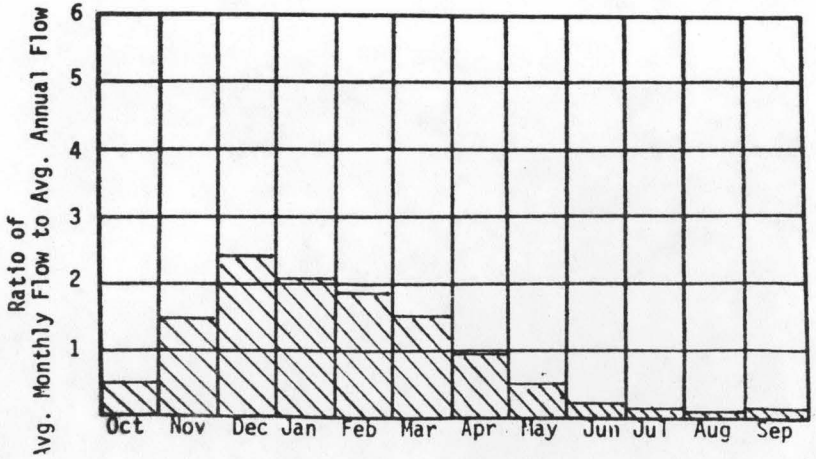
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

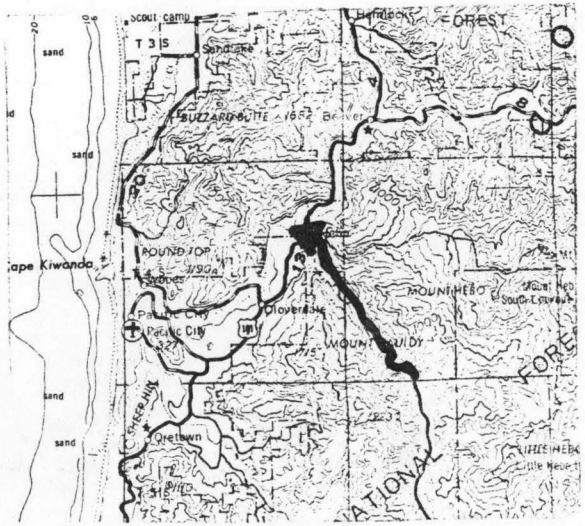
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.5	.21	1.85	1.000
80	16.4	.41	3.37	.940
50	72.2	1.81	11.32	.716
30	162.9	4.07	19.27	.540
10	418.1	10.45	30.44	.332

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 162 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-003-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T4S. R9W. Sec.32	
D. Latitude, Longitude	45°11'N.123°45'W	
E. Stream Name	Three Rivers	
F. Major Basin Name	North Coast	
G. River Mile	6.4 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

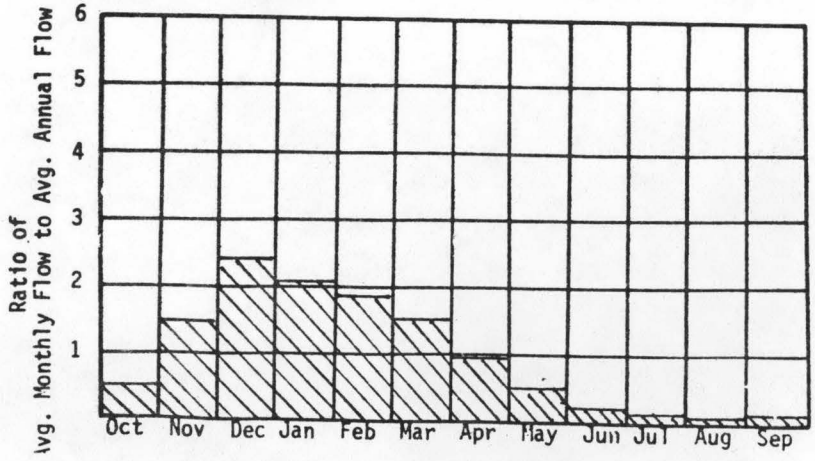
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	21.3	Sq.Mi.
F. Inflow Classification	Natural	

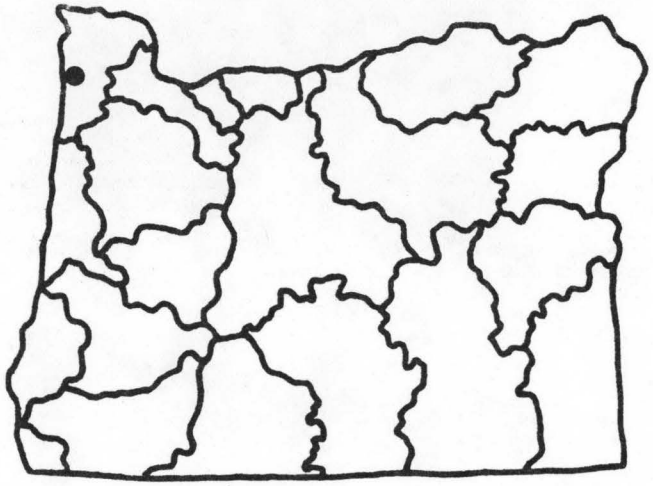
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.03	.29	1.000
80	11.5	.06	.53	.939
50	50.3	.28	1.76	.716
30	114.6	.64	3.03	.539
10	294.0	1.64	4.78	.332

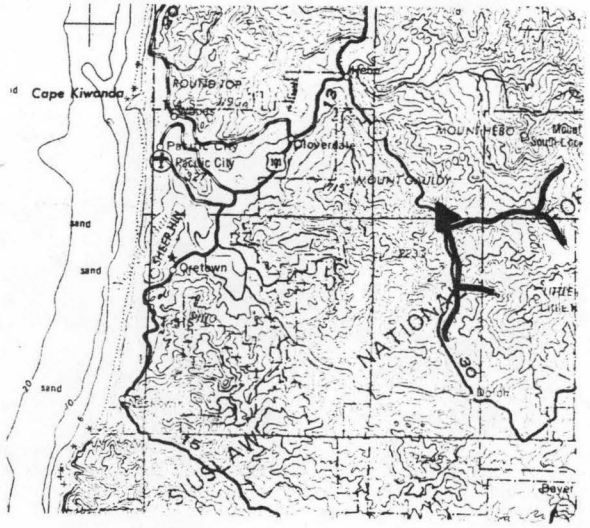
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 114 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T4S, R10W, Sec.1
D.	Latitude, Longitude	45°15'N,123°51'W
E.	Stream Name	Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	9.8 to 15.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

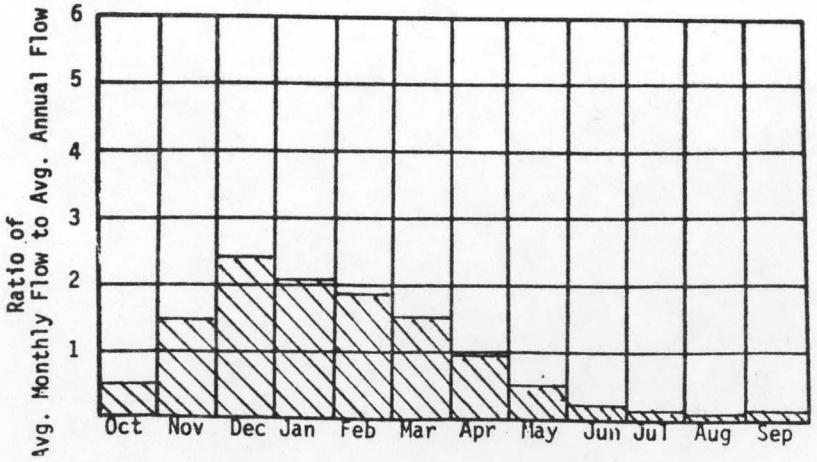
A.	Upstream Elevation of Reach	68	Ft. MSL
B.	Downstream Elevation of Reach	28	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	7.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	194.0	Sq.Mi.
F.	Inflow Classification	Regulated	

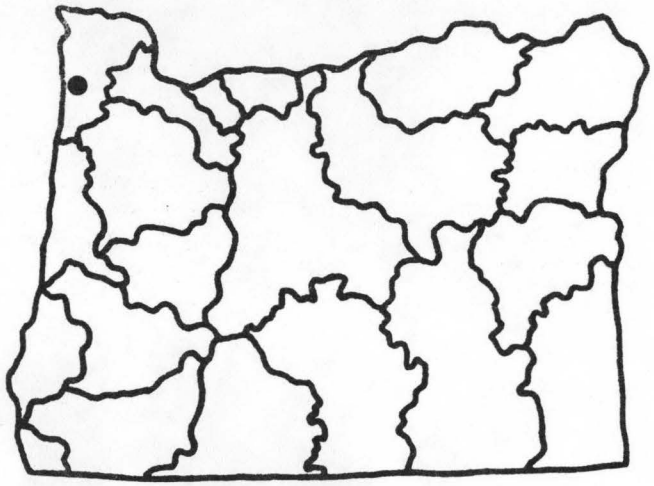
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	50.0	.17	1.48	1.000
80	93.4	.32	2.61	.942
50	436.2	1.48	9.23	.713
30	934.7	3.17	15.15	.546
10	2402.4	8.14	23.87	.335

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 926 CFS





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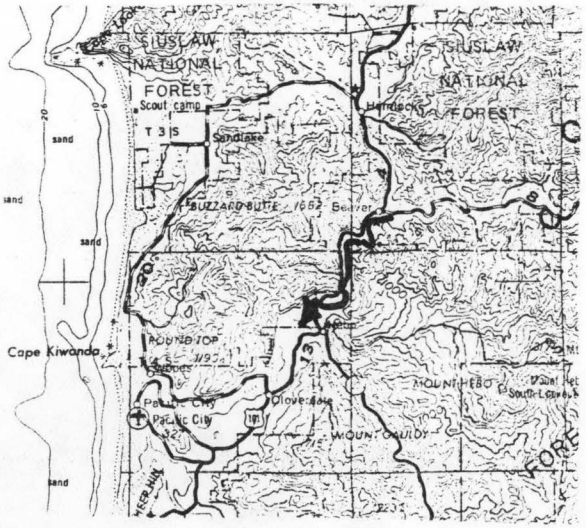


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-006-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S. R9W. Sec.20
D.	Latitude, Longitude	45°18'N,123°50'W
E.	Stream Name	Beaver Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 3.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

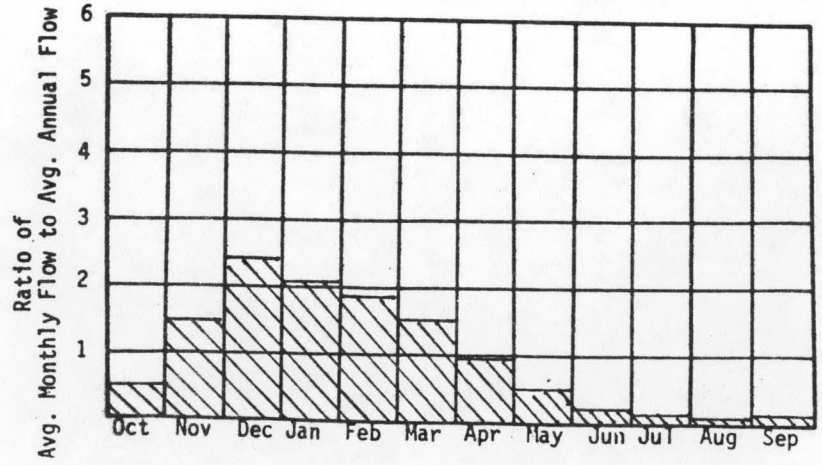
A.	Upstream Elevation of Reach	165	Ft. MSL
B.	Downstream Elevation of Reach	68	Ft. MSL
C.	Total Available Head in Reach	97	Ft.
D.	Average Slope in Reach	31.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	30.1	Sq.Mi.
F.	Inflow Classification	Natural	

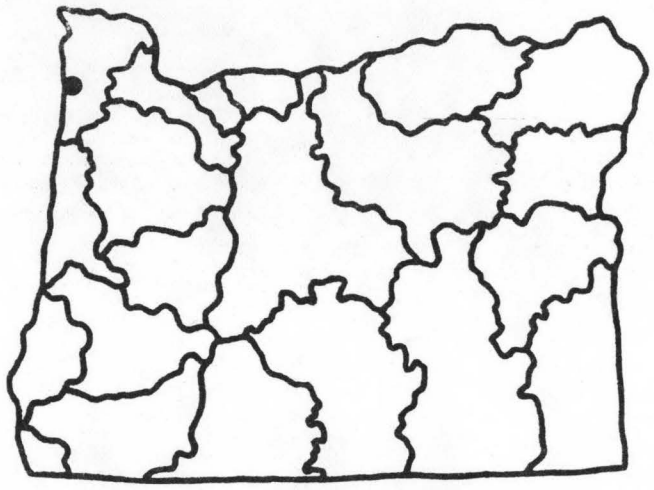
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.6	.07	.62	1.000
80	16.6	.14	1.13	.940
50	73.4	.60	3.78	.716
30	165.5	1.36	6.44	.540
10	424.8	3.49	10.17	.232

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 164 CFS





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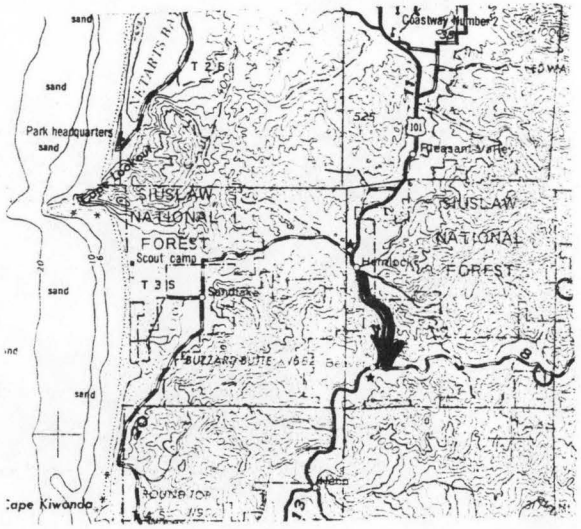


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-006-001-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R9W, Sec.18
D.	Latitude, Longitude	45°19'N,123°50'W
E.	Stream Name	East Beaver Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

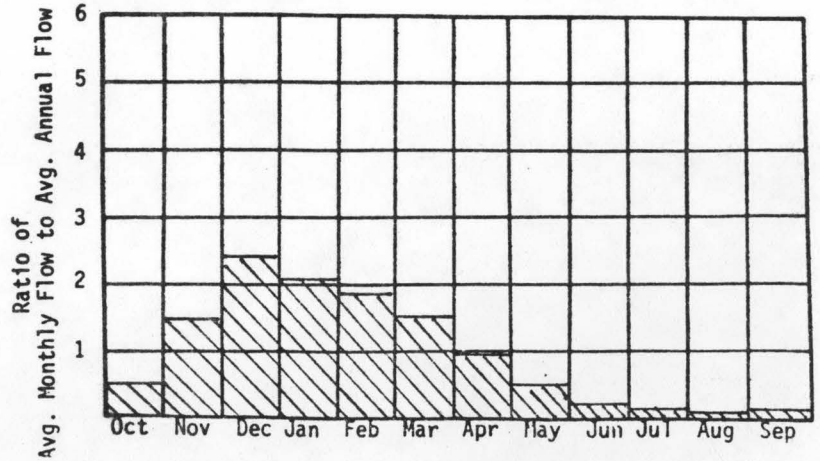
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	11.6	Sq.Mi.
F.	Inflow Classification	Natural	

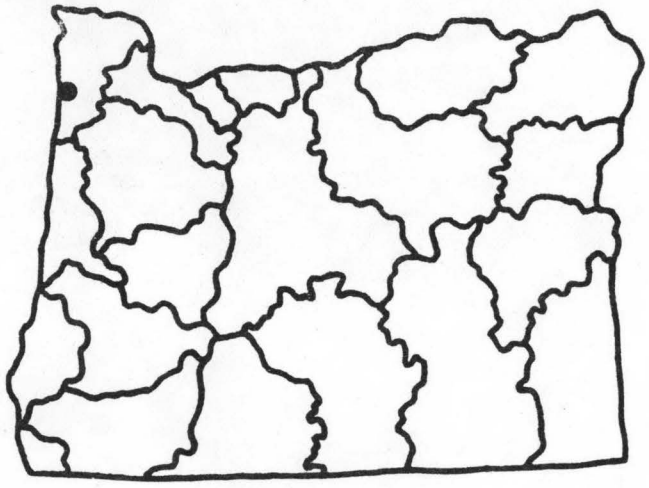
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.5	.02	.17	1.000
80	7.0	.04	.32	.939
50	29.8	.17	1.05	.717
30	69.0	.39	1.82	.537
10	177.0	.99	2.87	.331

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 69 CFS





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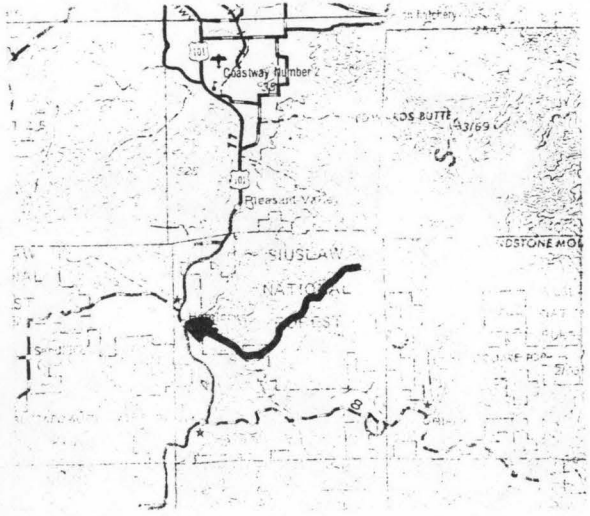
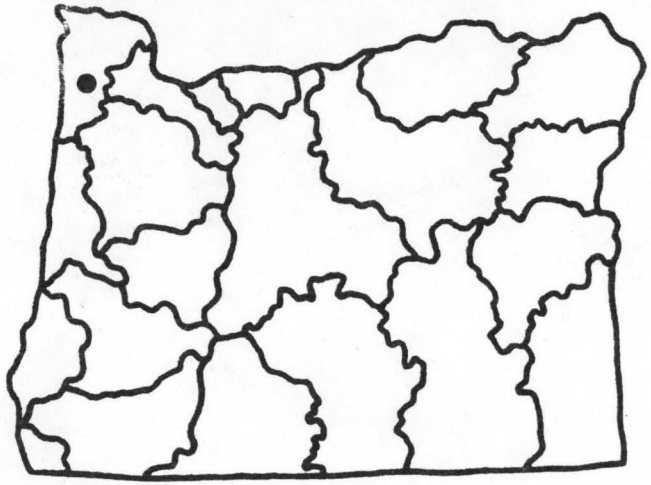


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-006-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R10W, Sec.18
D.	Latitude, Longitude	45°19'N,123°50'W
E.	Stream Name	Beaver Creek
F.	Major Basin Name	North Coast
G.	River Mile	3.1 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach		Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	15.6	Sq.Mi.
F.	Inflow Classification	Natural	

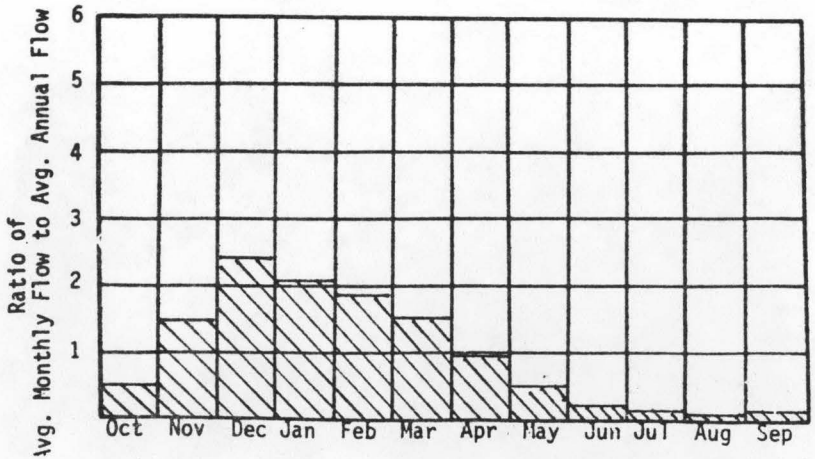
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

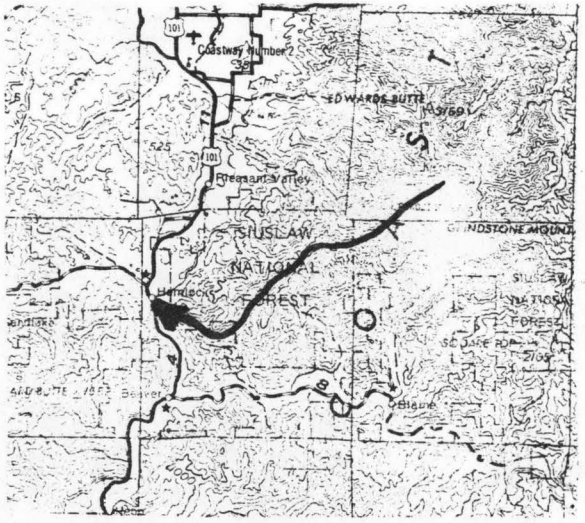
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.7	.03	.23	1.000
80	9.1	.05	.42	.939
50	39.4	.22	1.38	.717
30	90.5	.51	2.38	.538
10	232.0	1.30	3.77	.332

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 90 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-000-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R9W, Sec.27
D.	Latitude, Longitude	45°17'N,123°45'W
E.	Stream Name	Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	15.4 to 24.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

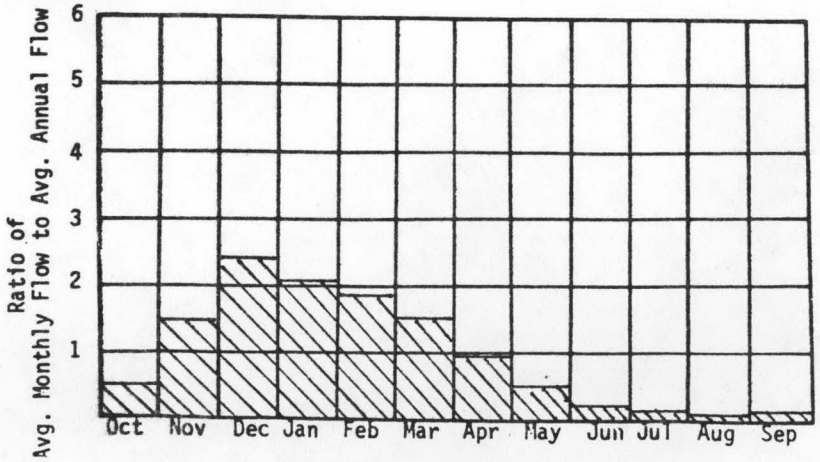
A.	Upstream Elevation of Reach	251	Ft. MSL
B.	Downstream Elevation of Reach	68	Ft. MSL
C.	Total Available Head in Reach	183	Ft.
D.	Average Slope in Reach	20.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	147.2	Sq.Mi.
F.	Inflow Classification	Regulated	

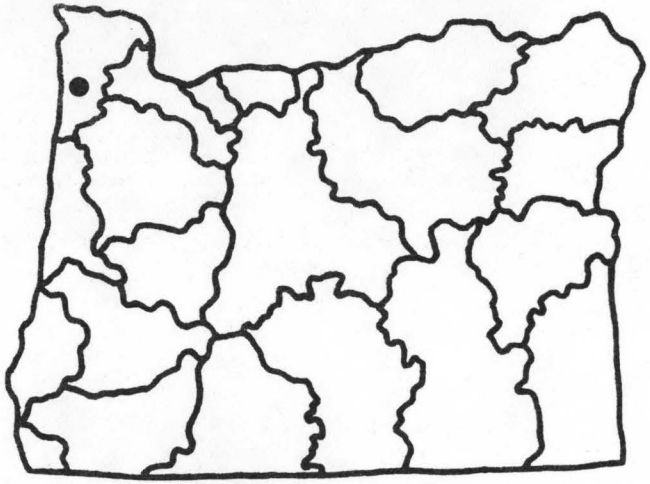
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	34.6	.54	4.71	1.000
80	65.2	1.01	8.34	.941
50	300.8	4.66	29.14	.713
30	651.4	10.10	48.19	.545
10	1673.6	25.96	75.97	.334

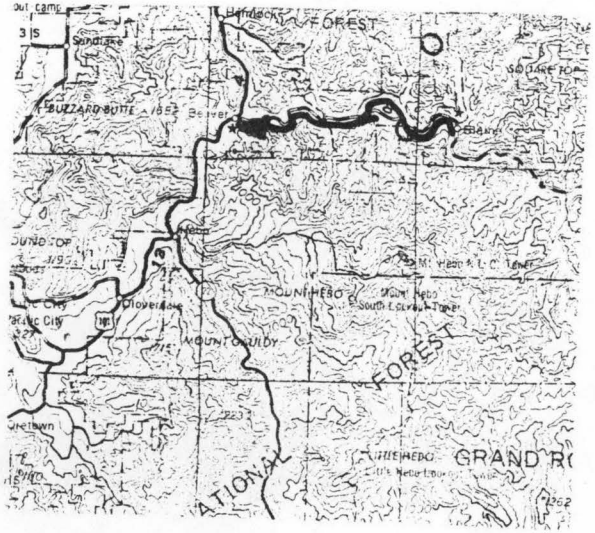
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 646 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-010-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R8W, Sec.29
D.	Latitude, Longitude	45°17'N,123°42'W
E.	Stream Name	Moon Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 0.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

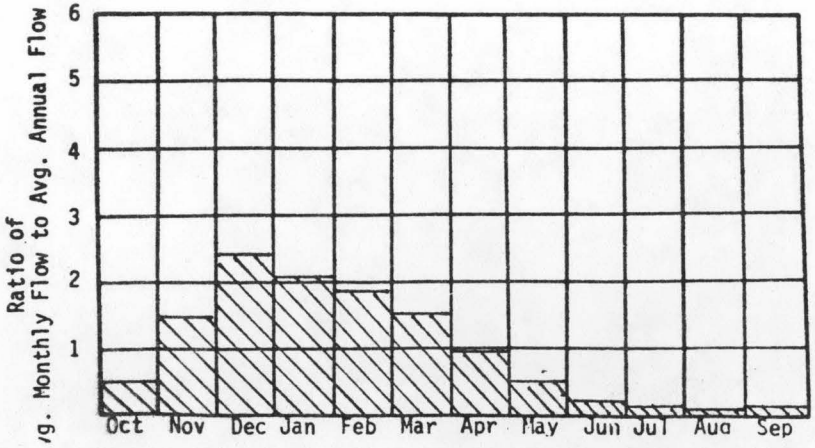
A.	Upstream Elevation of Reach	280	Ft. MSL
B.	Downstream Elevation of Reach	251	Ft. MSL
C.	Total Available Head in Reach	29	Ft.
D.	Average Slope in Reach	57.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	20.0	Sq.Mi.
F.	Inflow Classification	Natural	

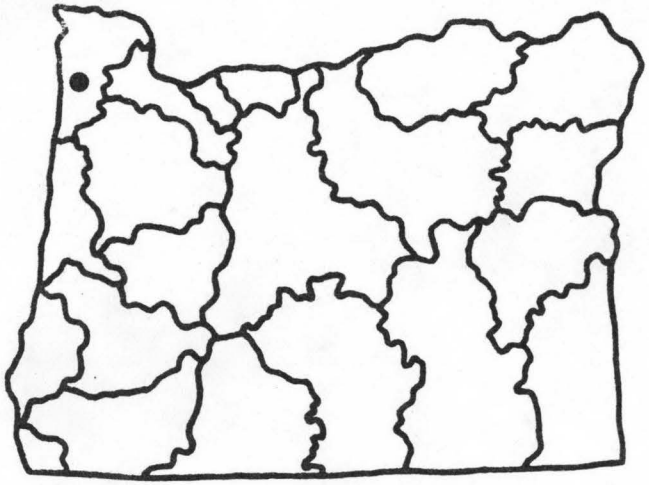
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.4	.01	.12	1.000
80	10.6	.03	.21	.939
50	46.1	.11	.71	.716
30	105.4	.26	1.22	.538
10	270.4	.66	1.93	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 105 CFS





U.S.G.S. TOPO. SERIES
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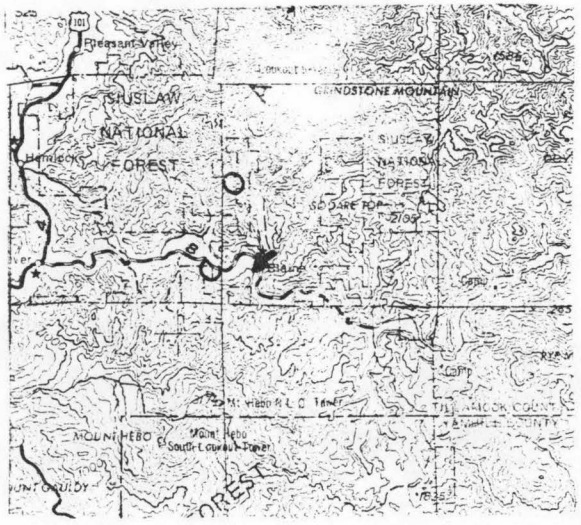
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-010-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R8W, Sec.29
D.	Latitude, Longitude	45°18'N,123°41'W
E.	Stream Name	Moon Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

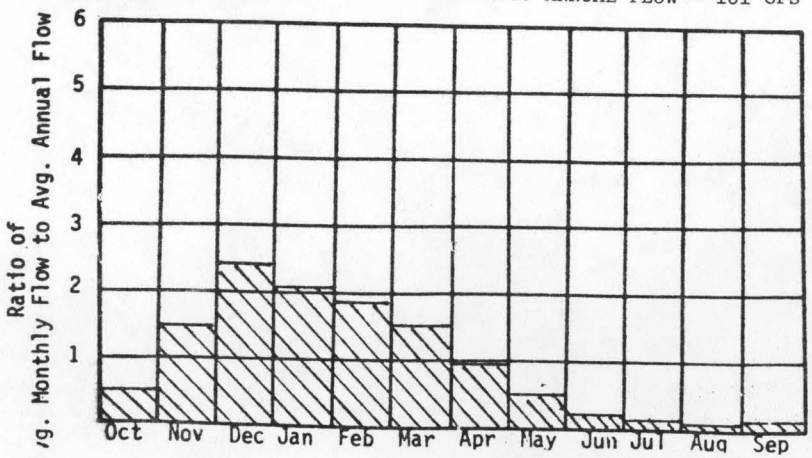
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	18.3	Sq.Mi.
F.	Inflow Classification	Natural	

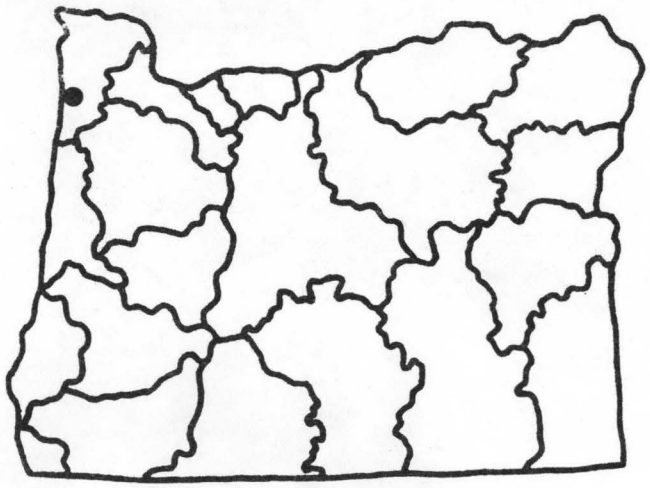
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.2	.03	.26	1.000
80	10.2	.06	.47	.939
50	44.3	.25	1.55	.717
30	101.3	.57	2.67	.538
10	259.8	1.45	4.23	.332

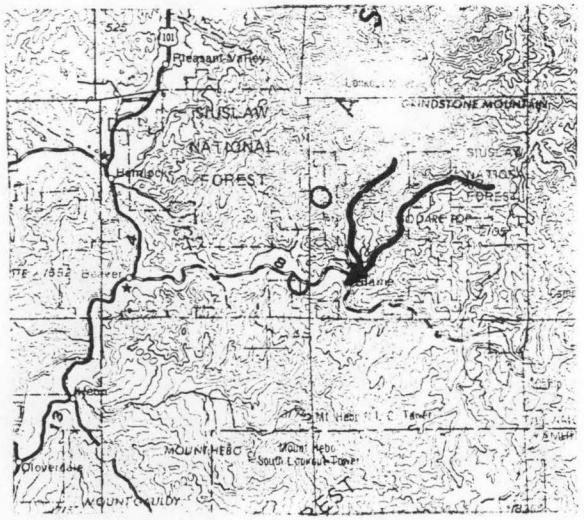
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 101 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-000-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R8W, Sec.34
D.	Latitude, Longitude	45°16'N,123°40'W
E.	Stream Name	Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	24.3 to 29.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

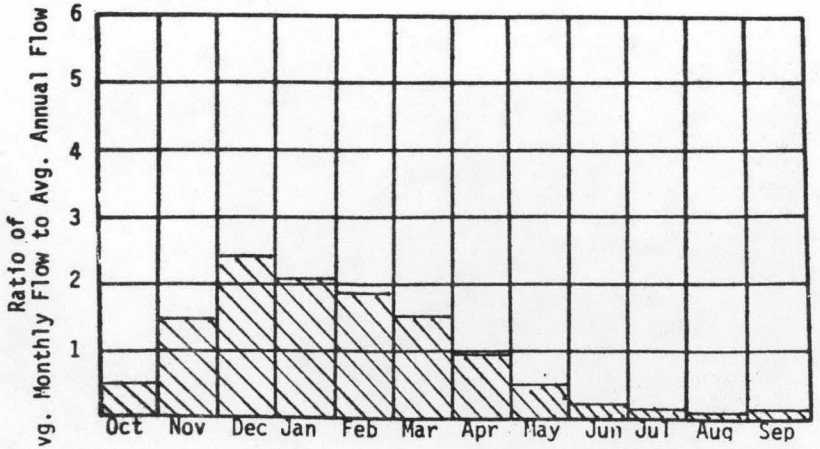
A.	Upstream Elevation of Reach	423	Ft. MSL
B.	Downstream Elevation of Reach	251	Ft. MSL
C.	Total Available Head in Reach	172	Ft.
D.	Average Slope in Reach	32.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	99.6	Sq.Mi.
F.	Inflow Classification	Regulated	

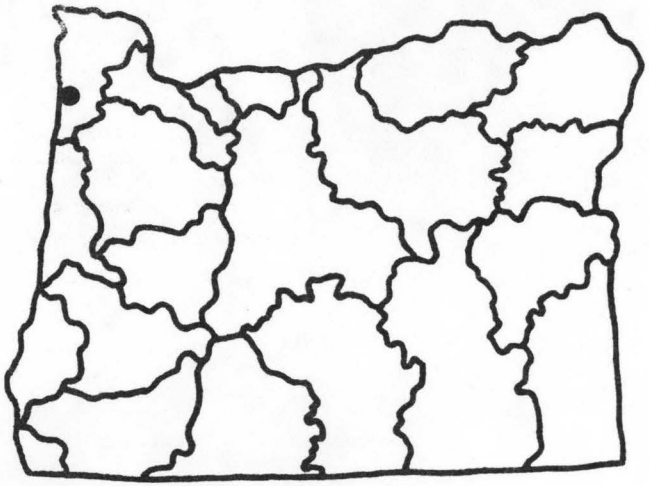
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	23.2	.34	2.97	1.000
80	44.1	.64	5.30	.941
50	200.9	2.93	18.31	.714
30	440.2	6.42	30.53	.543
10	1130.5	16.48	48.16	.334

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 436 CFS





U.S.G.S. TOPO. SERIES
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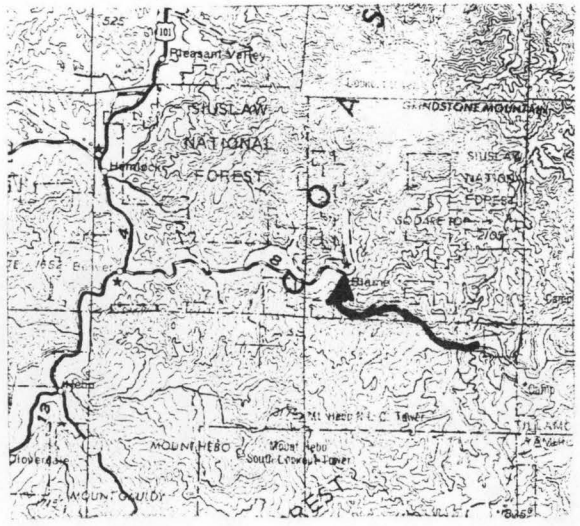


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-000-000-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T4S, R7W, Sec.6
D.	Latitude, Longitude	45°15'N,123°35'W
E.	Stream Name	Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	29.6 to 38.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

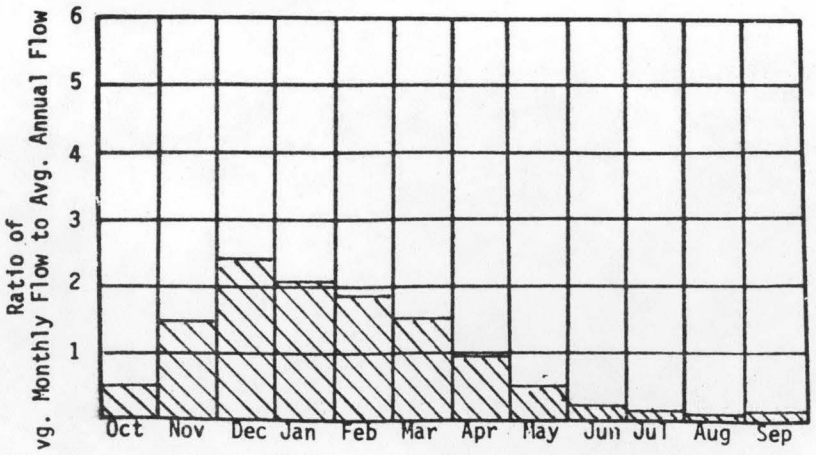
A.	Upstream Elevation of Reach	895	Ft. MSL
B.	Downstream Elevation of Reach	423	Ft. MSL
C.	Total Available Head in Reach	472	Ft.
D.	Average Slope in Reach	53.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	75.0	Sq.Mi.
F.	Inflow Classification	Regulated	

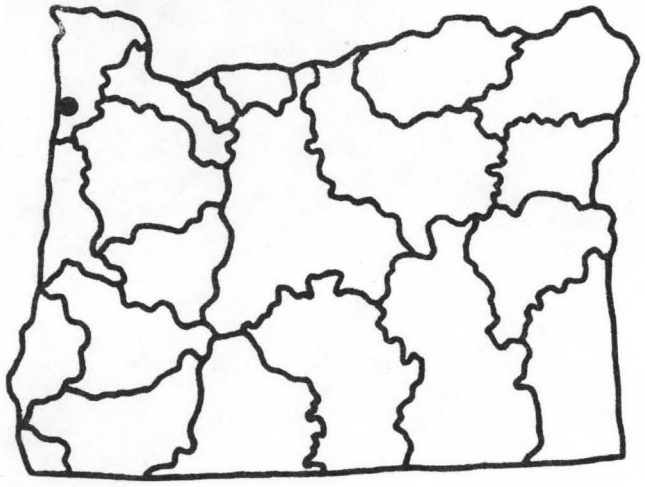
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.5	.58	5.10	1.000
80	27.8	1.11	9.17	.940
50	125.0	5.00	31.30	.715
30	277.6	11.10	52.69	.542
10	712.7	28.51	83.18	.333

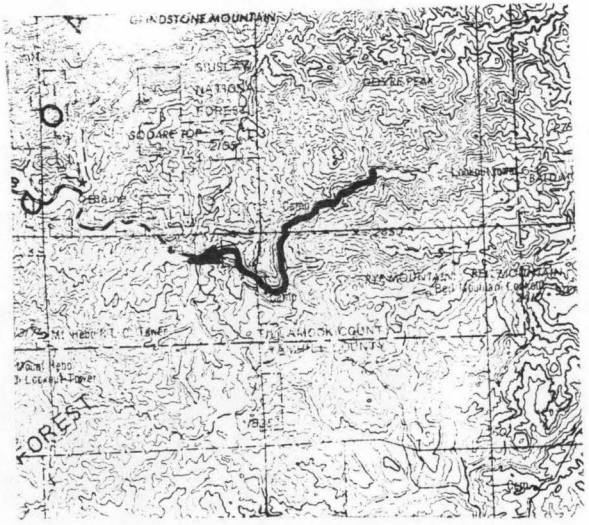
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 276 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-016-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R7W, Sec.27
D.	Latitude, Longitude	45°17'N,123°32'W
E.	Stream Name	Elk Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

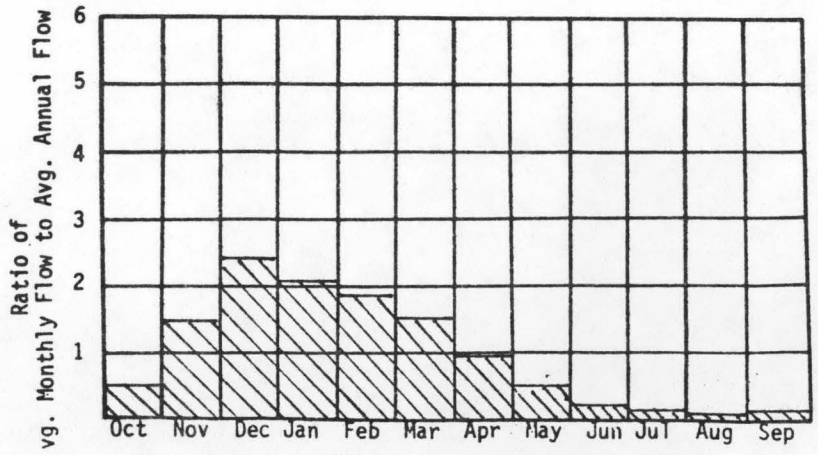
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10.7	Sq.Mi.
F.	Inflow Classification	Natural	

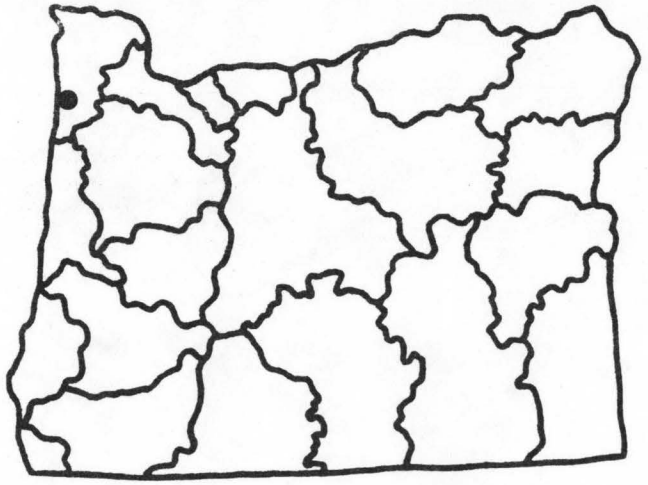
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.2	.02	.16	1.000
80	6.4	.04	.29	.938
50	27.3	.15	.96	.717
30	63.4	.35	1.67	.537
10	162.5	.91	2.64	.331

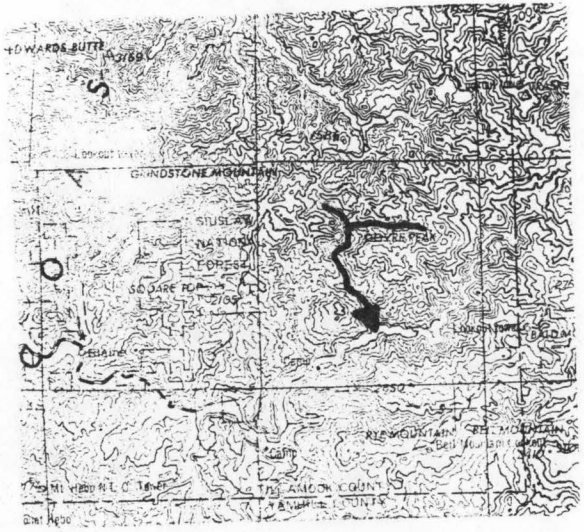
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 63 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

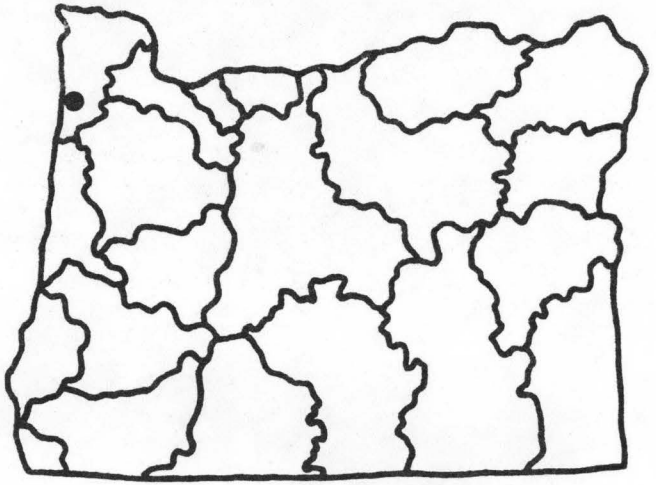


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-000-000-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T3S, R7W, Sec.26
D.	Latitude, Longitude	45°17'N,123°30'W
E.	Stream Name	Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	38.5 to 42.4



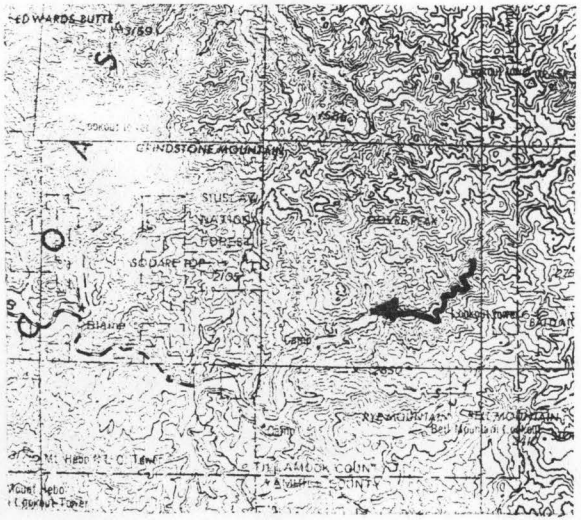
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1176	Ft. MSL
B.	Downstream Elevation of Reach	895	Ft. MSL
C.	Total Available Head in Reach	281	Ft.
D.	Average Slope in Reach	72.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	27.9	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

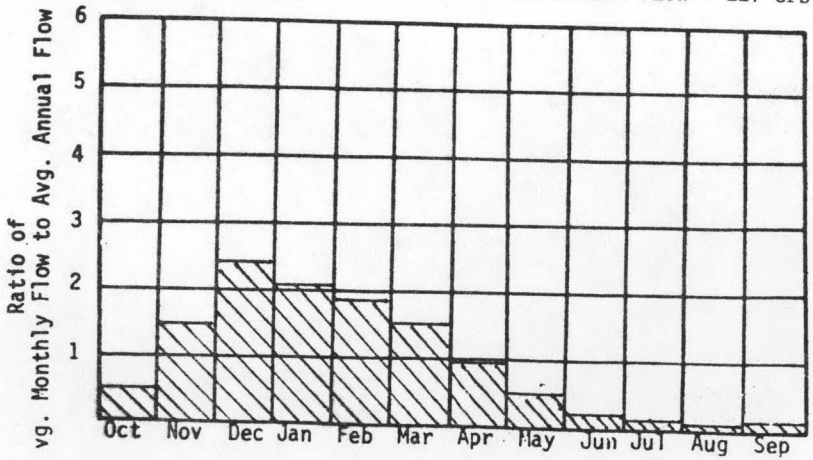
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.1	.14	1.26	1.000
80	11.8	.28	2.31	.939
50	51.6	1.23	7.70	.716
30	117.4	2.80	13.20	.539
10	301.2	7.17	20.87	.332

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 117 CFS

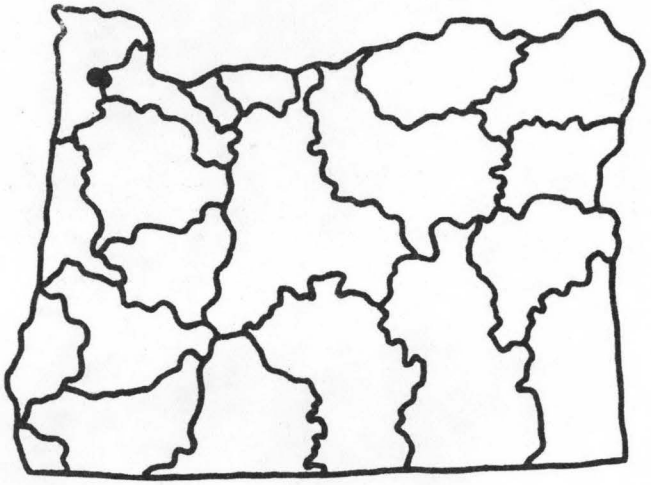


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-545-000-000-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Tillamook-Yamhill
C.	Township, Range	T3S, R6W, Sec.24
D.	Latitude, Longitude	45°19'N,123°30'W
E.	Stream Name	Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	42.4 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	19.2	Sq.Mi.
F.	Inflow Classification	Regulated	

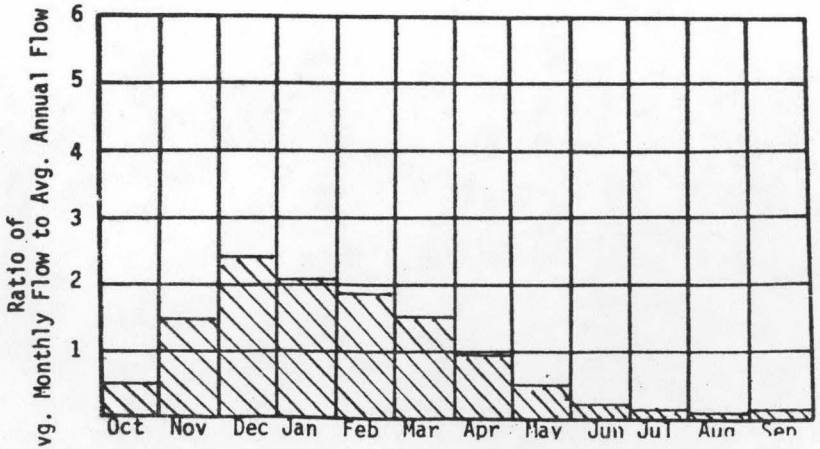
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

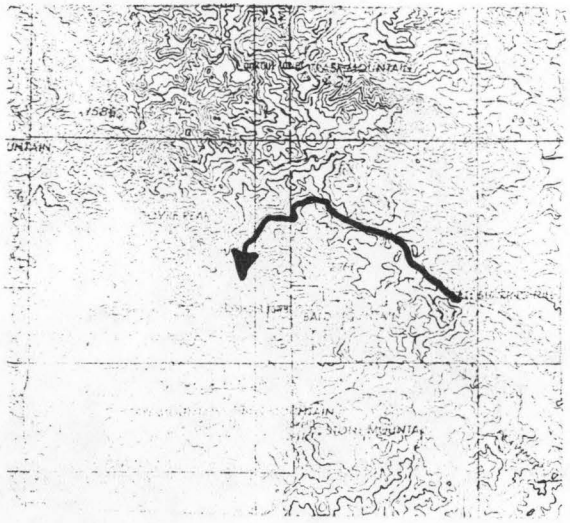
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.03	.24	1.000
80	9.7	.05	.45	.939
50	42.1	.24	1.48	.717
30	96.4	.54	2.54	.538
10	247.2	1.38	4.02	.332

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 96 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-550-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T5S, R10W, Sec.16
D.	Latitude, Longitude	45°08'N,123°55'W
E.	Stream Name	Little Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 7.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

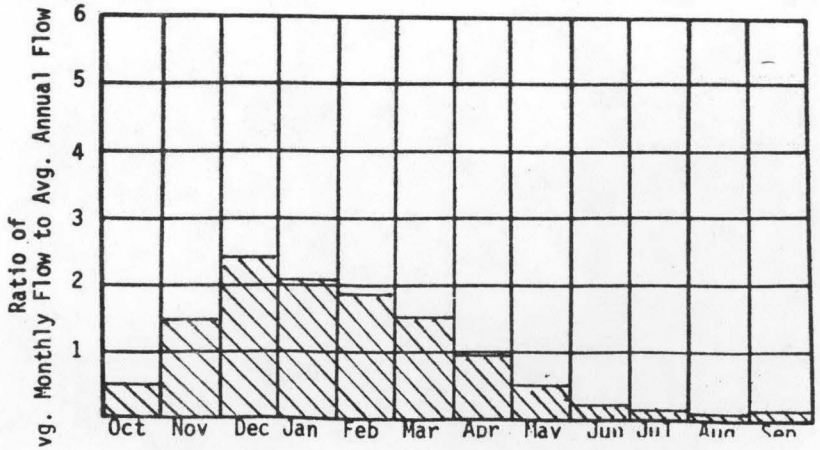
A.	Upstream Elevation of Reach	242	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	242	Ft.
D.	Average Slope in Reach	34.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	59	Sq.Mi.
F.	Inflow Classification	Natural	

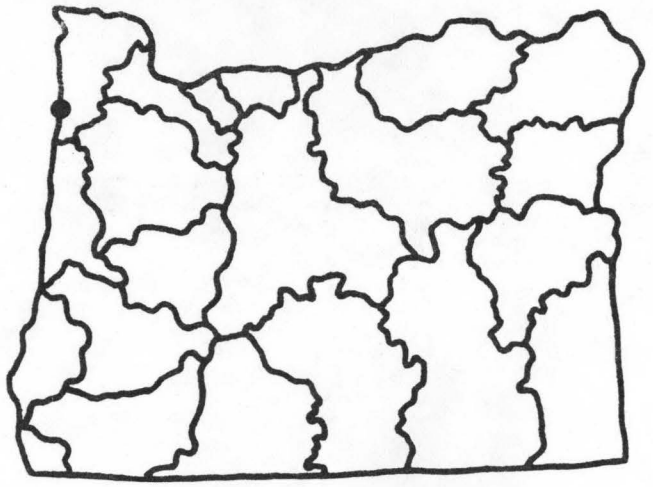
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.2	.25	2.19	1.000
80	23.4	.48	3.95	.940
50	104.3	2.14	13.40	.715
30	232.9	4.78	22.64	.541
10	597.9	12.26	35.76	.333

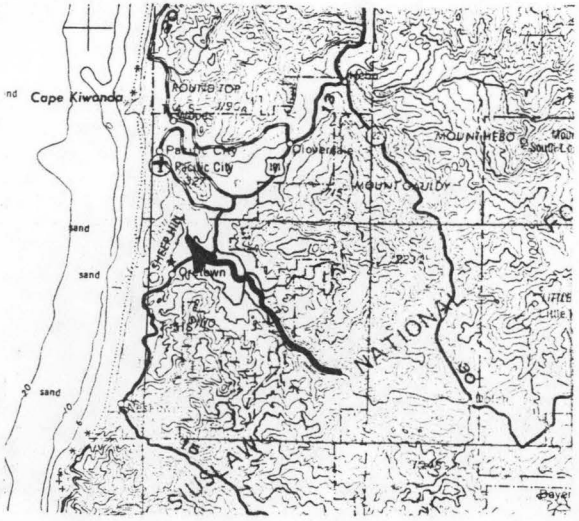
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 231 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-550-000-000-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T5S, R9W, Sec.30
D.	Latitude, Longitude	45°07'N,123°50'W
E.	Stream Name	Little Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	7.0 to 11.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

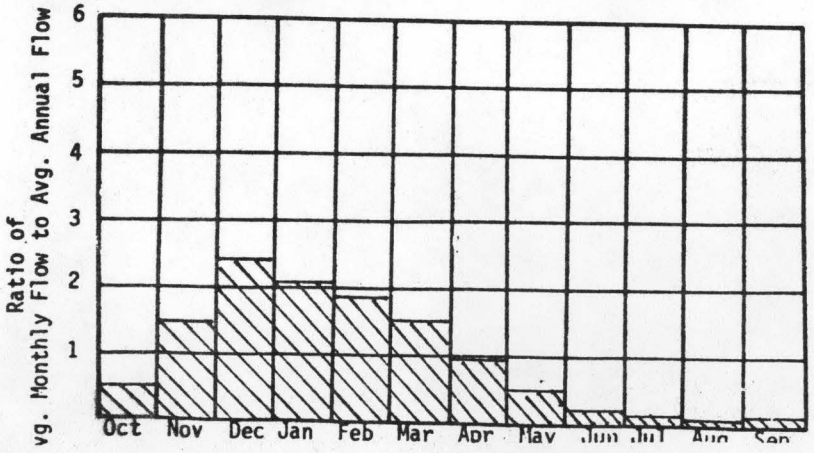
A.	Upstream Elevation of Reach	410	Ft. MSL
B.	Downstream Elevation of Reach	242	Ft. MSL
C.	Total Available Head in Reach	168	Ft.
D.	Average Slope in Reach	100	Ft./Mi.
E.	Drainage Area above Reach Mouth	35.6	Sq.Mi.
F.	Inflow Classification	Natural	

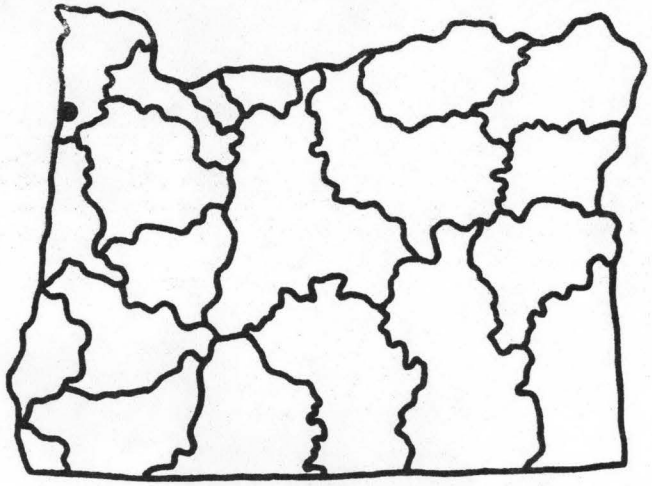
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.7	.09	.83	1.000
80	12.9	.18	1.52	.939
50	56.7	.81	5.06	.716
30	128.8	1.83	8.66	.539
10	330.5	4.71	13.69	.332

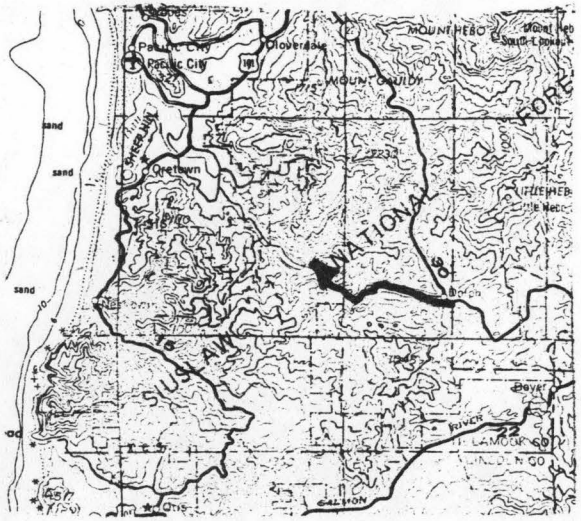
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 128 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-550-000-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T6S, R9W, Sec.28
D.	Latitude, Longitude	45°07'N,123°47'W
E.	Stream Name	Little Nestucca River
F.	Major Basin Name	North Coast
G.	River Mile	11.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

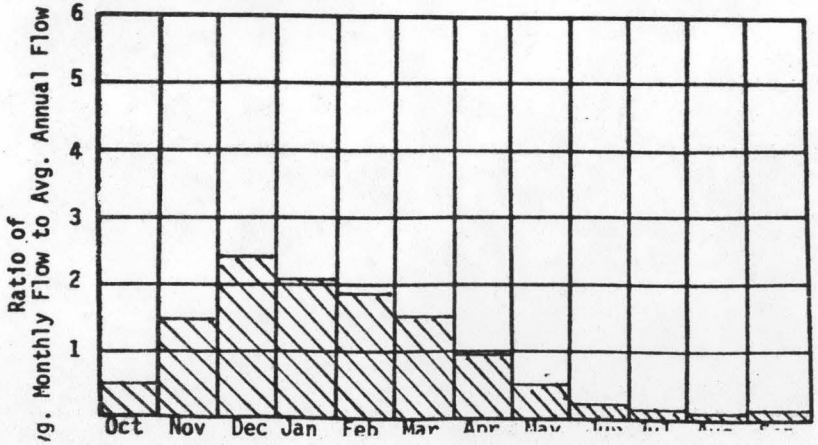
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	18.2	Sq.Mi.
F.	Inflow Classification	Natural	

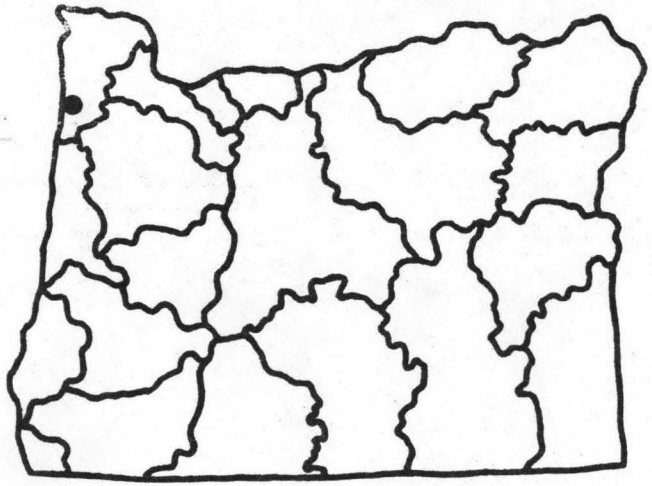
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.4	.02	.21	1.000
80	8.6	.05	.39	.939
50	37.1	.21	1.30	.717
30	85.2	.48	2.24	.538
10	218.5	1.22	3.55	.332

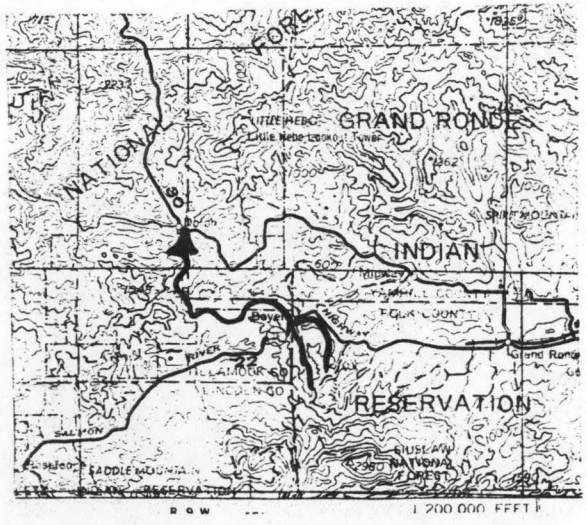
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 85 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-555-000-000-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Tillamook
C.	Township, Range	T5S. R11W. Sec.36
D.	Latitude, Longitude	45°06'N.123°57'W
E.	Stream Name	Neskowin Creek
F.	Major Basin Name	North Coast
G.	River Mile	0.0 to 1.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

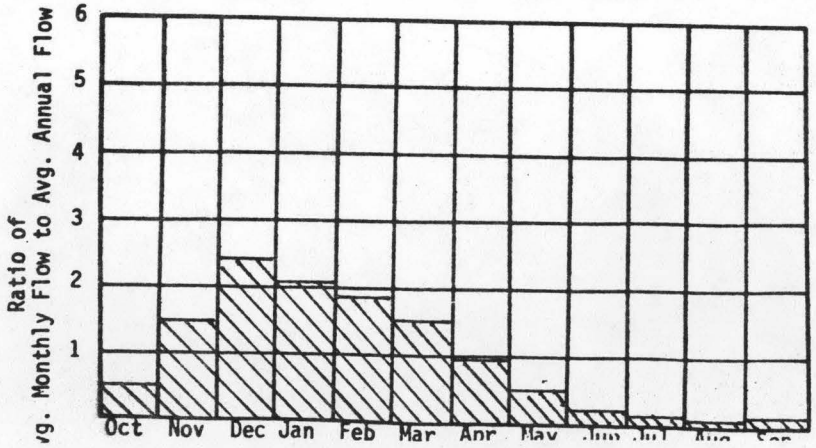
A.	Upstream Elevation of Reach	50	Ft. MSL
B.	Downstream Elevation of Reach	0	Ft. MSL
C.	Total Available Head in Reach	50	Ft.
D.	Average Slope in Reach	27.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	21	Sq.Mi.
F.	Inflow Classification	Natural	

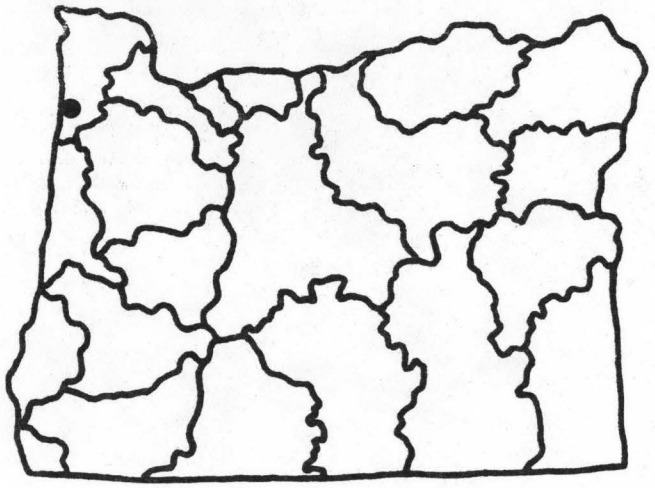
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.02	.18	1.000
80	9.4	.04	.33	.939
50	40.6	.17	1.08	.717
30	93.2	.39	1.86	.538
10	239.0	1.01	2.94	.332

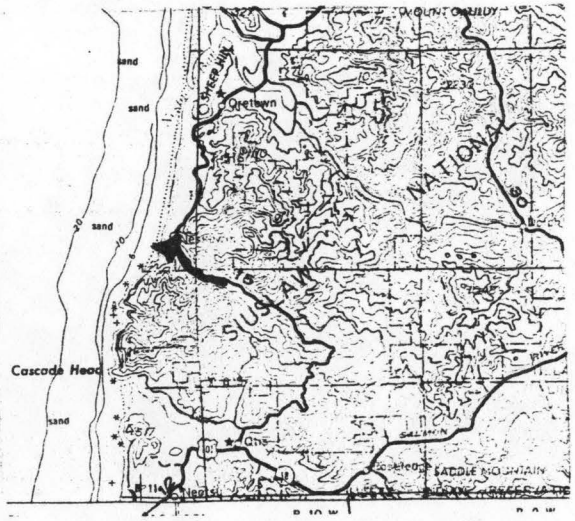
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 92 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-555-000-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Tillamook	
C. Township, Range	T6S, R10W, Sec.36	
D. Latitude, Longitude	45°06'N,123°58'W	
E. Stream Name	Neskowin River	
F. Major Basin Name	North Coast	
G. River Mile	1.8 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

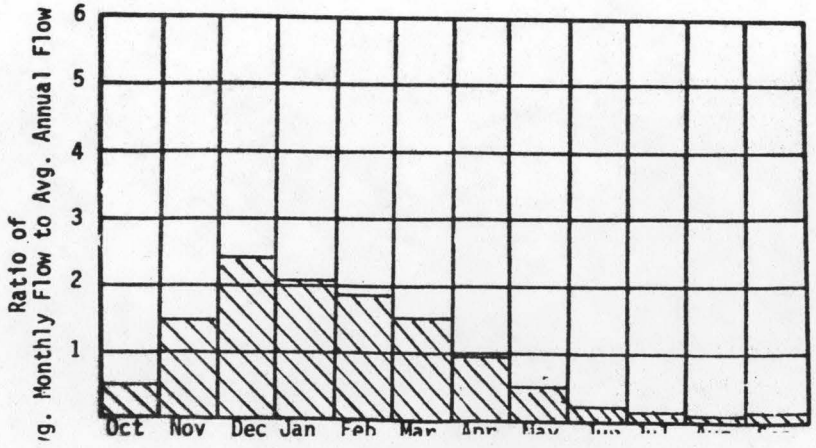
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	14.0	Sq.Mi.
F. Inflow Classification	Natural	

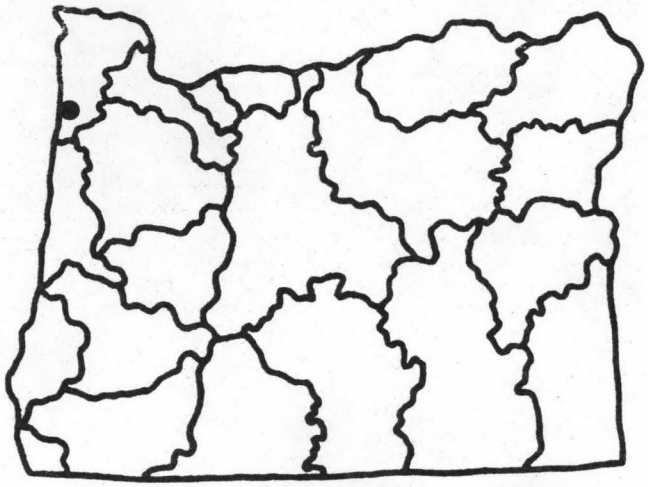
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.9	.02	.19	1.000
80	7.6	.04	.35	.939
50	32.9	.18	1.16	.717
30	75.9	.42	2.00	.537
10	194.6	1.09	3.16	.332

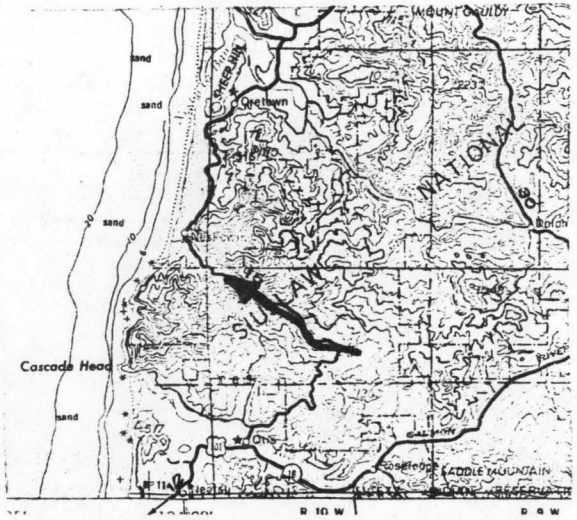
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 75 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-								
003-000-000-R0001	X	X	X	X	1.2	115-PPL	1,2	6.0
003-000-000-R0002	-	X	-	X	1.9	115-PPL	1,2	2.5
003-000-000-R0003	-	-	-	X	5.4	115-PPL	1,2	6.0
005-000-000-R0001	X	X	X	X	0.2	115-PPL	1,2	1.0
005-000-000-R0002	-	X	X	X	1.0	230-B	1,2	4.8
005-006-000-R0001	-	X	X	X	4.8	115-PPL	-	9.0
005-006-002-R0001	-	X	X	X	5.2	230-B	-	8.8
005-006-002-R0002	-	X	X	X	5.2	230-B	-	9.0
005-006-003-R0001	-	X	-	X	6.2	115-PPL	-	9.0
005-006-003-R0002	-	X	-	-	7.6	115-PPL	-	10.0
005-000-000-R0003	X	-	-	X	3.8	115-PPL	-	6.8
005-000-000-R0004	-	-	-	-	7.0	115-PPL	-	8.8
011-000-000-R0001	-	X	X	X	1.8	230-B	1,2	13.8

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-								
011-000-000-R0002	-	-	-	X	5.4	230-B	-	17.0
013-000-000-R0001	-	-	-	X	4.0	115-B	-	15.0
013-000-000-R0002	-	-	-	X	1.3	115-B	-	15.8
015-000-000-R0001	-	X	X	X	1.5	115-B	1	1.2
015-000-000-R0002	-	-	X	X	1.8	2-230-B	-	5.8
015-000-000-R0003	-	-	X	X	2.8	2-230-B	-	7.0
017-000-000-R0001	-	X	X	X	1.8	115-B	1	5.0
017-000-000-R0002	-	X	X	-	1.7	115-B	-	2.8
02-505-								
000-000-000-R0001	-	X	X	X	0.3	115-PPL	1,2	1.8
000-000-000-R0002	-	X	X	X	0.8	115-PPL	1,2	5.0
000-000-000-R0003	-	X	X	X	2.2	115-PPL	-	8.2
000-000-000-R0004	-	X	X	X	4.0	115-PPL	-	9.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-510-								
000-000-000-R0001	-	-	X	X	0.1	115-PPL	-	7.0
000-000-000-R0002	-	-	-	X	0.8	115-PPL	-	7.5
02-515-								
000-000-000-R0001	-	X	X	X	2.6	115-PPL	-	18.8
002-000-000-R0001	-	X	X	X	0.8	115-PPL	-	15.0
002-000-000-R0002	-	-	X	X	6.8	115-PPL	-	16.0
002-000-000-R0003	-	-	-	X	8.2	34.5 WO	-	14.2
000-000-000-R0002	-	X	X	X	1.5	115-PPL	-	19.0
005-000-000-R0001	-	X	X	X	0.1	115-PPL	-	21.0
000-000-000-R0003	-	X	X	X	2.2	115-PPL	-	16.8
009-000-000-R0001	-	-	X	X	6.0	115-PPL	-	16.8
009-000-000-R0002	-	-	-	X	7.8	115-PPL	-	17.3
000-000-000-R0004	-	X	X	X	5.5	115-PPL	-	20.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-515-								
013-000-000-R0001	-	X	X	X	9.0	115-PPL	-	23.0
013-001-000-R0001	-	-	-	X	4.0	34.5 WO	-	16.5
013-001-000-R0002	-	-	-	-	2.7	34.5 WO	-	14.0
013-000-000-R0002	-	X	X	X	4.0	25 TP	-	18.5
013-000-000-R0003	-	X	-	X	4.8	25 TP	-	18.0
000-000-000-R0005	-	-	-	X	8.0	34.5 WO	-	24.0
017-000-000-R0001	-	-	-	X	8.0	34.5 WO	-	20.0
000-000-000-R0006	-	-	X	X	4.0	34.5 WO	-	18.2
020-000-000-R0001	-	X	X	X	2.2	34.5 WO	-	17.0
020-000-000-R0002	-	-	-	X	5.5	34.5 WO	-	15.5
000-000-000-R0007	-	-	X	X	1.0	34.5 WO	-	18.4
023-000-000-R0001	-	-	-	X	4.8	2-230-B	-	16.4
000-000-000-R0008	-	-	X	X	5.0	34.5 WO	-	16.2

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-515-								
026-000-000-R0001	-	X	X	X	4.8	34.5 WO	-	16.8
026-001-000-R0001	-	-	X	X	5.0	34.5 WO	-	18.0
026-001-000-R0002	-	-	-	X	6.0	34.5 WO	-	18.0
026-000-000-R0002	-	X	X	X	4.0	34.5 WO	-	17.0
026-000-000-R0003	-	X	X	X	3.2	34.5 WO	-	17.5
000-000-000-R0009	-	X	X	X	7.0	34.5 WO	-	14.8
000-000-000-R0010	-	X	X	X	12.0	34.5 WO	-	13.0
000-000-000-R0012	-	X	X	X	12.0	500-B	-	10.0
000-000-000-R0013	-	X	X	X	5.0	500-B	-	6.0
040-000-000-R0001	-	-	X	X	1.2	34.5 WO	1	3.2
040-000-000-R0002	-	-	X	X	1.2	500-B	1	4.2
000-000-000-R0015	-	X	X	X	1.2	34.5 WO	1	2.0
049-000-000-R0001	-	X	X	X	2.8	34.5 WO	1	4.2

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-515-								
049-000-000-R0002	-	X	X	X	4.0	34.5 WO	-	8.8
049-000-000-R0003	-	X	X	X	2.7	34.5 WO	-	12.0
049-000-000-R0004	-	X	X	X	1.2	34.5 WO	-	14.0
000-000-000-R0016	-	X	X	X	0.2	34.5 WO	1	2.0
000-000-000-R0017	-	X	X	X	0.6	34.5 WO	1	6.5
000-000-000-R0018	-	X	X	X	0.1	115-B	-	9.5
000-000-000-R0019	-	X	X	X	0.1	115-B	-	12.0
02-520-								
000-000-000-R0001	-	X	X	X	0.8	115-PPL	1,2	8.2
000-000-000-R0002	-	-	-	X	0.1	115-PPL	1,2	11.0
000-000-000-R0003	-	-	-	X	2.6	115-PPL	-	12.2
02-525-								
000-000-000-R0001	-	-	X	X	0.1	115-PPL	1,2	4.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-525-								
001-000-000-R0001	-	-	-	X	3.8	115-PPL	-	6.4
001-000-000-R0002	-	-	-	X	4.0	115-PPL	-	7.0
000-000-000-R0002	-	-	-	X	3.0	115-PPL	-	8.6
005-000-000-R0001	-	-	-	X	5.2	115-PPL	-	11.0
008-000-000-R0001	-	-	-	X	5.8	115-PPL	-	12.5
008-000-000-R0002	-	-	-	X	6.8	115-B	-	13.0
02-530-								
000-000-000-R0001	-	X	X	X	0.3	115-B	1,2	2.0
002-000-000-R0001	-	-	-	X	1.0	115-B	-	6.0
002-000-000-R0002	-	-	-	X	1.3	115-B	-	7.4
000-000-000-R0002	-	X	X	X	0.5	25 TP	-	8.6
000-000-000-R0003	-	X	-	X	0.3	115-B	-	12.5
005-000-000-R0001	-	-	-	X	2.2	25 TP	-	15.2

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-530-								
005-000-000-R0002	-	-	-	X	3.0	25 TP	-	16.8
000-000-000-R0004	-	X	-	X	0.2	25 TP	-	14.2
008-000-000-R0001	-	-	-	X	0.1	115-B	-	15.8
000-000-000-R0005	-	X	-	X	0.3	115-B	-	15.4
012-000-000-R0001	-	-	X	X	1.0	115-B	-	17.5
012-002-000-R0001	-	-	-	X	1.5	25 TP	-	18.4
012-000-000-R0002	-	-	-	X	1.5	25 TP	-	18.4
000-000-000-R0006	-	X	-	X	0.3	25 TP	-	18.5
000-000-000-R0007	-	X	-	X	1.4	115-B	-	16.5
020-000-000-R0001	-	X	-	X	1.8	115-B	-	15.8
020-000-000-R0002	-	-	-	X	1.5	115-B	-	15.0
023-000-000-R0001	-	-	-	X	1.0	115-B	-	16.2
023-000-000-R0002	-	-	-	X	0.8	115-B	-	15.8

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY > 1000 Miles
02-535-								
000-000-000-R0001	-	X	X	X	0.7	25 TP	1,2	3.0
000-000-000-R0002	-	-	X	X	0.8	25 TP	-	8.0
003-000-000-R0001	-	-	X	X	0.1	25 TP	-	12.0
003-002-000-R0001	-	-	-	X	0.6	25 TP	-	12.2
003-002-000-R0002	-	-	-	X	2.0	115/230-B	-	15.0
003-000-000-R0002	-	-	-	X	0.6	115/230-B	-	17.0
003-000-000-R0003	-	-	-	X	0.2	25 TP	-	12.8
004-000-000-R0001	-	-	-	X	1.3	25 TP	-	13.3
004-003-000-R0001	-	-	-	X	2.0	25 TP	-	13.0
004-000-000-R0002	-	-	-	X	2.0	25 TP	-	13.6
004-006-000-R0001	-	-	-	X	5.0	25 TP	-	16.0
004-008-000-R0001	-	-	-	X	8.0	25 TP	-	16.2
004-008-001-R0001	-	-	-	X	8.0	115/230-B	-	16.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

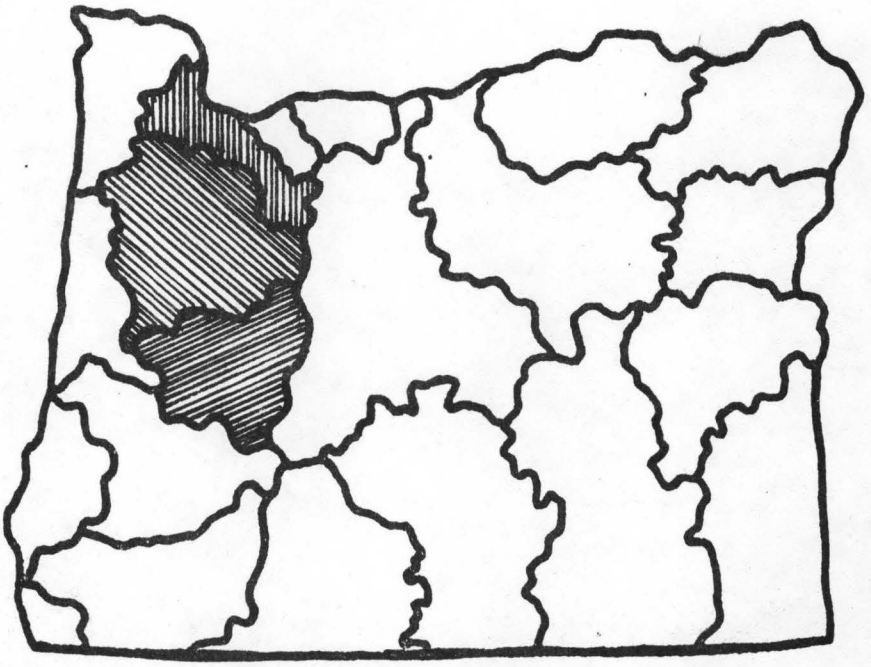
REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-535-								
004-008-001-R0002	-	-	-	X	9.0	25 TP	-	16.0
004-008-000-R0002	-	-	-	X	8.0	25 TP	-	15.5
02-540-								
000-000-000-R0001	-	X	X	X	10.2	25 TP	1,2	1.0
000-000-000-R0002	-	-	X	X	0.8	25 P	1,2	2.5
000-000-000-R0003	-	X	X	X	1.2	25 P	1,2	3.2
000-000-000-R0004	-	-	-	X	0.8	115-B	-	7.0
02-545-								
000-000-000-R0001	-	X	X	X	1.0	115-B	-	7.5
003-000-000-R0001	-	X	X	X	5.5	115-B	-	19.0
003-000-000-R0002	-	-	-	X	1.5	115-B	-	18.0
000-000-000-R0002	-	X	X	X	1.0	115-B	-	14.0
006-000-000-R0001	-	X	X	X	0.8	115-B	-	12.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-545-								
006-001-000-R0001	-	-	-	X	0.8	115-B	-	11.0
006-006-000-R0002	-	X	X	X	0.8	115-B	-	11.0
000-000-000-R0003	-	X	X	X	2.0	115-B	-	13.2
010-000-000-R0001	-	-	X	X	6.5	115-B	-	13.8
010-000-000-R0002	-	-	-	X	6.5	115-B	-	14.0
000-000-000-R0004	-	-	X	X	6.3	115-B	-	15.5
000-000-000-R0005	-	-	-	X	8.0	115/230-B	-	14.3
016-000-000-R0001	-	-	-	X	6.0	115/230-B	-	14.0
000-000-000-R0006	-	-	-	X	6.0	115/230-B	-	13.2
000-000-000-R0007	-	-	-	X	5.0	115/230-B	-	13.8
02-550-								
000-000-000-R0001	-	-	X	X	5.8	115-B	-	23.0
000-000-000-R0002	-	-	X	X	3.0	115-B	-	22.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-550-								
000-000-000-R0003	-	-	X	X	1.8	115-B	-	20.0
02-555-								
000-000-000-R0001	-	X	X	X	4.0	69/115-PPL	-	27.0
000-000-000-R0002	-	X	X	X	3.8	69/115-PPL	-	27.2



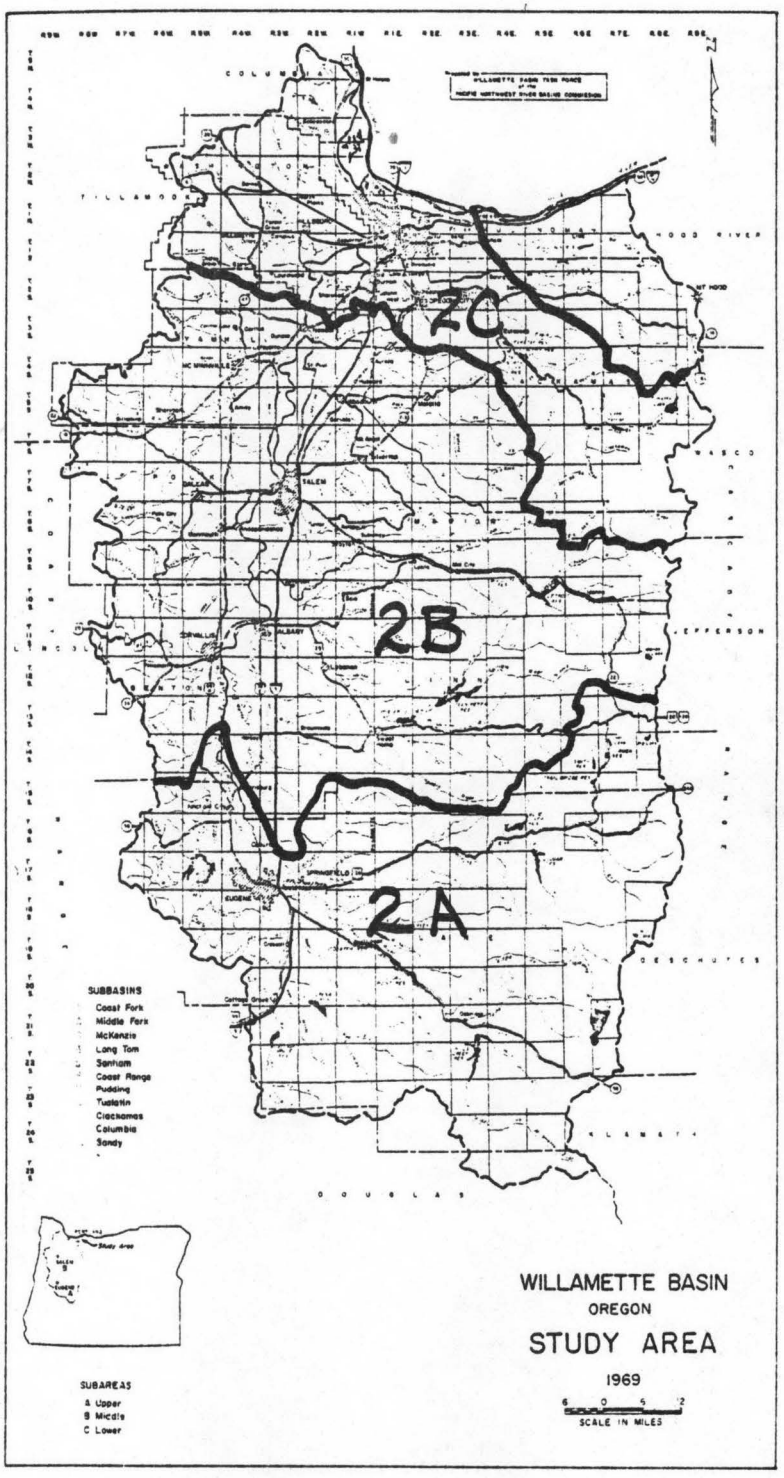
APPENDIX 2
WILLAMETTE BASIN

SUBDIVIDED INTO

2A UPPER WILLAMETTE BASIN

2B MIDDLE WILLAMETTE BASIN

2C LOWER WILLAMETTE BASIN


2C
2B
2A
SUBBASINS
Coast Fork
Middle Fork
McKenzie
Long Tom
Santiam
Coast Range
Pudding
Tualatin
Clackamas
Columbia
Sandy
SUBAREAS
A Upper
B Middle
C Lower
WILLAMETTE BASIN
OREGON
STUDY AREA
1969
SCALE IN MILES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0021

I. LOCATION

A.	State	Oregon
B.	County	Benton/Linn
C.	Township, Range	T13S, R5W, Sec. 31
D.	Latitude, Longitude	44°21'N, 123°15'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	145.8 to 149.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

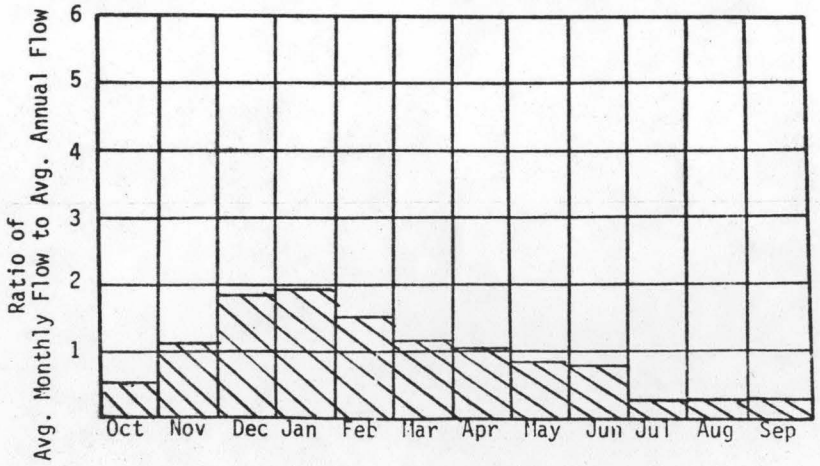
A.	Upstream Elevation of Reach	248	Ft. MSL
B.	Downstream Elevation of Reach	230	Ft. MSL
C.	Total Available Head in Reach	18	Ft.
D.	Average Slope in Reach	5.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	3865	Sq.Mi.
F.	Inflow Classification	Regulated	

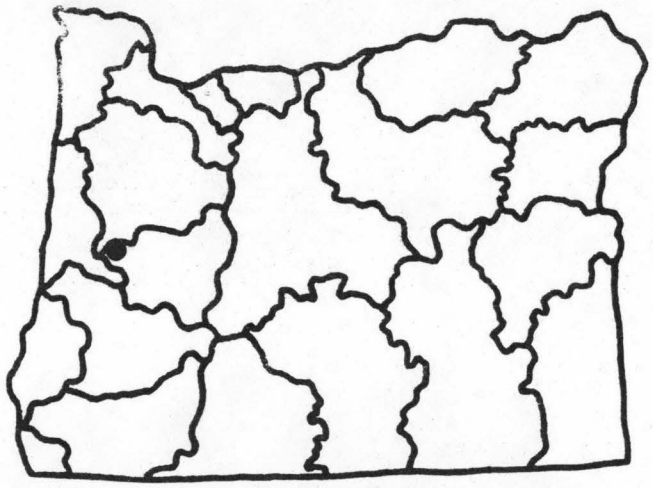
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2109.5	3.22	28.19	1.000
80	3286.9	5.01	41.96	.955
50	7970.2	12.16	82.63	.776
30	13158.4	20.07	110.36	.628
10	26850.7	40.96	146.96	.410

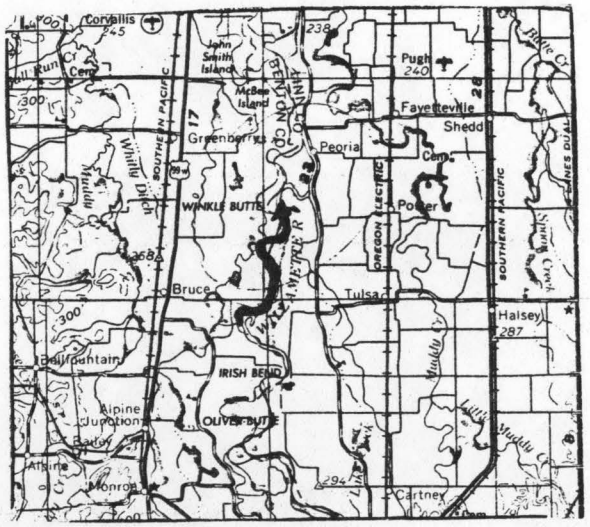
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 11825 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Benton/Lane
C.	Township, Range	T14S, R3W, Sec.13
D.	Latitude, Longitude	44°18'N, 123°16'W
E.	Stream Name	Long Tom River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 10.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

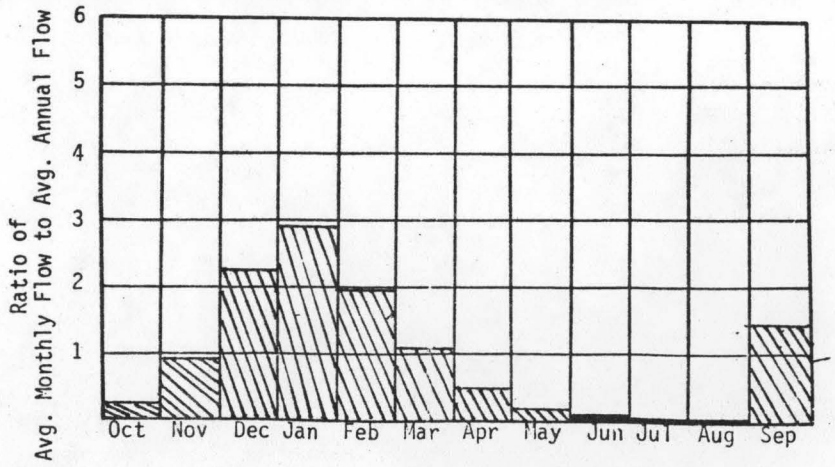
A.	Upstream Elevation of Reach	280	Ft. MSL
B.	Downstream Elevation of Reach	248	Ft. MSL
C.	Total Available Head in Reach	32	Ft.
D.	Average Slope in Reach	3.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	400	Sq.Mi.
F.	Inflow Classification	Regulated	

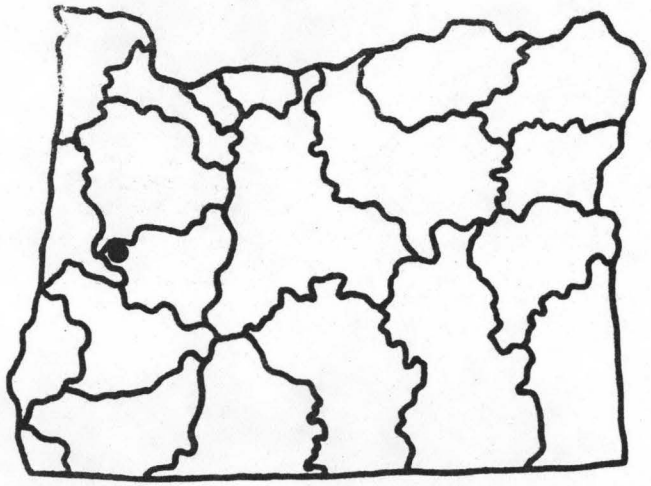
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	67.2	.18	1.60	1.000
80	117.5	.32	2.64	.946
50	366.1	.99	6.48	.745
30	760.4	2.06	10.23	.566
10	1721.5	4.67	14.79	.362

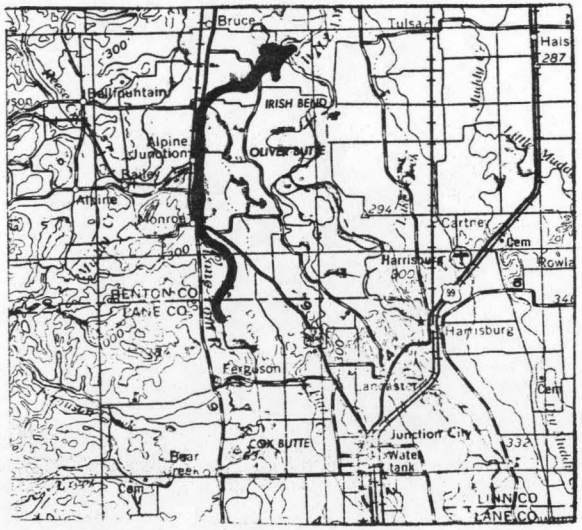
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 738 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R5W, Sec. 15
D.	Latitude, Longitude	44°14'N, 123°17'W
E.	Stream Name	Long Tom River
F.	Major Basin Name	Upper Willamette
G.	River Mile	10.0 to 16.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

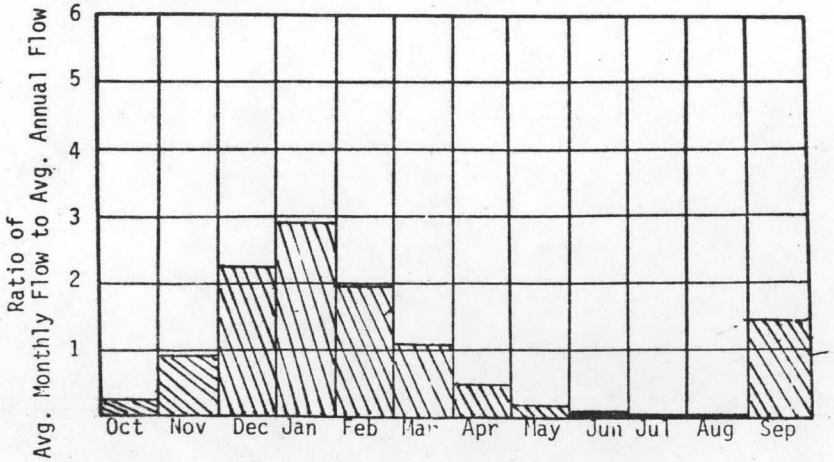
A.	Upstream Elevation of Reach	310	Ft. MSL
B.	Downstream Elevation of Reach	280	Ft. MSL
C.	Total Available Head in Reach	30	Ft.
D.	Average Slope in Reach	4.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	377	Sq.Mi.
F.	Inflow Classification	Regulated	

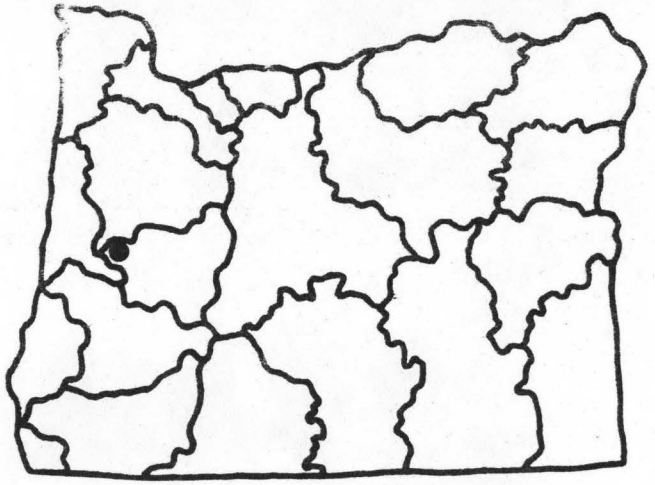
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	75.6	.19	1.68	1.000
80	132.4	.34	2.79	.946
50	403.2	1.03	6.71	.747
30	830.8	2.11	10.52	.569
10	1873.1	4.76	15.16	.363

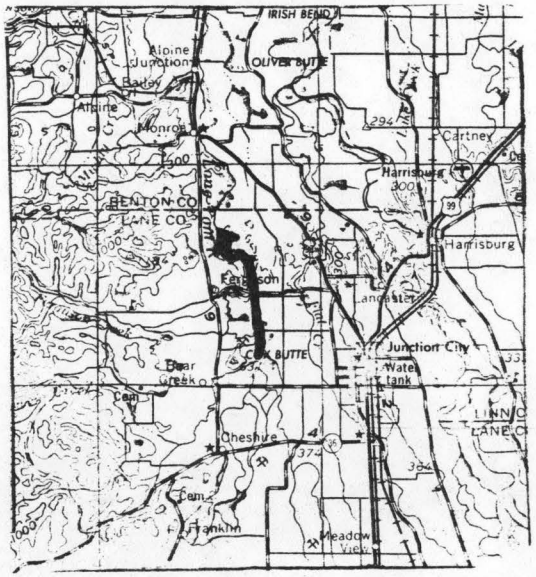
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 805 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R5W, Sec. 35
D.	Latitude, Longitude	44°13'N, 122°16'W
E.	Stream Name	Long Tom River
F.	Major Basin Name	Upper Willamette
G.	River Mile	16.5 to 17.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

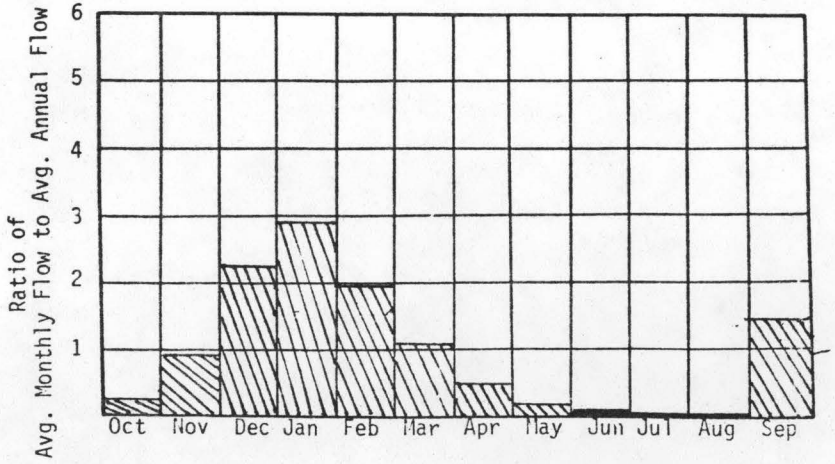
A.	Upstream Elevation of Reach	321	Ft. MSL
B.	Downstream Elevation of Reach	310	Ft. MSL
C.	Total Available Head in Reach	11	Ft.
D.	Average Slope in Reach	13.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	318	Sq.Mi.
F.	Inflow Classification	Regulated	

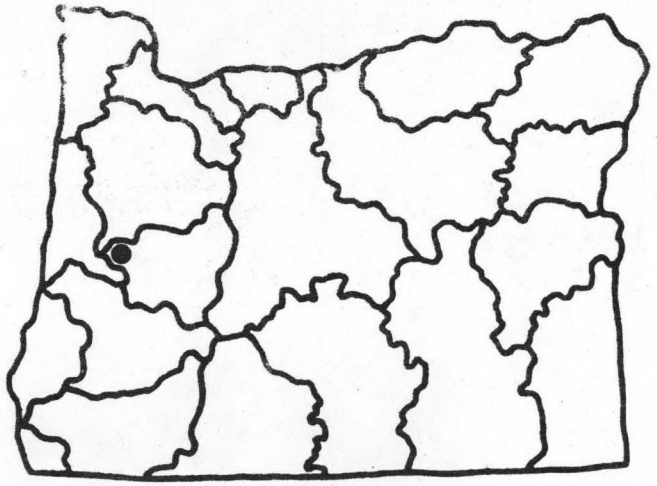
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	62.0	.06	.51	1.000
80	108.3	.10	.84	.947
50	342.5	.32	2.08	.744
30	715.3	.67	3.30	.565
10	1624.4	1.51	4.78	.361

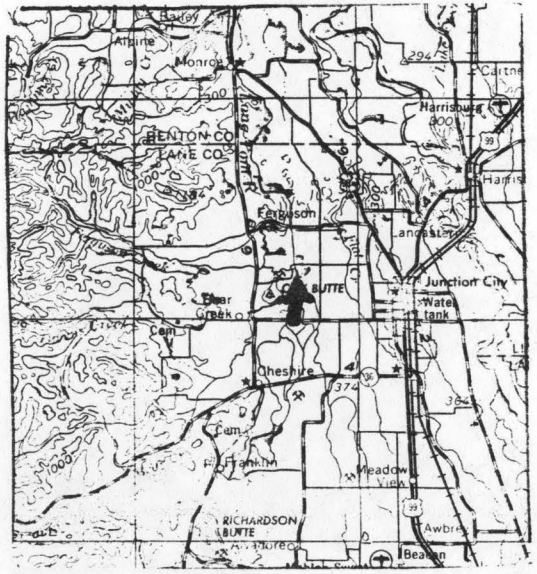
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 696 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R5W, Sec. 22
D.	Latitude, Longitude	44°10'N, 123°17'W
E.	Stream Name	Long Tom River
F.	Major Basin Name	Upper Willamette
G.	River Mile	17.3 to 25.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

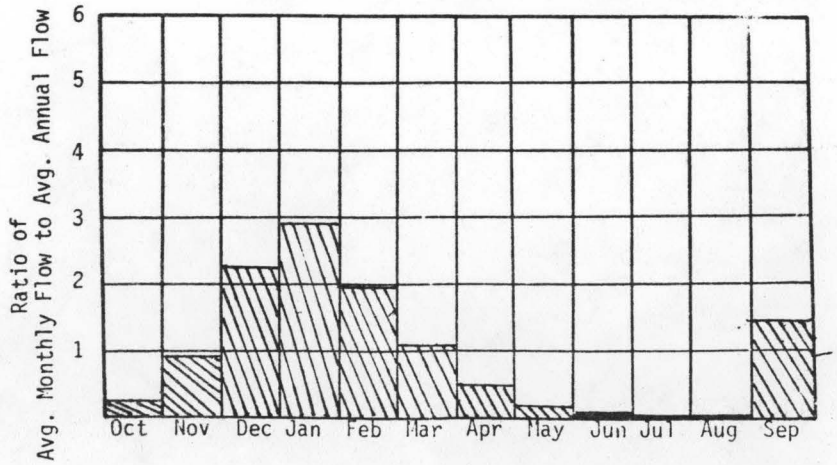
A.	Upstream Elevation of Reach	374	Ft. MSL
B.	Downstream Elevation of Reach	321	Ft. MSL
C.	Total Available Head in Reach	53	Ft.
D.	Average Slope in Reach	6.31	Ft./Mi.
E.	Drainage Area above Reach Mouth	269	Sq.Mi.
F.	Inflow Classification	Regulated	

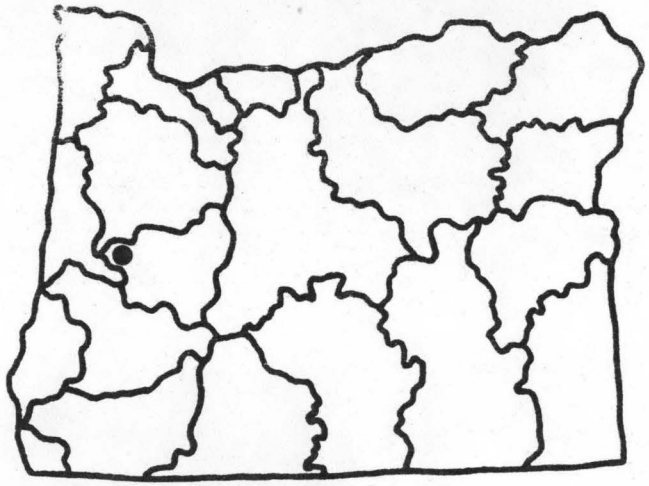
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	51.8	.22	2.04	1.000
80	90.4	.41	3.37	.947
50	295.7	1.33	8.62	.741
30	625.0	2.81	13.80	.561
10	1428.6	6.42	20.12	.358

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 610 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-010-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	Sec. 12, T18S, R5W
D.	Latitude, Longitude	44°03'N, 123°15'W
E.	Stream Name	Coyote Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 4.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

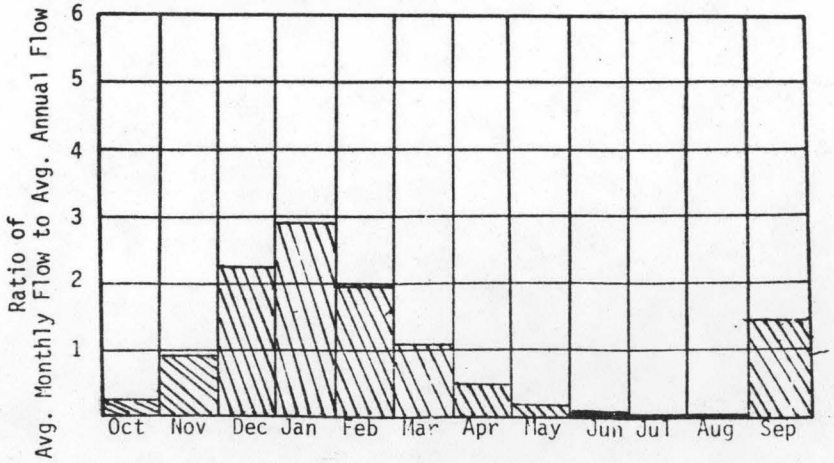
A.	Upstream Elevation of Reach	384	Ft. MSL
B.	Downstream Elevation of Reach	374	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	2.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	102	Sq.Mi.
F.	Inflow Classification	Natural	

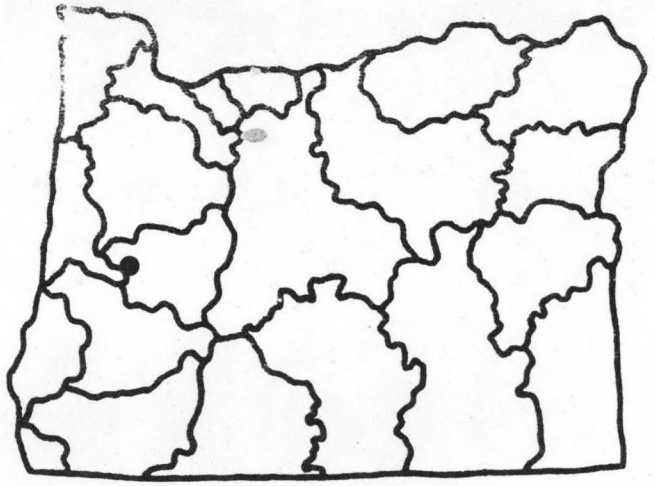
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.0	.01	.07	1.000
80	15.3	.01	.11	.948
50	70.0	.06	.37	.715
30	166.6	.14	.66	.532
10	405.9	.34	1.01	.336

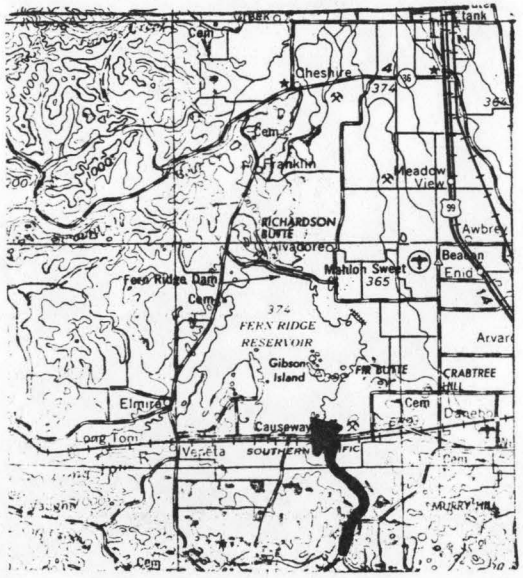
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 168 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-010-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	Sec. 14, T18S, R5W
D.	Latitude, Longitude	44°01'N, 123°16'W
E.	Stream Name	Coyote Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	4.8 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

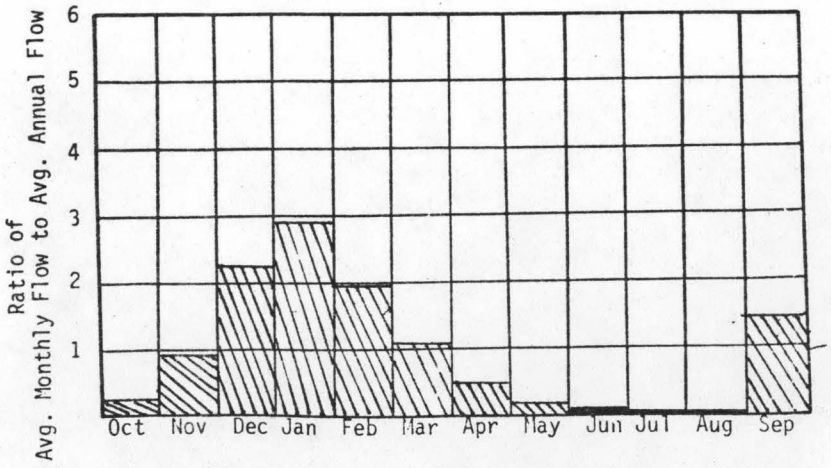
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	61	Sq.Mi.
F.	Inflow Classification	Natural	

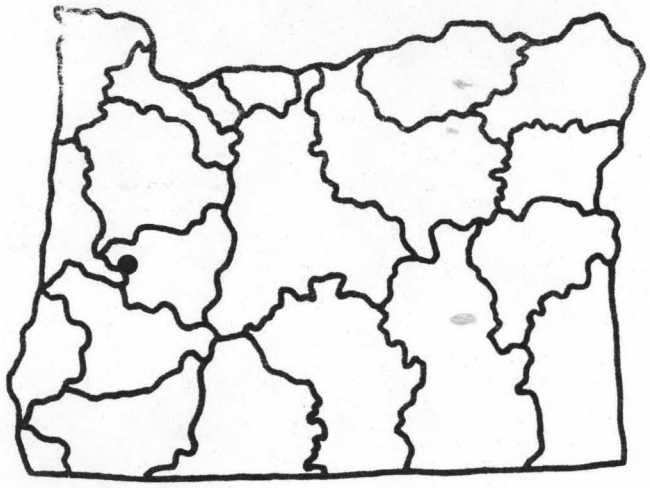
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.3	.04	.31	1.000
80	10.6	.06	.49	.949
50	52.1	.29	1.81	.711
30	127.0	.71	3.28	.528
10	313.5	1.75	5.11	.333

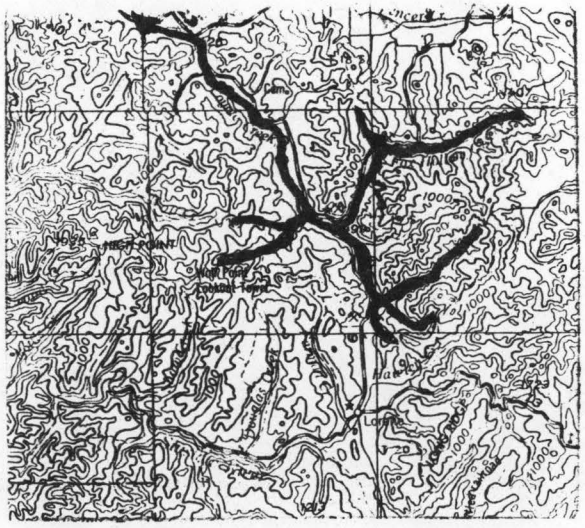
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 129 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-000-R0009

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R6W, Sec. 35
D.	Latitude, Longitude	44°03'N, 123°24'W
E.	Stream Name	Long Tom River
F.	Major Basin Name	Upper Willamette
G.	River Mile	30.2 to 38.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

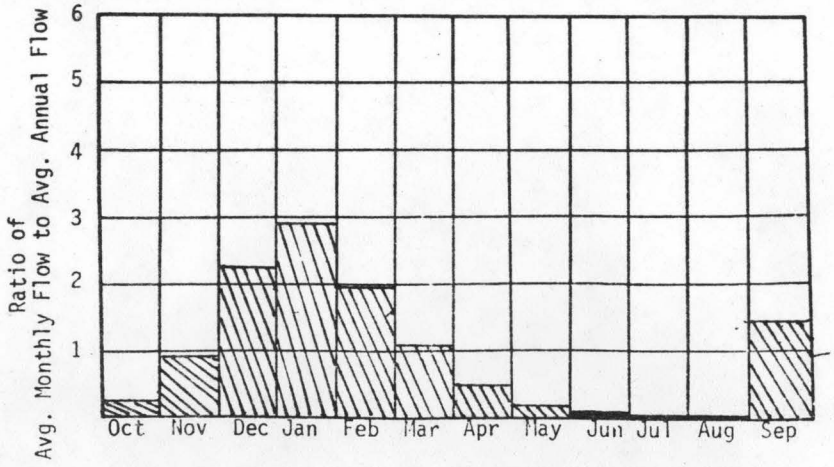
A.	Upstream Elevation of Reach	407	Ft. MSL
B.	Downstream Elevation of Reach	374	Ft. MSL
C.	Total Available Head in Reach	33	Ft.
D.	Average Slope in Reach	4.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	104	Sq.Mi.
F.	Inflow Classification	Natural	

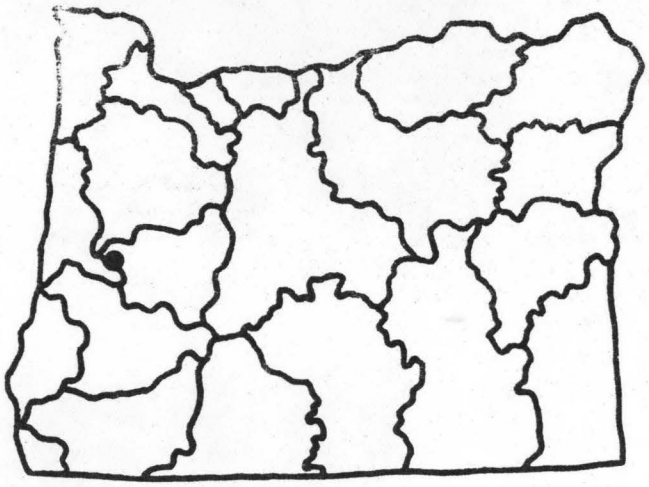
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.7	.04	.36	1.000
80	25.2	.07	.59	.948
50	104.8	.29	1.85	.722
30	241.4	.68	3.19	.540
10	577.6	1.62	4.84	.342

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 242 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-151-000-R0013

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R6W, Sec. 6
D.	Latitude, Longitude	44°23'N, 123°28'W
E.	Stream Name	Long Tom River
F.	Major Basin Name	Upper Willamette
G.	River Mile	38.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

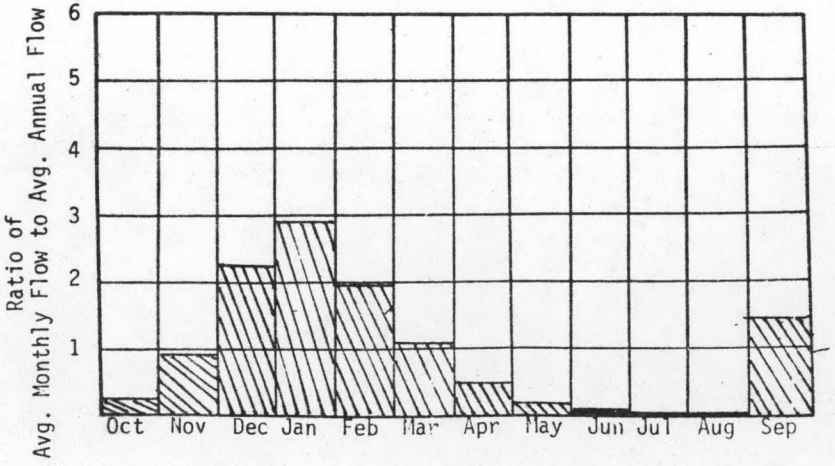
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	91	Sq.Mi.
F.	Inflow Classification	Natural	

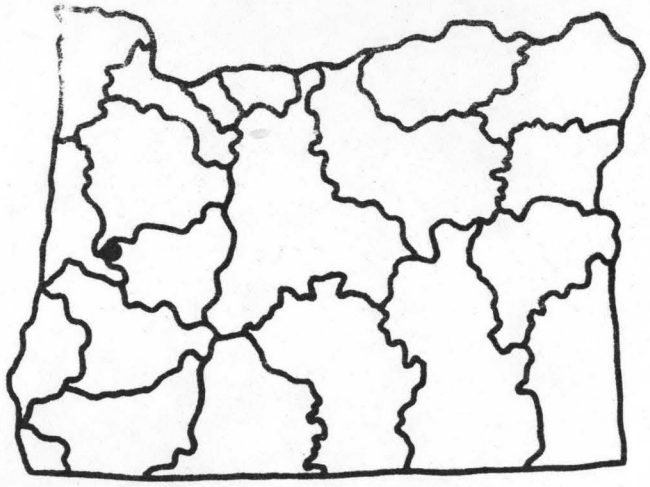
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.5	.08	.66	1.000
80	23.1	.13	1.08	.948
50	97.9	.55	3.45	.720
30	226.6	1.27	5.98	.538
10	543.8	3.04	9.09	.341

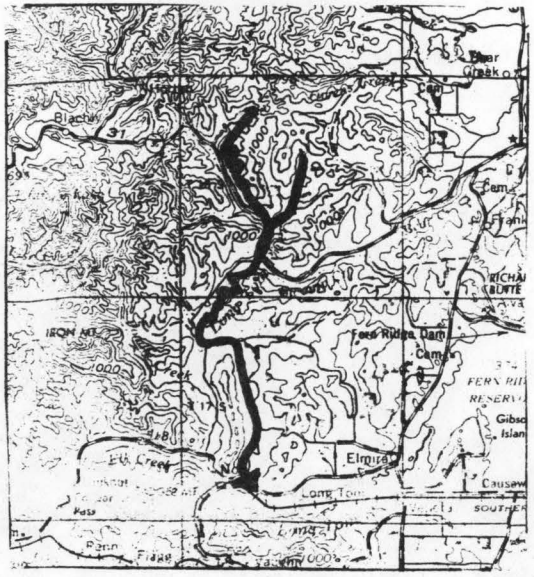
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 227 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0025

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T14S, R4W, Sec. 18	
D. Latitude, Longitude	44°20'N, 123°14'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Upper Willamette	
G. River Mile	149.0 to 156.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

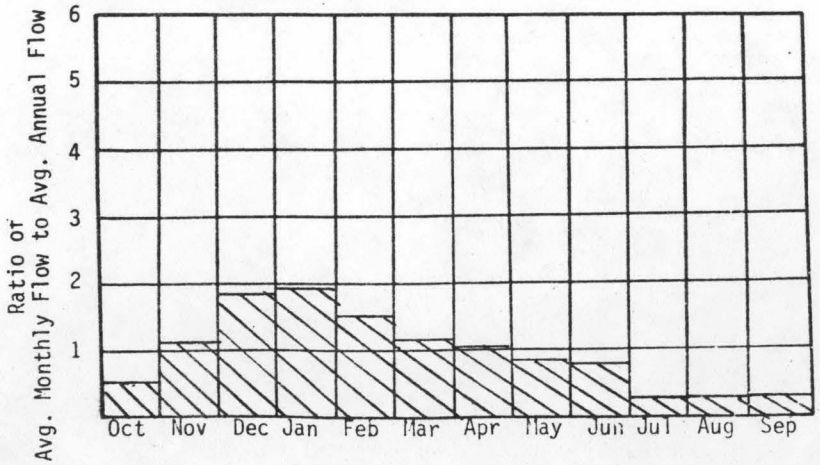
A. Upstream Elevation of Reach	286	Ft. MSL
B. Downstream Elevation of Reach	248	Ft. MSL
C. Total Available Head in Reach	38	Ft.
D. Average Slope in Reach	4.9	Ft./Mi.
E. Drainage Area above Reach Mouth	3457	Sq.Mi
F. Inflow Classification	Regulated	

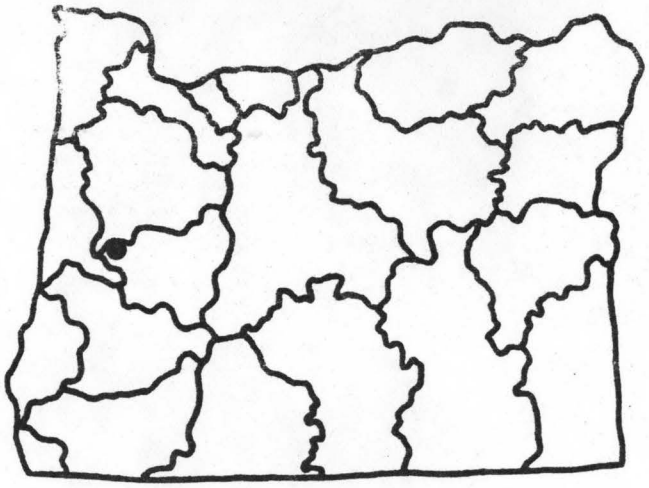
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1912.3	6.16	53.95	1.000
80	2993.1	9.64	80.62	.955
50	7300.6	23.51	159.61	.775
30	12106.0	38.99	213.83	.626
10	24520.2	78.96	283.88	.410

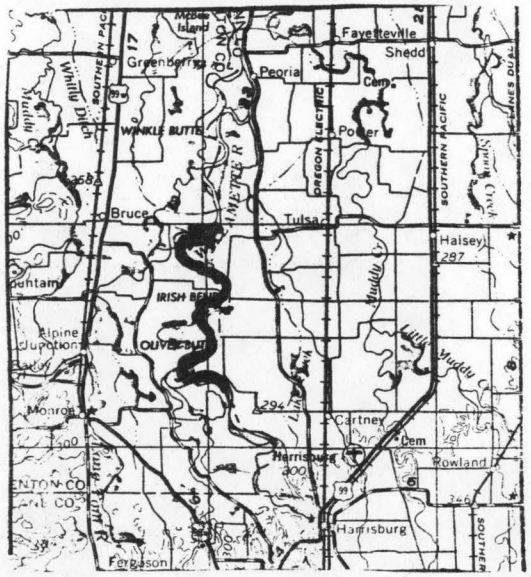
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 10820 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0025

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R4W, Sec. 16
D.	Latitude, Longitude	44°15'N, 123°11'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	156.7 to 167.0

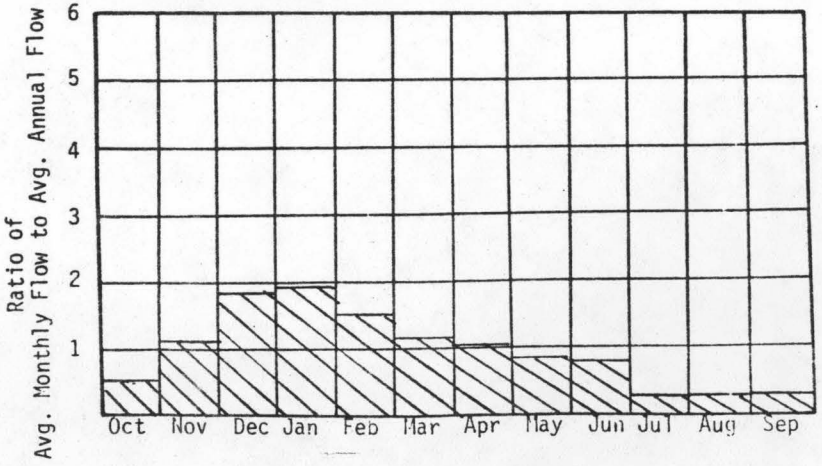
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

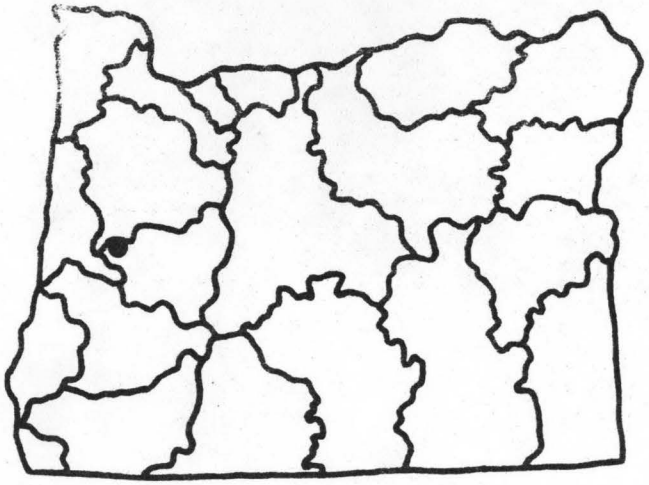
A.	Upstream Elevation of Reach	337	Ft. MSL
B.	Downstream Elevation of Reach	286	Ft. MSL
C.	Total Available Head in Reach	51	Ft.
D.	Average Slope in Reach	4.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	3399	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

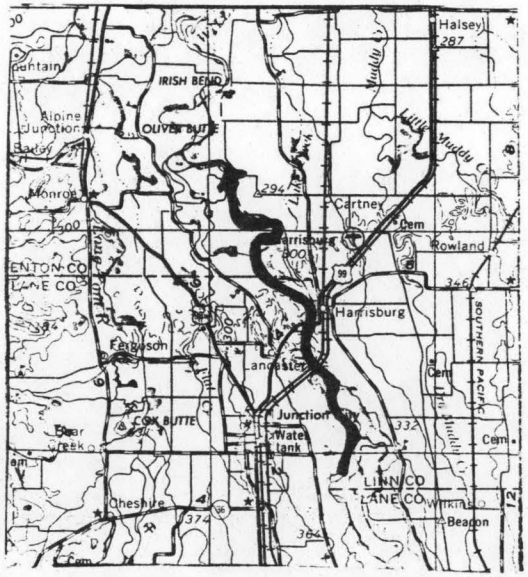
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1895.6	8.19	71.77	1.000
80	2968.2	12.83	107.30	.955
50	7243.8	31.31	212.52	.775
20	12016.4	51.94	284.80	.626
10	24322.7	105.12	377.99	.410

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 10735 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0026

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R4W, Sec 14
D.	Latitude, Longitude	44°10'N, 123°09'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	167.0 to 171.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

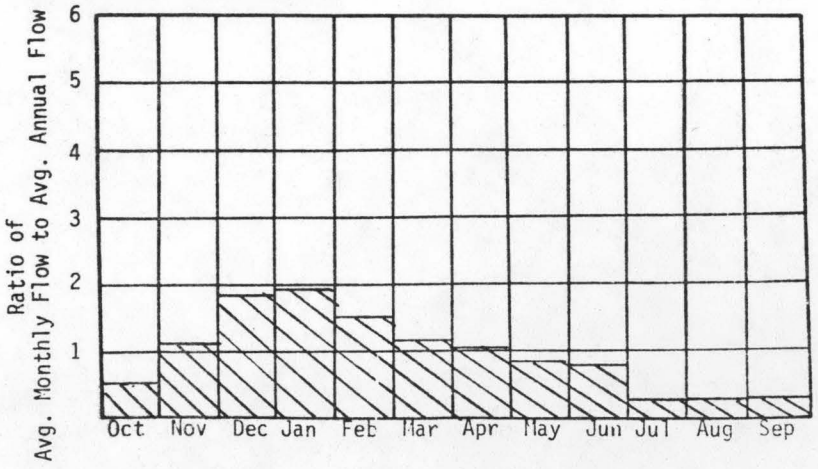
A.	Upstream Elevation of Reach	361	Ft. MSL
B.	Downstream Elevation of Reach	337	Ft. MSL
C.	Total Available Head in Reach	24	Ft.
D.	Average Slope in Reach	5.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	3373	Sq.Mi.
F.	Inflow Classification	Regulated	

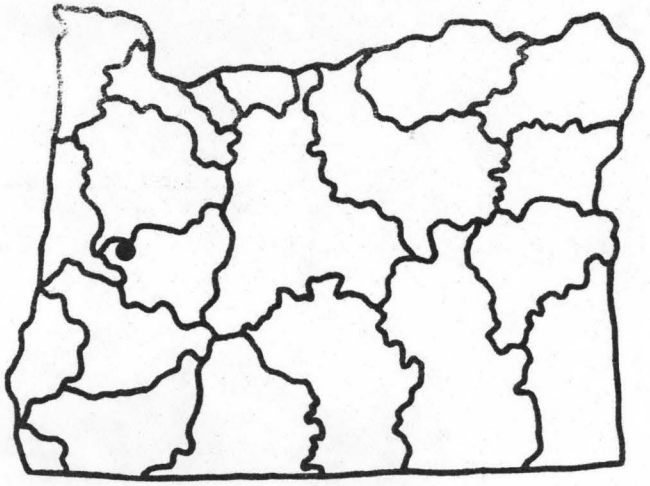
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWh	PLANT FACTOR
95	1889.2	3.84	33.66	1.000
80	2958.6	6.02	50.33	.955
50	7221.8	14.69	99.70	.775
30	11981.7	24.37	133.63	.626
10	24246.2	49.31	177.33	.410

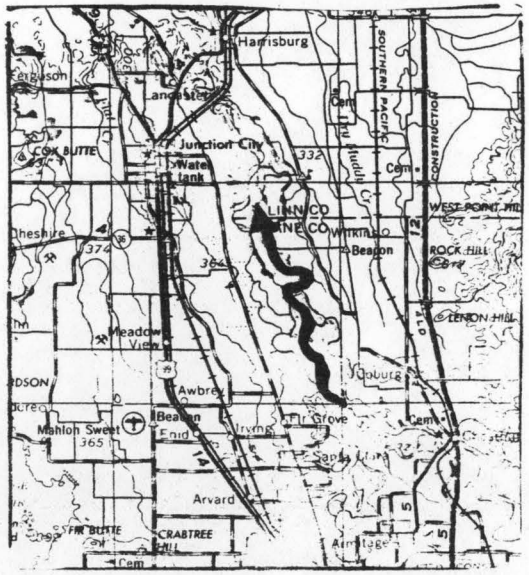
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 10702 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R3W, Sec. 5
D.	Latitude, Longitude	44°07'N, 123°05'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 10.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

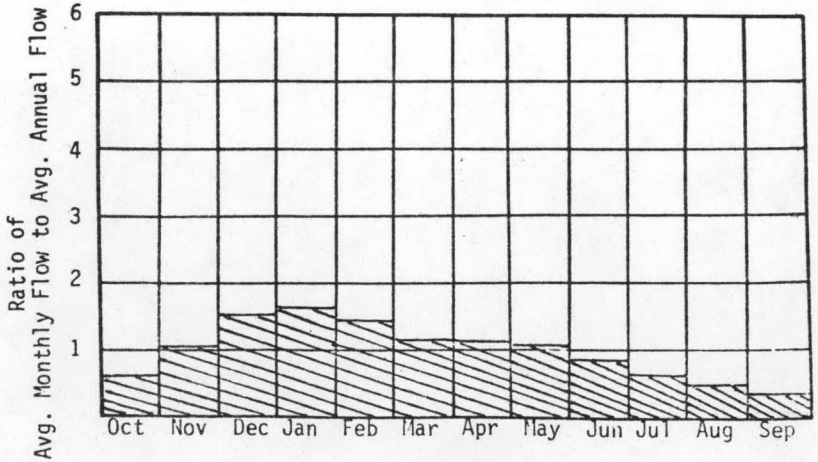
A.	Upstream Elevation of Reach	407	Ft. MSL
B.	Downstream Elevation of Reach	361	Ft. MSL
C.	Total Available Head in Reach	46	Ft.
D.	Average Slope in Reach	4.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	1281	Sq.Mi.
F.	Inflow Classification	Regulated	

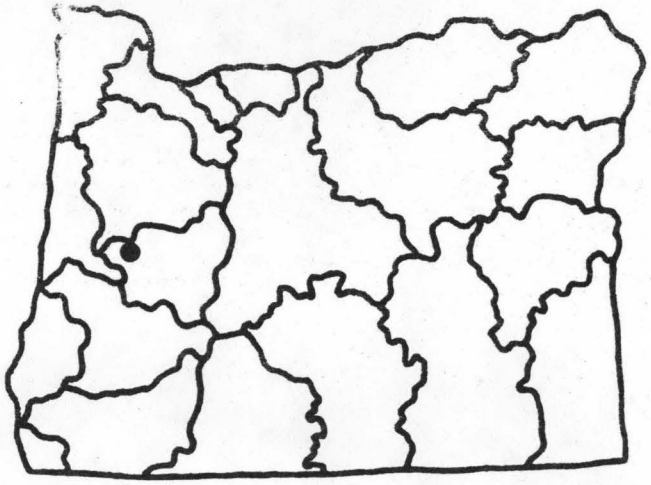
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2482.3	9.68	84.77	1.000
80	2944.4	11.48	98.58	.980
50	4148.7	16.17	125.31	.884
30	5326.0	20.76	141.39	.777
10	8050.4	31.38	160.00	.582

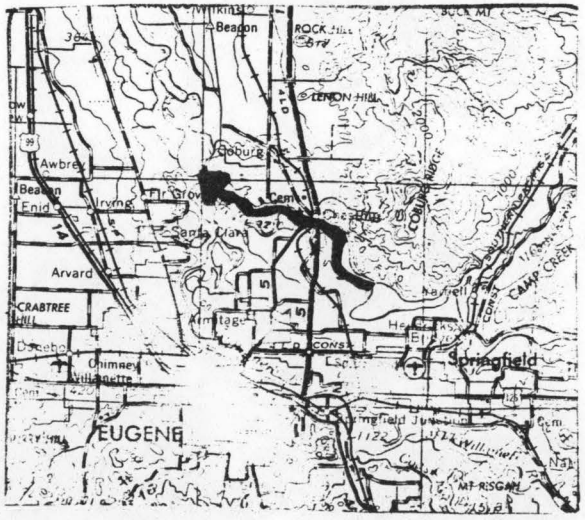
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 4924 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R3W, Sec. 23
D.	Latitude, Longitude	44°05'N, 123°01'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	10.1 to 13.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

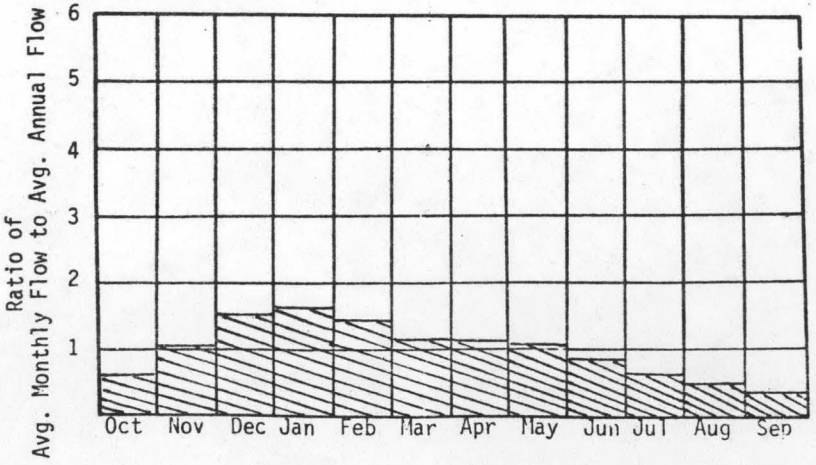
A.	Upstream Elevation of Reach	440	Ft. MSL
B.	Downstream Elevation of Reach	407	Ft. MSL
C.	Total Available Head in Reach	33	Ft.
D.	Average Slope in Reach	9.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	1265	Sq.Mi.
F.	Inflow Classification	Regulated	

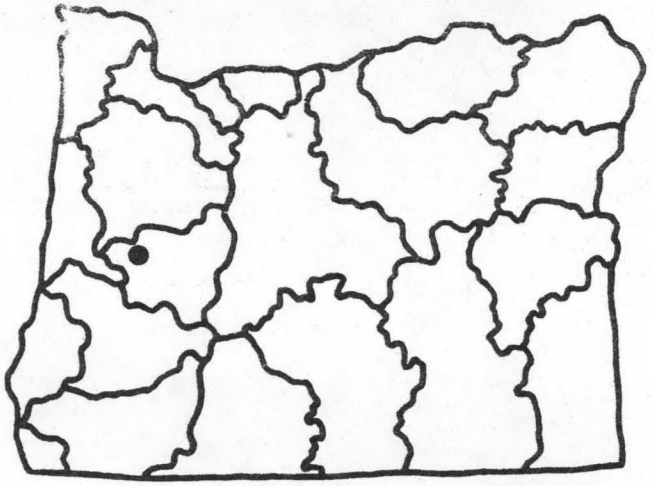
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2461.0	6.88	60.29	1.000
80	2921.3	8.17	70.16	.980
50	4123.6	11.53	89.30	.884
30	5296.7	14.81	100.80	.777
10	8009.7	22.40	114.09	.581

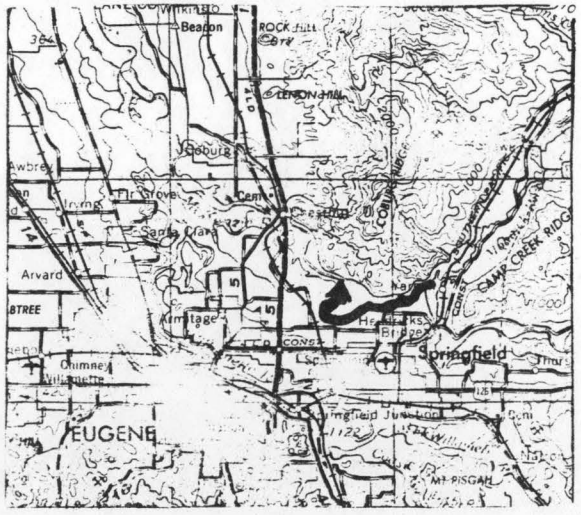
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 896 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

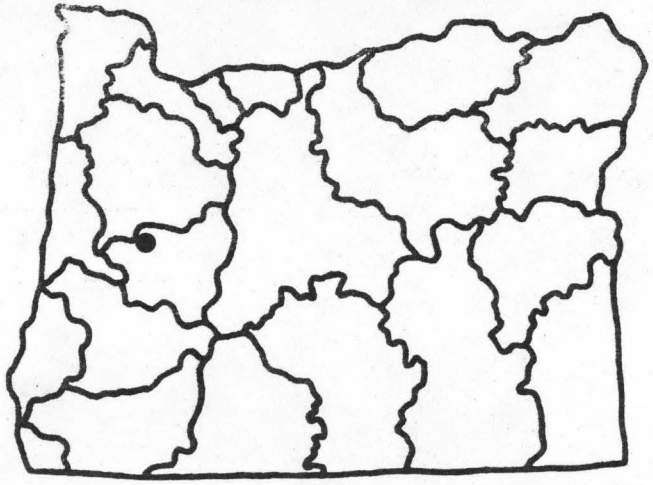


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-002-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R2W, Sec. 9
D.	Latitude, Longitude	44°06'N, 122°57'W
E.	Stream Name	Mohawk River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 7.4



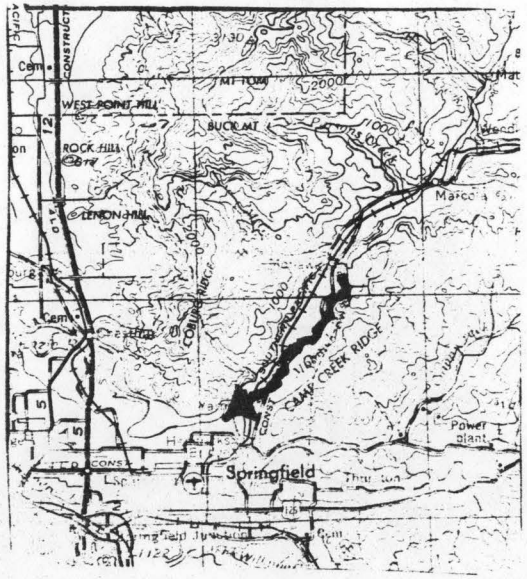
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	478	Ft. MSL
B.	Downstream Elevation of Reach	440	Ft. MSL
C.	Total Available Head in Reach	38	Ft.
D.	Average Slope in Reach	5.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	183	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

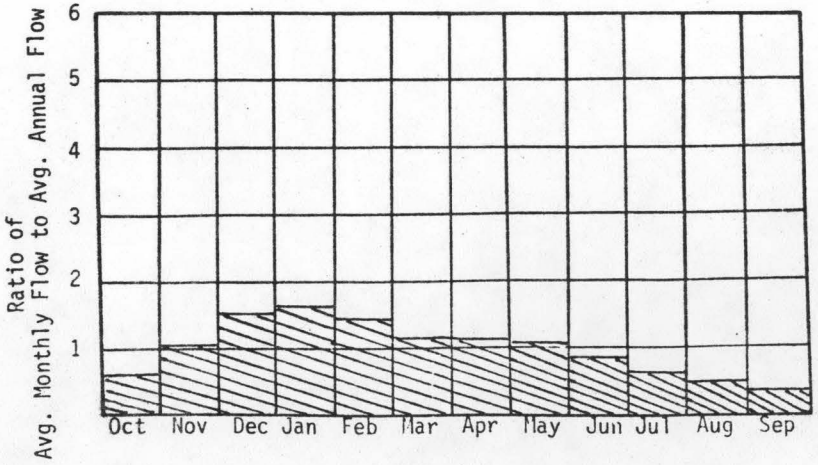
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	103.3	.33	2.91	1.000
80	163.0	.53	4.39	.954
50	446.4	1.44	9.59	.761
30	699.9	2.25	12.45	.630
10	1246.9	4.02	15.53	.442

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 629 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-002-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R2W, Sec. 24
D.	Latitude, Longitude	44°09'N, 122°53'W
E.	Stream Name	Mohawk River
F.	Major Basin Name	Upper Willamette
G.	River Mile	7.4 to 13.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

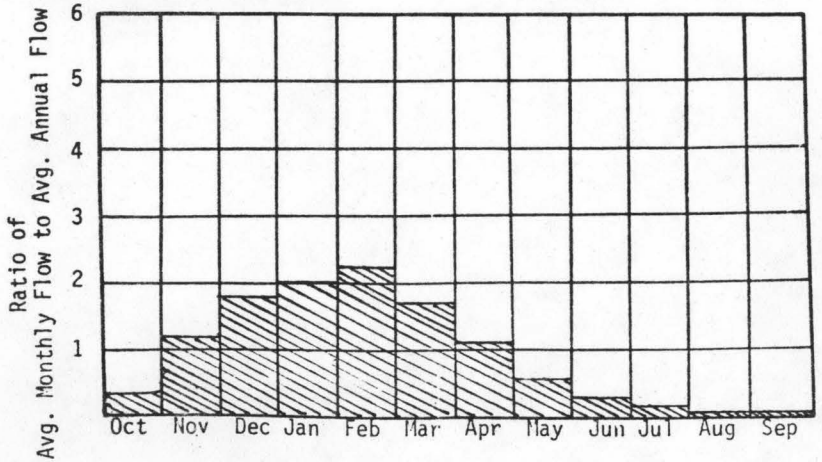
A.	Upstream Elevation of Reach	545	Ft. MSL
B.	Downstream Elevation of Reach	478	Ft. MSL
C.	Total Available Head in Reach	67	Ft.
D.	Average Slope in Reach	11.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	151	Sq.Mi.
F.	Inflow Classification	Natural	

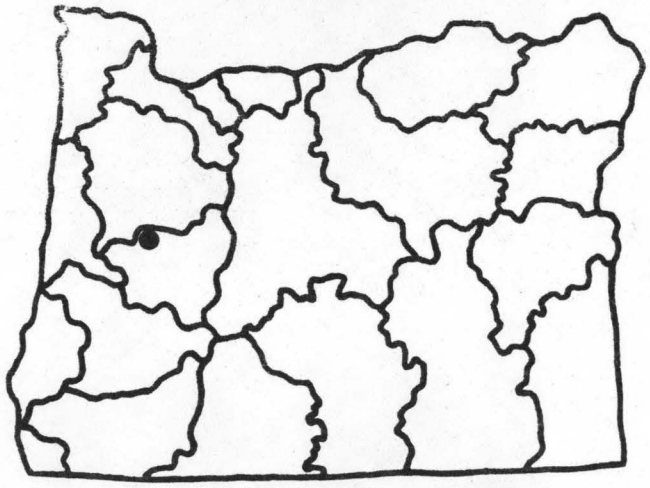
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	78.3	.44	3.90	1.000
80	126.7	.72	6.00	.952
50	367.7	2.09	13.79	.754
30	586.5	3.33	18.15	.622
10	1060.1	6.02	22.86	.434

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 526 CFS





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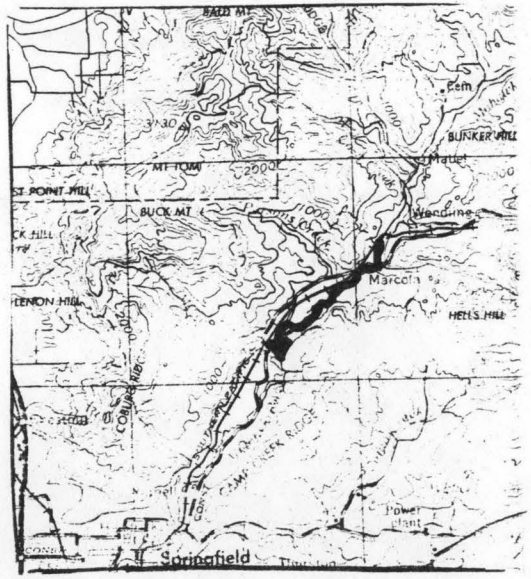


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-002-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R1W, Sec. 9
D.	Latitude, Longitude	44°11'N, 122°49'W
E.	Stream Name	Mill Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 3.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

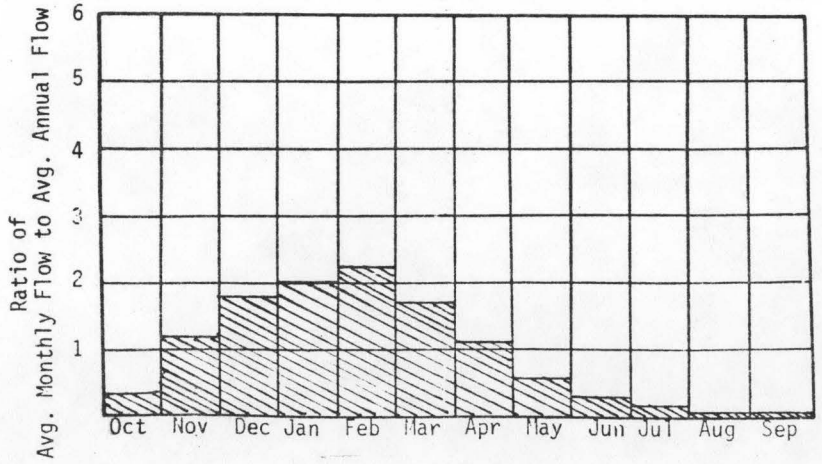
A.	Upstream Elevation of Reach	690	Ft. MSL
B.	Downstream Elevation of Reach	545	Ft. MSL
C.	Total Available Head in Reach	145	Ft.
D.	Average Slope in Reach	48.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	31	Sq.Mi.
F.	Inflow Classification	Natural	

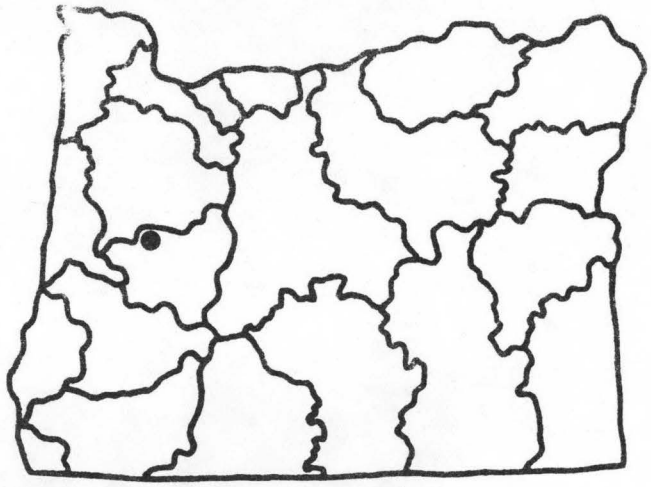
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.9	.11	.96	1.000
80	17.5	.21	1.76	.939
50	79.8	.98	6.13	.713
30	146.1	1.79	8.98	.571
10	295.4	3.63	12.20	.383

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 128 CFS





U.S.G.S. TOPO. SERIES
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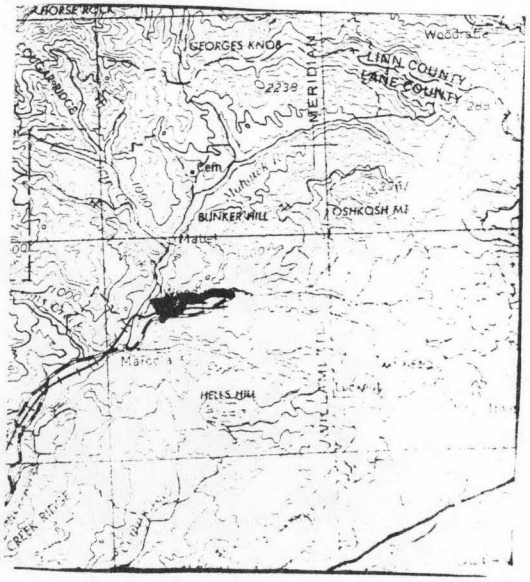
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-002-R0004

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R1W, Sec. 8
D.	Latitude, Longitude	44°11'N, 122°49'W
E.	Stream Name	Mill Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

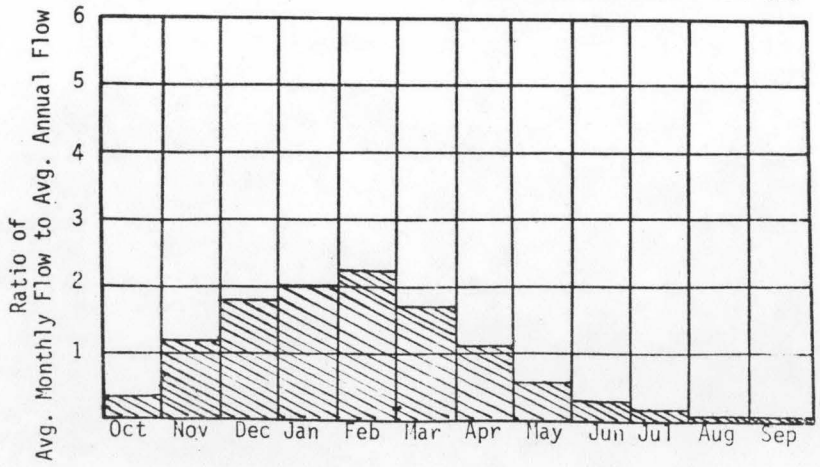
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	25	Sq.Mi.
F.	Inflow Classification	Natural	

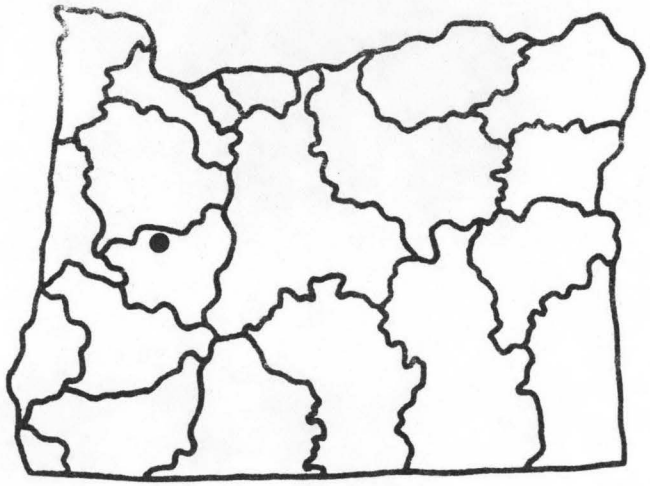
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.7	.04	.38	1.000
80	15.3	.09	.70	.938
50	72.1	.40	2.51	.711
30	133.1	.74	3.71	.568
10	271.2	1.52	5.06	.381

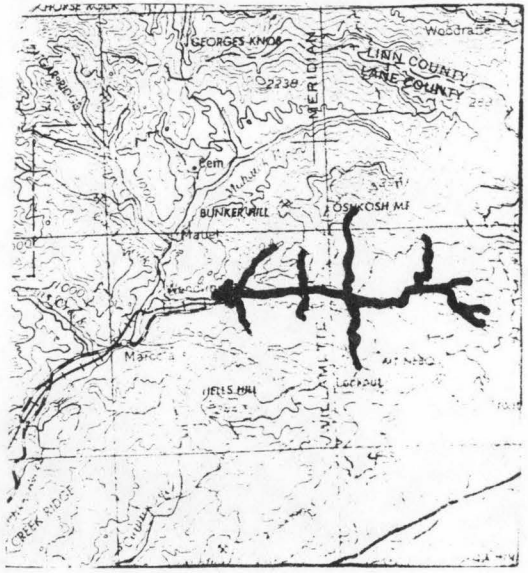
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 117 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-002-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R1W, Sec. 5
D.	Latitude, Longitude	44°12'N, 122°50'W
E.	Stream Name	Mohawk River
F.	Major Basin Name	Upper Willamette
G.	River Mile	13.5 to 15.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

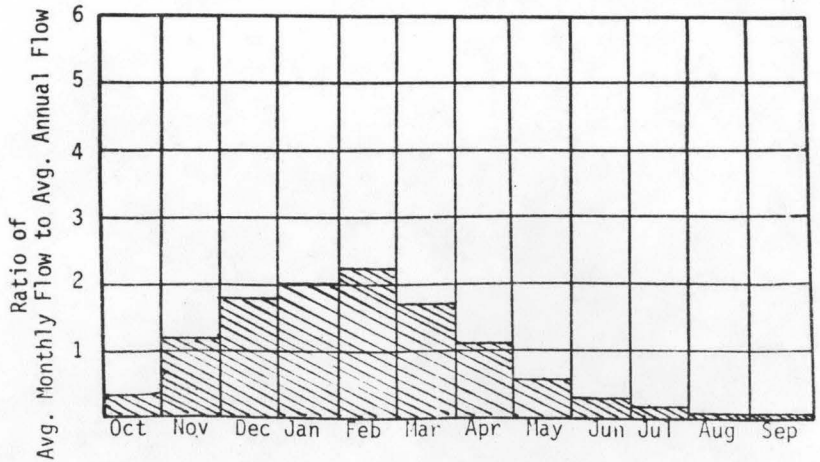
A.	Upstream Elevation of Reach	582	Ft. MSL
B.	Downstream Elevation of Reach	545	Ft. MSL
C.	Total Available Head in Reach	37	Ft.
D.	Average Slope in Reach	18.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	86	Sq.Mi.
F.	Inflow Classification	Natural	

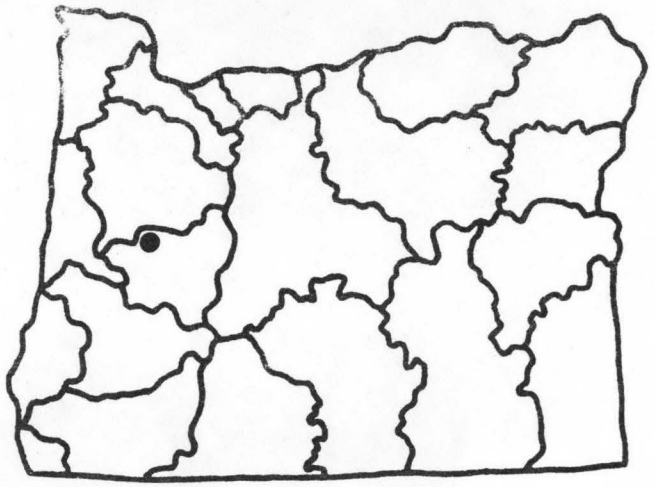
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	30.2	.09	.83	1.000
80	53.3	.17	1.38	.946
50	188.6	.59	3.80	.734
30	319.3	1.00	5.24	.597
10	606.3	1.90	6.81	.409

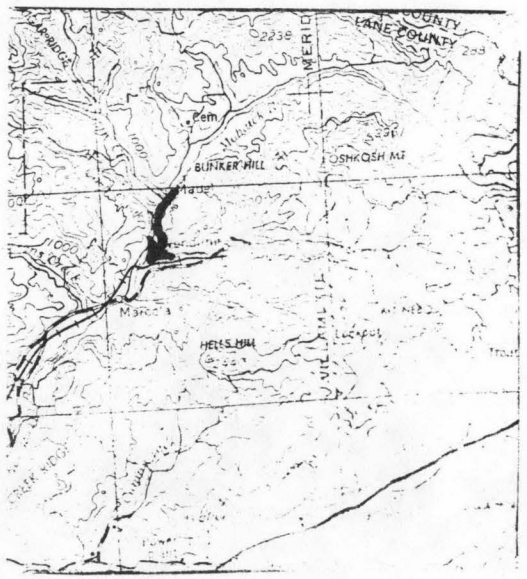
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 284 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-002-R0006

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R1W, Sec. 23
D.	Latitude, Longitude	44°15'N, 122°47'W
E.	Stream Name	Mohawk River
F.	Major Basin Name	Upper Willamette
G.	River Mile	15.5 to 24.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

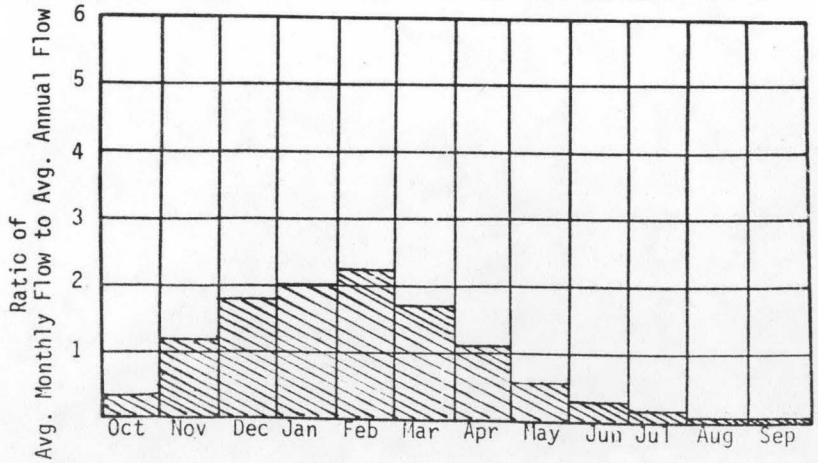
A.	Upstream Elevation of Reach	1055	Ft. MSL
B.	Downstream Elevation of Reach	582	Ft. MSL
C.	Total Available Head in Reach	473	Ft.
D.	Average Slope in Reach	54.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	55	Sq.Mi.
F.	Inflow Classification	Natural	

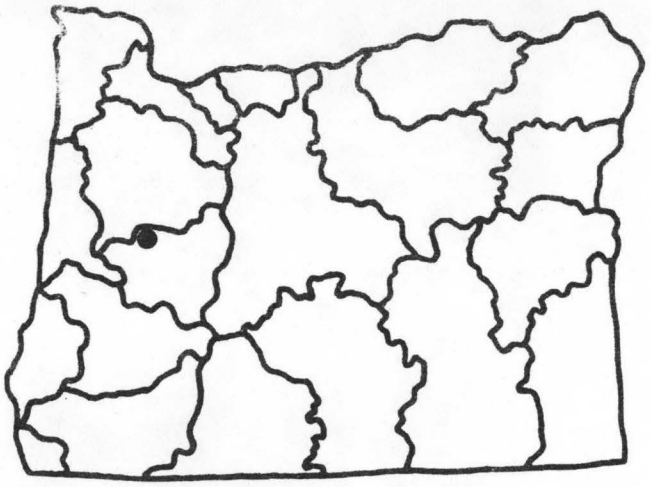
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.5	.54	4.75	1.000
80	25.6	1.03	8.46	.941
50	107.3	4.30	27.10	.719
30	191.1	7.66	38.88	.579
10	378.3	15.16	52.02	.392

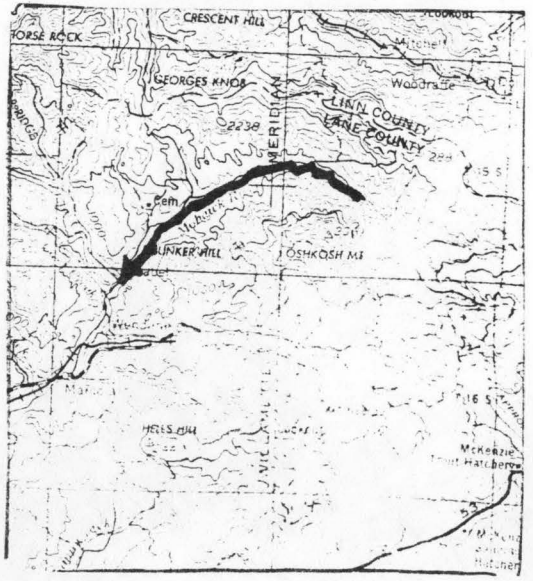
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 169 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-002-R0007

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R1E, Sec. 36
D.	Latitude, Longitude	44°13'N, 122°39'W
E.	Stream Name	Mohawk River
F.	Major Basin Name	Upper Willamette
G.	River Mile	24.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

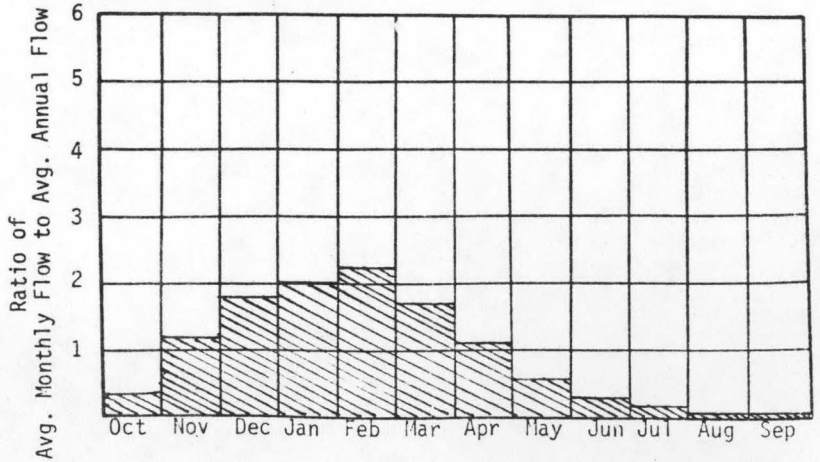
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural	

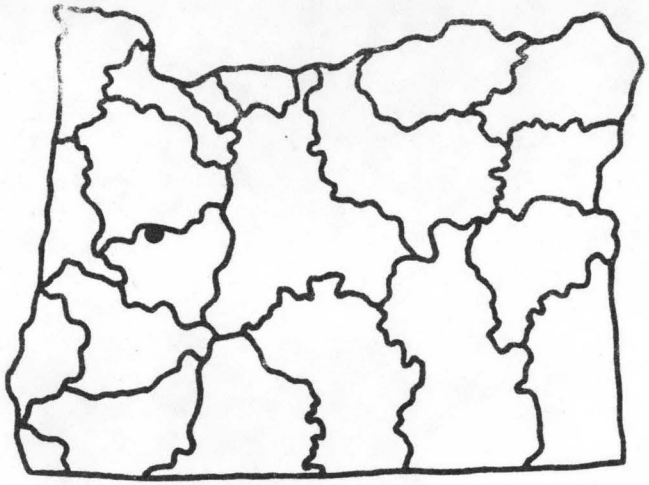
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.7	.04	.33	1.000
80	13.5	.08	.62	.937
50	65.3	.37	2.27	.709
30	121.7	.68	3.37	.566
10	249.8	1.40	4.63	.378

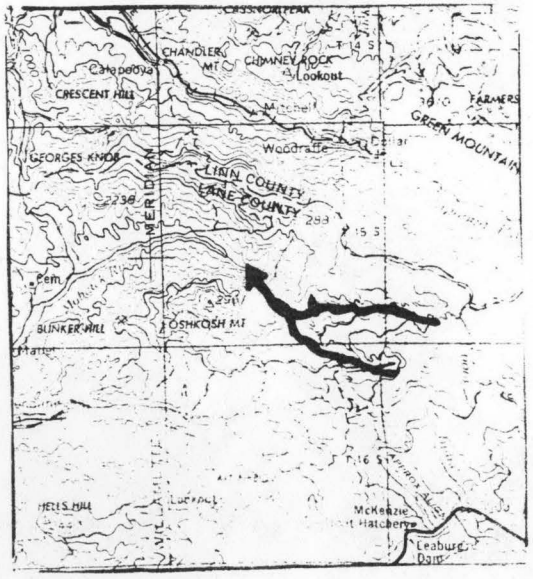
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 107 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R2W, Sec. 21
D.	Latitude, Longitude	44°01'N, 122°57'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	13.7 to 20.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

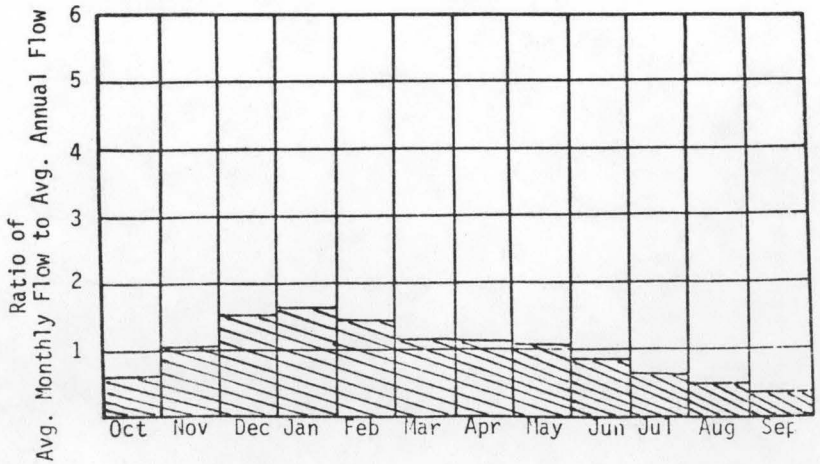
A.	Upstream Elevation of Reach	535	Ft. MSL
B.	Downstream Elevation of Reach	440	Ft. MSL
C.	Total Available Head in Reach	95	Ft.
D.	Average Slope in Reach	13.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	1075	Sq.Mi.
F.	Inflow Classification	Regulated	

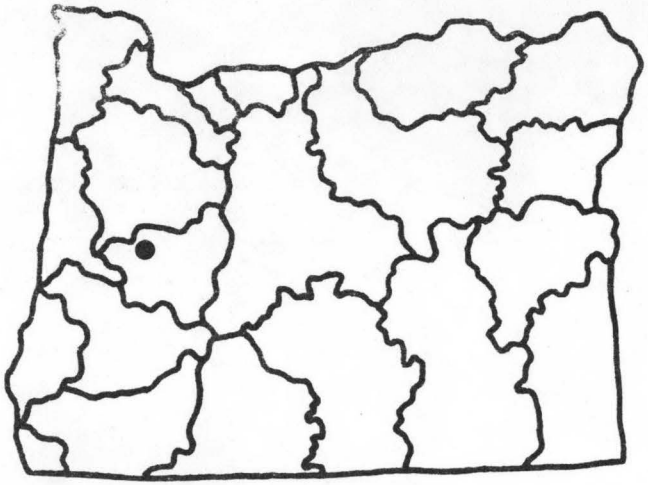
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1982.9	15.96	139.84	1.000
80	2399.9	19.32	165.58	.978
50	3544.0	28.53	218.02	.872
30	4614.4	37.15	248.22	.763
10	7056.3	56.81	282.66	.568

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 4258 CFS





U.S.G.S. TOPO. SERIES
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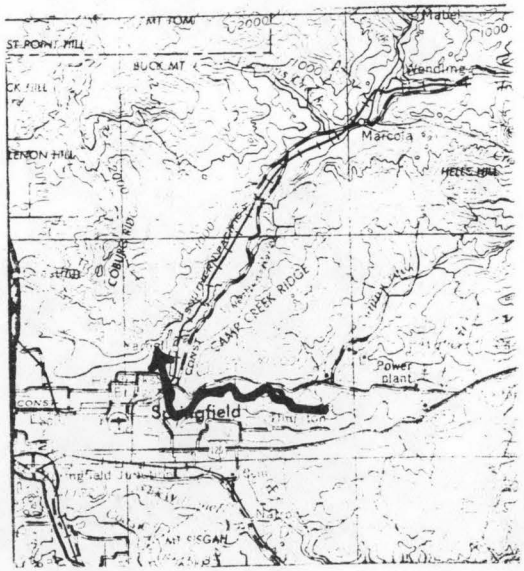
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-005-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R2W, Sec. 24
D.	Latitude, Longitude	44°05'N, 122°53'W
E.	Stream Name	Camp Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 3.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

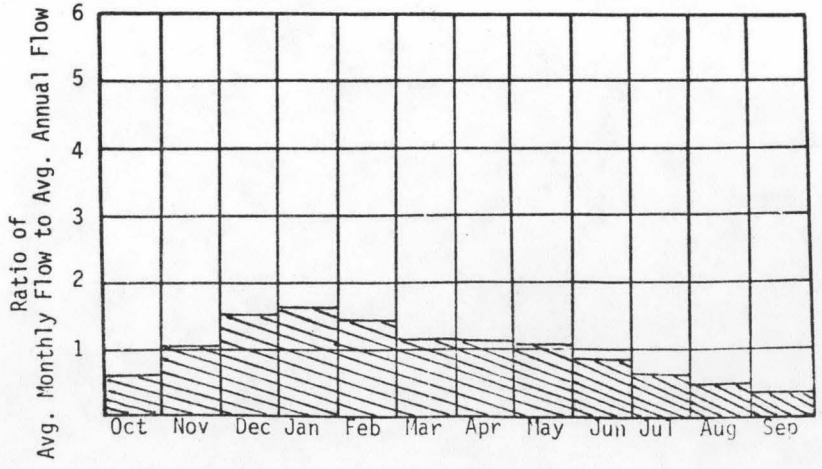
A.	Upstream Elevation of Reach	556	Ft. MSL
B.	Downstream Elevation of Reach	535	Ft. MSL
C.	Total Available Head in Reach	21	Ft.
D.	Average Slope in Reach	3.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	24	Sq.Mi.
F.	Inflow Classification	Natural	

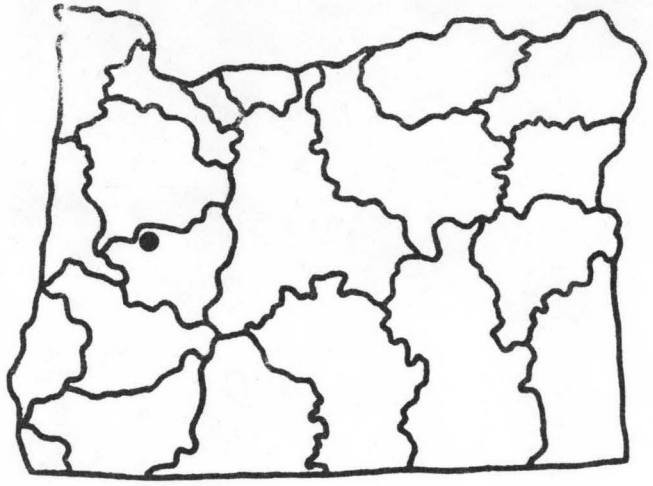
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.01	.08	1.000
80	10.4	.02	.15	.935
50	53.6	.10	.59	.705
30	101.5	.18	.89	.561
10	211.5	.38	1.23	.373

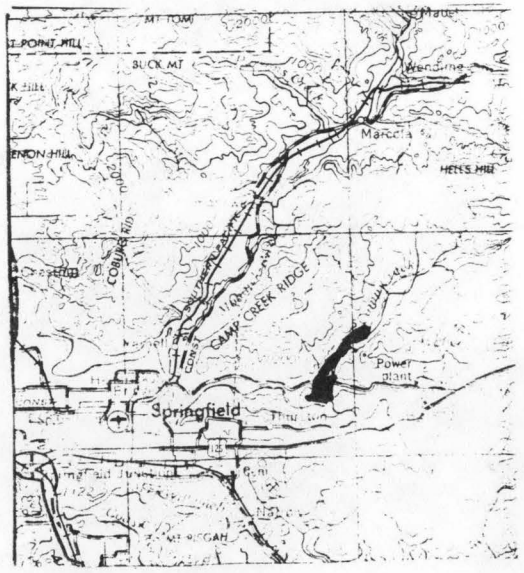
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 89 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-005-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R1W, Sec. 4
D.	Latitude, Longitude	44°07'N, 122°48'W
E.	Stream Name	Camp Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

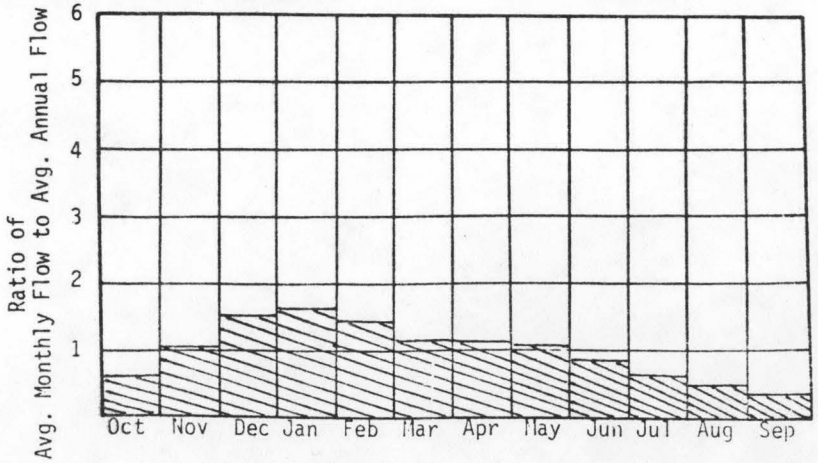
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural	

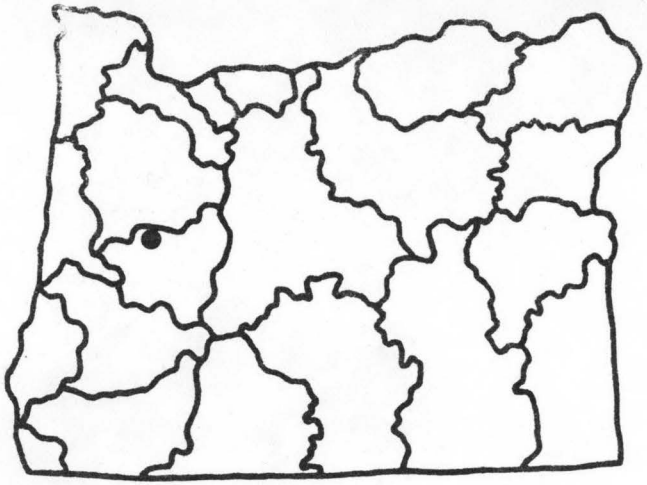
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.7	.03	.23	1.000
80	9.9	.06	.45	.935
50	51.5	.29	1.78	.705
30	97.9	.55	2.69	.560
10	204.6	1.14	3.73	.372

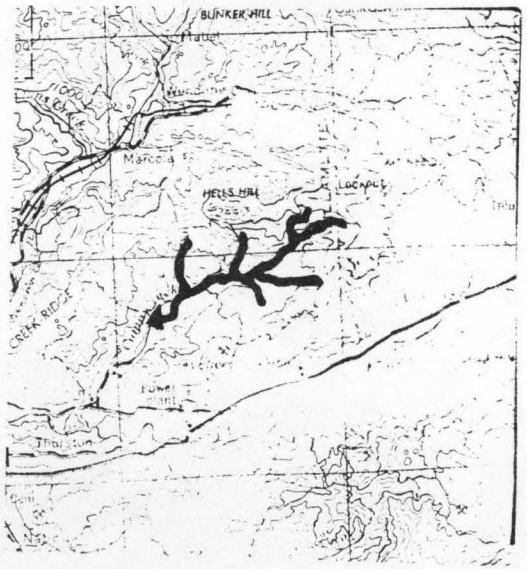
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 86 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0008

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T17S, R1W, Sec. 28	
D. Latitude, Longitude	44°03'N, 122°49'W	
E. Stream Name	McKenzie River	
F. Major Basin Name	Upper Willamette	
G. River Mile	20.7 to 30.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

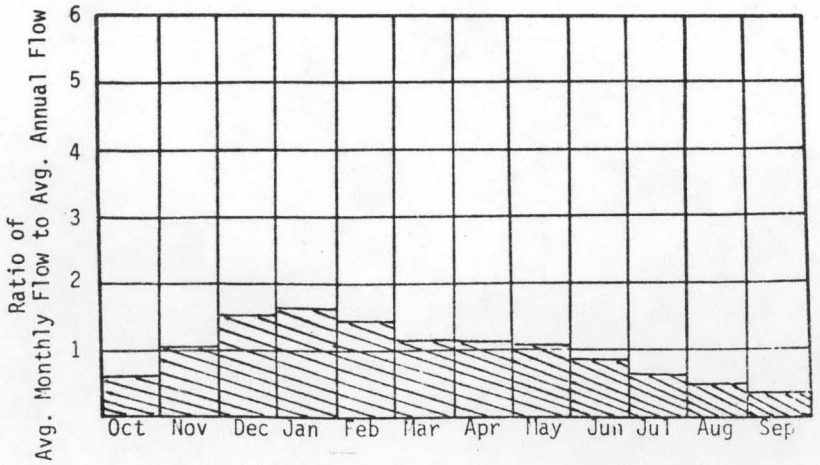
A. Upstream Elevation of Reach	621	Ft. MSL
B. Downstream Elevation of Reach	535	Ft. MSL
C. Total Available Head in Reach	86	Ft.
D. Average Slope in Reach	9.1	Ft./Mi.
E. Drainage Area above Reach Mouth	1042	Sq.Mi.
F. Inflow Classification	Regulated	

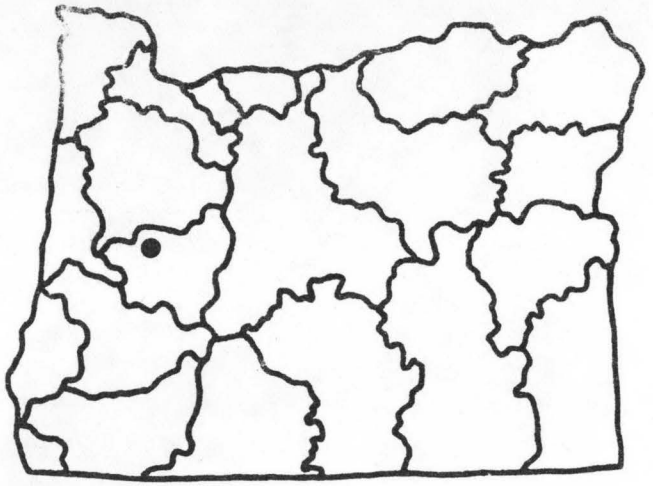
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1876.7	13.68	119.82	1.000
80	2282.6	16.64	142.49	.978
50	3409.8	24.85	189.27	.869
30	4455.1	32.47	215.96	.759
10	6832.1	49.79	246.32	.565

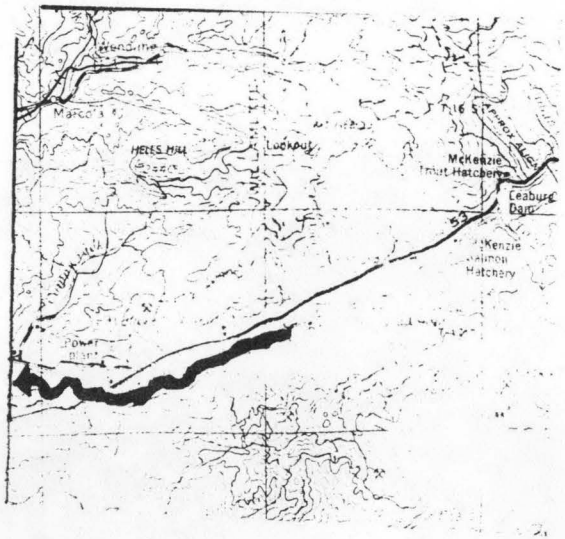
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 4108 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0010

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R1E, Sec. 11
D.	Latitude, Longitude	44°06'N, 122°40'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	30.1 to 41.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

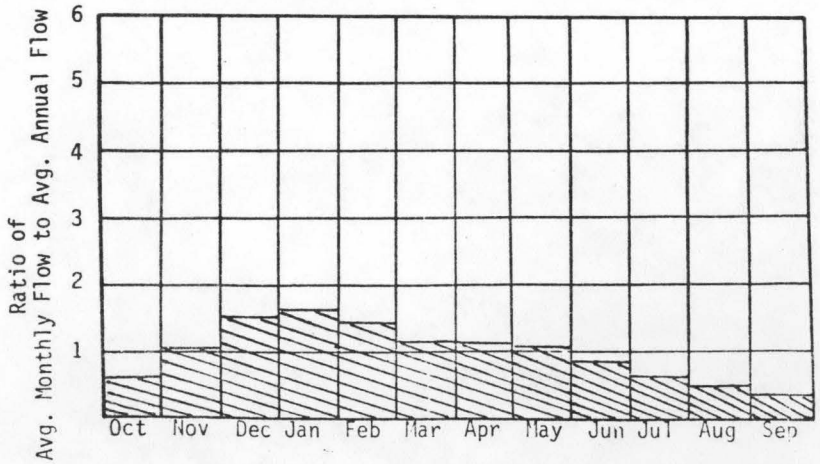
A.	Upstream Elevation of Reach	747	Ft. MSL
B.	Downstream Elevation of Reach	621	Ft. MSL
C.	Total Available Head in Reach	126	Ft.
D.	Average Slope in Reach	11.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	1002	Sq.Mi.
F.	Inflow Classification	Regulated	

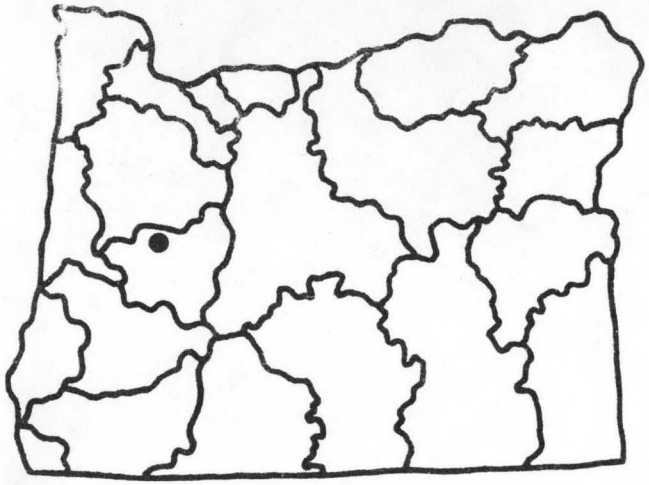
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1750.9	18.70	163.77	1.000
80	2142.9	22.88	195.86	.977
50	3247.8	34.68	263.04	.866
30	4262.0	45.51	300.99	.755
10	6559.5	70.04	343.97	.561

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3928 CFS





U.S.G.S. TOPO. SERIES
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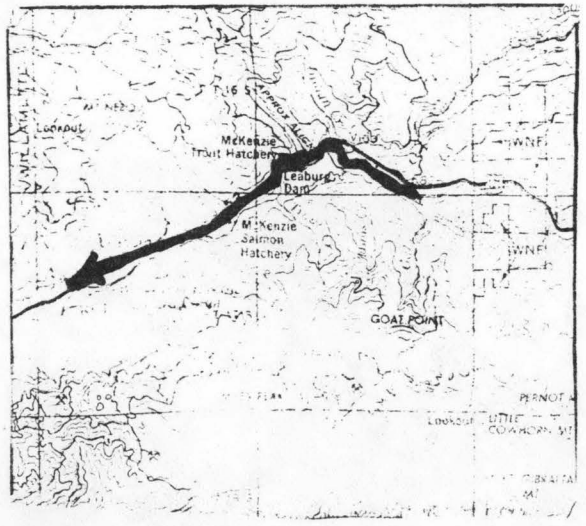
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-010-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R2E, Sec. 27
D.	Latitude, Longitude	44°08'N, 122°33'W
E.	Stream Name	Gate Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 3.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

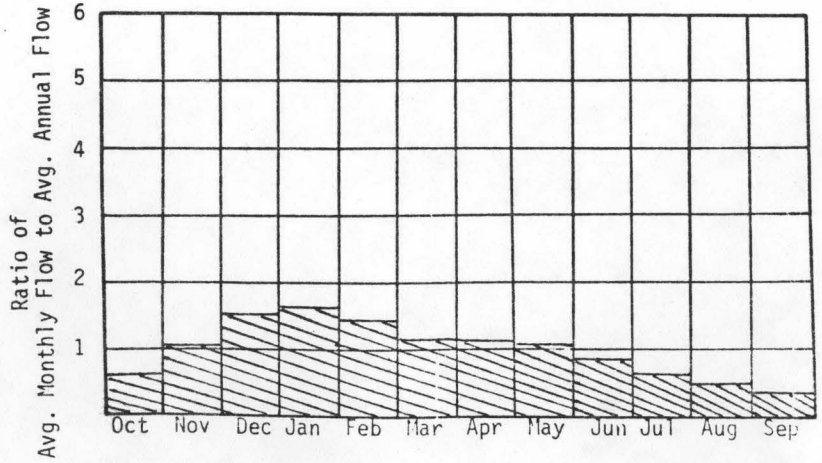
A.	Upstream Elevation of Reach	878	Ft. MSL
B.	Downstream Elevation of Reach	747	Ft. MSL
C.	Total Available Head in Reach	131	Ft.
D.	Average Slope in Reach	43.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	49	Sq.Mi.
F.	Inflow Classification	Natural	

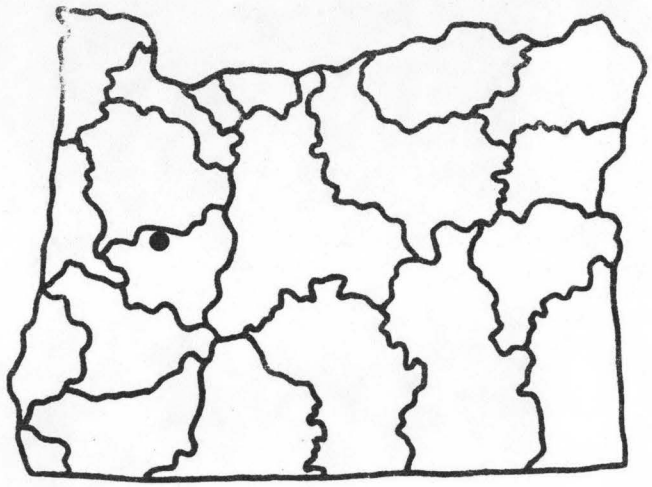
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	22.0	.24	2.14	1.000
80	39.9	.44	3.67	.944
50	151.0	1.68	10.69	.728
30	260.9	2.90	14.96	.590
10	503.5	5.59	19.68	.402

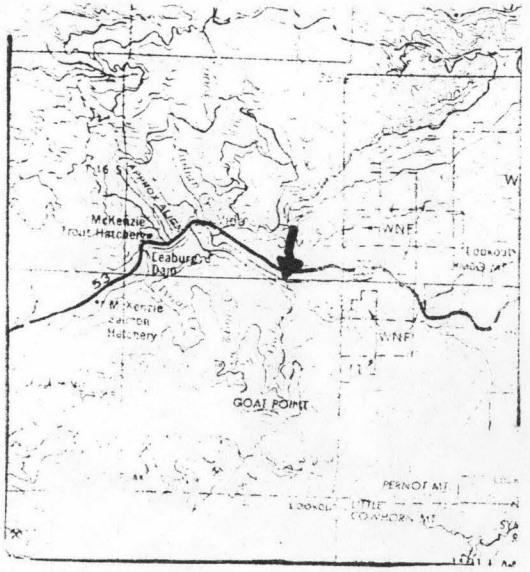
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 232 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-010-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R2E, Sec. 23
D.	Latitude, Longitude	44°09'N, 122°32'W
E.	Stream Name	North Fork Gate Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 3.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

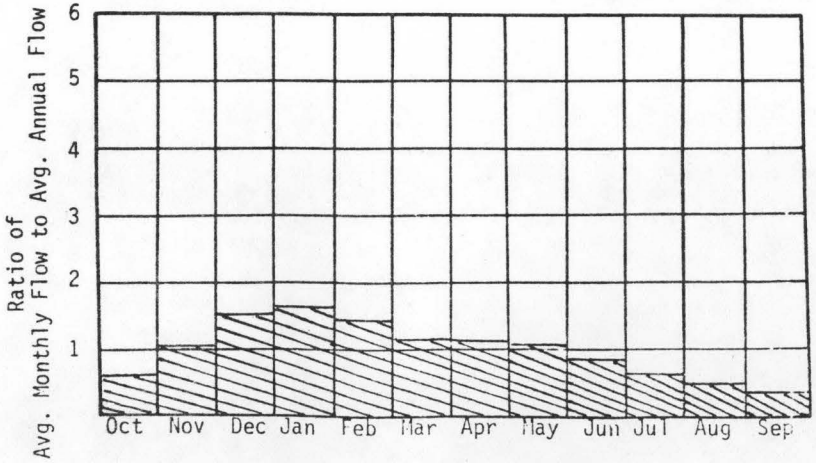
A.	Upstream Elevation of Reach	1085	Ft. MSL
B.	Downstream Elevation of Reach	878	Ft. MSL
C.	Total Available Head in Reach	207	Ft.
D.	Average Slope in Reach	69.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	27	Sq.Mi.
F.	Inflow Classification	Natural	

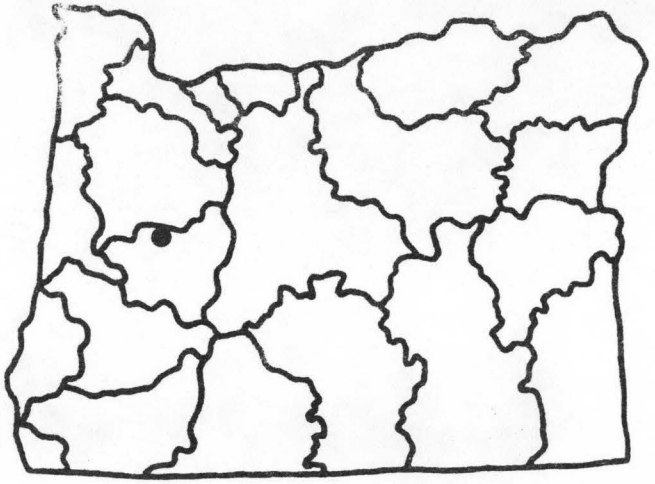
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.7	.15	1.34	1.000
80	17.2	.30	2.48	.938
50	79.0	1.39	8.65	.713
30	144.6	2.54	12.69	.571
10	292.7	5.14	17.24	.383

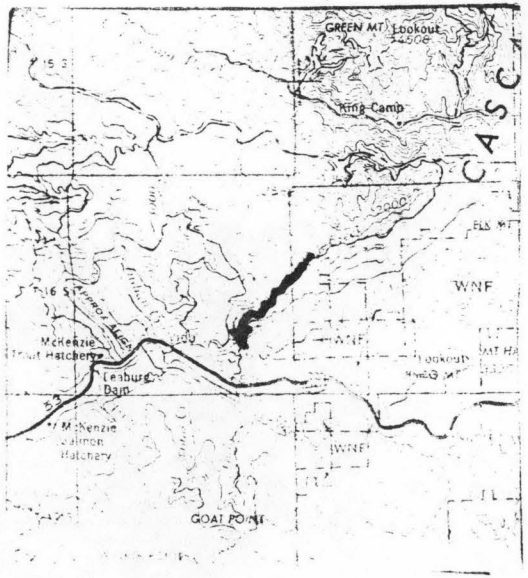
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 128 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-010-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R3E, Sec. 8
D.	Latitude, Longitude	44°11'N, 122°29'W
E.	Stream Name	North Fork Gate Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

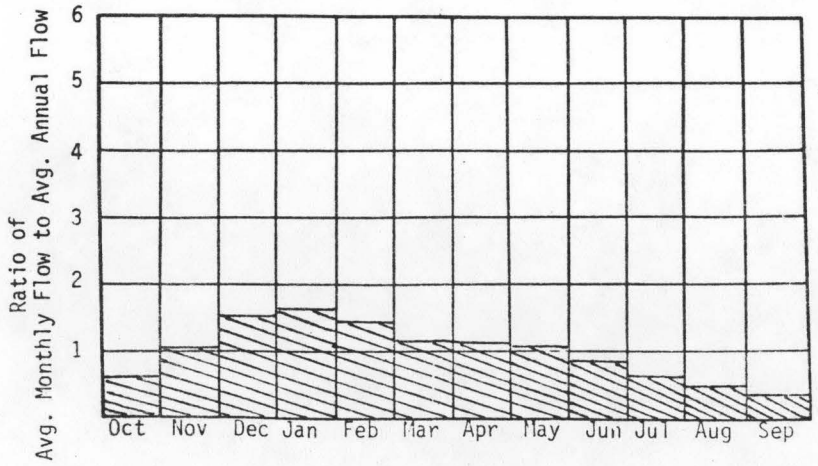
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	24	Sq.Mi.
F.	Inflow Classification	Natural	

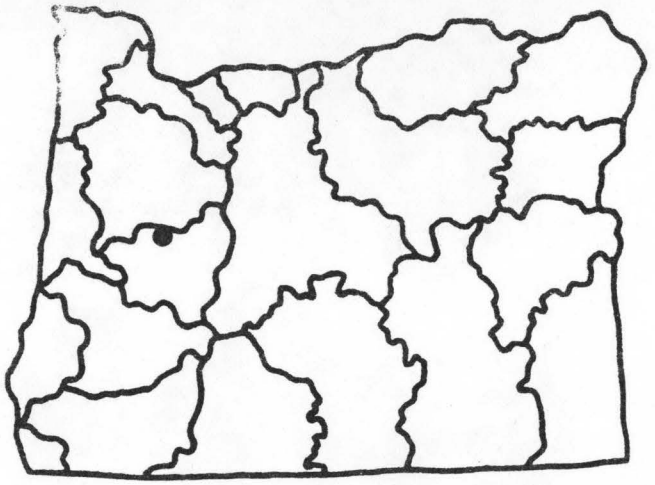
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.9	.04	.39	1.000
80	15.8	.09	.72	.938
50	73.8	.41	2.57	.712
30	136.0	.76	3.79	.569
10	276.7	1.55	5.17	.381

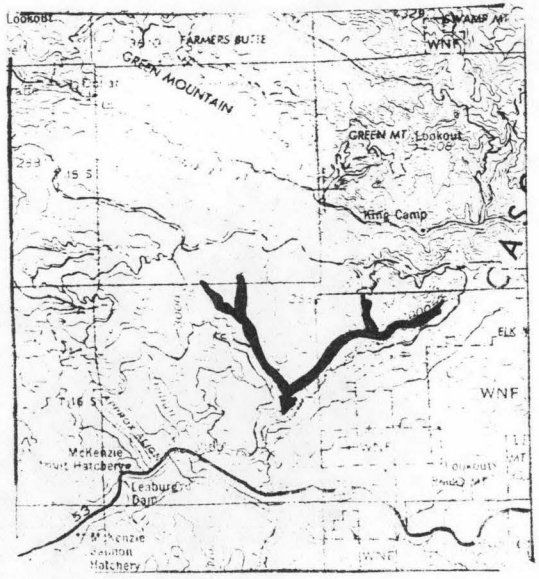
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 120 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-010-R0004

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T16S, R3E, Sec. 16	
D. Latitude, Longitude	44°09'N, 122°29'W	
E. Stream Name	South Fork Gate Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

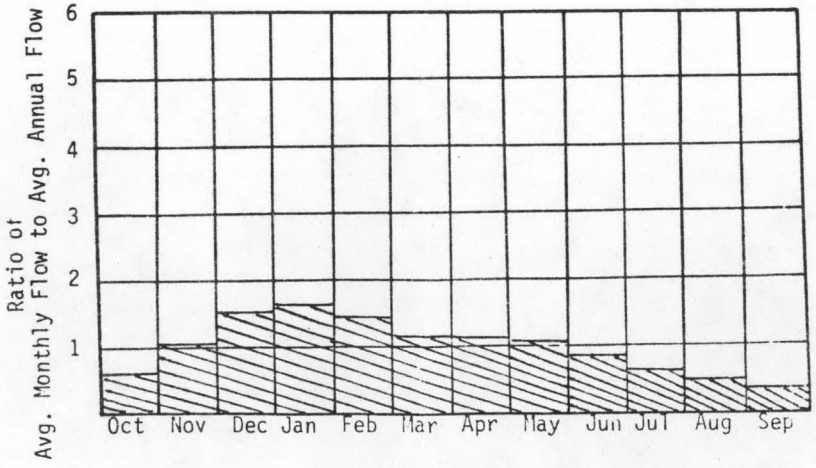
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	20	Sq.Mi.
F. Inflow Classification	Natural	

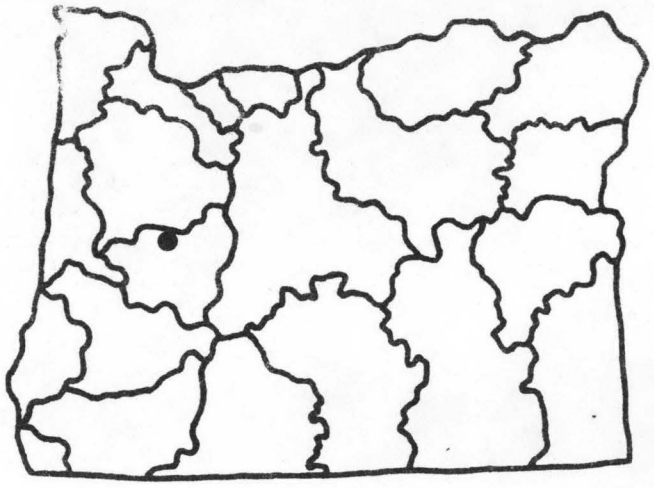
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.03	.29	1.000
80	12.1	.07	.55	.936
50	60.2	.34	2.09	.708
30	112.9	.63	3.12	.564
10	233.2	1.30	4.30	.376

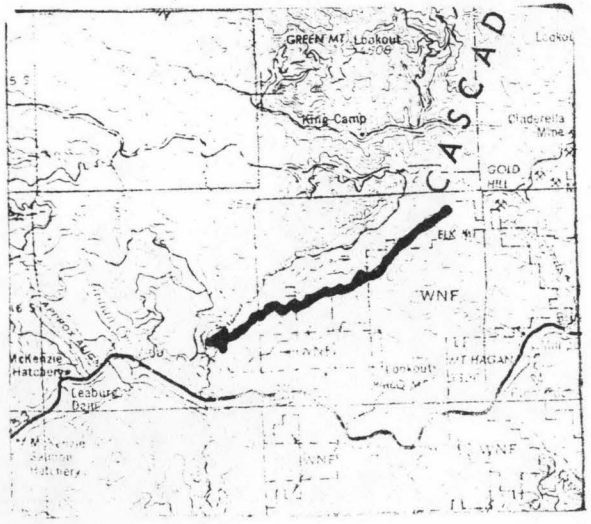
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 99 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0014

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R2E, Sec. 1
D.	Latitude, Longitude	44°07'N, 122°31'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	41.4 to 47.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

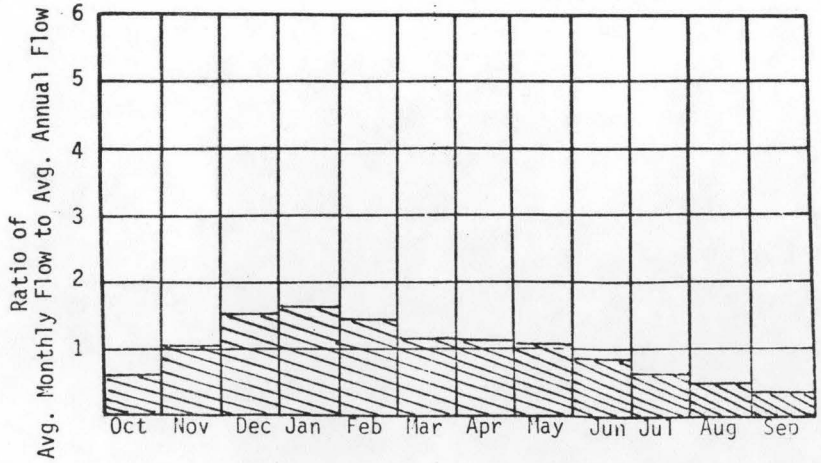
A.	Upstream Elevation of Reach	858	Ft. MSL
B.	Downstream Elevation of Reach	747	Ft. MSL
C.	Total Available Head in Reach	111	Ft.
D.	Average Slope in Reach	17.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	887	Sq.Mi.
F.	Inflow Classification	Regulated	

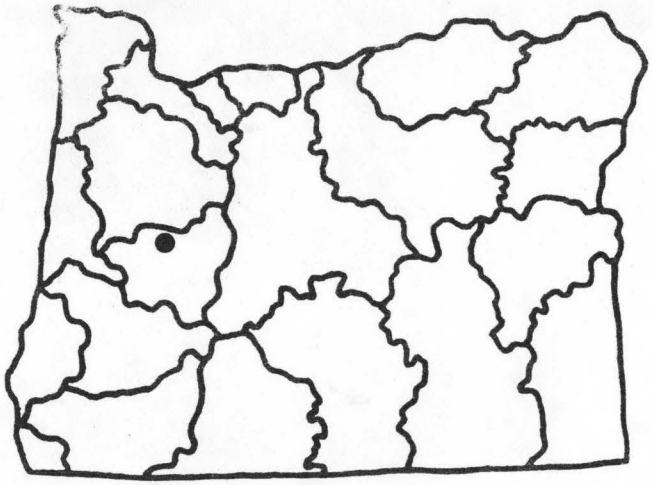
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1487.4	13.99	122.57	1.000
80	1847.3	17.38	148.51	.976
50	2896.9	27.25	204.73	.858
30	3840.6	36.13	235.84	.745
10	5961.0	56.07	270.79	.551

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3535 CFS





U.S.G.S. TOPO. SERIES
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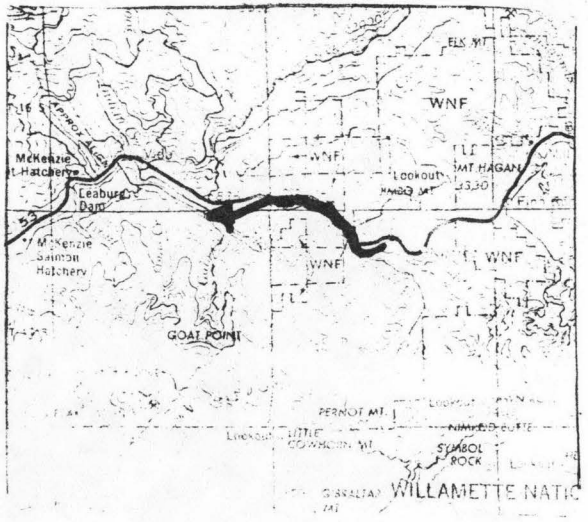
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0016

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R3E, Sec. 10
D.	Latitude, Longitude	44°06'N, 122°26'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	47.7 to 53.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

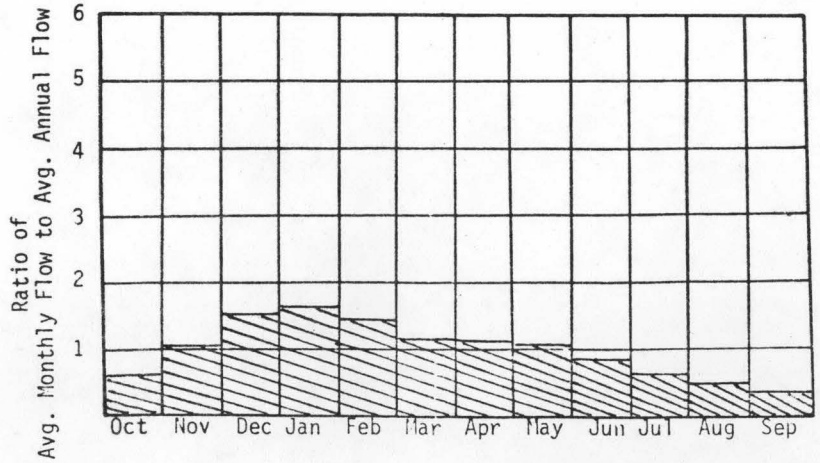
A.	Upstream Elevation of Reach	965	Ft. MSL
B.	Downstream Elevation of Reach	858	Ft. MSL
C.	Total Available Head in Reach	107	Ft.
D.	Average Slope in Reach	17.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	856	Sq.Mi.
F.	Inflow Classification	Regulated	

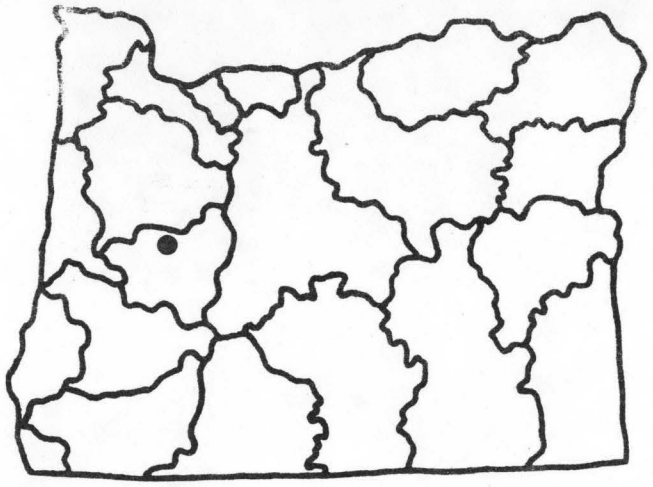
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1408.8	12.78	111.91	1.000
80	1758.3	15.94	136.20	.975
50	2788.7	25.29	189.40	.855
30	3709.9	33.64	218.67	.742
10	5774.3	52.36	251.47	.548

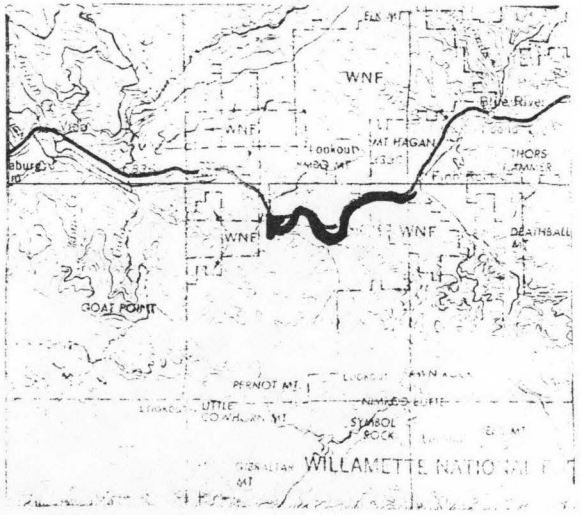
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3413 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-020-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R4E, Sec. 9
D.	Latitude, Longitude	44°05'N, 122°20'W
E.	Stream Name	Quartz Indian Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 6.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

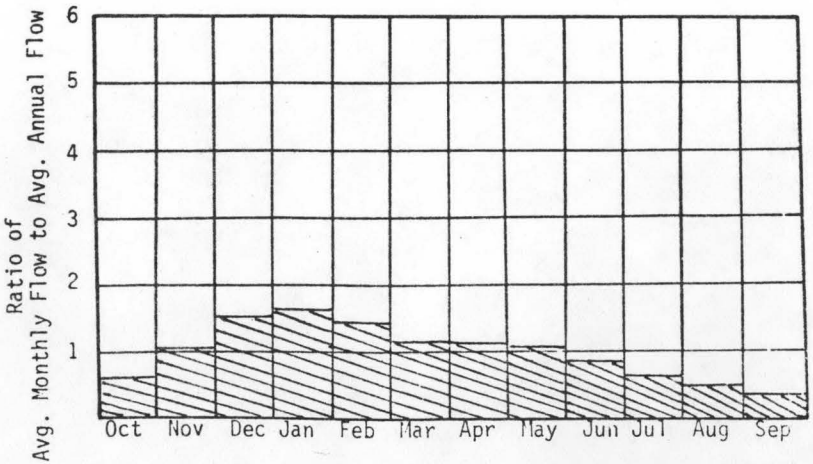
A.	Upstream Elevation of Reach	1590	Ft. MSL
B.	Downstream Elevation of Reach	965	Ft. MSL
C.	Total Available Head in Reach	625	Ft.
D.	Average Slope in Reach	100.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	42	Sq.Mi.
F.	Inflow Classification	Natural	

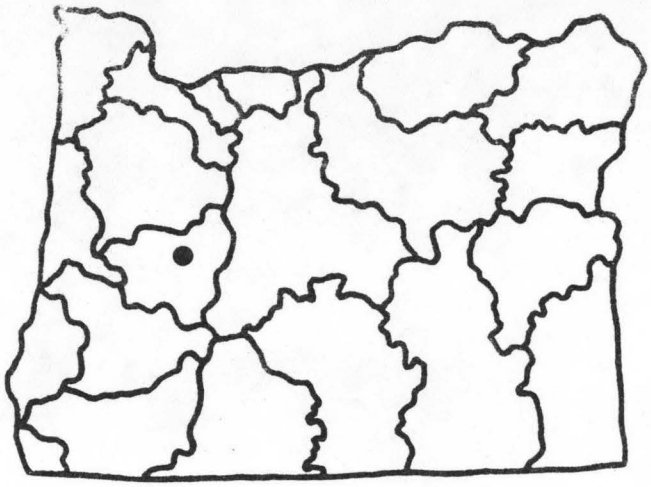
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.5	.45	3.95	1.000
80	16.8	.89	7.32	.938
50	77.5	4.11	25.63	.712
30	142.2	7.53	37.63	.570
10	288.2	15.27	51.18	.383

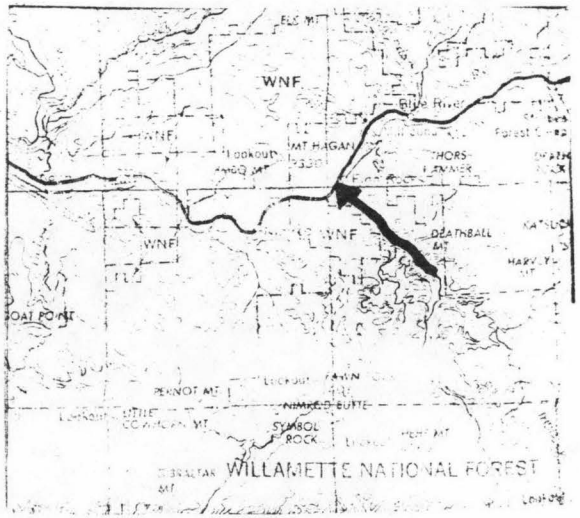
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 125 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-020-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R4E, Sec. 3
D.	Latitude, Longitude	44°00'N, 122°19'W
E.	Stream Name	Quartz Indian Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	6.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

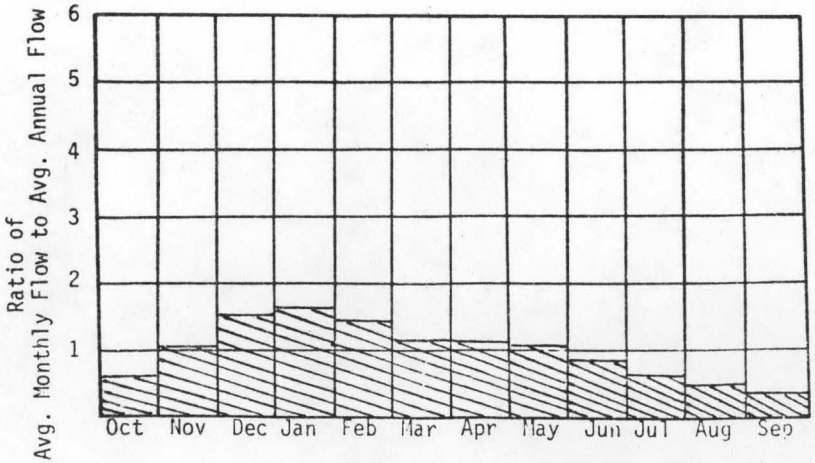
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	23	Sq.Mi.
F.	Inflow Classification	Natural	

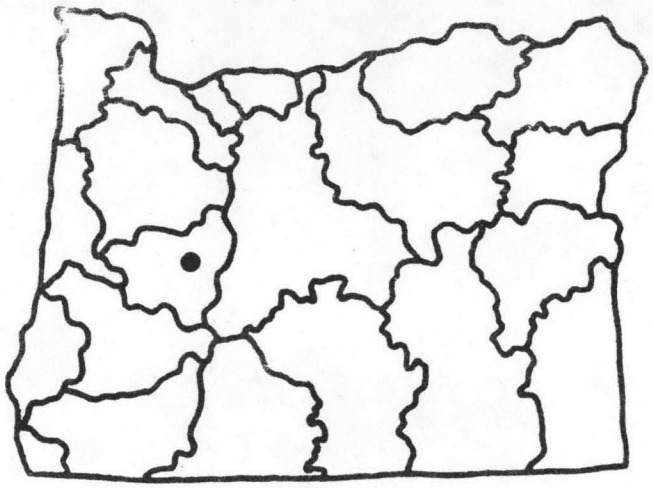
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.9	.03	.24	1.000
80	10.1	.06	.46	.935
50	52.4	.29	1.81	.705
30	99.5	.56	2.73	.561
10	207.6	1.16	3.79	.373

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 87 CFS





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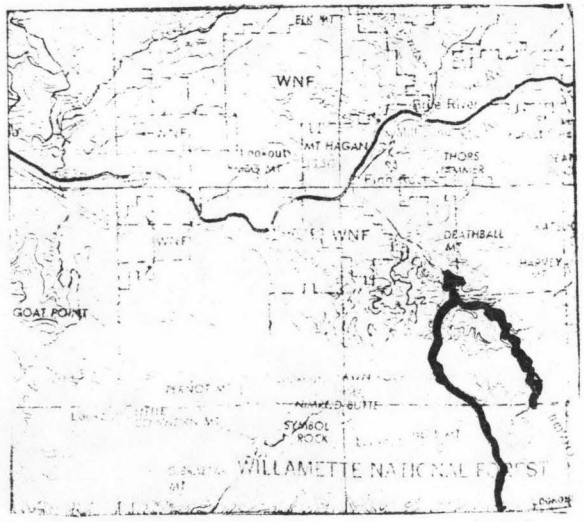
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0018

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R4E, Sec. 6
D.	Latitude, Longitude	44°08'N, 122°22'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	53.8 to 57.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

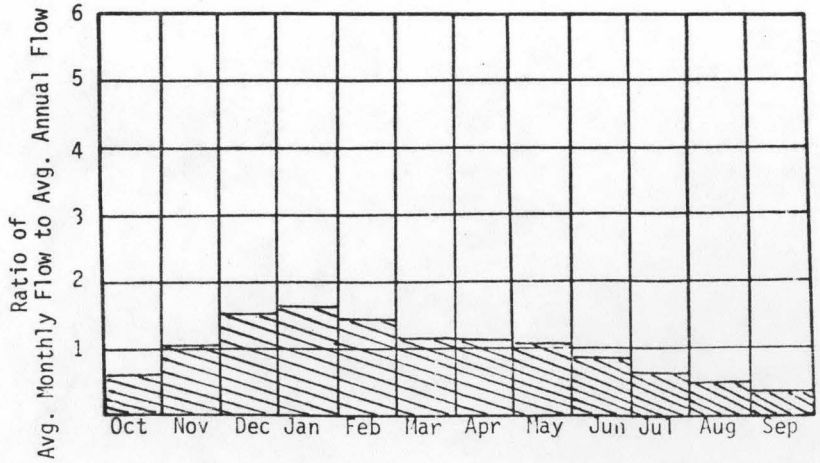
A.	Upstream Elevation of Reach	1025	Ft. MSL
B.	Downstream Elevation of Reach	965	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	18.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	783	Sq.Mi.
F.	Inflow Classification	Regulated	

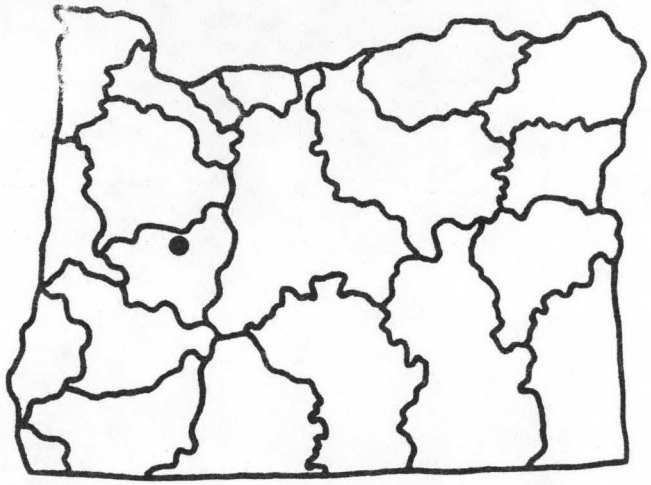
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1267.3	6.44	56.45	1.000
80	1596.7	8.12	69.29	.974
50	2589.1	13.17	98.02	.850
30	3467.4	17.63	113.67	.736
10	5426.4	27.59	131.12	.542

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3186 CFS





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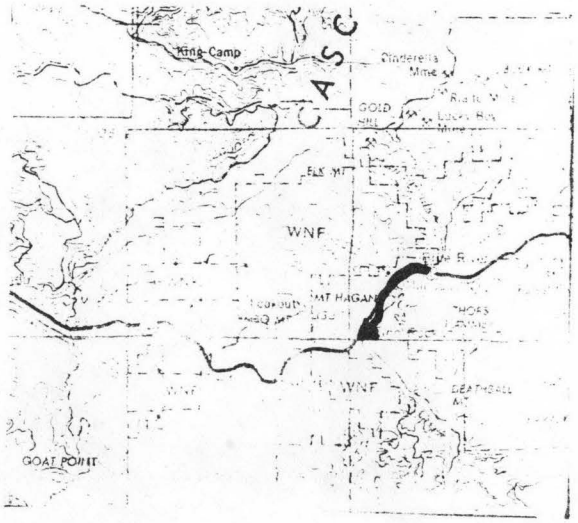
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-030-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S. R4E. Sec. 14
D.	Latitude, Longitude	44°10'N. 122°18'W
E.	Stream Name	Blue River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 7.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

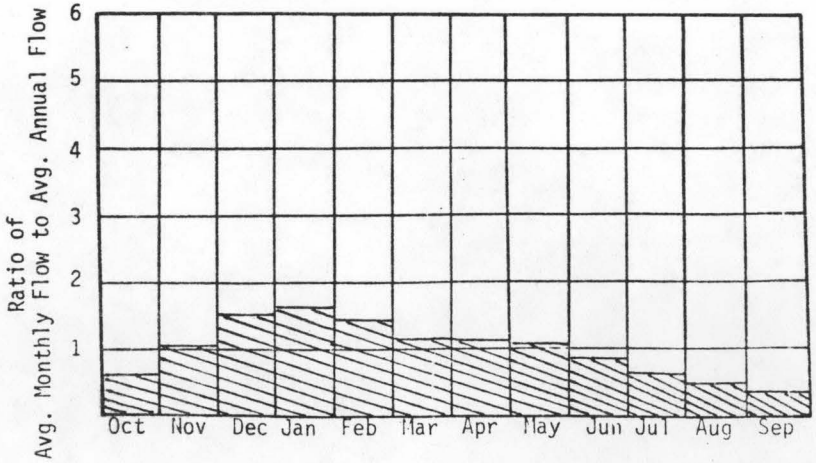
A.	Upstream Elevation of Reach	1376	Ft. MSL
B.	Downstream Elevation of Reach	1025	Ft. MSL
C.	Total Available Head in Reach	351	Ft.
D.	Average Slope in Reach	46.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	94	Sq.Mi.
F.	Inflow Classification	Regulated	

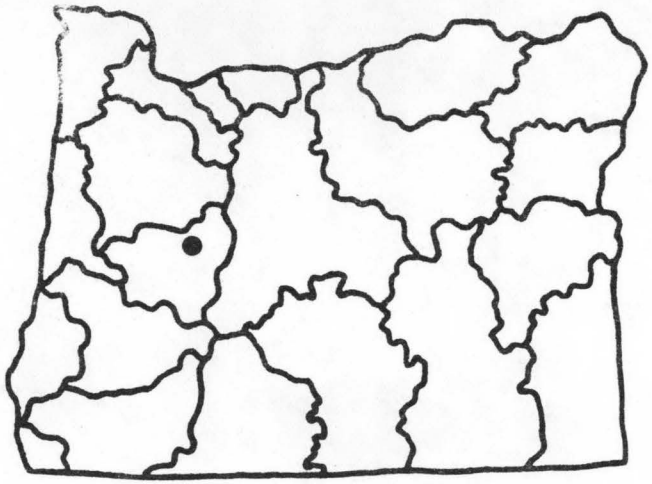
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	62.6	1.86	16.31	1.000
80	103.3	3.07	25.59	.951
50	314.1	9.34	61.30	.749
30	508.2	15.12	81.53	.616
10	929.2	27.64	103.47	.427

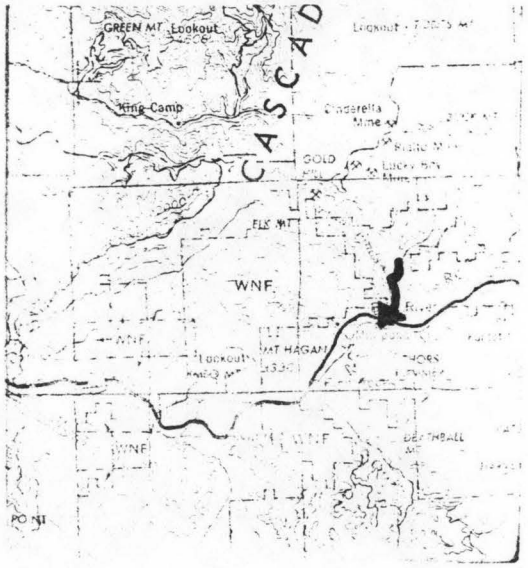
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 454 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SERIES
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-030-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R5E
D.	Latitude, Longitude	44°12'N, 122°15'W
E.	Stream Name	Lookout Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 3.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

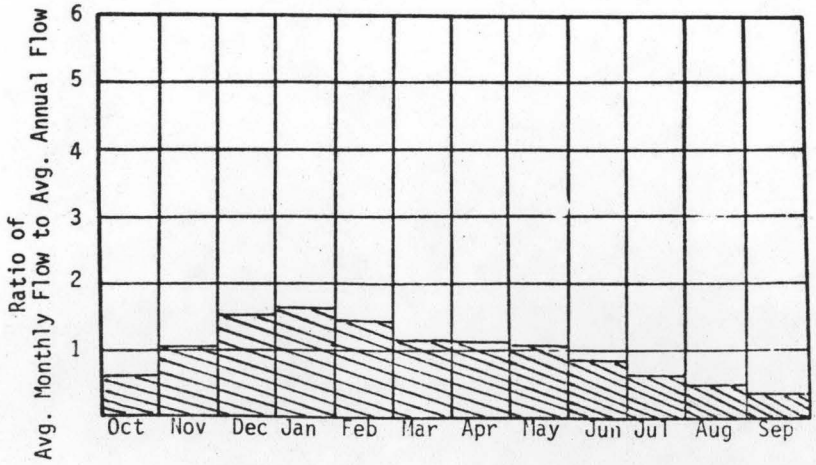
A.	Upstream Elevation of Reach	1520	Ft. MSL
B.	Downstream Elevation of Reach	1376	Ft. MSL
C.	Total Available Head in Reach	144	Ft.
D.	Average Slope in Reach	48	Ft./Mi.
E.	Drainage Area above Reach Mouth	26	Sq.Mi.
F.	Inflow Classification	Natural	

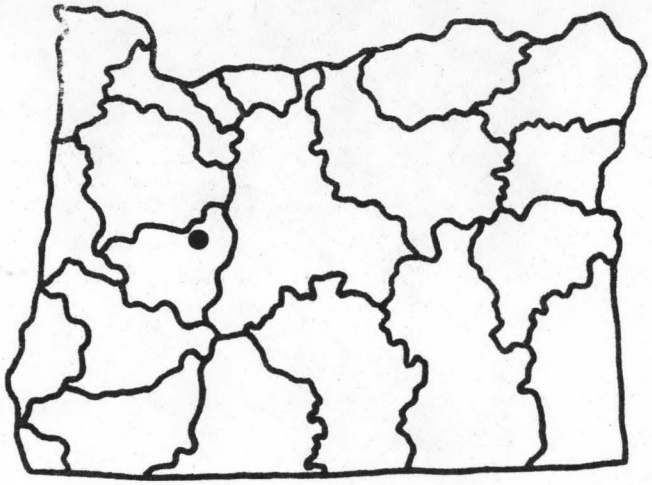
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.0	.09	.75	1.000
80	14.0	.17	1.40	.937
50	67.4	.82	5.11	.710
30	125.2	1.53	7.58	.567
10	256.4	3.13	10.39	.379

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 110 CFS





U.S.G.S. TOPO. SERIES
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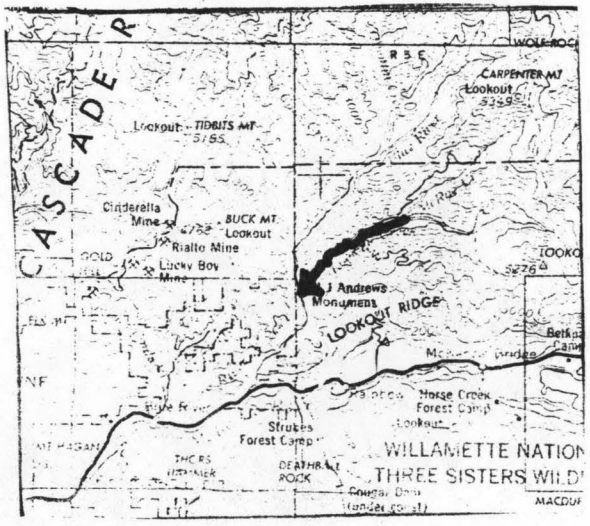
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-030-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R5E
D.	Latitude, Longitude	44°14'N, 122°10'W
E.	Stream Name	Lookout Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

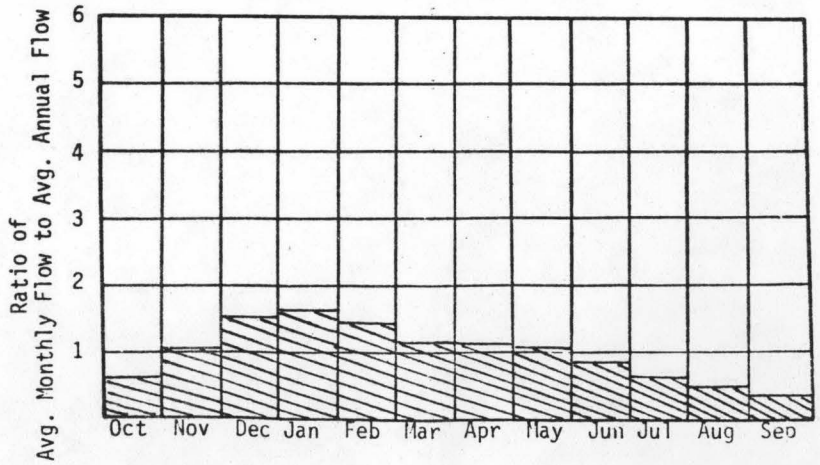
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural	

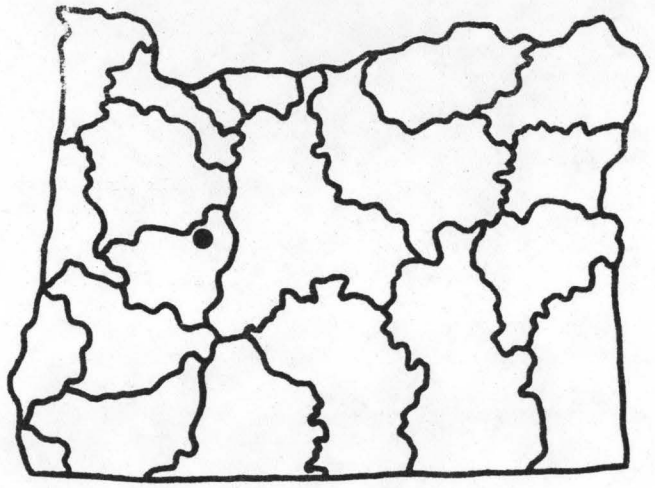
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.1	.03	.30	1.000
80	12.5	.07	.57	.936
50	61.6	.34	2.14	.708
30	115.4	.65	3.19	.565
10	237.9	1.33	4.39	.377

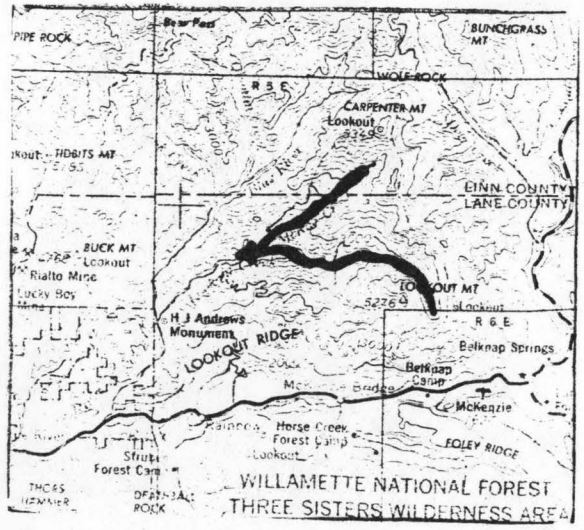
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 101 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-030-R0004

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T16S, R5E	
D. Latitude, Longitude	44°14'N, 122°15'W	
E. Stream Name	Blue River	
F. Major Basin Name	Upper Willamette	
G. River Mile	7.6 to 11.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

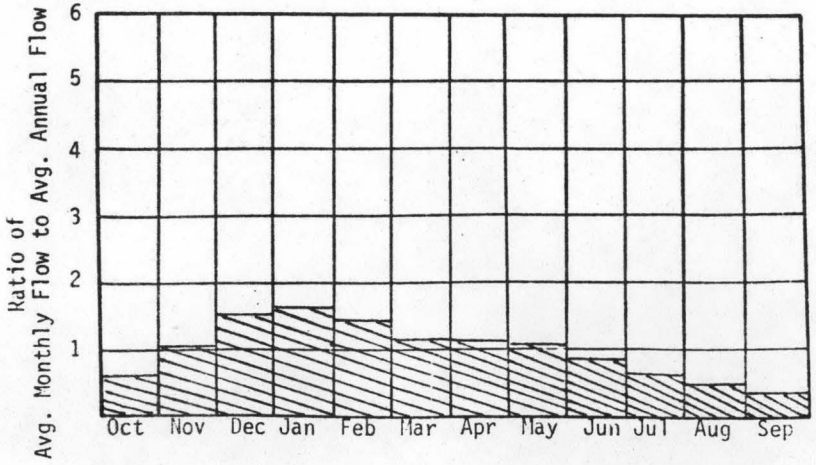
A. Upstream Elevation of Reach	1666	Ft. MSL
B. Downstream Elevation of Reach	1376	Ft. MSL
C. Total Available Head in Reach	290	Ft.
D. Average Slope in Reach	70.7	Ft./Mi.
E. Drainage Area above Reach Mouth	49	Sq.Mi.
F. Inflow Classification	Natural	

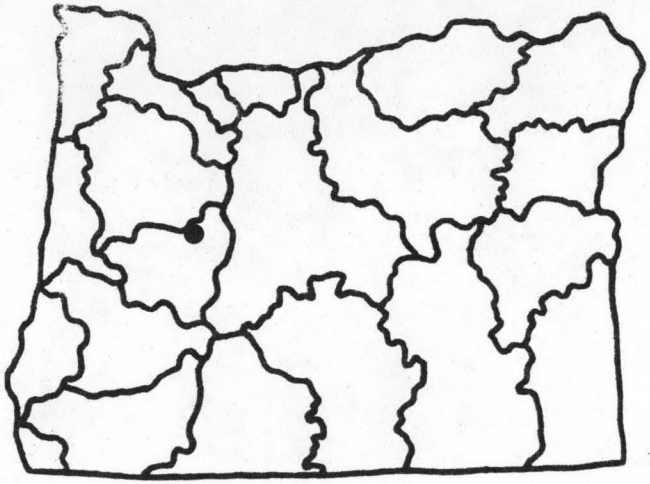
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.2	.45	3.91	1.000
80	33.5	.82	6.80	.943
50	132.0	3.24	20.58	.724
30	230.7	5.67	29.09	.585
10	449.8	11.05	38.52	.398

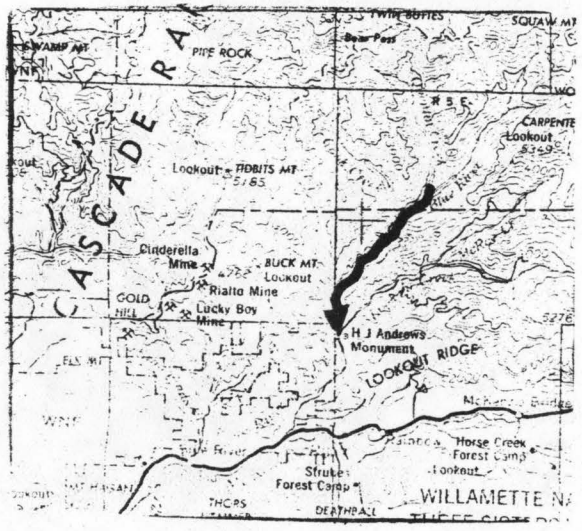
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 204 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-030-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R5E
D.	Latitude, Longitude	44°17'N, 122°11'W
E.	Stream Name	Blue River
F.	Major Basin Name	Upper Willamette
G.	River Mile	11.7 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

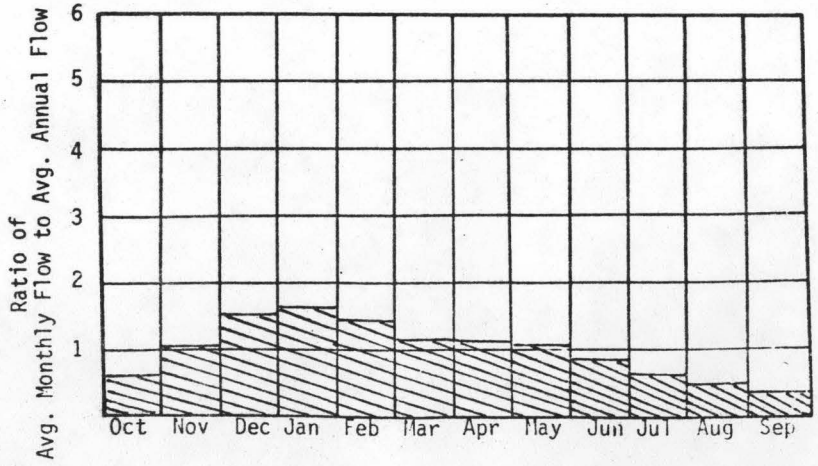
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	24	Sq.Mi.
F.	Inflow Classification	Natural	

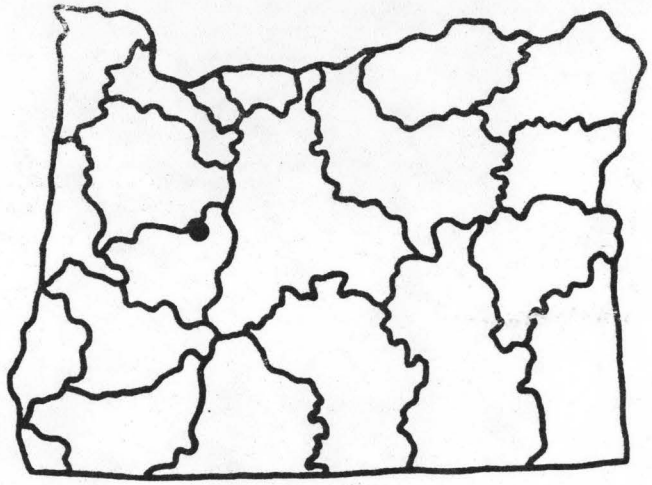
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.2	.06	.50	1.000
80	19.9	.11	.91	.939
50	88.2	.49	3.09	.715
30	160.0	.89	4.50	.574
10	321.2	1.80	6.08	.386

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 141 CFS





U.S.G.S. TOPO. SERIES
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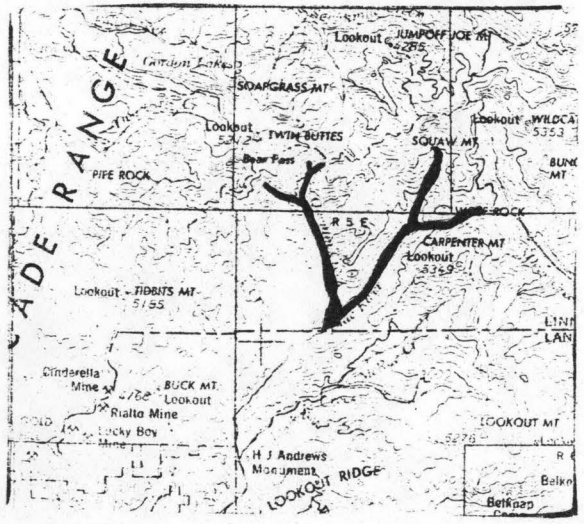
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0020

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T16S, R4E, Sec. 27	
D. Latitude, Longitude	44°09'N, 122°19'W	
E. Stream Name	McKenzie River	
F. Major Basin Name	Upper Willamette	
G. River Mile	57.0 to 59.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

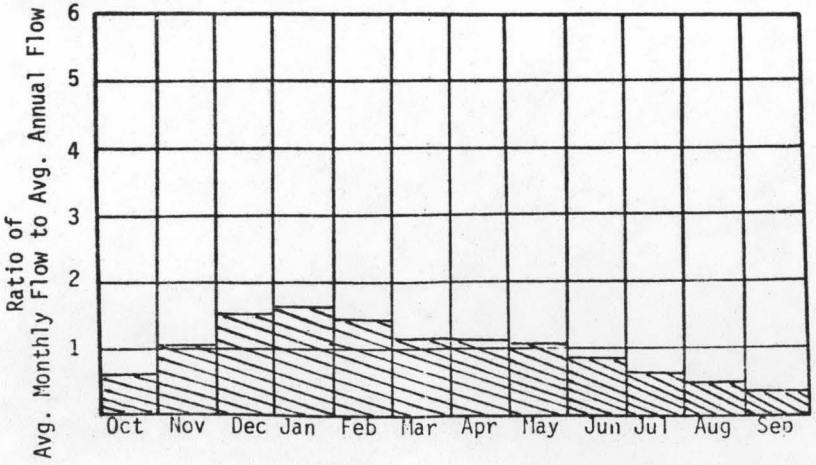
A. Upstream Elevation of Reach	1090	Ft. MSL
B. Downstream Elevation of Reach	1025	Ft. MSL
C. Total Available Head in Reach	75	Ft.
D. Average Slope in Reach	27.8	Ft./Mi.
E. Drainage Area above Reach Mouth	679	Sq.Mi.
F. Inflow Classification	Regulated	

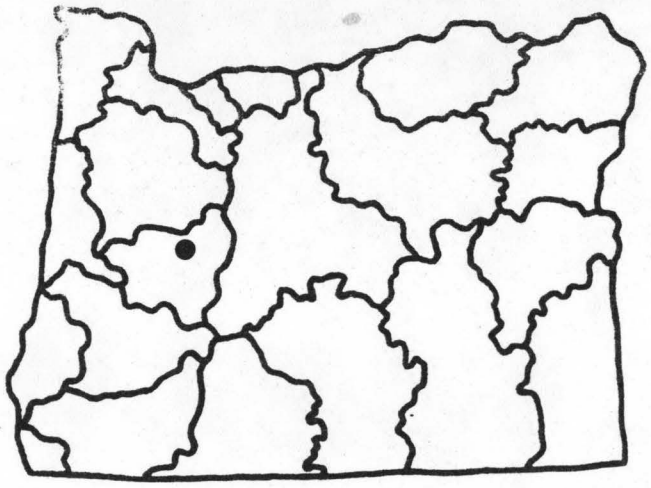
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	995.2	6.33	55.41	1.00
80	1281.4	8.14	69.35	.972
50	2185.5	13.89	102.07	.839
30	2971.6	18.89	119.58	.723
10	4709.1	29.93	138.93	.530

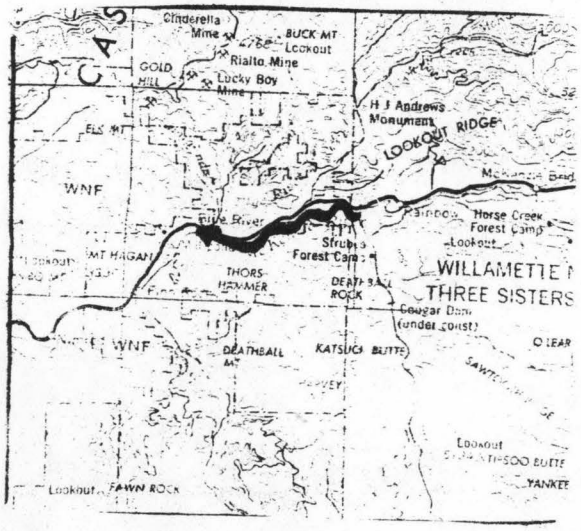
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2725 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0001

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T16S, R5E, Sec. 30	
D. Latitude, Longitude	44°09'N, 122°15'W	
E. Stream Name	South Fork McKenzie	River
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 4.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

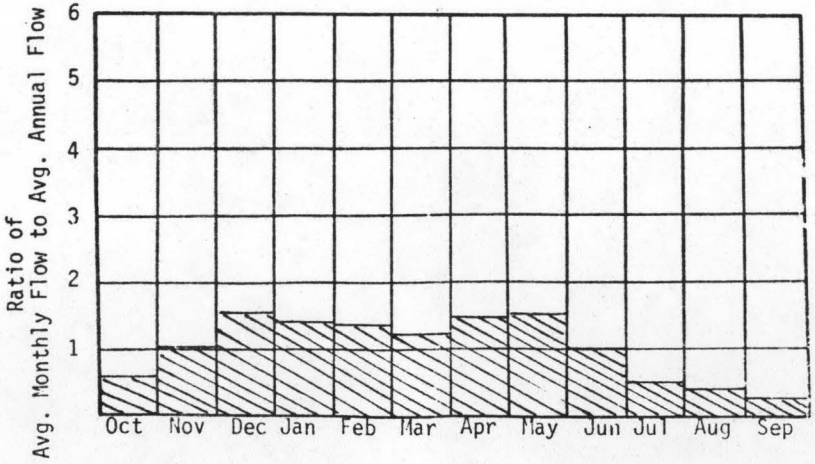
A. Upstream Elevation of Reach	1745	Ft. MSL
B. Downstream Elevation of Reach	1090	Ft. MSL
C. Total Available Head in Reach	655	Ft.
D. Average Slope in Reach	145.6	Ft./Mi.
E. Drainage Area above Reach Mouth	215	Sq.Mi.
F. Inflow Classification	Regulated	

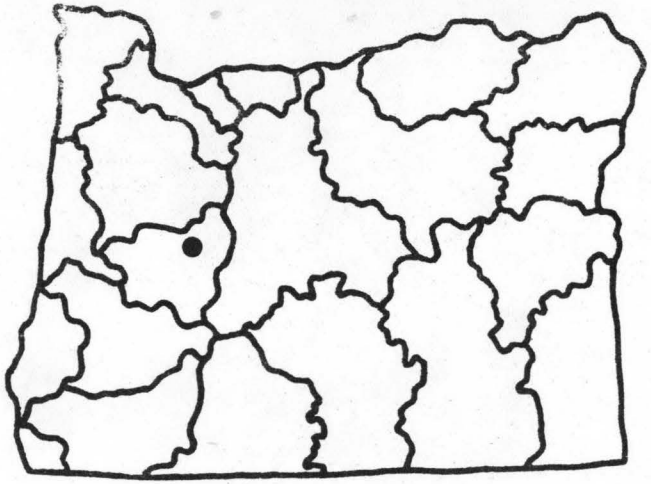
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	156.5	8.69	76.08	1.000
80	237.9	13.20	110.71	.957
50	597.2	33.15	224.29	.772
30	912.1	50.63	285.54	.644
10	1590.6	88.29	351.52	.455

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 822 CFS





U.S.G.S. TOPO. SERIES
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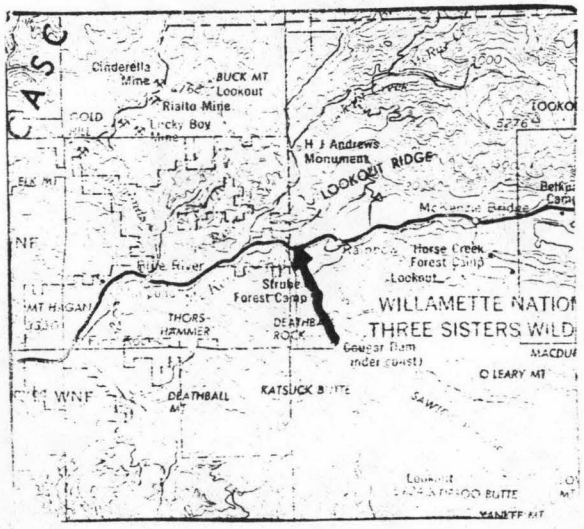
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0007

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R5E
D.	Latitude, Longitude	44°02'N, 122°10'W
E.	Stream Name	French Pete Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 5.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

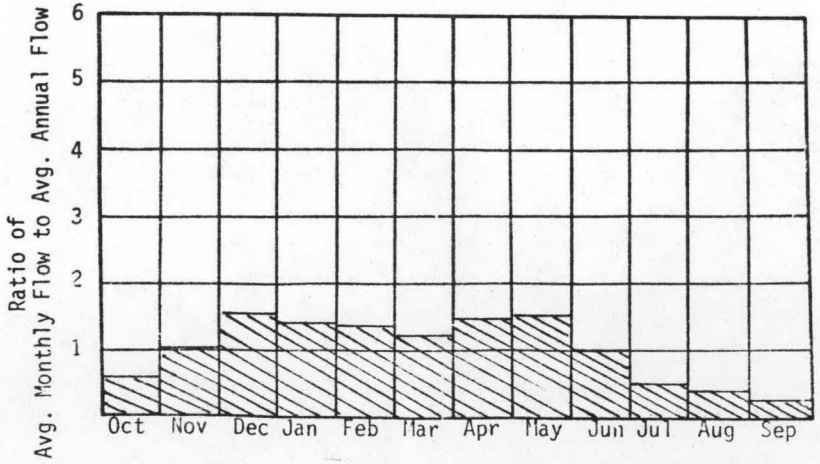
A.	Upstream Elevation of Reach	2880	Ft. MSL
B.	Downstream Elevation of Reach	1745	Ft. MSL
C.	Total Available Head in Reach	1135	Ft.
D.	Average Slope in Reach	227	Ft./Mi.
E.	Drainage Area above Reach Mouth	31	Sq.Mi.
F.	Inflow Classification	Natural	

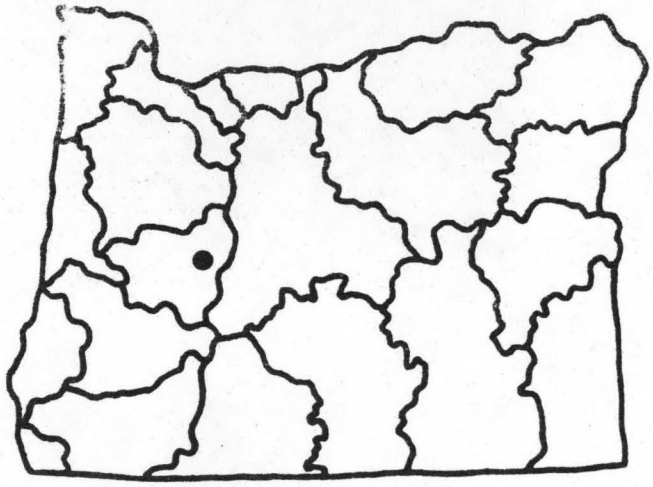
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.6	.74	6.45	1.000
80	15.2	1.47	12.05	.938
50	71.9	6.92	43.09	.711
30	132.8	12.78	63.61	.568
10	270.7	26.04	86.86	.381

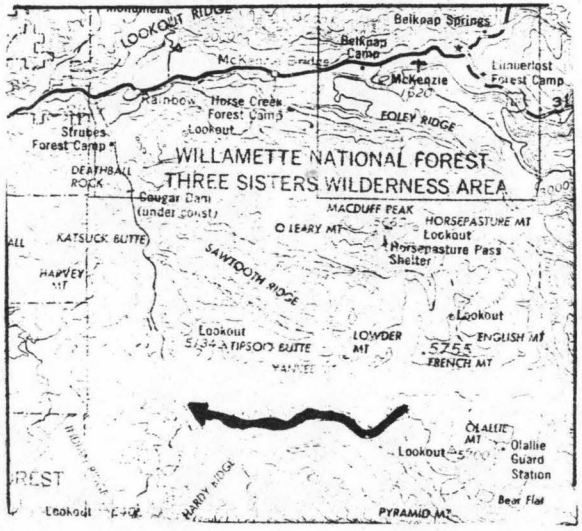
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 117 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0008

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R6E
D.	Latitude, Longitude	44°01'N, 122°04'W
E.	Stream Name	French Pete Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	5.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

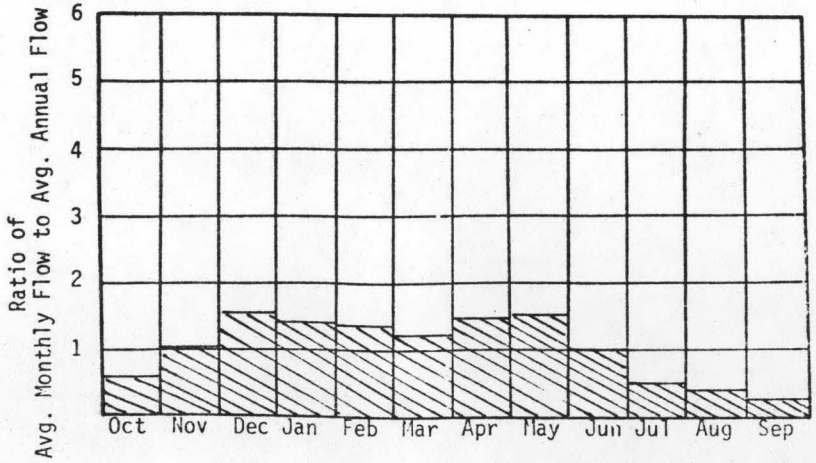
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	24	Sq.Mi.
F.	Inflow Classification	Natural	

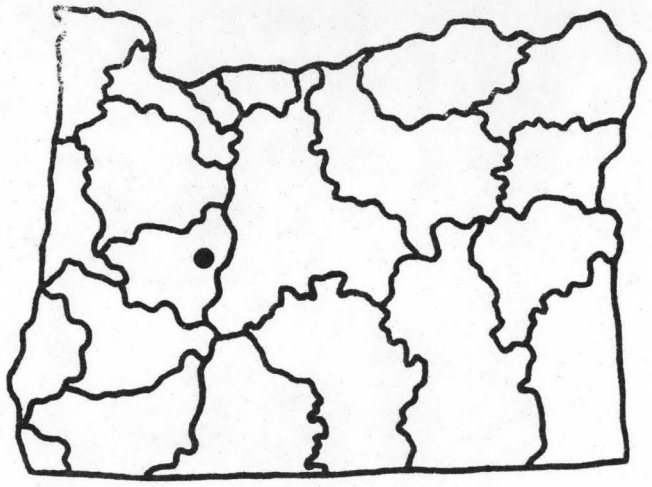
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.3	.04	.31	1.000
80	12.8	.07	.59	.937
50	62.7	.35	2.18	.708
30	117.3	.66	3.25	.565
10	241.4	1.35	4.46	.377

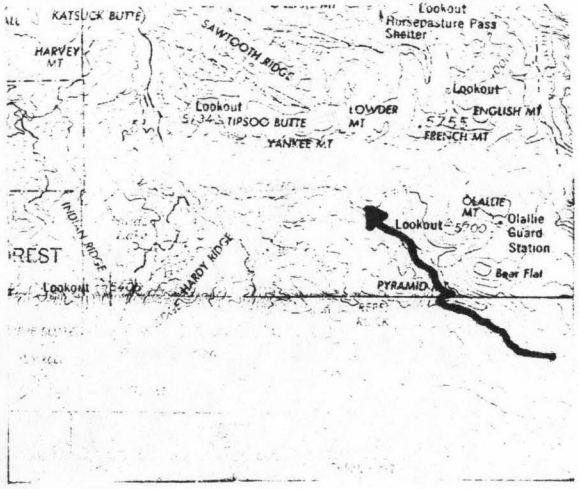
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 103 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0010

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T18S, R5E	
D. Latitude, Longitude	44°01'N, 122°10'W	
E. Stream Name	South Fork McKenzie	River
F. Major Basin Name	Upper Willamette	
G. River Mile	11.1 to 16.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

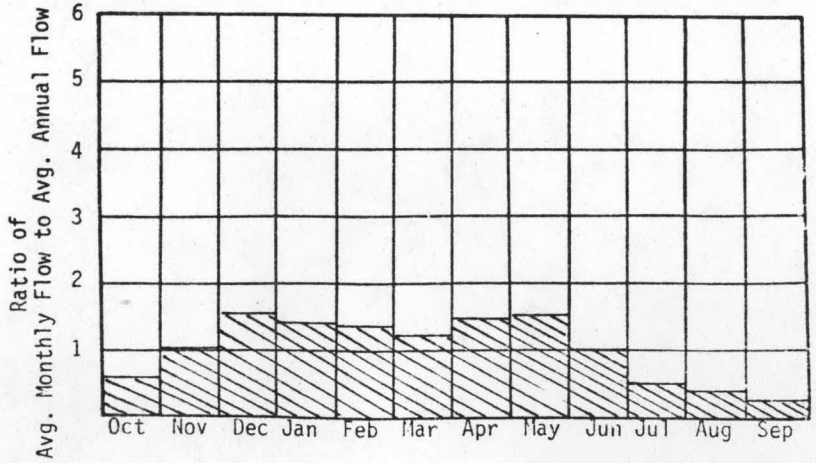
A. Upstream Elevation of Reach	2105	Ft. MSL
B. Downstream Elevation of Reach	1745	Ft. MSL
C. Total Available Head in Reach	360	Ft.
D. Average Slope in Reach	67.9	Ft./Mi.
E. Drainage Area above Reach Mouth	125	Sq.Mi.
F. Inflow Classification	Natural	

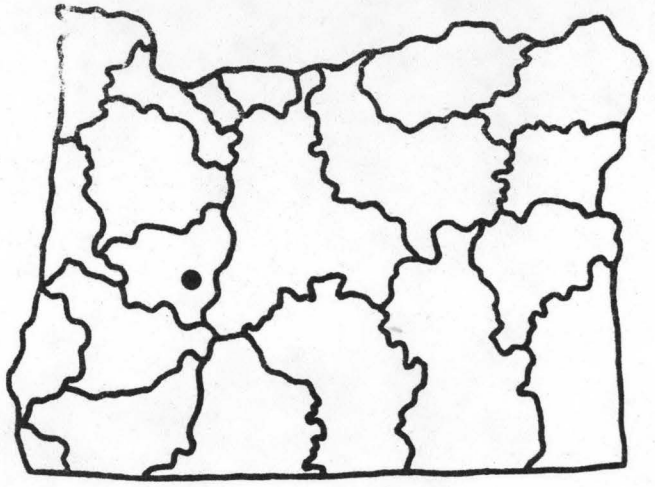
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	63.0	1.92	16.84	1.000
80	103.9	3.17	26.41	.951
50	315.6	9.63	63.17	.749
30	510.3	15.57	83.99	.616
10	932.8	28.46	106.57	.428

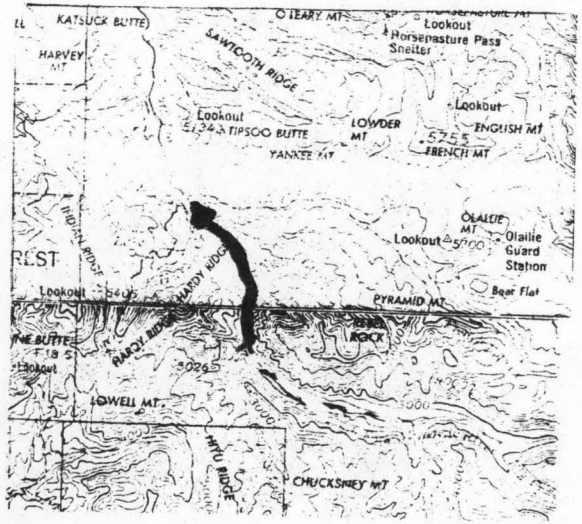
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 457 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0014

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T19S, R6E	
D. Latitude, Longitude	43°58'N, 122°07'W	
E. Stream Name	South Fork McKenzie	River
F. Major Basin Name	Upper Willamette	
G. River Mile	16.4 to 25.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

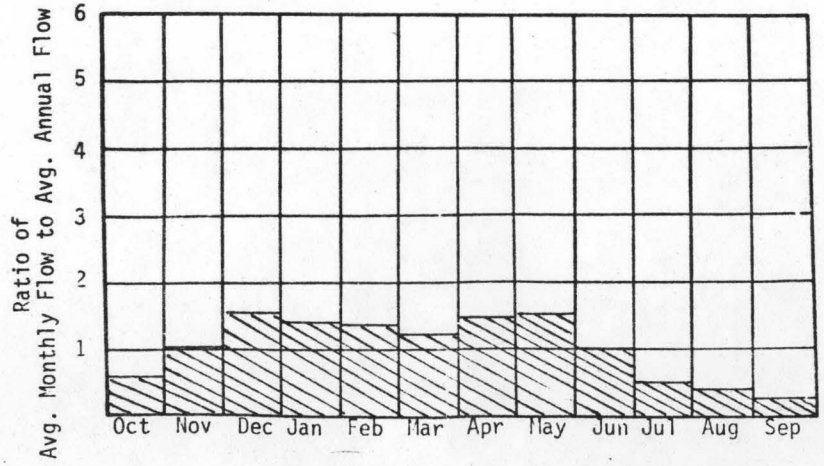
A. Upstream Elevation of Reach	2821	Ft. MSL
B. Downstream Elevation of Reach	2105	Ft. MSL
C. Total Available Head in Reach	616	Ft.
D. Average Slope in Reach	83.3	Ft./Mi.
E. Drainage Area above Reach Mouth	78	Sq.Mi.
F. Inflow Classification	Natural	

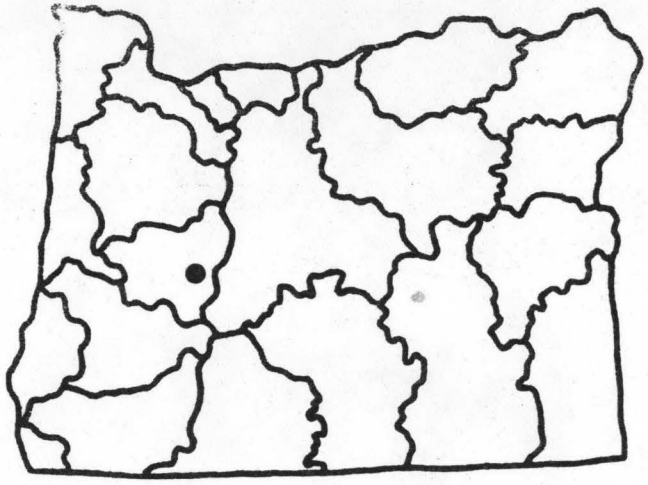
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	29.6	1.55	13.55	1.000
80	52.3	2.73	22.62	.946
50	185.9	9.71	62.35	.733
30	315.3	16.46	86.01	.597
10	599.2	31.28	111.98	.409

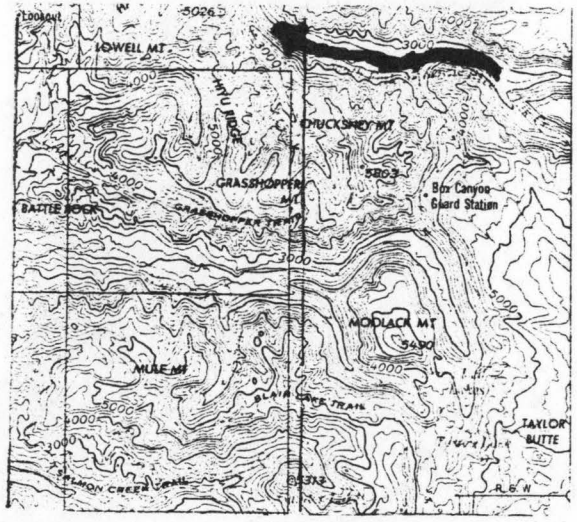
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 280 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0016

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R7E
D.	Latitude, Longitude	43°55'N, 122°00'W
E.	Stream Name	Elk Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

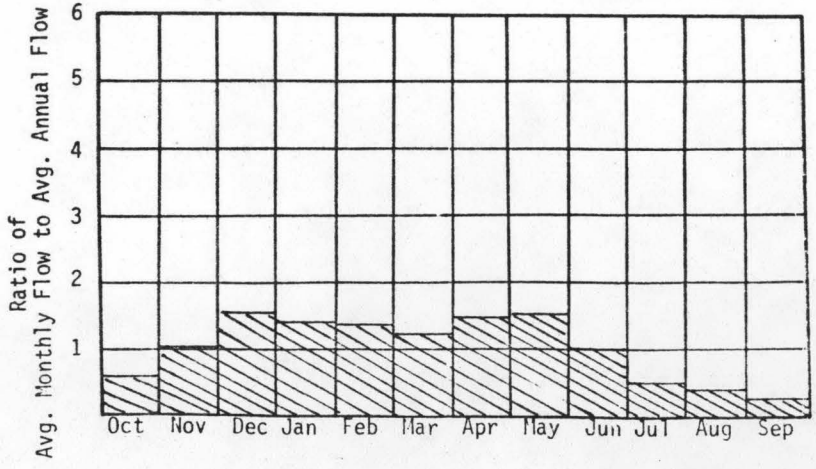
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

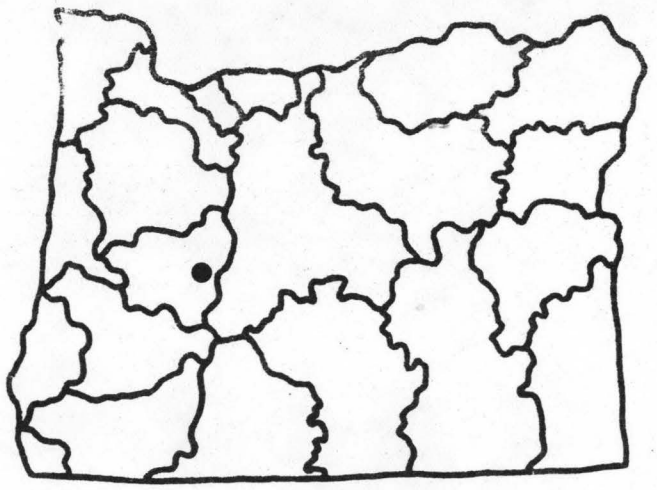
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.2	.03	.25	1.000
80	10.7	.06	.49	.936
50	54.6	.31	1.89	.706
30	103.4	.58	2.85	.562
10	215.1	1.20	3.94	.374

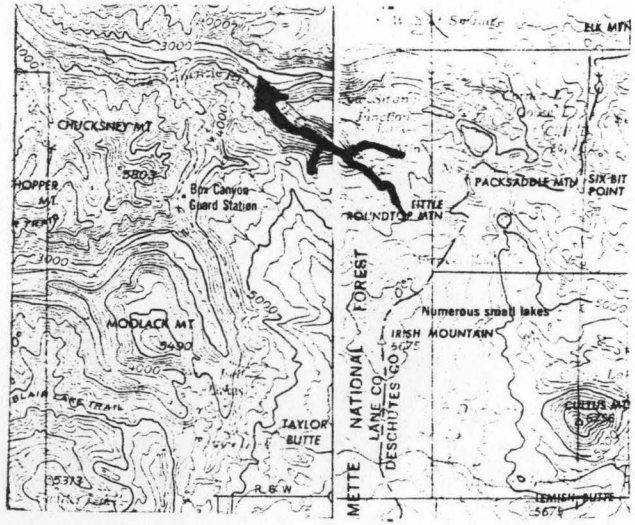
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 91 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG-CRESCENT



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0017

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T19S, R7E	
D. Latitude, Longitude	43°57'N, 122°00'W	
E. Stream Name	South Fork McKenzie	River
F. Major Basin Name	Upper Willamette	
G. River Mile	25.0 to 29.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

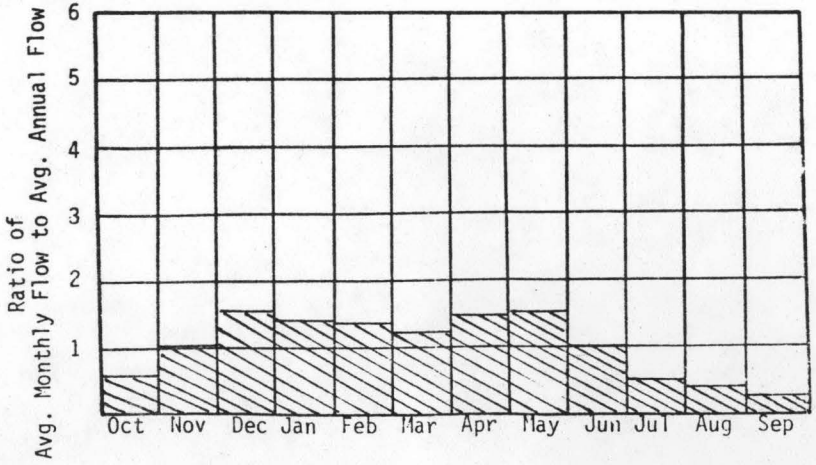
A. Upstream Elevation of Reach	3685	Ft. MSL
B. Downstream Elevation of Reach	2821	Ft. MSL
C. Total Available Head in Reach	864	Ft.
D. Average Slope in Reach	192.0	Ft./Mi.
E. Drainage Area above Reach Mouth	28	Sq.Mi.
F. Inflow Classification	Natural	

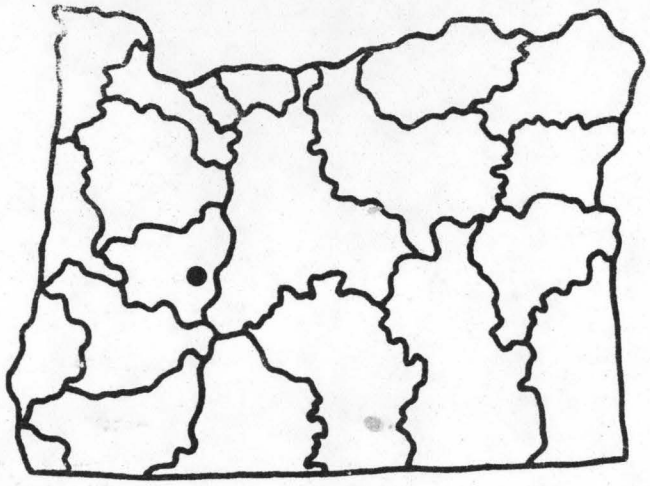
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.9	.50	4.41	1.000
80	13.8	1.01	8.32	.937
50	66.8	4.89	30.40	.710
30	124.1	9.09	45.11	.567
10	254.4	18.63	61.83	.379

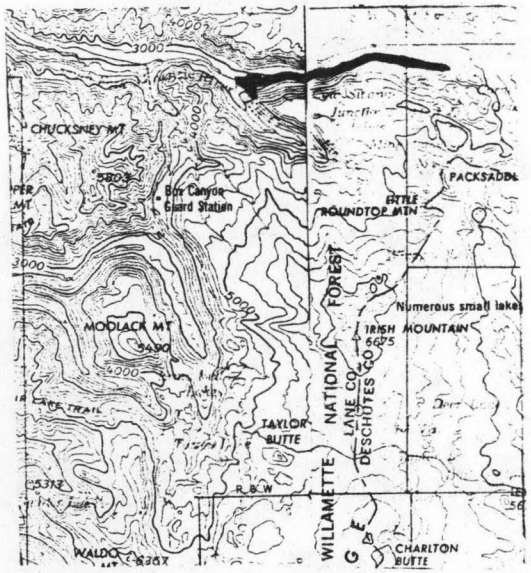
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 109 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG-CRESCENT



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-040-R0018

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T19S, R7E, Sec. 8	
D. Latitude, Longitude	43°56'N, 121°55'W	
E. Stream Name	South Fork McKenzie	River
F. Major Basin Name	Upper Willamette	
G. River Mile	29.5 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

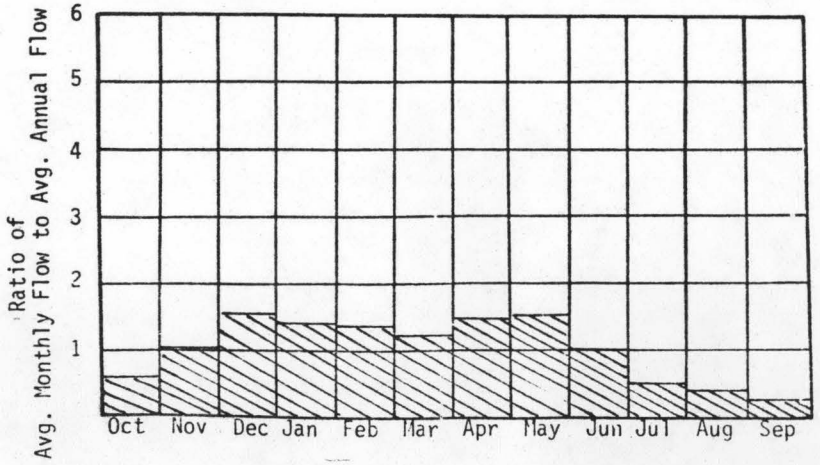
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	19	Sq.Mi.
F. Inflow Classification	Natural	

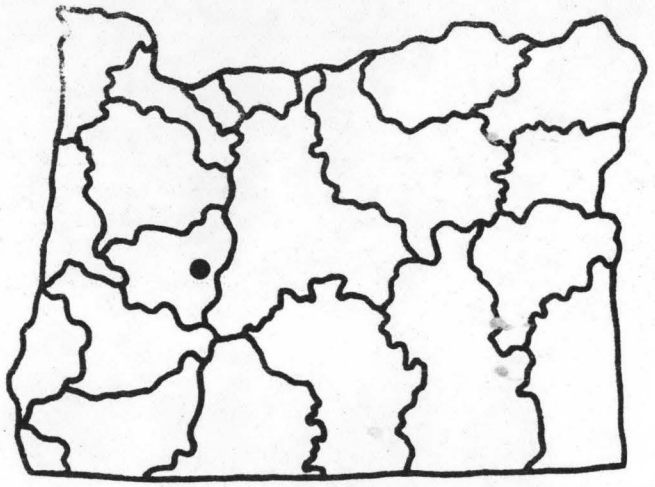
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.03	.24	1.000
80	10.3	.06	.47	.935
50	53.1	.30	1.84	.705
30	100.8	.56	2.77	.561
10	210.0	1.17	3.84	.373

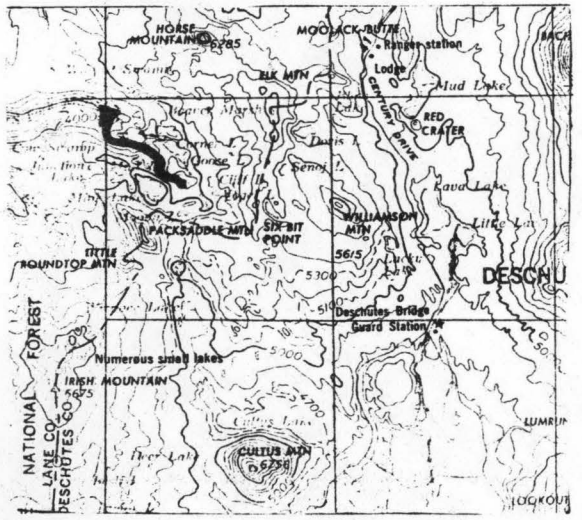
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 88 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: CRESCENT



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0022

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T16S, R5E, Sec. 7	
D. Latitude, Longitude	44°10'N, 122°15'W	
E. Stream Name	McKenzie River	
F. Major Basin Name	Upper Willamette	
G. River Mile	59.7 to 65.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

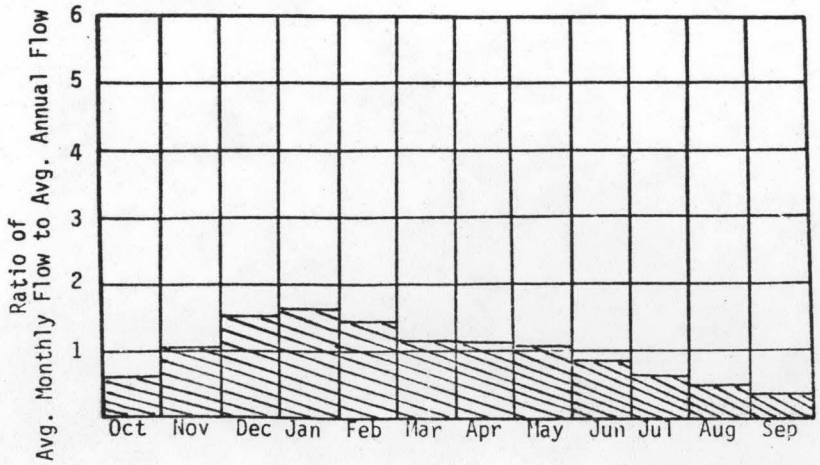
A. Upstream Elevation of Reach	1264	Ft. MSL
B. Downstream Elevation of Reach	1090	Ft. MSL
C. Total Available Head in Reach	174	Ft.
D. Average Slope in Reach	28.5	Ft./Mi.
E. Drainage Area above Reach Mouth	457	Sq.Mi.
F. Inflow Classification	Regulated	

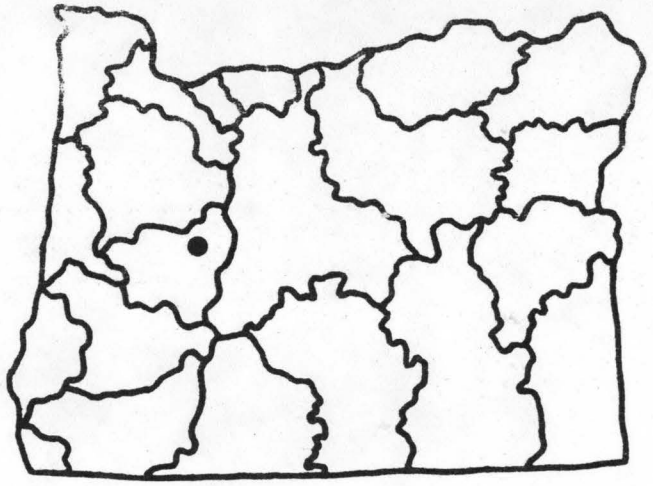
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	565.7	8.34	73.07	1.000
80	766.3	11.30	95.74	.967
50	1470.7	21.69	154.89	.815
30	2071.9	30.55	185.95	.695
10	3380.7	49.85	219.76	.503

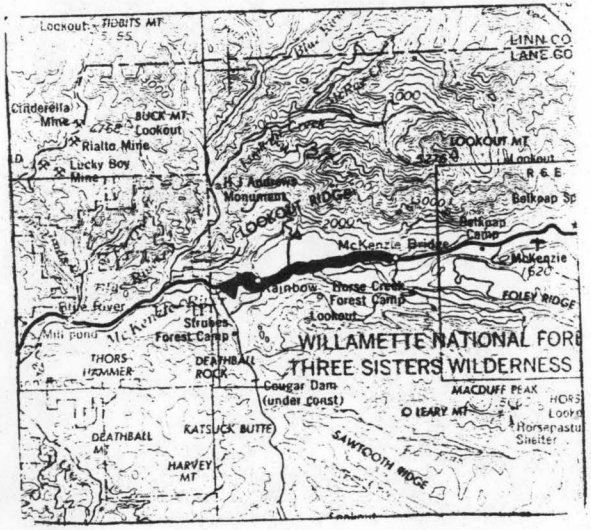
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1891 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-050-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R6E, Sec. 20
D.	Latitude, Longitude	44°09'N, 122°06'W
E.	Stream Name	Horse Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 10.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

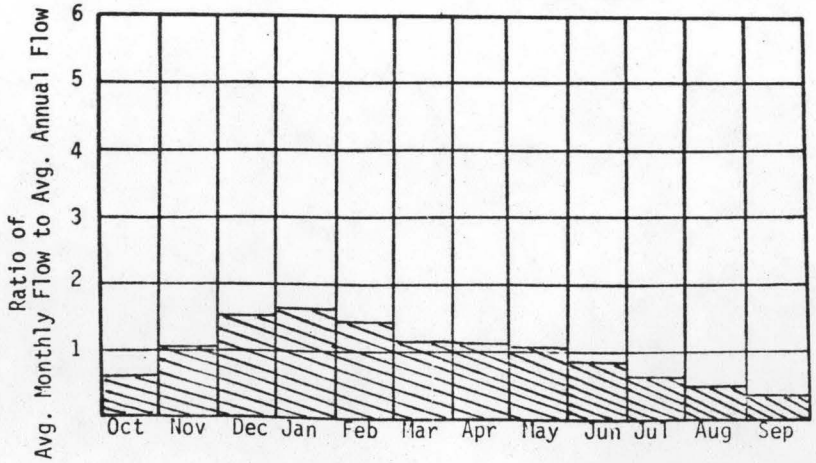
A.	Upstream Elevation of Reach	1995	Ft. MSL
B.	Downstream Elevation of Reach	1264	Ft. MSL
C.	Total Available Head in Reach	731	Ft.
D.	Average Slope in Reach	67.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	160	Sq.Mi.
F.	Inflow Classification	Natural	

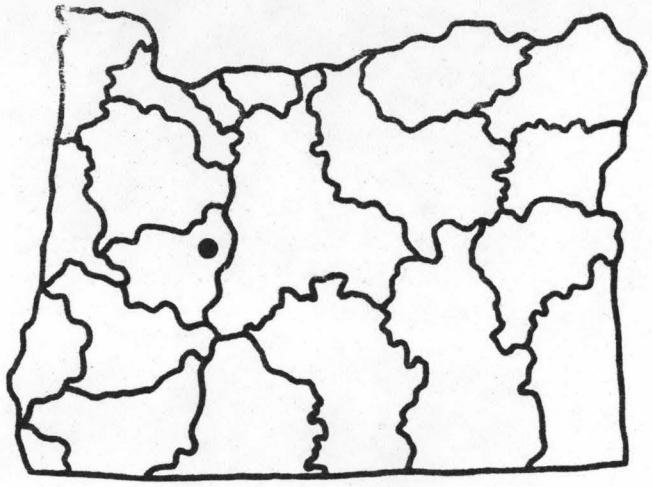
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	112.2	6.95	60.91	1.000
80	175.8	10.89	91.09	.955
50	473.1	29.31	195.97	.763
30	737.9	45.71	253.44	.633
10	1309.0	81.09	315.42	.444

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 664 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-050-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R7E
D.	Latitude, Longitude	44°06'N, 121°58'W
E.	Stream Name	Separation Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 8.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

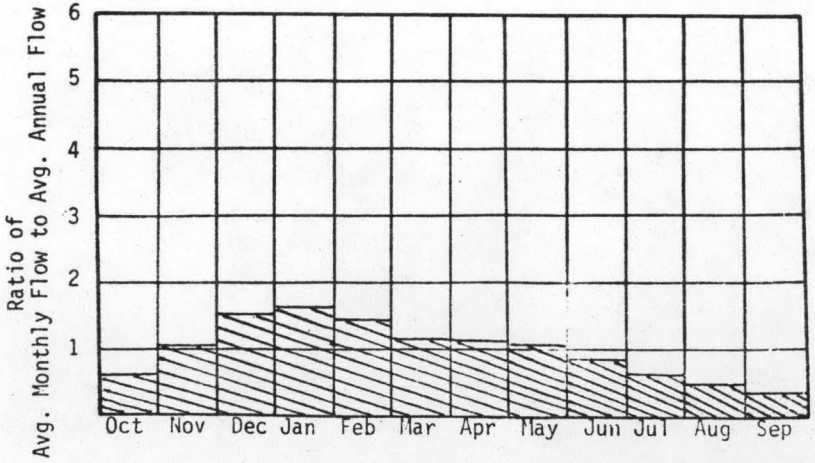
A.	Upstream Elevation of Reach	3283	Ft. MSL
B.	Downstream Elevation of Reach	1995	Ft. MSL
C.	Total Available Head in Reach	1288	Ft.
D.	Average Slope in Reach	161	Ft./Mi.
E.	Drainage Area above Reach Mouth	70	Sq.Mi.
F.	Inflow Classification	Natural	

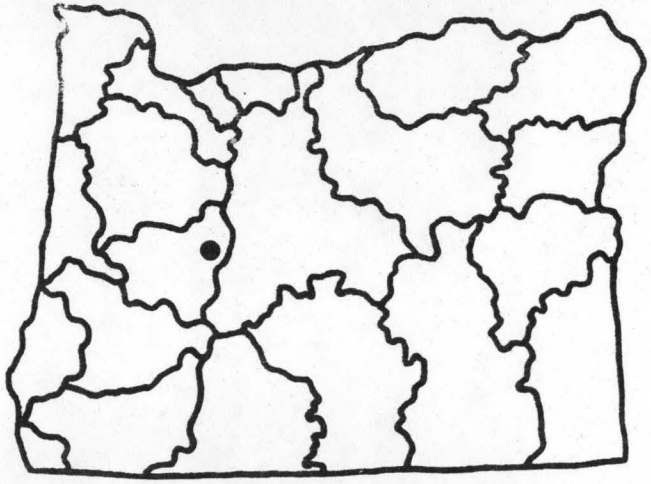
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	25.9	2.82	24.72	1.000
80	46.2	5.04	41.74	.945
50	169.0	18.44	118.04	.731
30	289.0	31.54	163.95	.593
10	553.1	60.37	214.46	.405

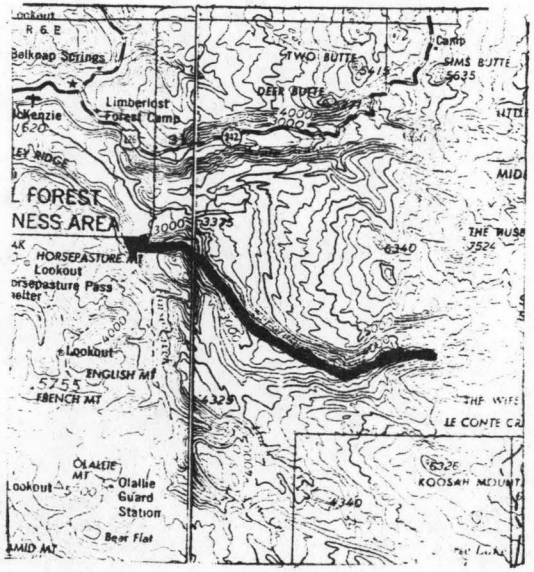
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 256 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-050-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R7½E
D.	Latitude, Longitude	44°06'N, 121°51'W
E.	Stream Name	Separation Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	8.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

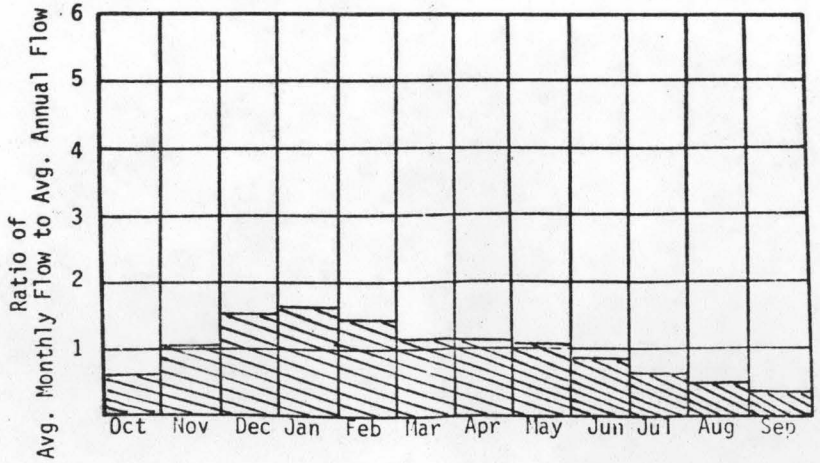
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	37	Sq.Mi.
F.	Inflow Classification	Natural	

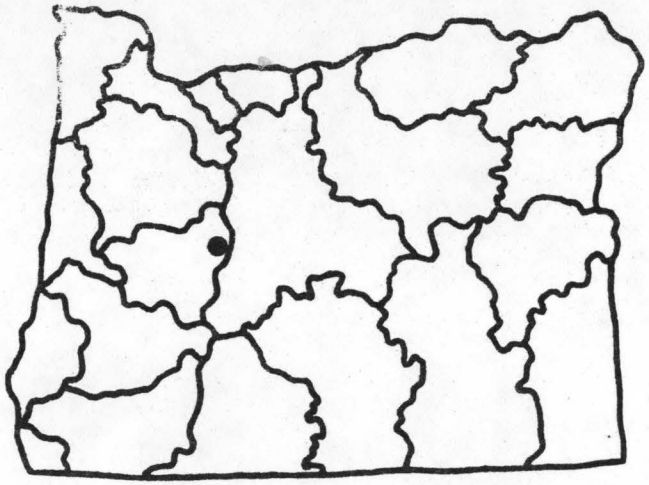
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.9	.08	.73	1.000
80	28.0	.16	1.29	.942
50	115.0	.64	4.06	.721
30	203.6	1.14	5.80	.581
10	400.9	2.24	7.73	.394

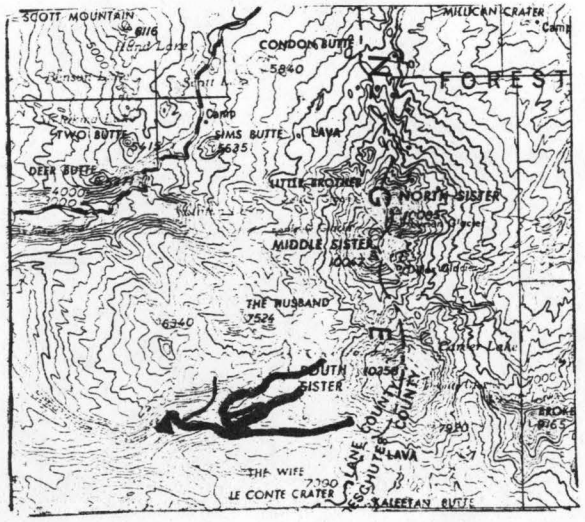
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 180 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-050-R0004

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R7E
D.	Latitude, Longitude	44°06'N, 122°01'W
E.	Stream Name	Horse Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	10.8 to 16.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

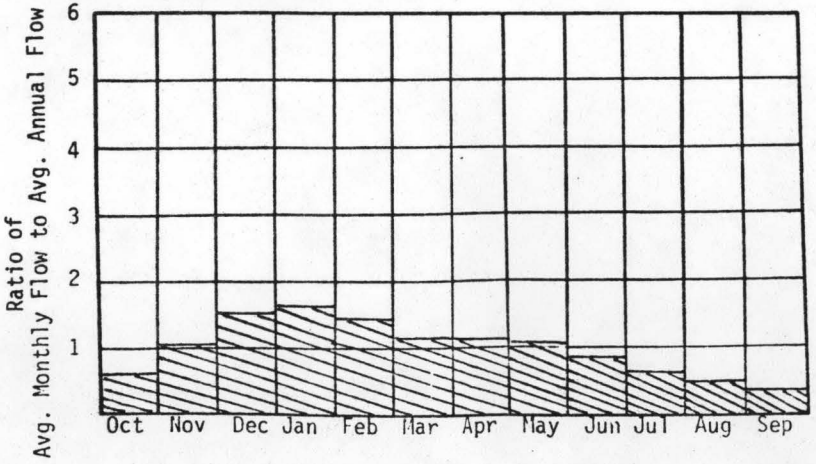
A.	Upstream Elevation of Reach	2678	Ft. MSL
B.	Downstream Elevation of Reach	1995	Ft. MSL
C.	Total Available Head in Reach	683	Ft.
D.	Average Slope in Reach	131	Ft./Mi.
E.	Drainage Area above Reach Mouth	66	Sq.Mi.
F.	Inflow Classification	Natural	

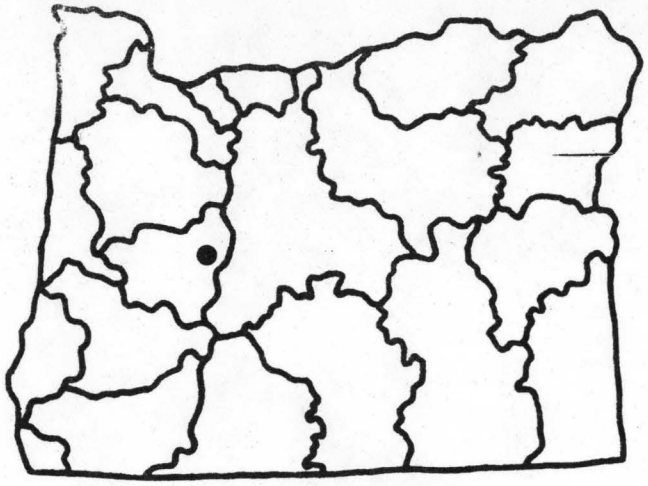
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	26.5	1.53	13.44	1.000
80	47.3	2.74	22.65	.945
50	172.0	9.95	63.75	.731
30	293.7	17.00	88.43	.594
10	561.4	32.49	115.58	.406

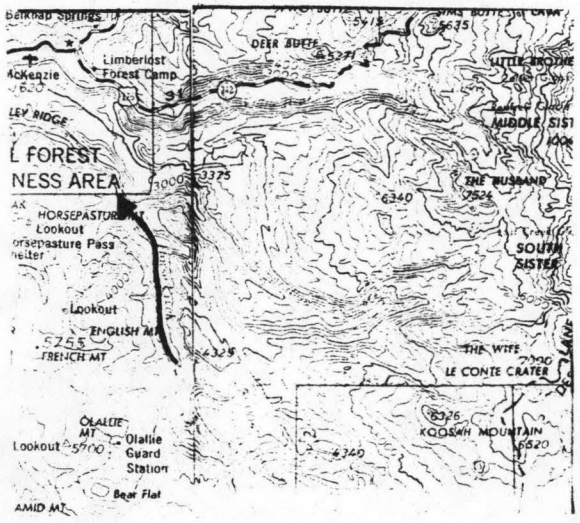
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 260 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-050-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R7E
D.	Latitude, Longitude	44°02'N, 121°58'W
E.	Stream Name	Eugene Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

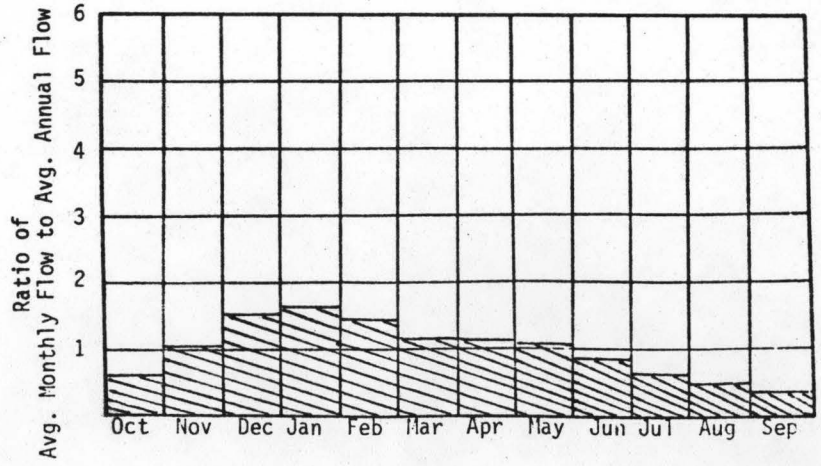
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural	

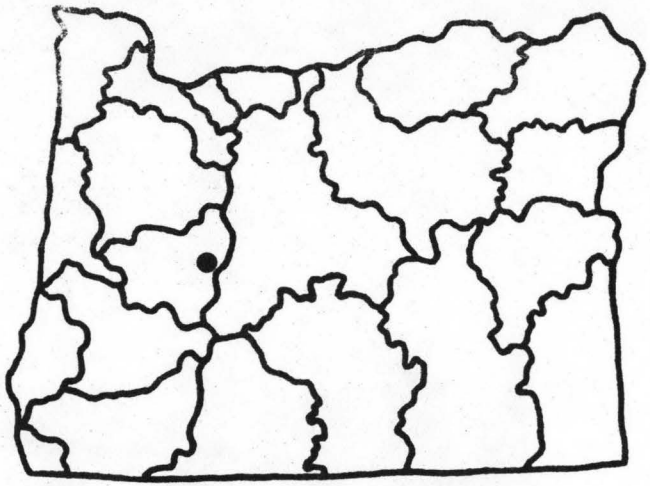
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.2	.03	.30	1.000
80	12.6	.07	.58	.937
50	62.0	.35	2.15	.708
30	116.0	.65	3.21	.565
10	239.0	1.34	4.41	.377

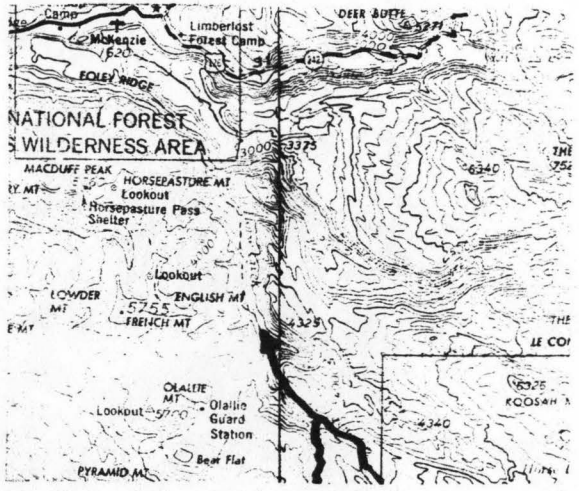
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 102 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-050-R0006

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T18S, R7E	
D. Latitude, Longitude	44°03'N, 121°58'W	
E. Stream Name	Horse Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	16.0 to 21.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

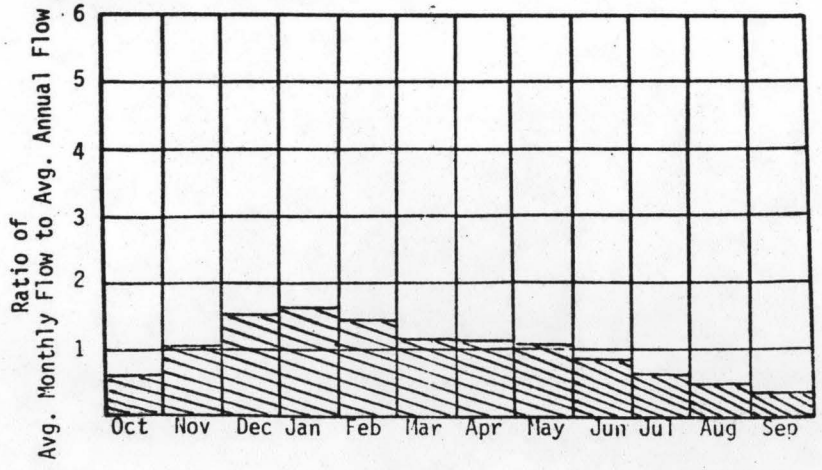
A. Upstream Elevation of Reach	4023	Ft. MSL
B. Downstream Elevation of Reach	2678	Ft. MSL
C. Total Available Head in Reach	1345	Ft.
D. Average Slope in Reach	236	Ft./Mi.
E. Drainage Area above Reach Mouth	26	Sq.Mi.
F. Inflow Classification	Natural	

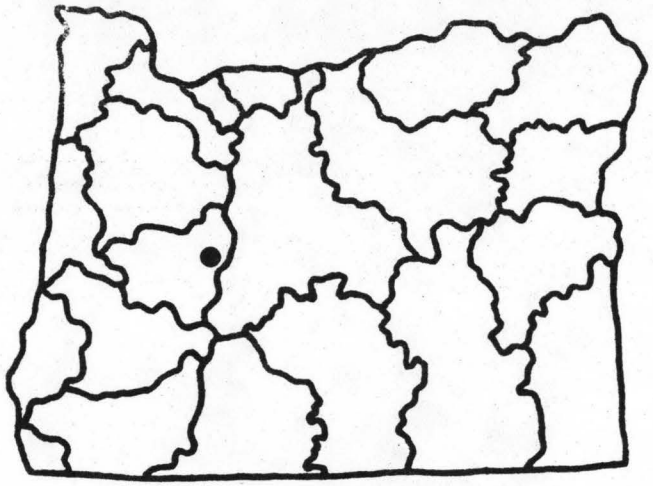
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.9	.78	6.87	1.000
80	13.8	1.58	12.95	.937
50	66.8	7.61	47.30	.710
30	124.1	14.15	70.20	.567
10	254.4	28.99	96.21	.379

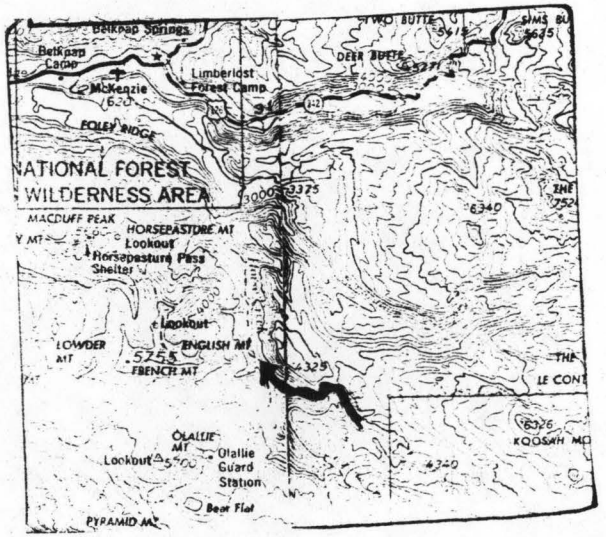
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 109 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-050-R0007

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R7E, Sec. 17
D.	Latitude, Longitude	44°01'N, 121°55'W
E.	Stream Name	Horse Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	21.7 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

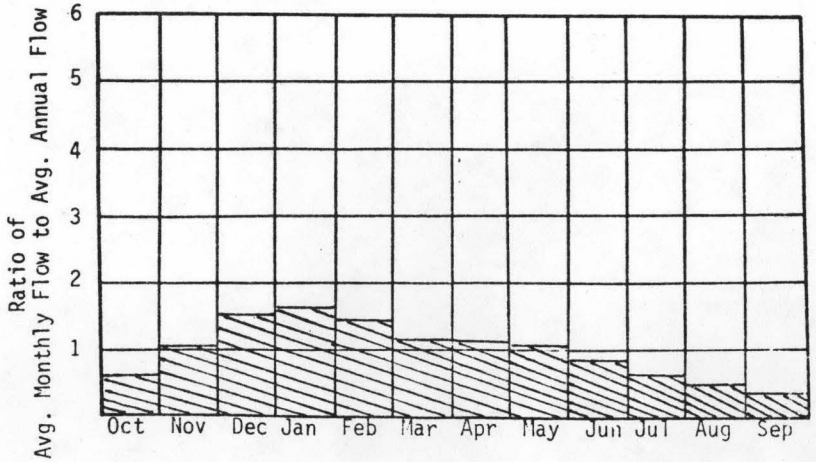
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	18	Sq.Mi.
F.	Inflow Classification	Natural	

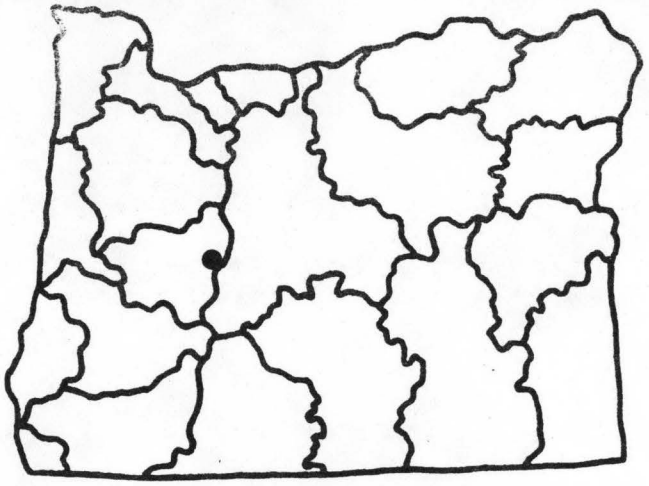
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.2	.03	.25	1.000
80	10.7	.06	.49	.936
50	54.8	.31	1.89	.706
30	103.7	.58	2.85	.562
10	215.6	1.21	3.95	.374

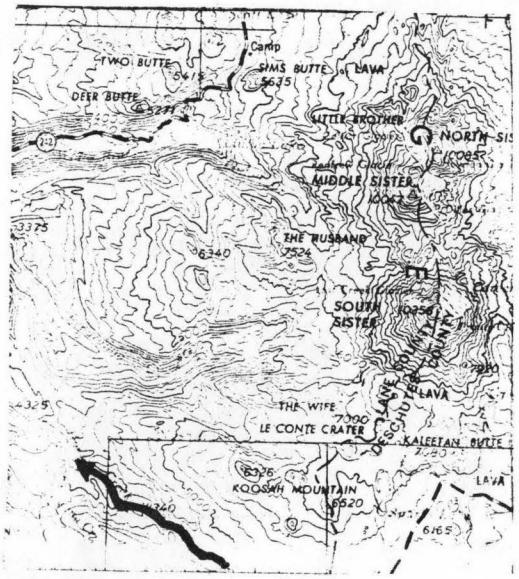
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 91 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0024

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R6E, Sec. 8
D.	Latitude, Longitude	44°11'N, 122°05'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	65.8 to 73.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

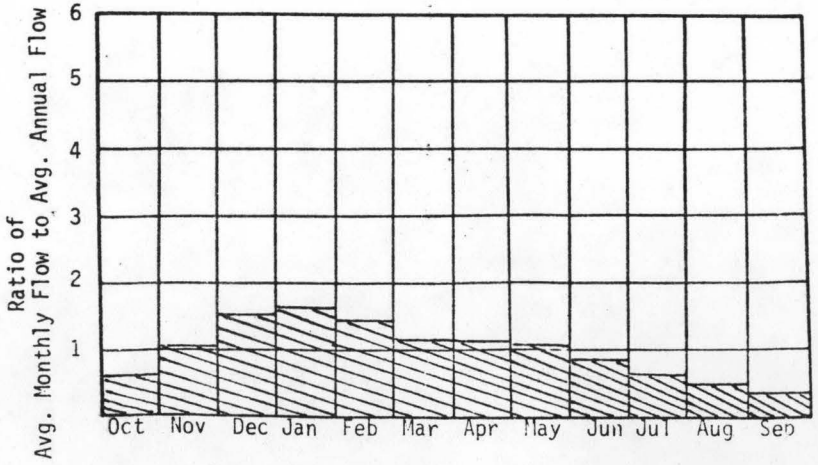
A.	Upstream Elevation of Reach	1583	Ft. MSL
B.	Downstream Elevation of Reach	1264	Ft. MSL
C.	Total Available Head in Reach	319	Ft.
D.	Average Slope in Reach	40.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	279	Sq.Mi.
F.	Inflow Classification	Regulated	

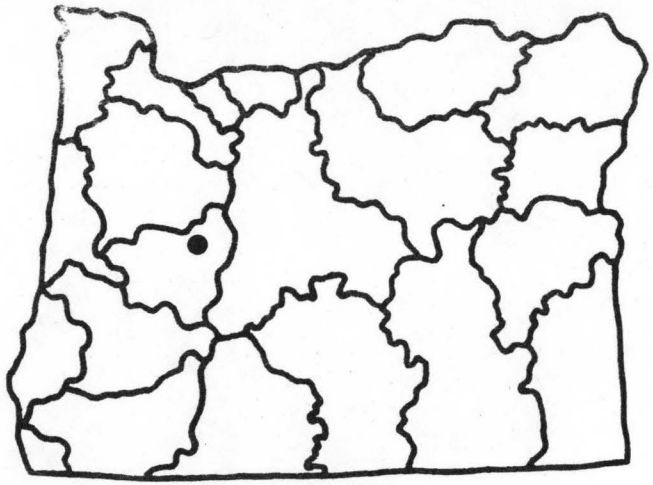
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	265.5	7.18	62.87	1.000
80	384.9	10.40	87.61	.961
50	865.2	23.39	161.55	.788
30	1278.3	34.56	200.68	.663
10	2169.0	58.64	242.87	.473

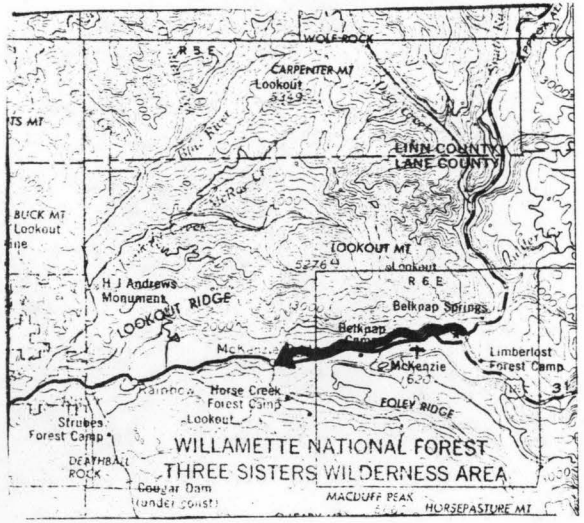
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1159 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-060-R0001

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T16S, R7E	
D. Latitude, Longitude	44°10'N, 121°59'W	
E. Stream Name	Lost Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 7.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

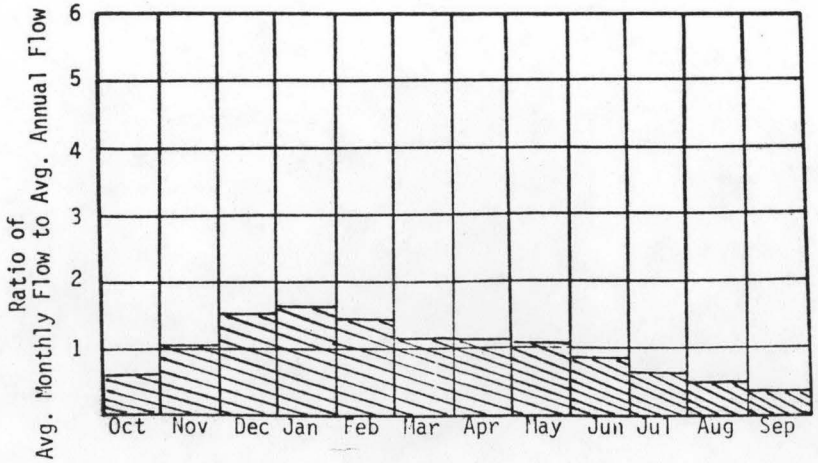
A. Upstream Elevation of Reach	2640	Ft. MSL
B. Downstream Elevation of Reach	1583	Ft. MSL
C. Total Available Head in Reach	1063	Ft.
D. Average Slope in Reach	134.6	Ft./Mi.
E. Drainage Area above Reach Mouth	60	Sq.Mi.
F. Inflow Classification	Natural	

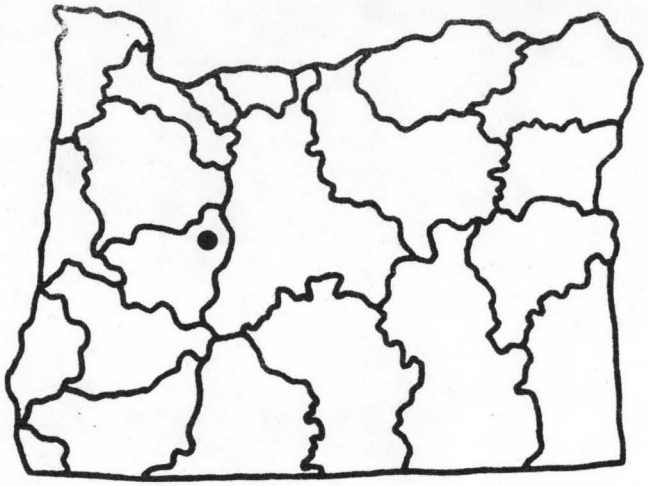
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	20.1	1.81	15.86	1.000
80	36.7	3.31	27.35	.943
50	141.6	12.76	81.15	.726
30	246.1	22.17	114.13	.588
10	477.2	42.99	150.60	.400

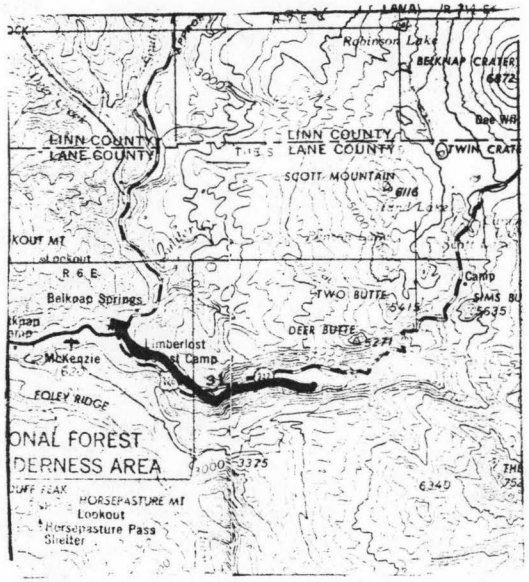
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 218 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-060-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R7½E
D.	Latitude, Longitude	44°10'N, 121°53'W
E.	Stream Name	Lost Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	7.9 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

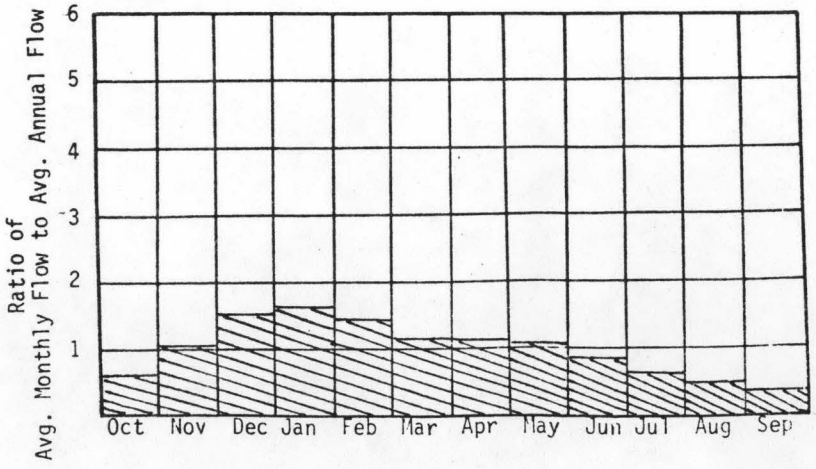
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	49	Sq.Mi.
F.	Inflow Classification	Natural	

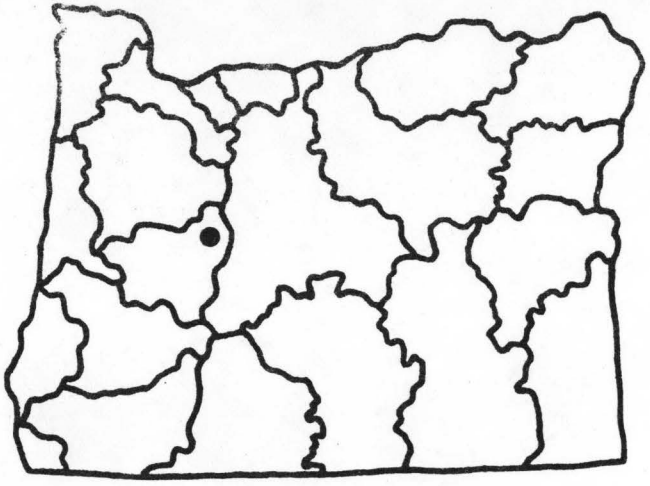
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	16.8	.09	.83	1.000
80	31.3	.17	1.44	.942
50	125.1	.70	4.43	.723
30	219.8	1.23	6.29	.584
10	430.2	2.41	8.35	.396

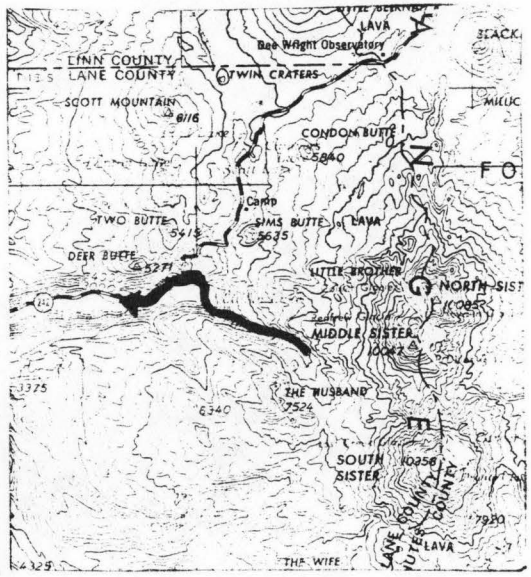
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 194 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0026

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T16S, R6E, Sec. 11
D.	Latitude, Longitude	44°11'N, 122°03'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	73.6 to 76.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

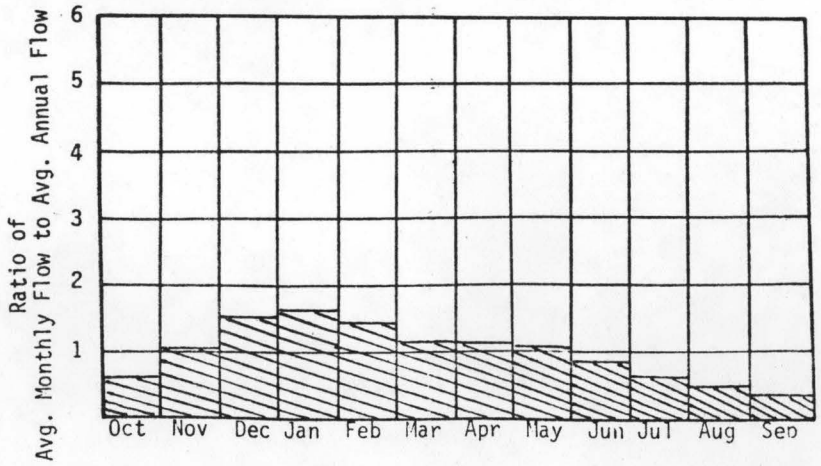
A.	Upstream Elevation of Reach	1692	Ft. MSL
B.	Downstream Elevation of Reach	1583	Ft. MSL
C.	Total Available Head in Reach	109	Ft.
D.	Average Slope in Reach	45.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	205	Sq.Mi.
F.	Inflow Classification	Regulated	

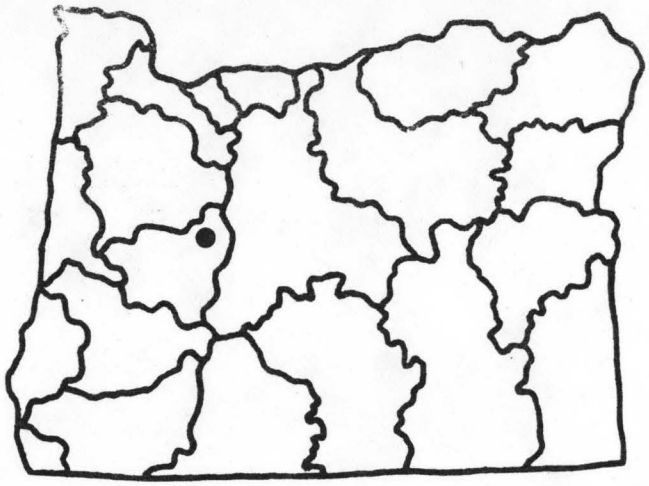
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	172.1	1.59	13.93	1.000
80	259.5	2.40	20.11	.958
50	638.5	5.90	40.05	.775
30	969.5	8.96	50.76	.647
10	1682.2	15.54	62.30	.458

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 875 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-070-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R7E
D.	Latitude, Longitude	44°13'N, 122°01'W
E.	Stream Name	Boulder Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

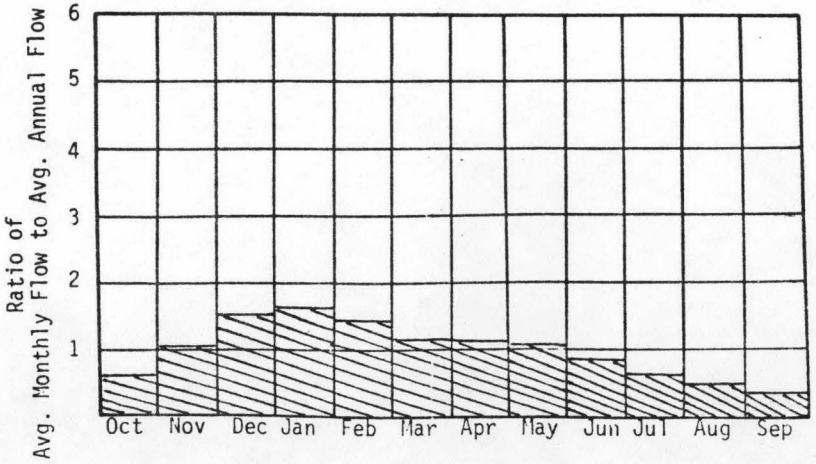
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	34	Sq.Mi.
F.	Inflow Classification	Natural	

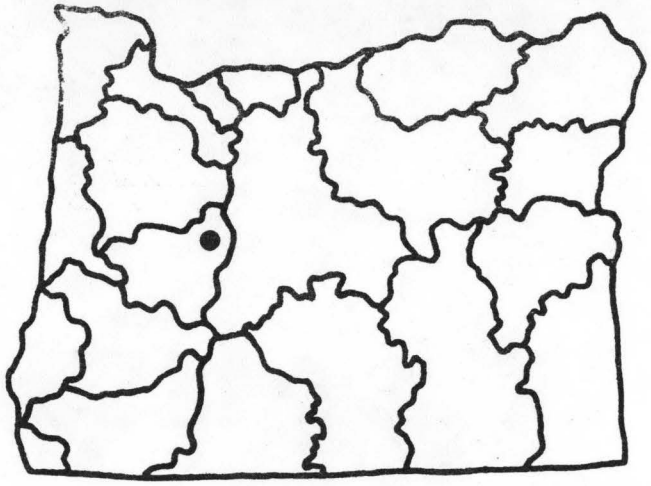
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.8	.08	.68	1.000
80	26.1	.15	1.21	.941
50	109.0	.61	3.84	.720
30	193.8	1.08	5.51	.580
10	383.2	2.14	7.36	.392

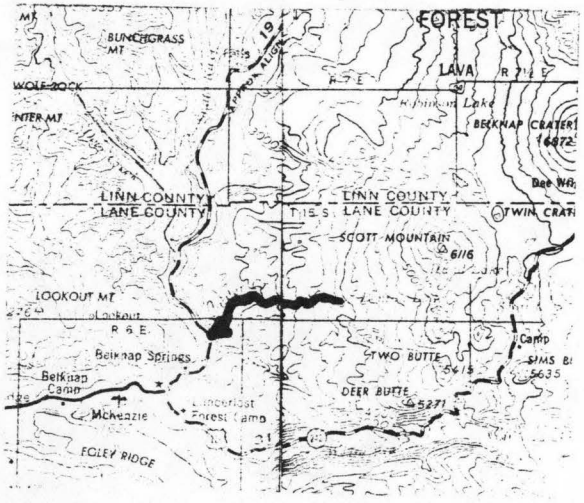
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 171 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0028

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T15S, R6E	
D. Latitude, Longitude	44°14'N, 122°03'W	
E. Stream Name	McKenzie River	
F. Major Basin Name	Upper Willamette	
G. River Mile	76.0 to 78.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

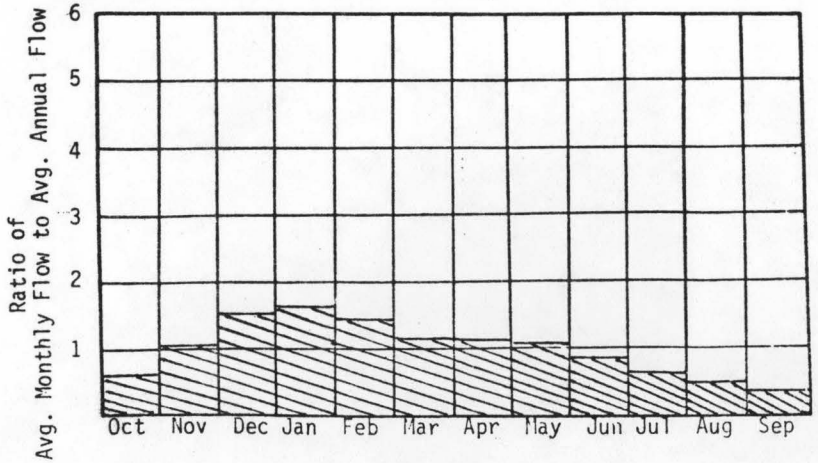
A. Upstream Elevation of Reach	1847	Ft. MSL
B. Downstream Elevation of Reach	1692	Ft. MSL
C. Total Available Head in Reach	155	Ft.
D. Average Slope in Reach	53.4	Ft./Mi.
E. Drainage Area above Reach Mouth	154	Sq.Mi.
F. Inflow Classification	Regulated	

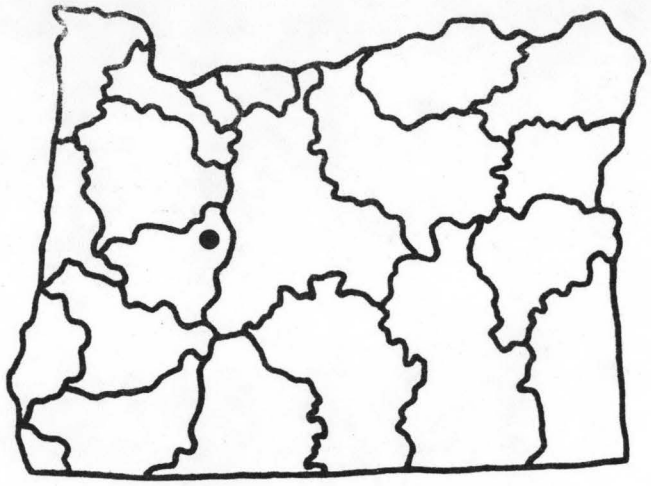
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	105.9	1.39	12.19	1.000
80	166.7	2.19	18.31	.954
50	454.2	5.97	39.81	.762
30	711.0	9.34	51.63	.631
10	1265.1	16.62	64.38	.442

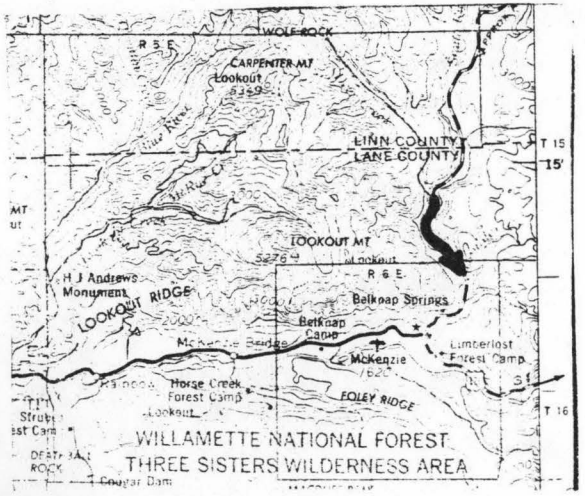
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 640 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-080-R0001

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T15S, R6E	
D. Latitude, Longitude	44°15'N, 122°03'W	
E. Stream Name	Deer Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 3.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

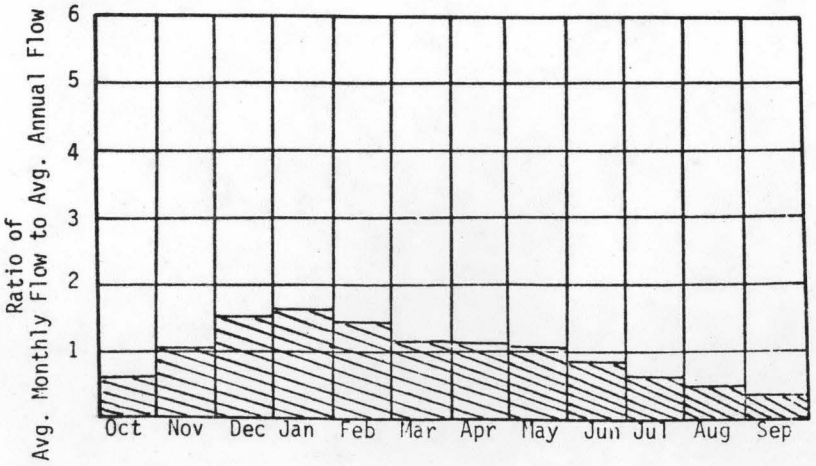
A. Upstream Elevation of Reach	2160	Ft. MSL
B. Downstream Elevation of Reach	1847	Ft. MSL
C. Total Available Head in Reach	313	Ft.
D. Average Slope in Reach	104.3	Ft./Mi.
E. Drainage Area above Reach Mouth	23	Sq.Mi.
F. Inflow Classification	Natural	

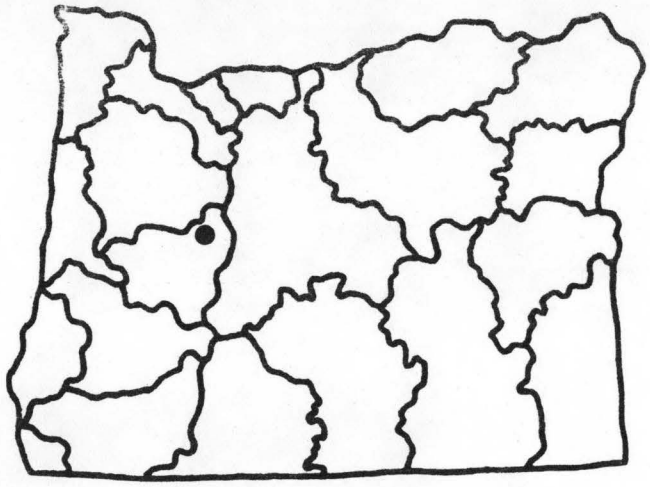
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.16	1.38	1.000
80	12.1	.32	2.63	.936
50	60.2	1.60	9.90	.708
30	113.0	3.00	14.81	.564
10	233.4	6.19	20.40	.376

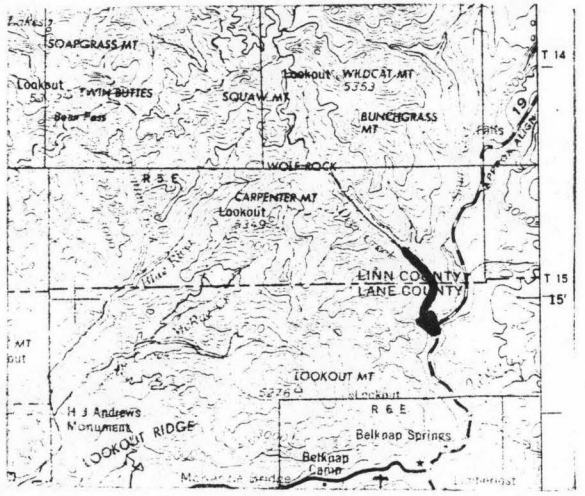
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 99 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-080-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R6E
D.	Latitude, Longitude	44°18'N, 122°06'W
E.	Stream Name	Deer Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

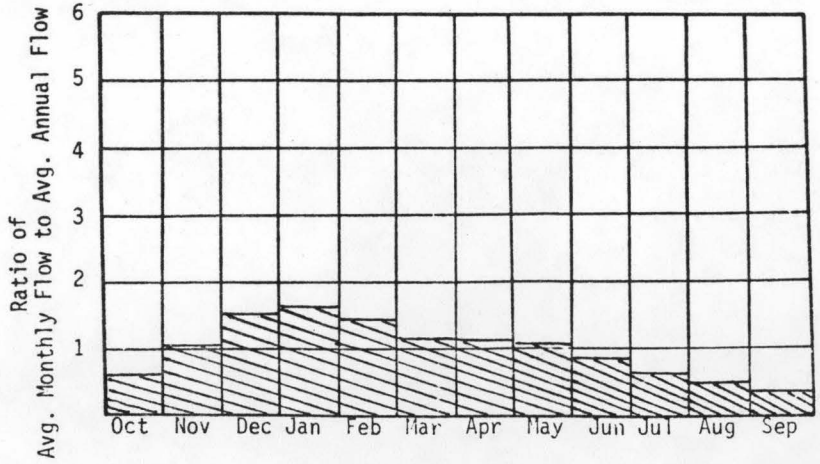
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	18	Sq.Mi.
F.	Inflow Classification	Natural	

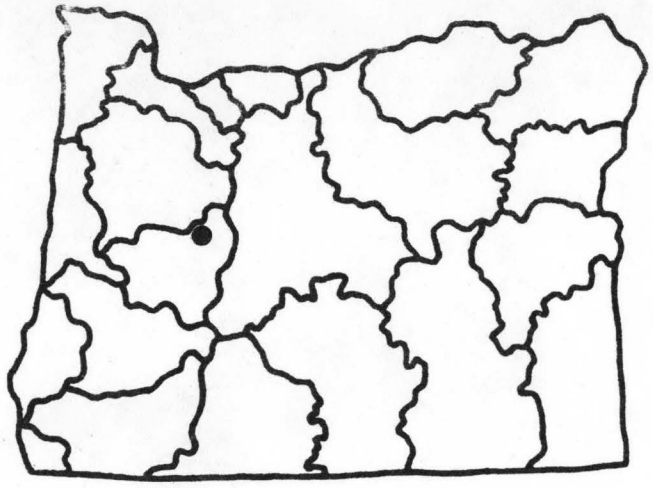
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.03	.24	1.000
80	10.3	.06	.47	.935
50	53.3	.30	1.84	.705
30	101.0	.57	2.78	.561
10	210.5	1.18	3.85	.373

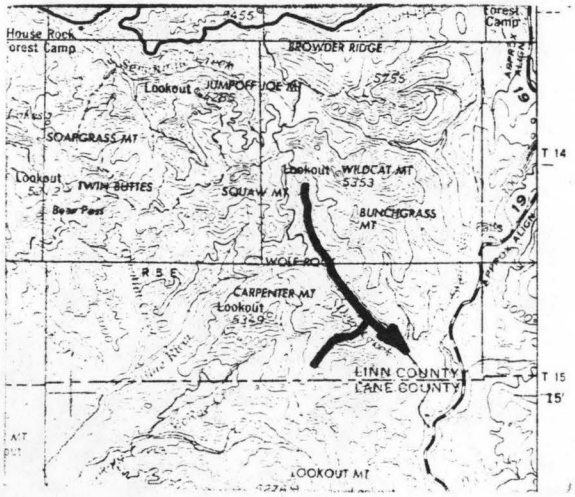
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 88 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0030

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T15S, R6E
D.	Latitude, Longitude	44°15'N, 122°02'W
E.	Stream Name	McKenzie River
F.	Major Basin Name	Upper Willamette
G.	River Mile	78.9 to 81.91

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

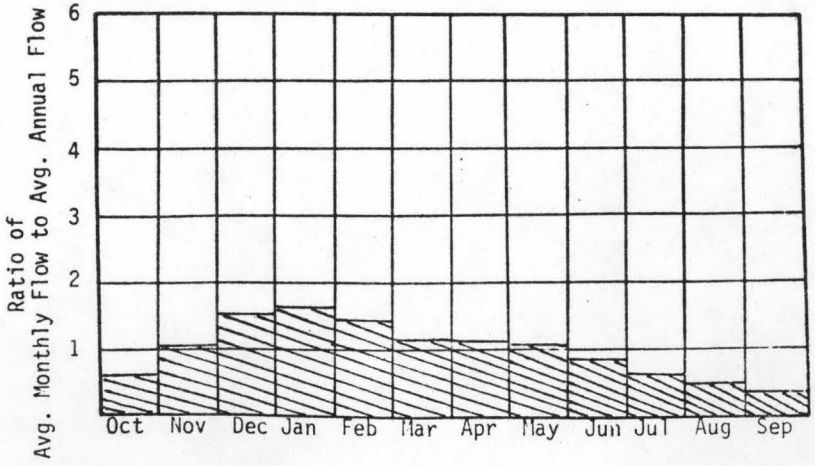
A.	Upstream Elevation of Reach	2092	Ft. MSL
B.	Downstream Elevation of Reach	1847	Ft. MSL
C.	Total Available Head in Reach	245	Ft.
D.	Average Slope in Reach	81.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	108	Sq.Mi.
F.	Inflow Classification	Regulated	

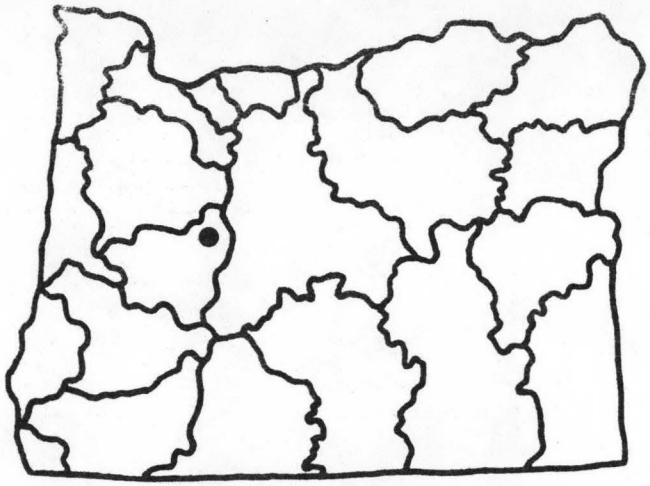
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	63.3	1.31	11.52	1.000
80	104.4	2.17	18.05	.951
50	316.7	6.57	43.15	.749
30	511.9	10.63	57.36	.616
10	935.5	19.42	72.76	.428

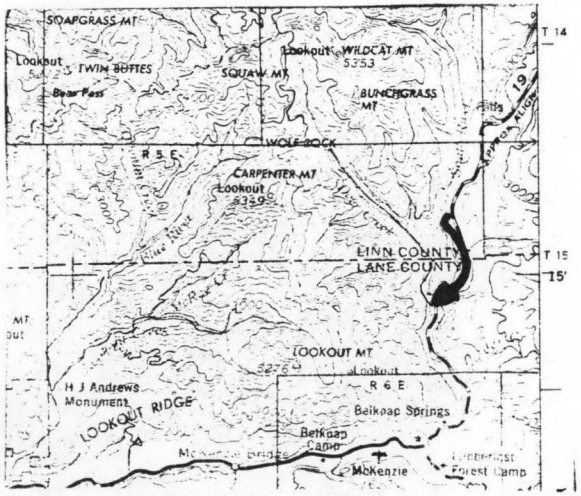
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 258 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-090-R0001

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T15S, R6E
D.	Latitude, Longitude	44°18'N, 122°02'W
E.	Stream Name	Smith River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.7 to 2.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

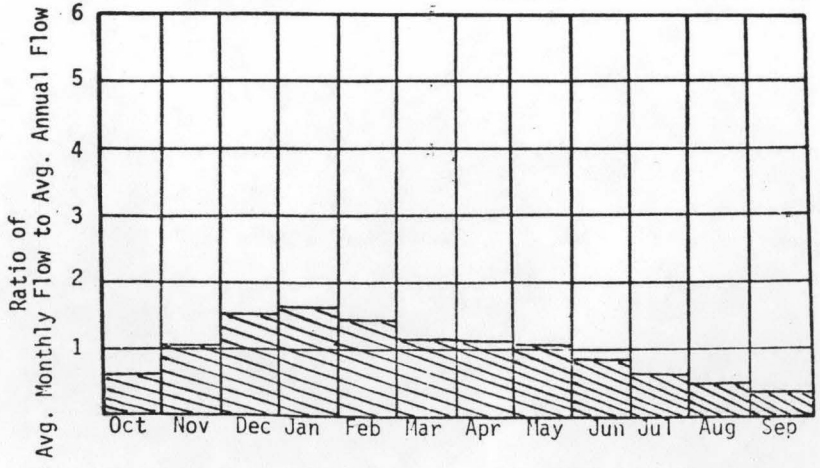
A.	Upstream Elevation of Reach	2360	Ft. MSL
B.	Downstream Elevation of Reach	2092	Ft. MSL
C.	Total Available Head in Reach	268	Ft.
D.	Average Slope in Reach	148.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	25	Sq.Mi.
F.	Inflow Classification	Regulated	

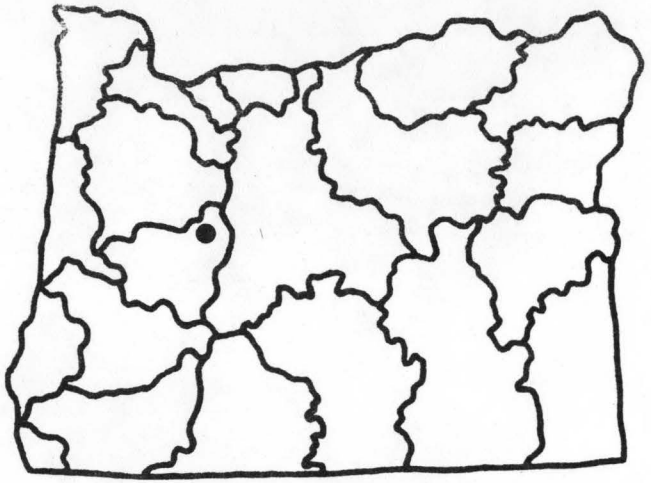
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.4	.14	1.26	1.000
80	12.9	.29	2.40	.937
50	63.1	1.43	8.90	.708
30	117.9	2.68	13.26	.565
10	242.7	5.51	18.23	.377

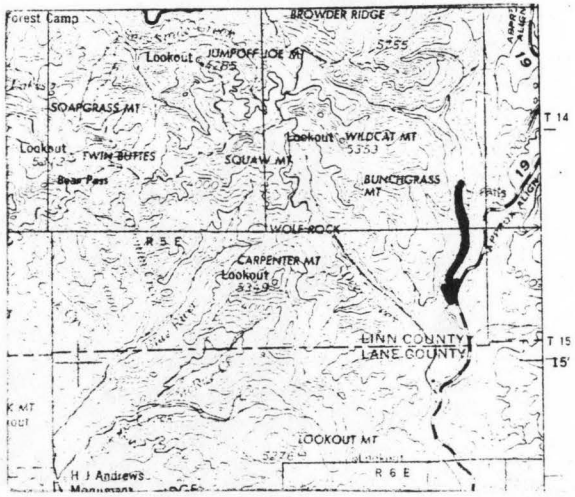
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 104 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-090-R0002

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T14S, R6E, Sec. 13
D.	Latitude, Longitude	44°22'N, 122°02'W
E.	Stream Name	Smith River
F.	Major Basin Name	Upper Willamette
G.	River Mile	2.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

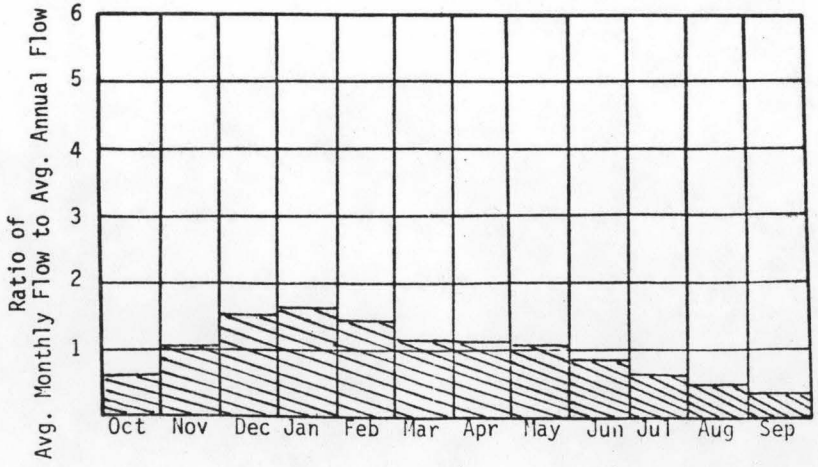
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	19	Sq.Mi.
F.	Inflow Classification	Natural	

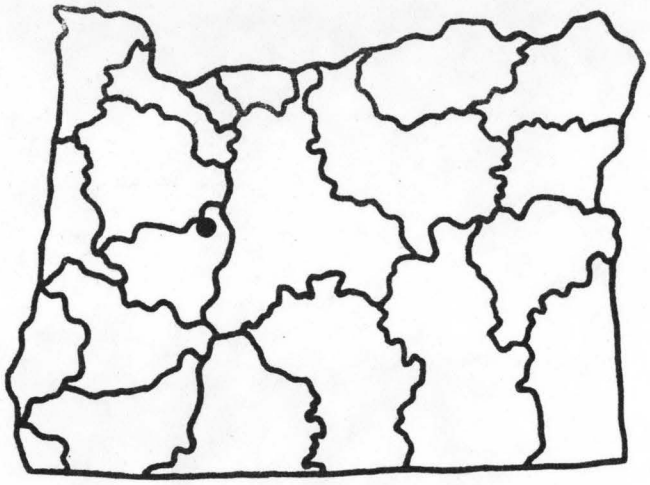
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.3	.03	.26	1.000
80	11.0	.06	.50	.936
50	55.8	.31	1.93	.706
30	105.4	.59	2.90	.562
10	218.9	1.22	4.02	.374

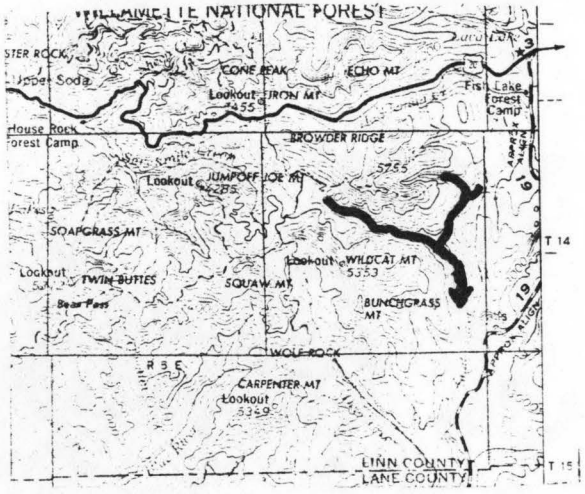
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 92 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-000-R0032

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T14S, R7E, Sec. 30	
D. Latitude, Longitude	44°19'N, 122°01'W	
E. Stream Name	McKenzie River	
F. Major Basin Name	Upper Willamette	
G. River Mile	81.91 to 90.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

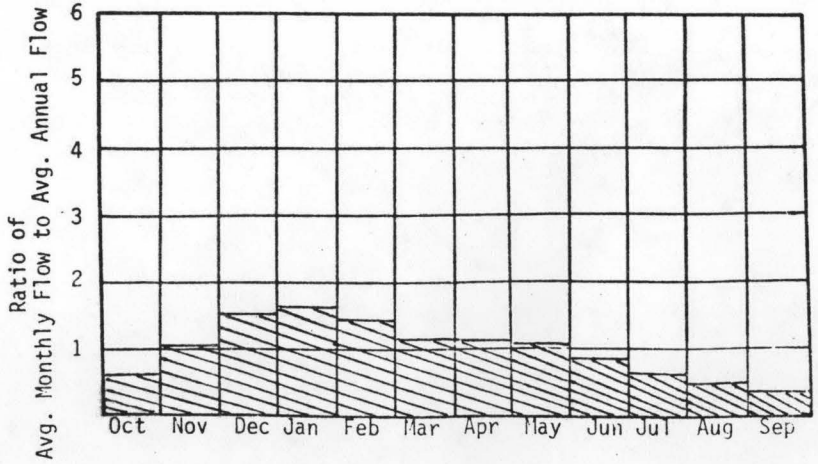
A. Upstream Elevation of Reach	3040	Ft. MSL
B. Downstream Elevation of Reach	2092	Ft. MSL
C. Total Available Head in Reach	948	Ft.
D. Average Slope in Reach	109.1	Ft./Mi.
E. Drainage Area above Reach Mouth	66	Sq.Mi.
F. Inflow Classification	Natural	

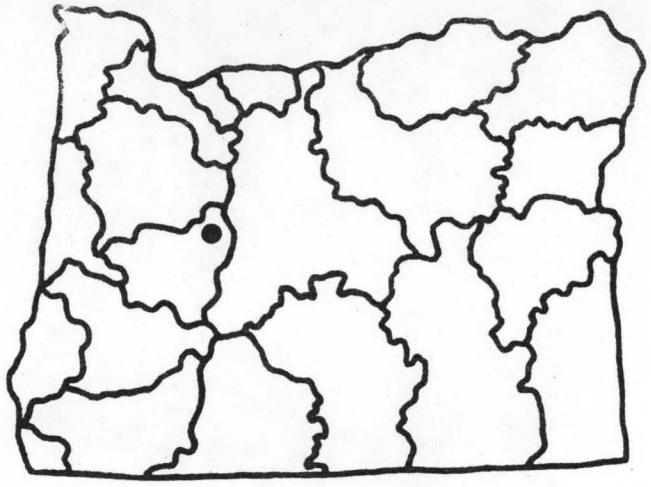
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	22.7	1.82	15.98	1.000
80	41.1	3.30	27.28	.944
50	154.3	12.40	79.09	.728
30	266.1	21.38	110.55	.590
10	512.7	41.19	145.26	.403

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 236 CFS





U.S.G.S. TOPO. SERIES
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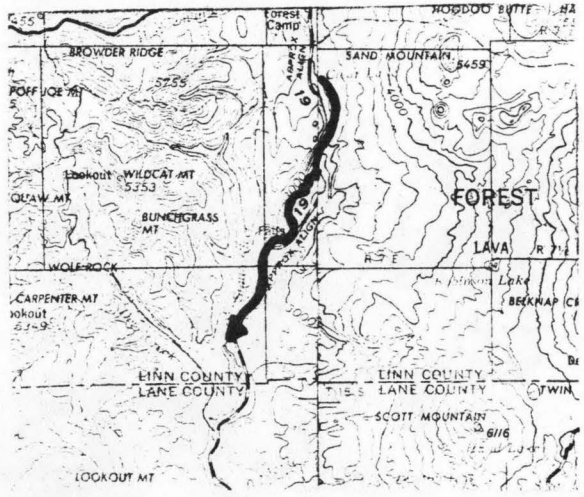
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-095-R0001

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T14S, R7E, Sec, 5	
D. Latitude, Longitude	44°23'N, 121°59'W	
E. Stream Name	Fish Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 2.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

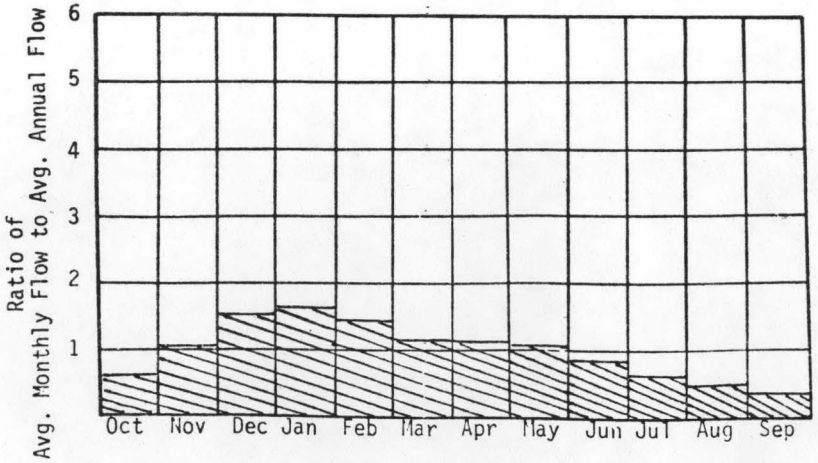
A. Upstream Elevation of Reach	3115	Ft. MSL
B. Downstream Elevation of Reach	3040	Ft. MSL
C. Total Available Head in Reach	75	Ft.
D. Average Slope in Reach	30.0	Ft./Mi.
E. Drainage Area above Reach Mouth	33	Sq.Mi.
F. Inflow Classification	Natural	

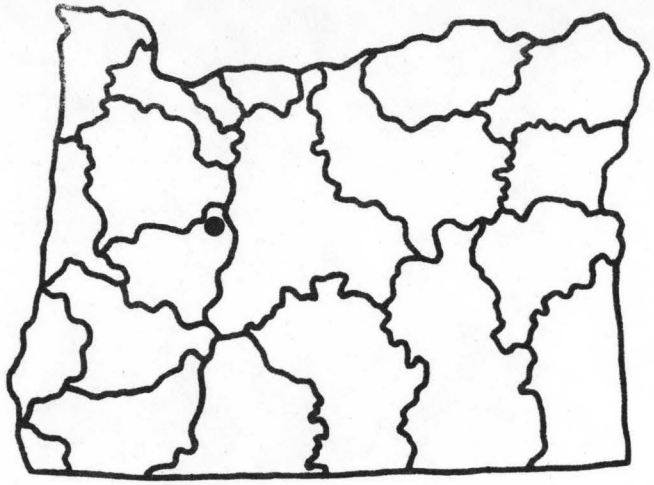
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.0	.06	.55	1.000
80	19.4	.12	1.01	.939
50	86.6	.55	3.45	.715
30	157.3	1.00	5.02	.573
10	316.2	2.01	6.79	.386

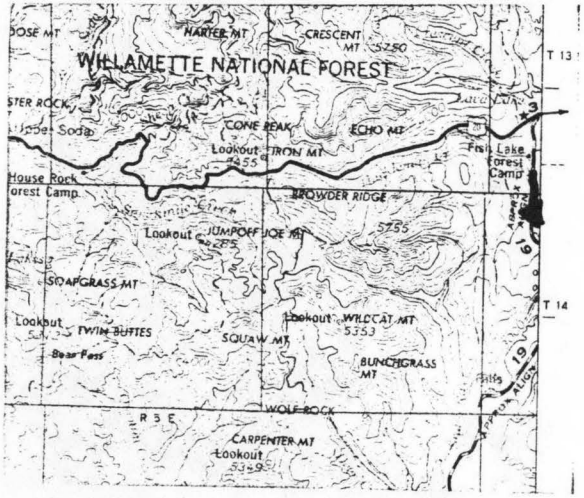
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 138 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-172-095-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T13S, R6E, Sec. 26
D.	Latitude, Longitude	44°25'N, 122°02'W
E.	Stream Name	Hackleman Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	2.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

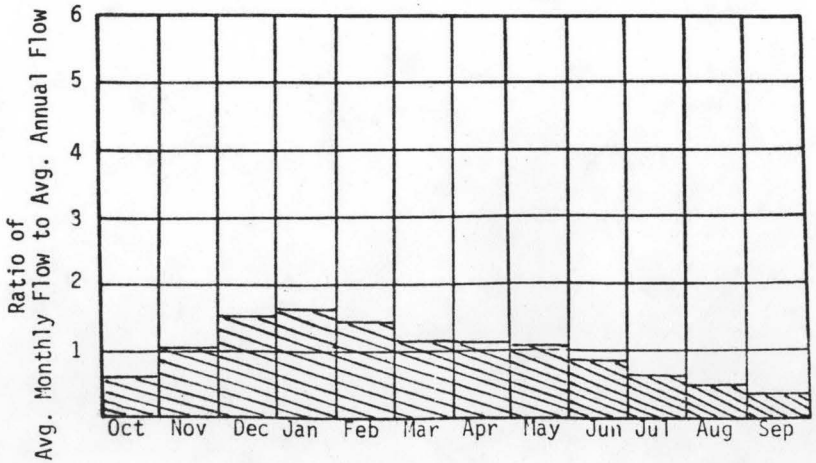
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	25	Sq.Mi.
F.	Inflow Classification	Natural	

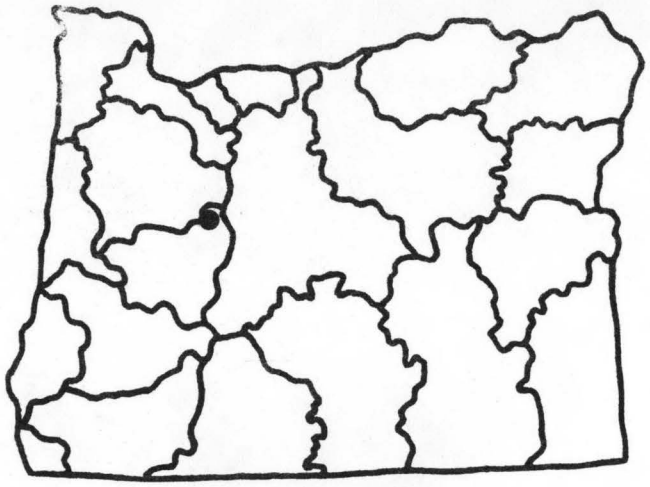
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.0	.04	.39	1.000
80	15.8	.09	.73	.938
50	73.9	.41	2.58	.712
30	136.1	.76	3.80	.569
10	276.9	1.55	5.18	.381

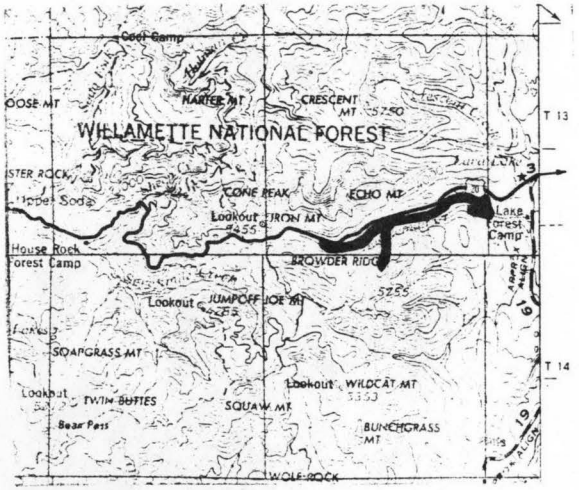
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 120 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0025

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T17S, R4W, Sec. 24
D.	Latitude, Longitude	44°05'N, 123°07'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	171.8 to 187.00

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

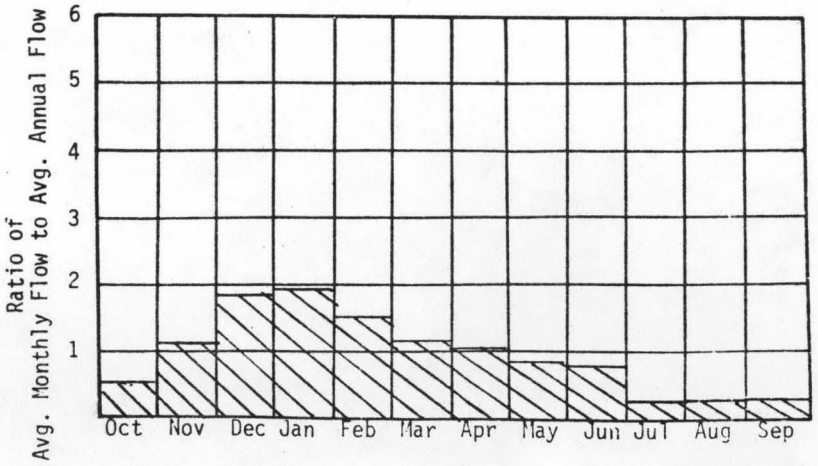
A.	Upstream Elevation of Reach	435	Ft. MSL
B.	Downstream Elevation of Reach	361	Ft. MSL
C.	Total Available Head in Reach	75	Ft.
D.	Average Slope in Reach	4.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	2087	Sq.Mi.
F.	Inflow Classification	Regulated	

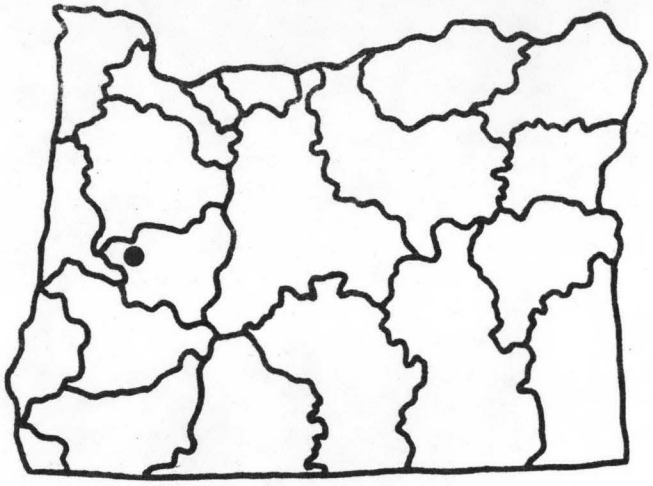
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	956.7	6.08	53.27	1.000
80	1545.8	9.82	81.97	.952
50	3930.7	24.98	168.28	.769
30	6722.8	42.73	230.46	.616
10	12920.8	82.12	299.48	.416

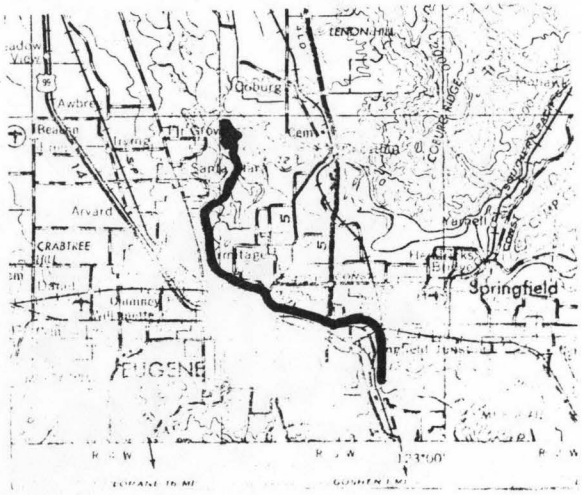
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 5781





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R2W, Sec. 9
D.	Latitude, Longitude	44°00'N, 122°57'W
E.	Stream Name	Coast Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 10.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

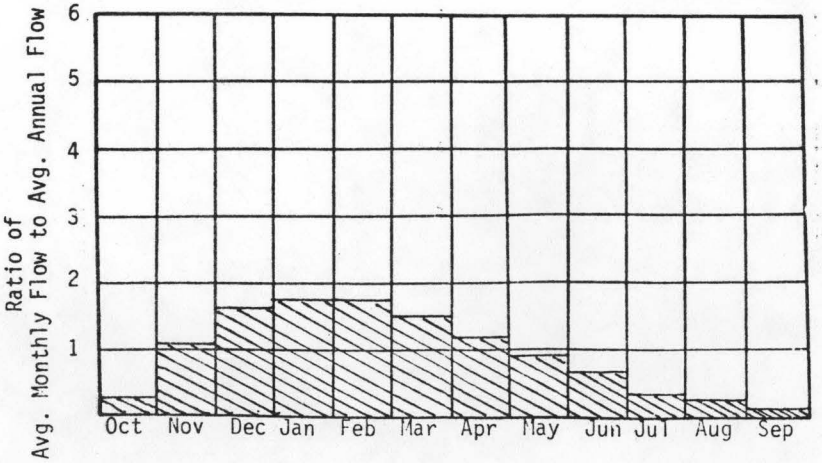
A.	Upstream Elevation of Reach	521	Ft. MSL
B.	Downstream Elevation of Reach	435	Ft. MSL
C.	Total Available Head in Reach	86	Ft.
D.	Average Slope in Reach	8.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	675	Sq.Mi.
F.	Inflow Classification	Regulated	

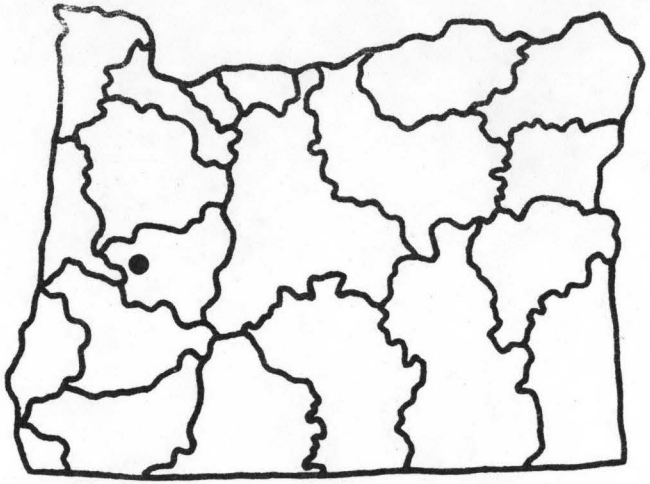
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	202.5	1.48	12.93	1.000
80	359.4	2.62	21.70	.945
50	907.4	6.61	44.43	.767
30	1748.7	12.74	65.92	.590
10	3803.3	27.72	92.15	.380

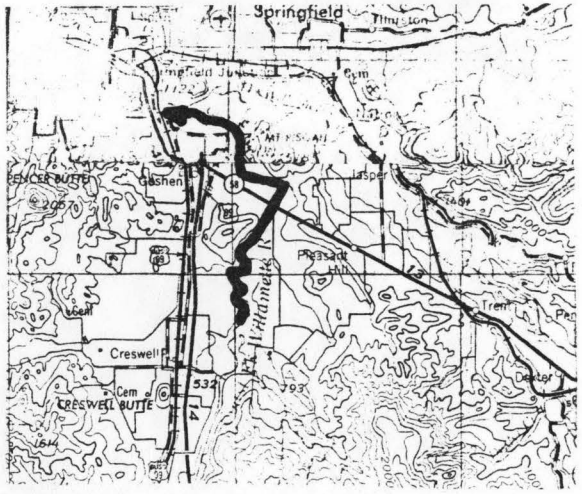
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1662 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R3W, Sec. 35
D.	Latitude, Longitude	43°52'N, 123°01'W
E.	Stream Name	Coast Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	10.2 to 20.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

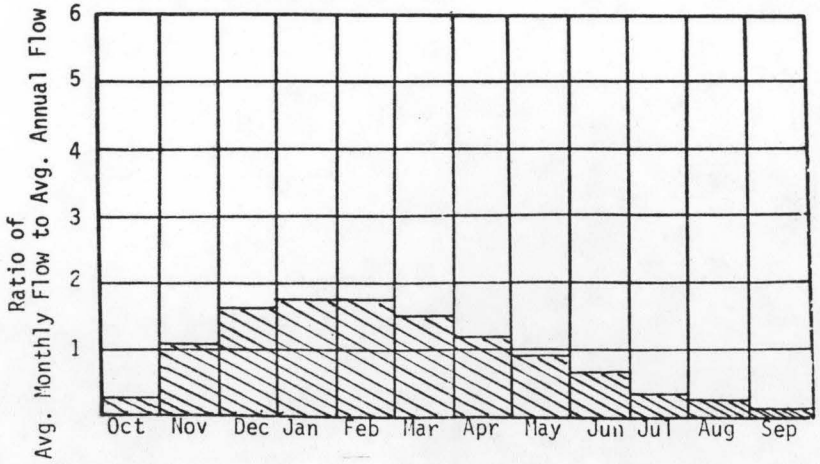
A.	Upstream Elevation of Reach	607	Ft. MSL
B.	Downstream Elevation of Reach	521	Ft. MSL
C.	Total Available Head in Reach	86	Ft.
D.	Average Slope in Reach	8.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	583	Sq.Mi.
F.	Inflow Classification	Regulated	

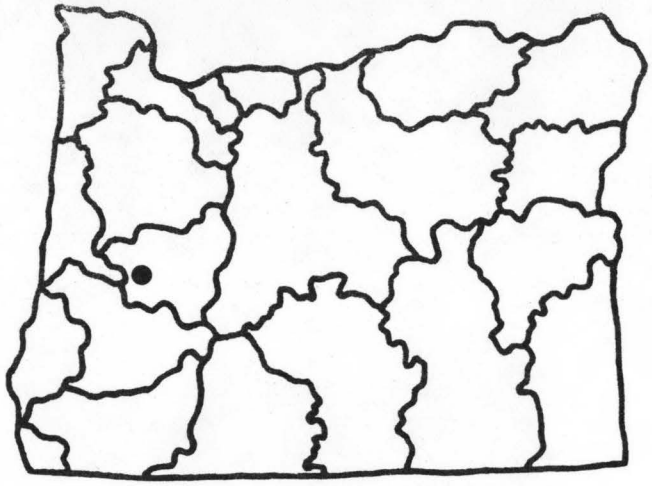
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	175.9	1.28	11.23	1.000
80	311.6	2.27	18.81	.946
50	807.9	5.89	39.41	.764
30	1572.0	11.46	58.92	.587
10	3436.7	25.05	82.73	.377

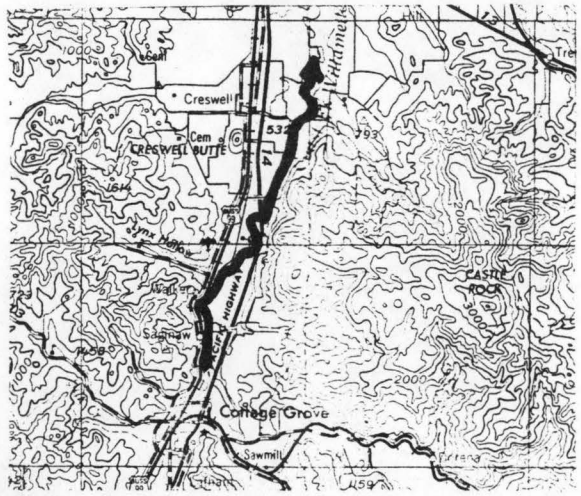
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1499 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T20S, R3W, Sec. 26
D.	Latitude, Longitude	43°47'N, 123°03'W
E.	Stream Name	Row River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 3.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

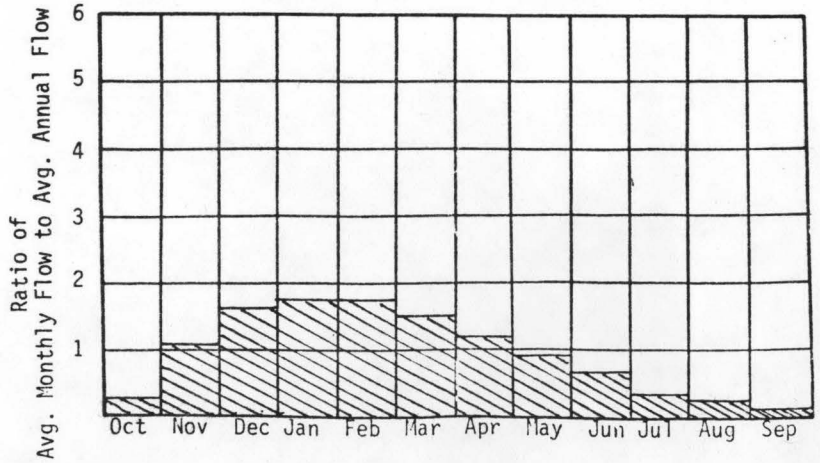
A.	Upstream Elevation of Reach	663	Ft. MSL
B.	Downstream Elevation of Reach	607	Ft. MSL
C.	Total Available Head in Reach	56	Ft.
D.	Average Slope in Reach	14.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	379	Sq.Mi.
F.	Inflow Classification	Regulated	

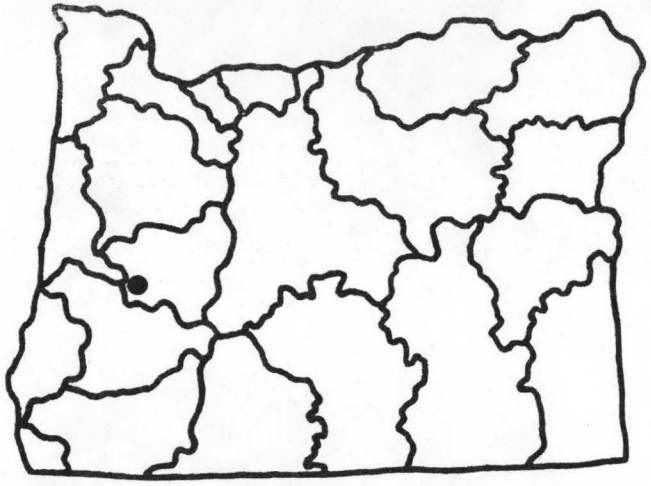
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	104.6	.50	4.35	1.000
80	184.0	.87	7.24	.946
50	526.7	2.50	16.50	.753
30	1061.6	5.04	25.39	.575
10	2365.2	11.22	36.23	.368

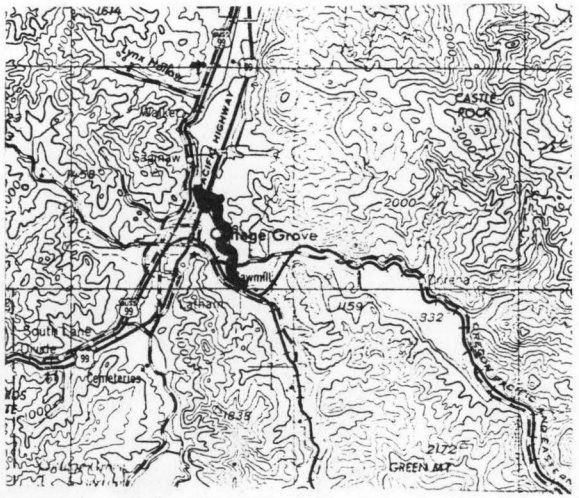
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1022 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0003

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T21S, R2W, Sec. 30	
D. Latitude, Longitude	43°44'N, 123°00'W	
E. Stream Name	Mosby Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 11.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

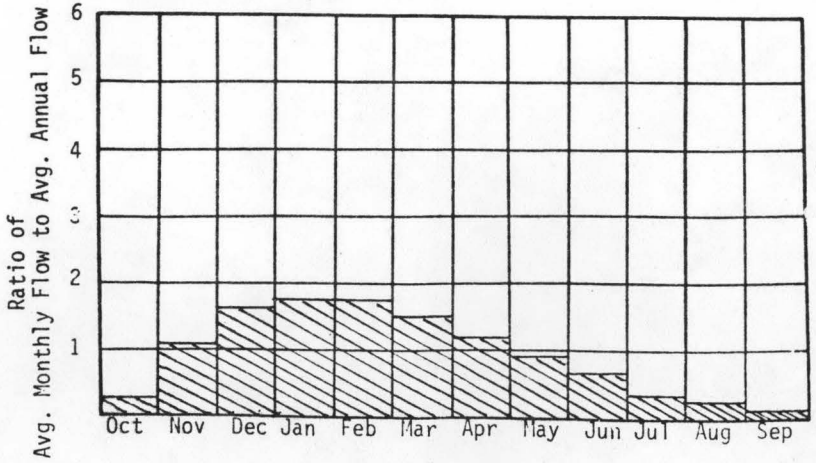
A. Upstream Elevation of Reach	995	Ft. MSL
B. Downstream Elevation of Reach	663	Ft. MSL
C. Total Available Head in Reach	332	Ft.
D. Average Slope in Reach	28.9	Ft./Mi.
E. Drainage Area above Reach Mouth	100	Sq.Mi.
F. Inflow Classification	Natural	

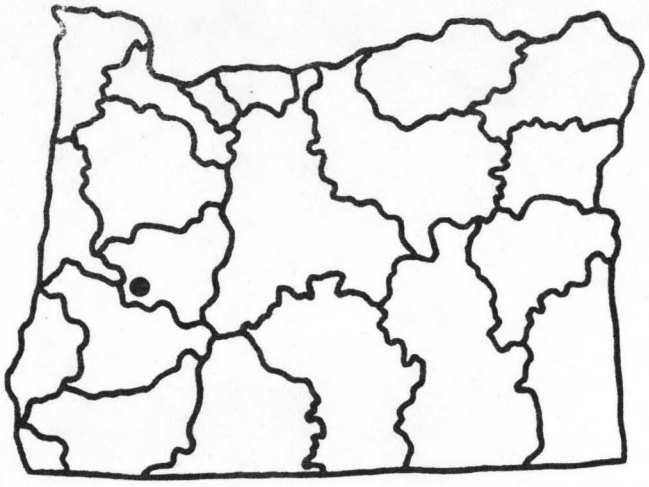
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.8	.30	2.66	1.000
80	18.4	.52	4.30	.948
50	81.2	2.28	14.36	.718
30	190.9	5.37	25.18	.535
10	462.0	13.00	38.54	.338

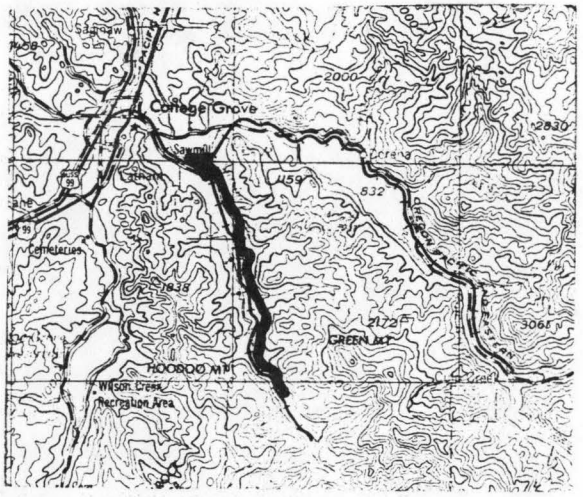
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 192 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0006

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T23S, R1W, Sec. 6
D.	Latitude, Longitude	43°54'N, 122°52'W
E.	Stream Name	Mosby Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	11.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

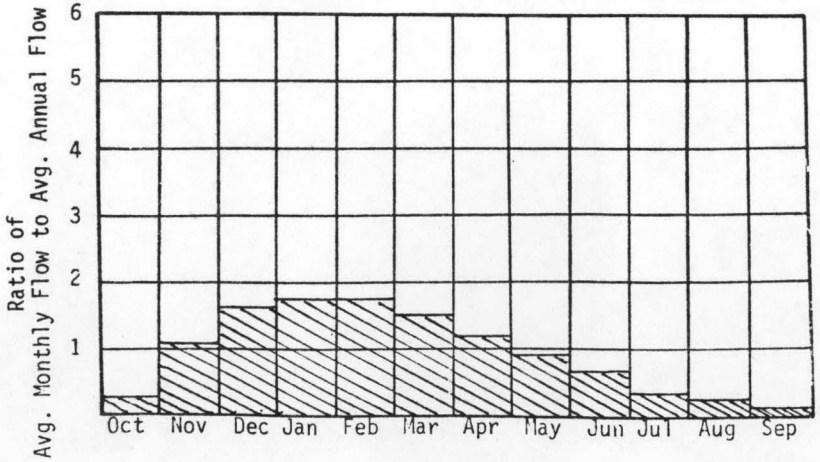
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	57	Sq.Mi.
F.	Inflow Classification	Natural	

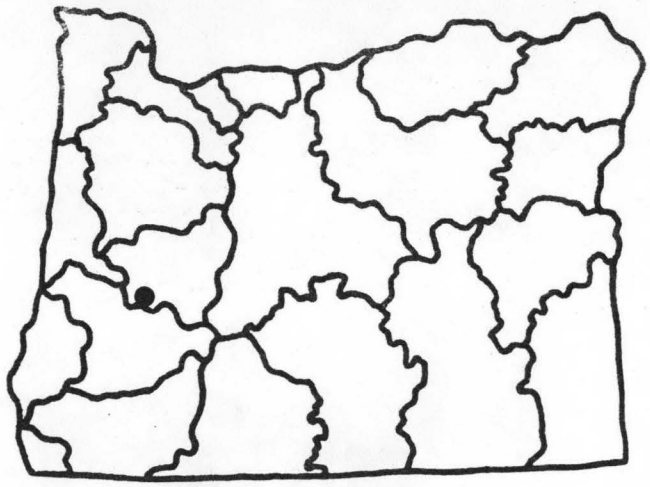
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.2	.04	.35	1.000
80	12.3	.07	.57	.949
50	58.4	.33	2.04	.713
30	141.0	.79	3.66	.529
10	346.3	1.94	5.67	.334

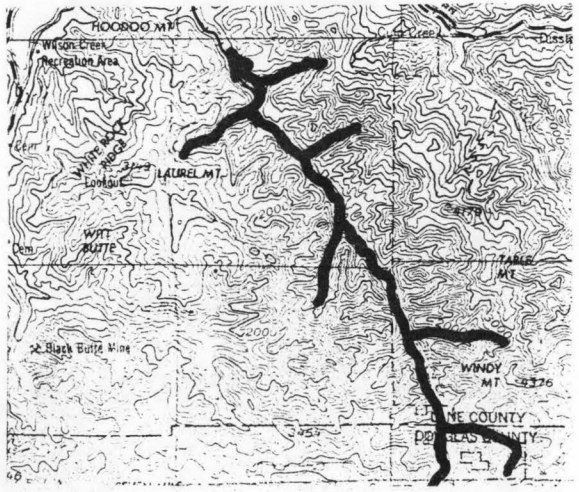
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 143 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0008

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T20S, R2W, Sec. 31
D.	Latitude, Longitude	43°47'N, 123°00'W
E.	Stream Name	Row River
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.8 to 7.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

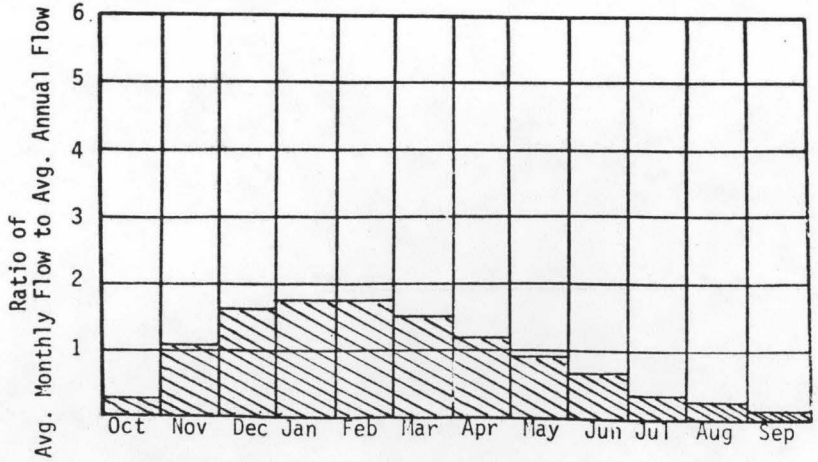
A.	Upstream Elevation of Reach	713	Ft. MSL
B.	Downstream Elevation of Reach	663	Ft. MSL
C.	Total Available Head in Reach	50	Ft.
D.	Average Slope in Reach	13.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	276	Sq.Mi.
F.	Inflow Classification	Regulated	

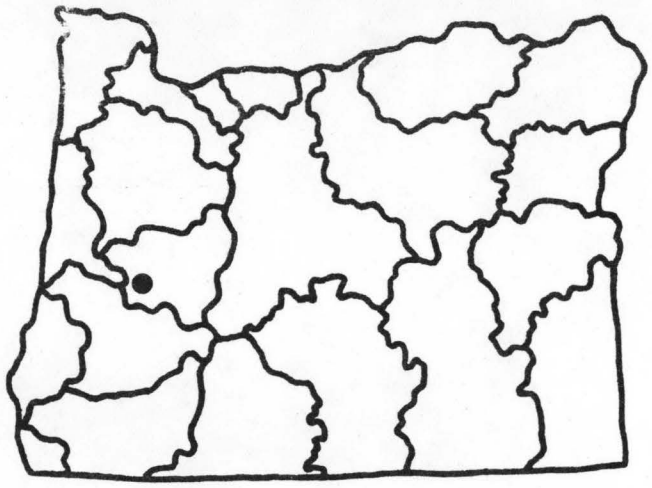
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	67.4	.29	2.50	1.000
80	117.9	.50	4.14	.946
50	367.1	1.56	10.16	.745
30	762.3	3.23	16.02	.566
10	1725.6	7.31	23.17	.362

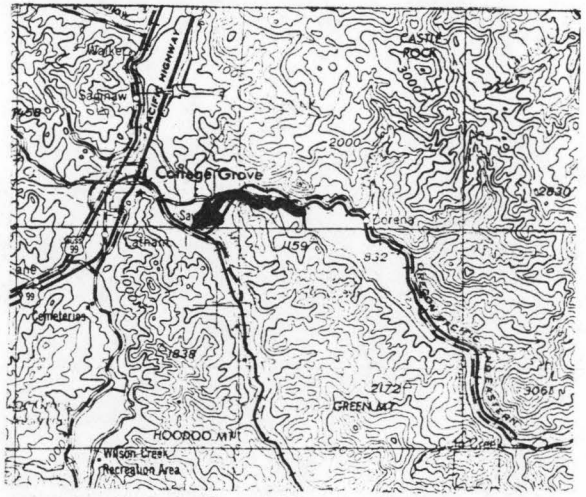
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 740 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0010

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T21S, R1W, Sec. 19	
D. Latitude, Longitude	43°43'N, 122°52'W	
E. Stream Name	Row River	
F. Major Basin Name	Upper Willamette	
G. River Mile	11.4 to 17.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

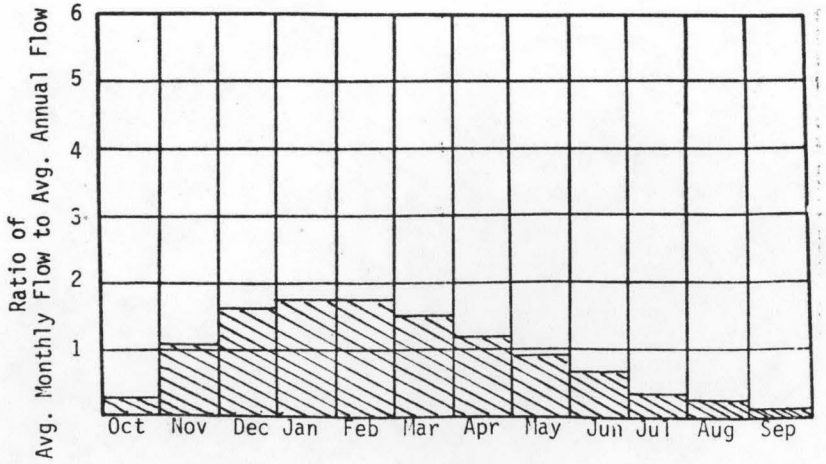
A. Upstream Elevation of Reach	966	Ft. MSL
B. Downstream Elevation of Reach	832	Ft. MSL
C. Total Available Head in Reach	134	Ft.
D. Average Slope in Reach	23.9	Ft./Mi.
E. Drainage Area above Reach Mouth	220	Sq.Mi.
F. Inflow Classification	Natural	

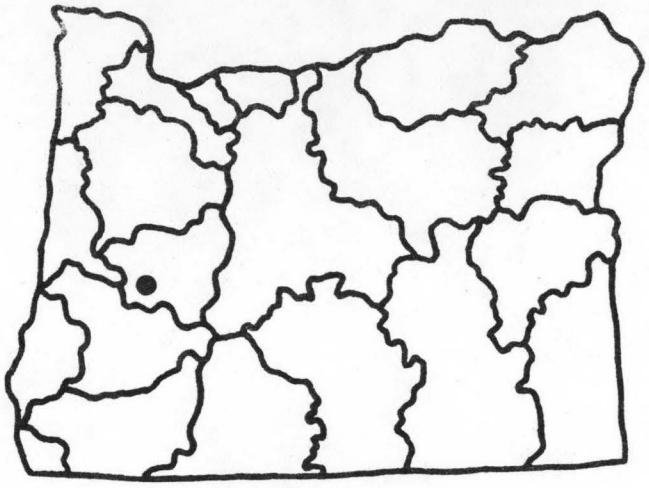
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	46.5	.53	4.63	1.000
80	81.0	.92	7.63	.947
50	270.6	3.07	19.89	.739
30	576.3	6.54	32.05	.559
10	1322.3	15.02	46.90	.357

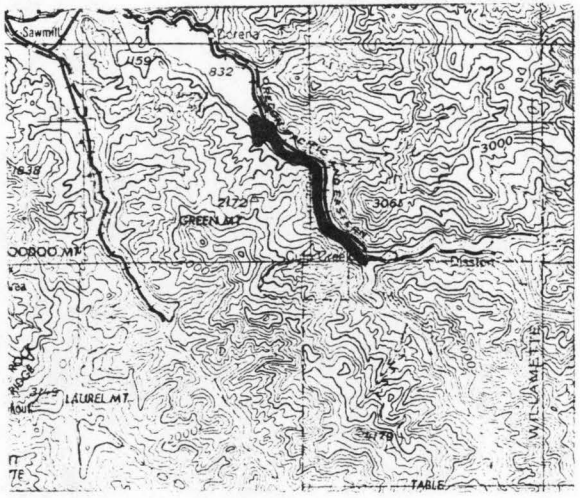
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 364 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0012

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T22S, R1W, Sec. 9
D.	Latitude, Longitude	43°40'N, 122°50'W
E.	Stream Name	Sharps Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 6.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

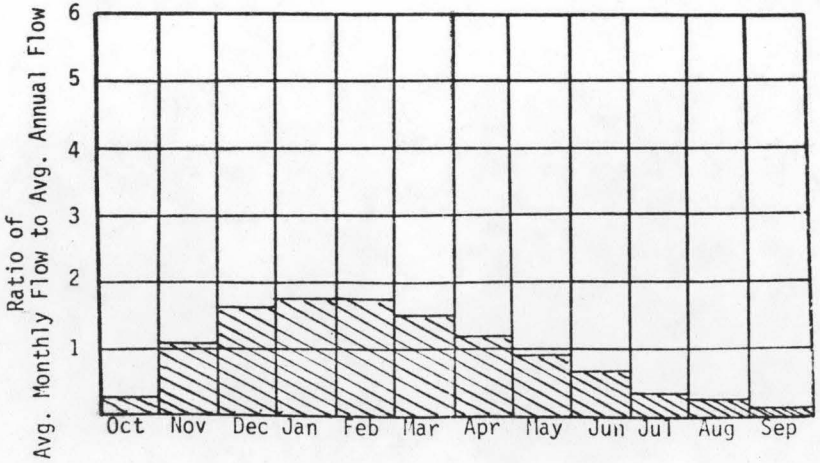
A.	Upstream Elevation of Reach	1195	Ft. MSL
B.	Downstream Elevation of Reach	966	Ft. MSL
C.	Total Available Head in Reach	229	Ft.
D.	Average Slope in Reach	38.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	67	Sq.Mi.
F.	Inflow Classification	Natural	

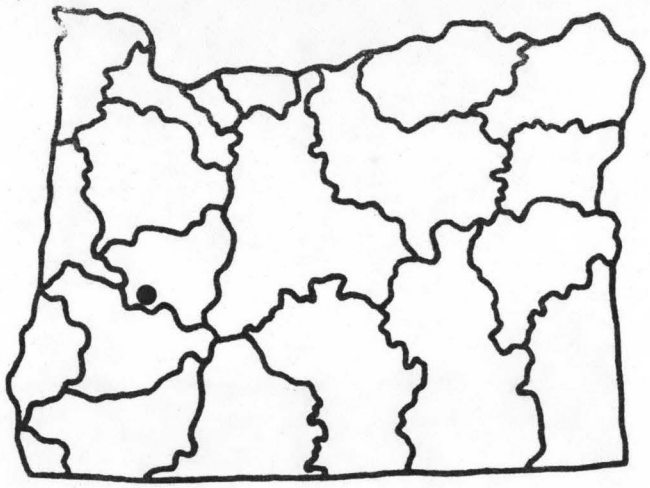
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.6	.17	1.47	1.000
80	14.7	.29	2.37	.948
50	67.7	1.31	8.22	.715
30	161.5	3.13	14.60	.532
10	394.0	7.65	22.51	.336

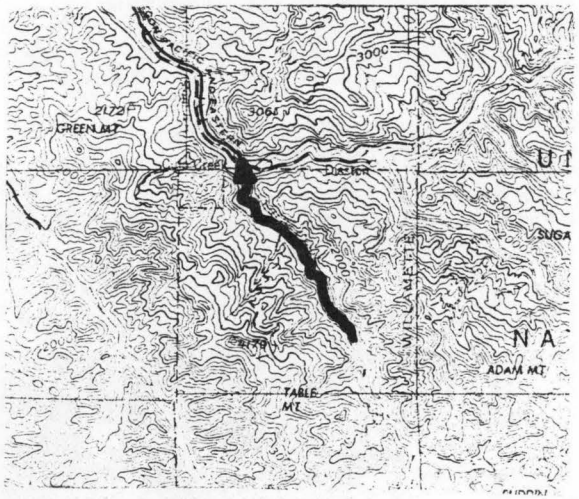
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW =163 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

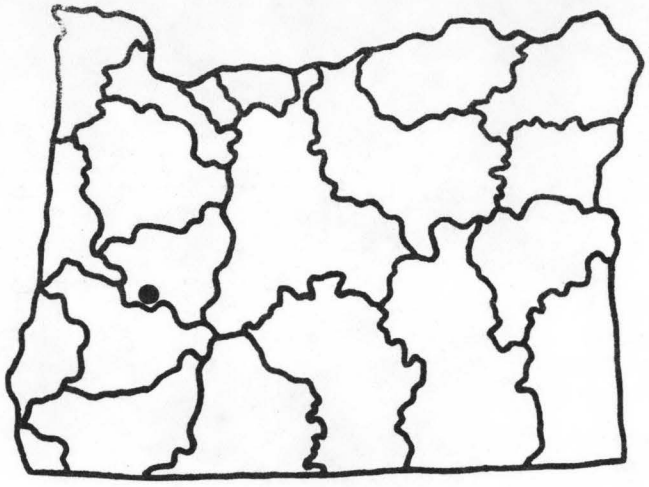


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0014

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T23S, R1W, Sec. 12
D.	Latitude, Longitude	43°35'N, 122°46'W
E.	Stream Name	Sharps Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	6.0 to H.W.



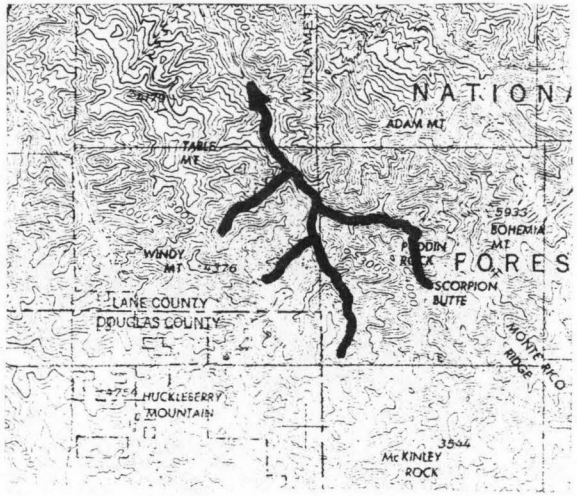
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	48	Sq.Mi.
F.	Inflow Classification	Natural	

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

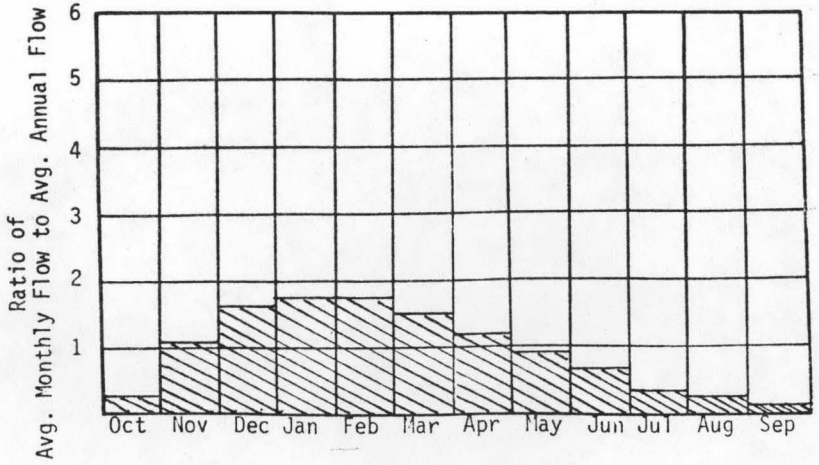
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.0	.04	.34	1.000
80	11.9	.07	.55	.949
50	57.1	.32	1.99	.712
30	138.3	.77	3.59	.529
10	340.0	1.90	5.56	.334



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 140 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0016

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R1W, Sec. 34
D.	Latitude, Longitude	43°42'N, 122°49'W
E.	Stream Name	Row River
F.	Major Basin Name	Upper Willamette
G.	River Mile	17.0 to 21.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

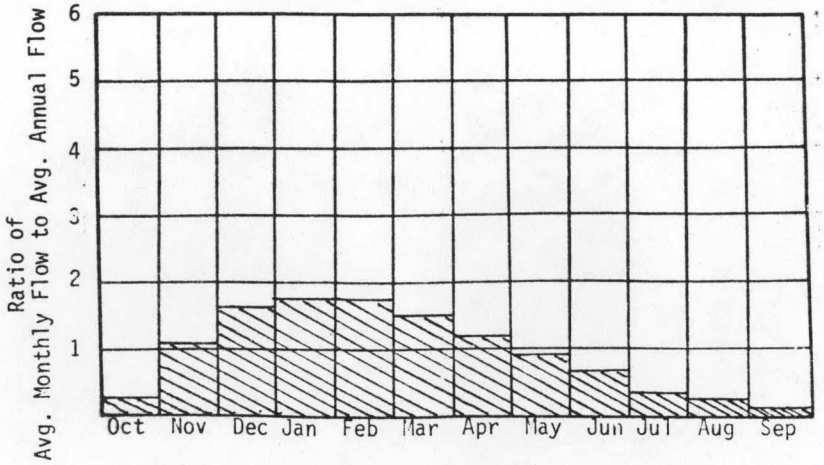
A.	Upstream Elevation of Reach	1107	Ft. MSL
B.	Downstream Elevation of Reach	966	Ft. MSL
C.	Total Available Head in Reach	141	Ft.
D.	Average Slope in Reach	34.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	132	Sq.Mi.
F.	Inflow Classification	Natural	

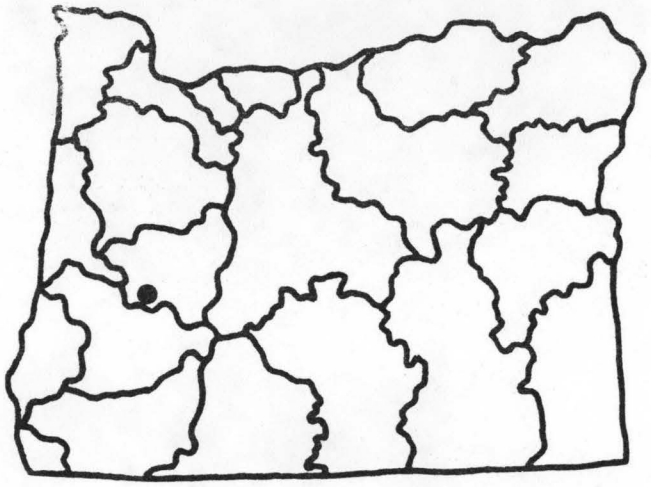
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	21.4	.26	2.24	1.000
80	36.8	.44	3.65	.948
50	142.7	1.71	10.86	.727
30	320.3	3.83	18.29	.546
10	756.2	9.04	27.42	.346

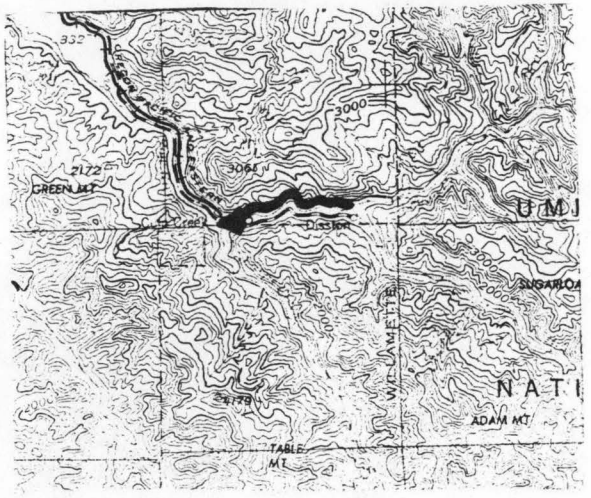
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 318 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0018

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T22S, R1W, Sec. 12
D.	Latitude, Longitude	43°40'N, 122°46'W
E.	Stream Name	Brice Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 5.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

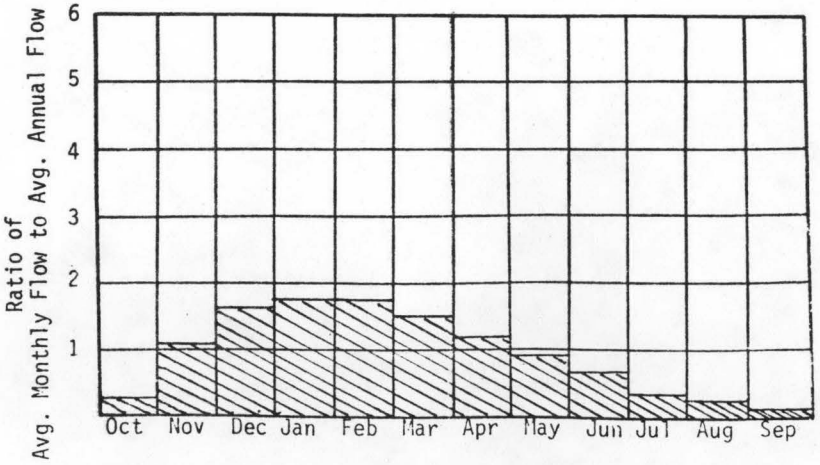
A.	Upstream Elevation of Reach	1559	Ft. MSL
B.	Downstream Elevation of Reach	1107	Ft. MSL
C.	Total Available Head in Reach	452	Ft.
D.	Average Slope in Reach	90.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	58	Sq.Mi.
F.	Inflow Classification	Natural	

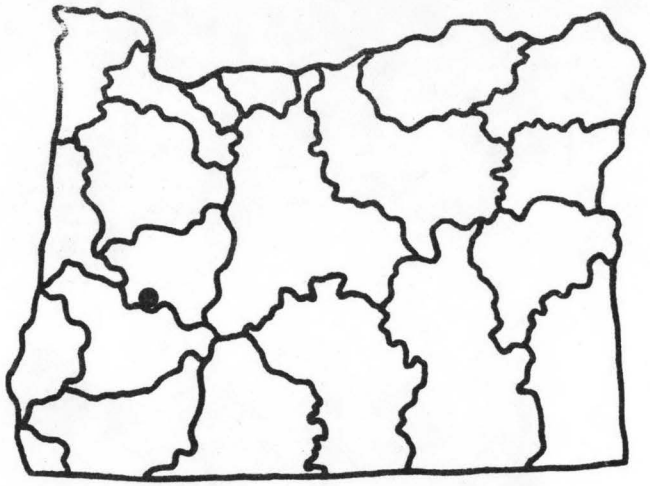
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.8	.26	2.29	1.000
80	11.6	.44	3.69	.949
50	55.8	2.14	13.33	.712
30	135.3	5.18	24.00	.529
10	333.0	12.75	37.27	.334

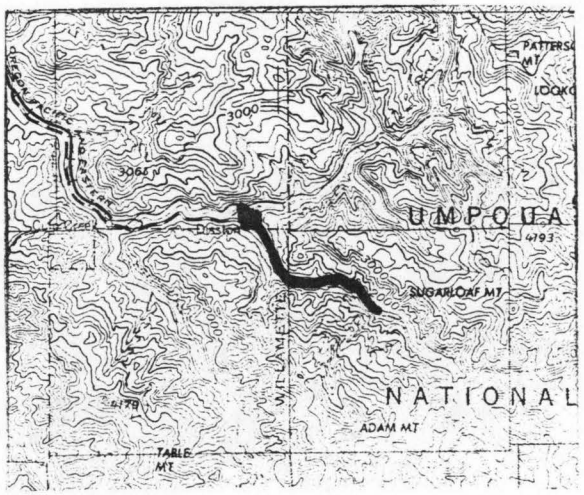
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 137 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

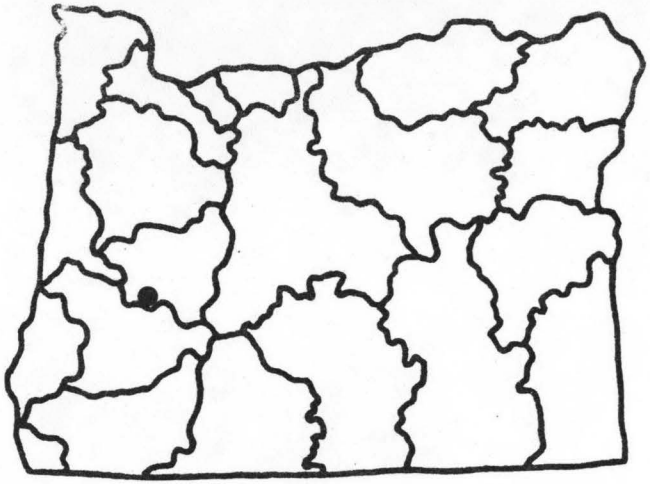


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0020

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T22S, R2E, Sec. 30
D.	Latitude, Longitude	43°39'N, 122°38'W
E.	Stream Name	Brice Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	5.0 to H.W.



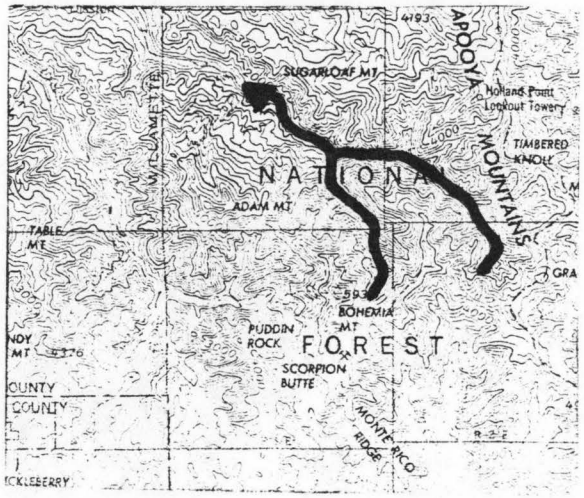
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	47	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

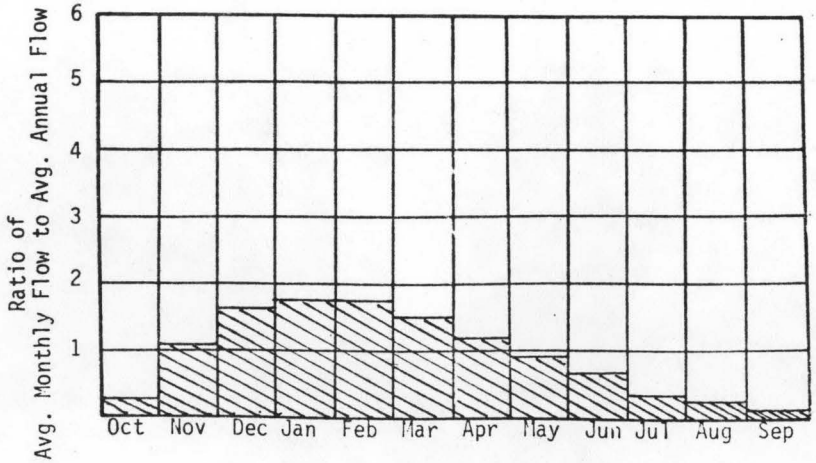
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.0	.03	.30	1.000
80	10.2	.06	.48	.949
50	50.4	.28	1.75	.711
30	123.2	.69	3.18	.527
10	304.5	1.70	4.96	.332

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 125 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0022

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R1E, Sec. 31
D.	Latitude, Longitude	43°42'N, 122°45'W
E.	Stream Name	Layng Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 3.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

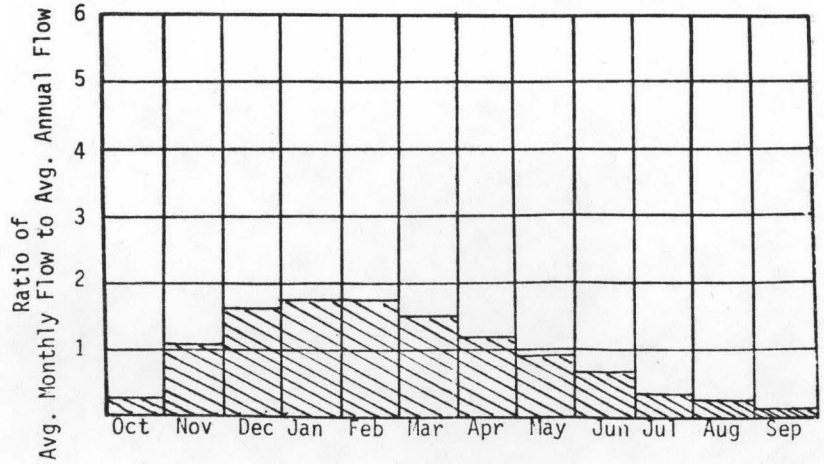
A.	Upstream Elevation of Reach	1288	Ft. MSL
B.	Downstream Elevation of Reach	1107	Ft. MSL
C.	Total Available Head in Reach	181	Ft.
D.	Average Slope in Reach	56.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	64	Sq.Mi.
F.	Inflow Classification	Natural	

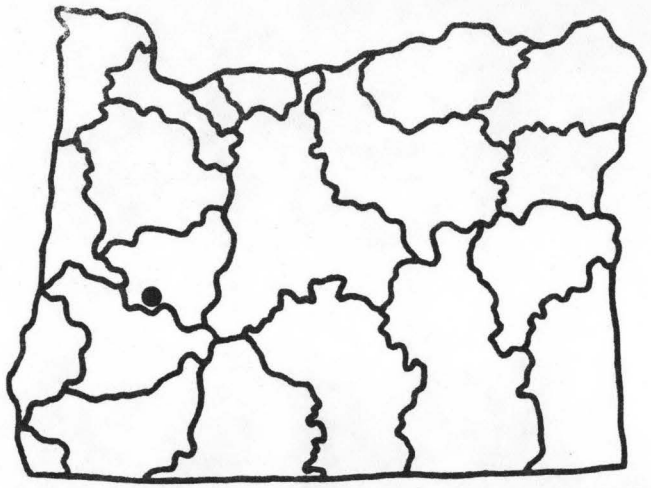
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.6	.10	.89	1.000
80	11.2	.17	1.43	.949
50	54.3	.83	5.19	.712
30	131.9	2.02	9.36	.528
10	325.0	4.99	14.55	.333

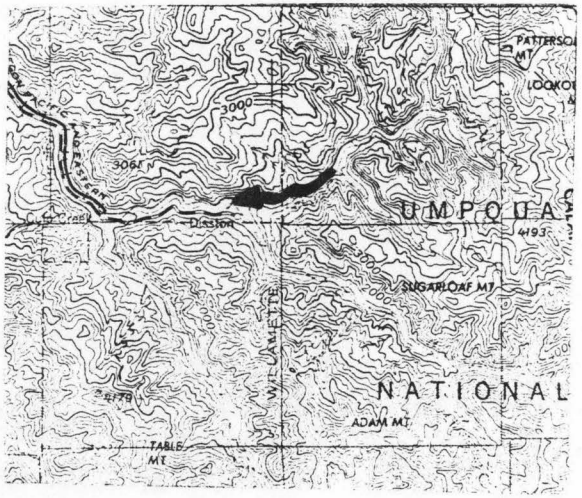
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 134 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-005-R0024

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R1E, Sec. 25
D.	Latitude, Longitude	43°43'N, 122°39'W
E.	Stream Name	Layng Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

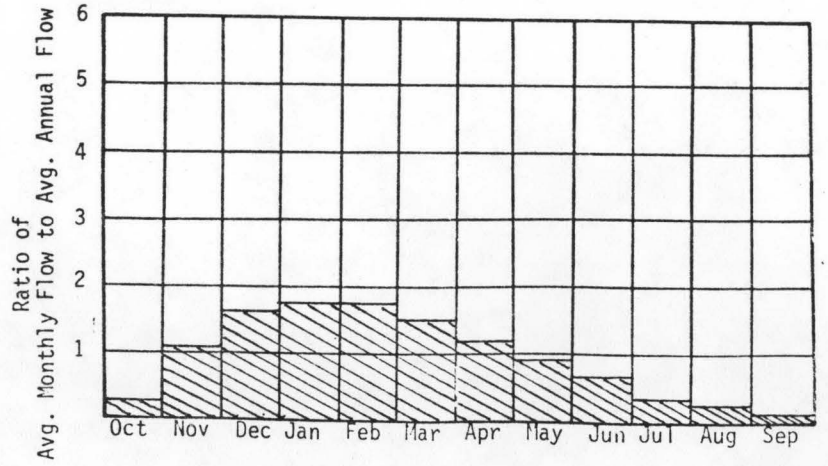
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	55	Sq.Mi.
F.	Inflow Classification	Natural	

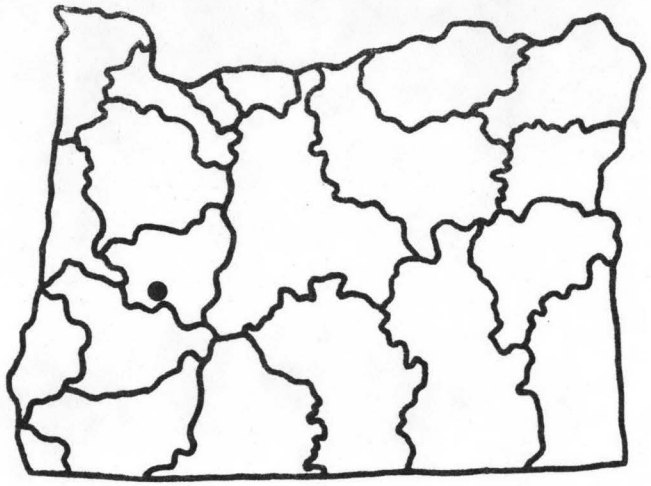
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.8	.03	.29	1.000
80	9.9	.06	.46	.949
50	49.1	.27	1.71	.710
30	120.4	.67	3.11	.527
10	297.8	1.67	4.84	.332

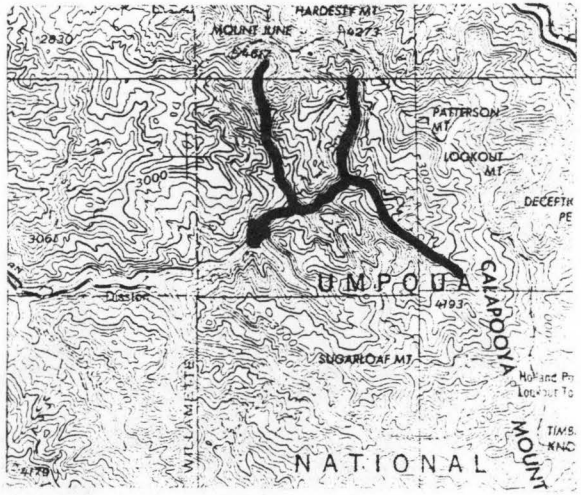
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 122 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R3W, Sec. 5
D.	Latitude, Longitude	43°45'N, 123°05'W
E.	Stream Name	Coast Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	20.7 to 29.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

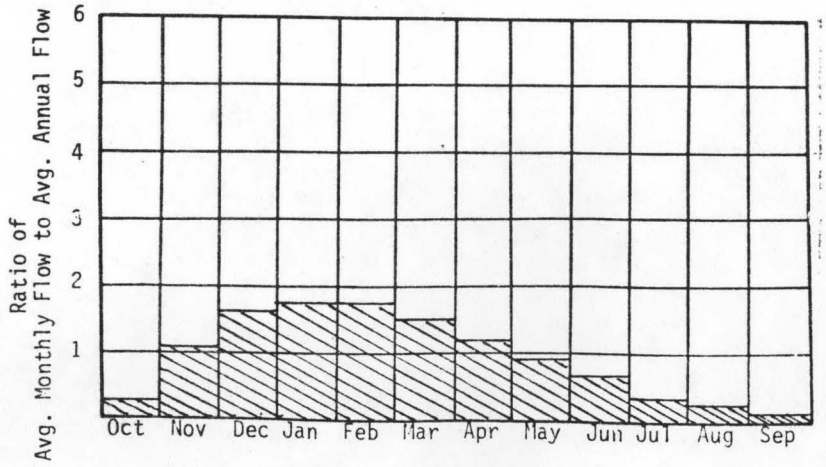
A.	Upstream Elevation of Reach	718	Ft. MSL
B.	Downstream Elevation of Reach	607	Ft. MSL
C.	Total Available Head in Reach	111	Ft.
D.	Average Slope in Reach	12.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	155	Sq.Mi.
F.	Inflow Classification	Regulated	

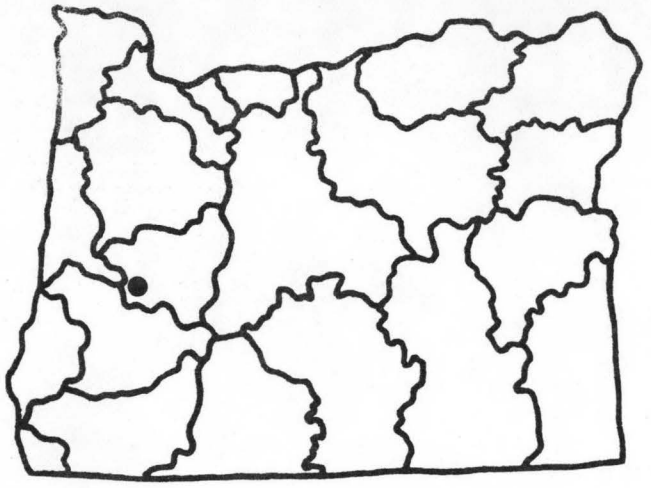
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	21.3	.20	1.76	1.000
80	36.7	.35	2.87	.948
50	142.3	1.34	8.52	.727
30	319.5	3.01	14.37	.546
10	754.4	7.10	21.53	.346

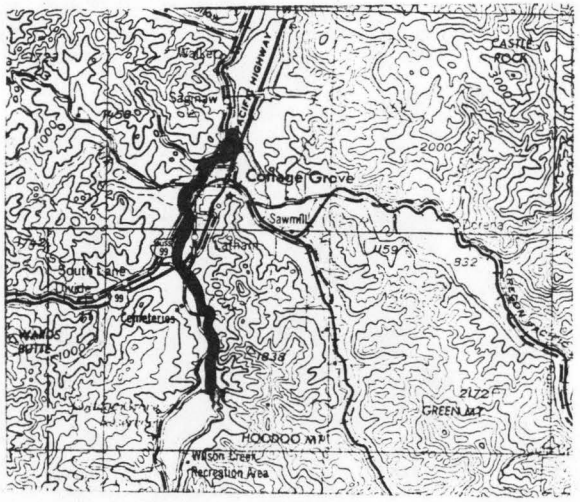
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 317 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-000-R0008

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T22S, R3W, Sec. 20
D.	Latitude, Longitude	43°38'N, 123°06'W
E.	Stream Name	Coast Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	32.5 to 40.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

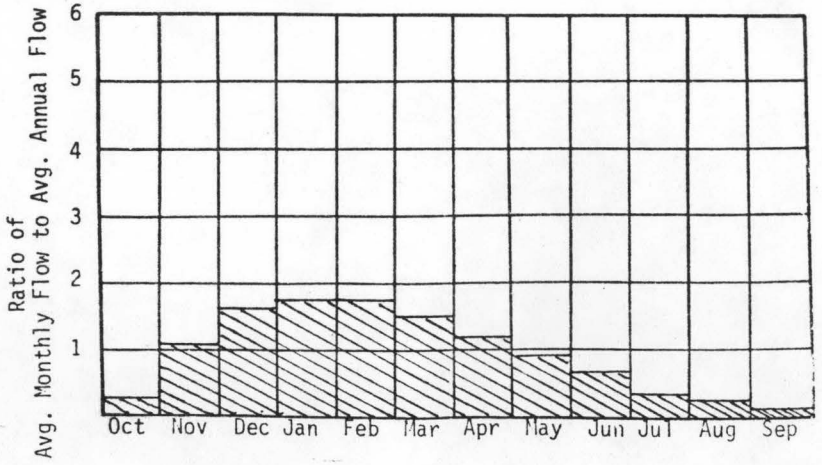
A.	Upstream Elevation of Reach	947	Ft. MSL
B.	Downstream Elevation of Reach	792	Ft. MSL
C.	Total Available Head in Reach	155	Ft.
D.	Average Slope in Reach	20.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	81	Sq.Mi.
F.	Inflow Classification	Natural	

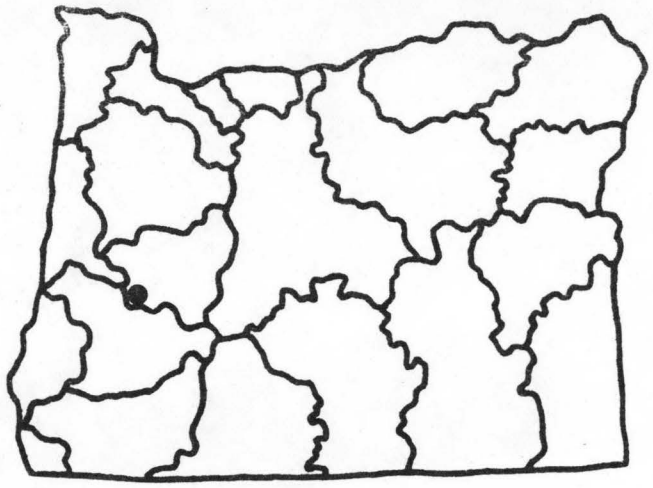
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.4	.12	1.09	1.000
80	16.1	.21	1.75	.948
50	72.8	.96	5.99	.716
30	172.6	2.27	10.59	.533
10	419.9	5.52	16.28	.337

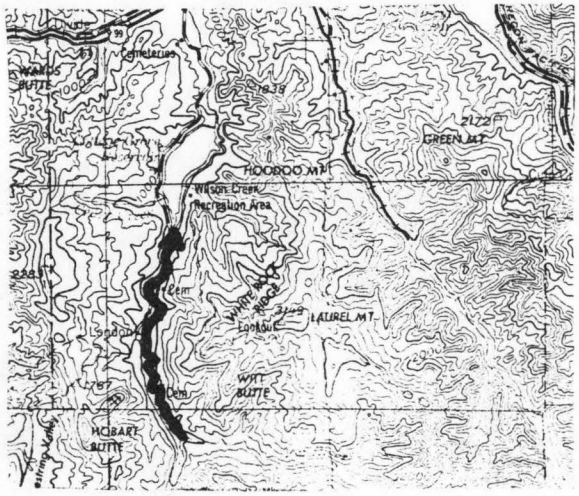
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 174 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-187-015-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T23S, R2W, Sec. 7
D.	Latitude, Longitude	43°34'N, 123°00'W
E.	Stream Name	Big River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

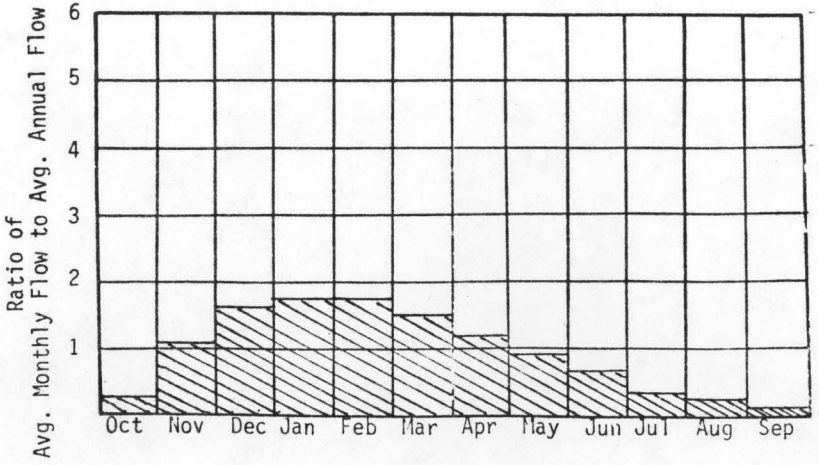
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	57	Sq.Mi.
F.	Inflow Classification	Natural	

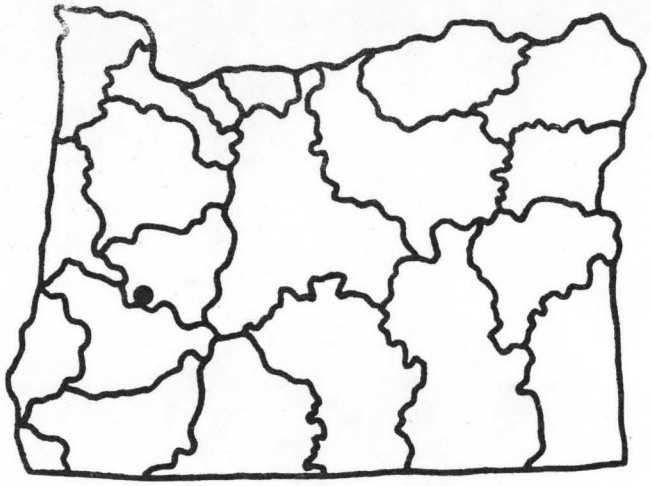
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.4	.04	.36	1.000
80	12.6	.07	.59	.949
50	59.9	.33	2.09	.713
30	144.4	.81	3.75	.530
10	354.2	1.98	5.80	.334

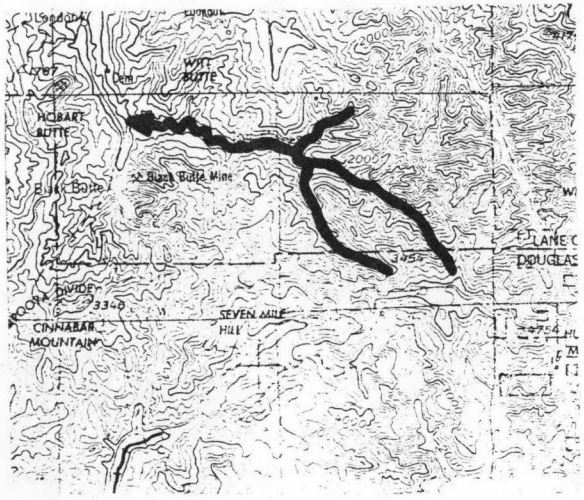
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 146 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T18S, R2W, Sec. 9	
D. Latitude, Longitude	44°00'N, 122°56'W	
E. Stream Name	Middle Fork Willamette River	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 11.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

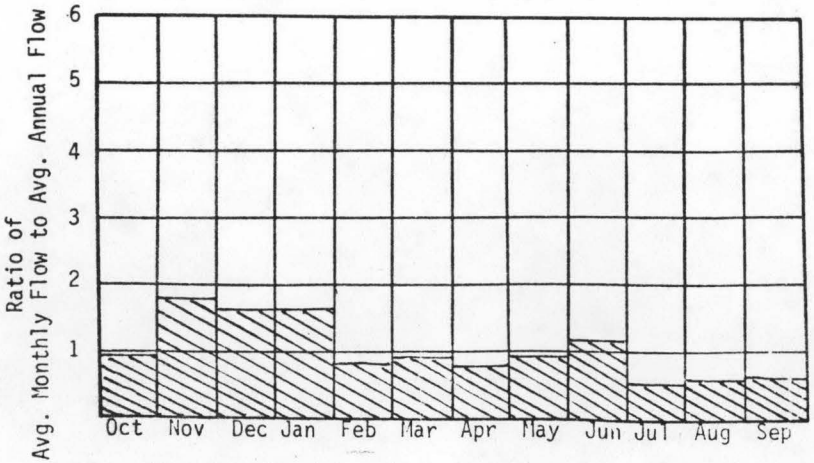
A. Upstream Elevation of Reach	550	Ft. MSL
B. Downstream Elevation of Reach	435	Ft. MSL
C. Total Available Head in Reach	115	Ft.
D. Average Slope in Reach	10.2	Ft./Mi.
E. Drainage Area above Reach Mouth	1375	Sq.Mi.
F. Inflow Classification	Regulated	

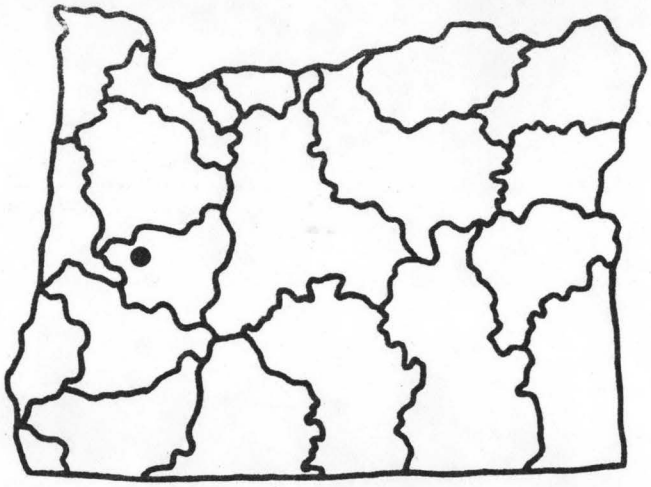
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	680.6	6.63	58.11	1.000
80	1227.4	11.96	98.95	.944
50	2459.7	23.97	167.33	.797
30	4366.5	42.56	232.45	.624
10	9086.8	88.56	313.05	.404

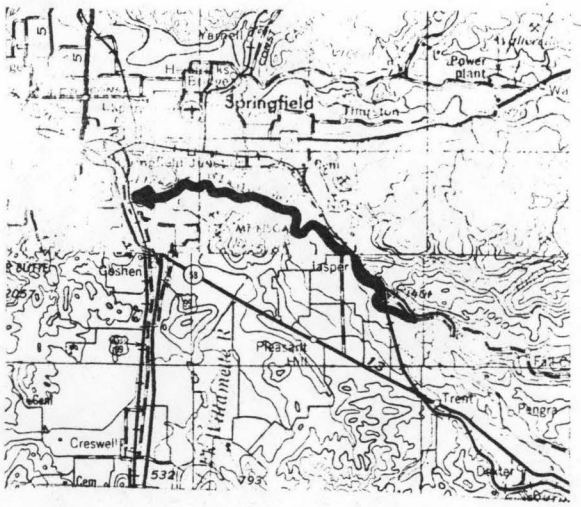
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 4056 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0001

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T18S, R1W, Sec. 32	
D. Latitude, Longitude	43°57'N, 122°51'W	
E. Stream Name	Fall Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 3.4	

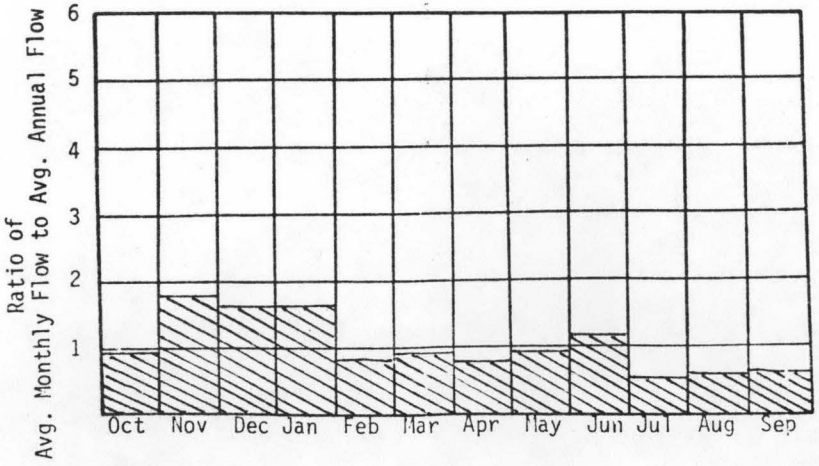
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

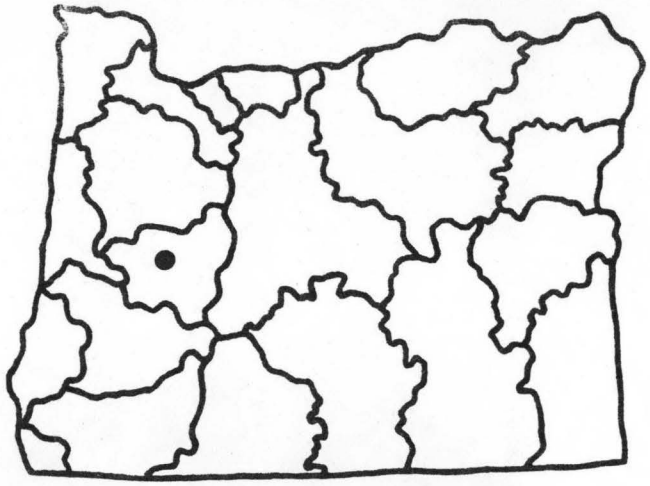
A. Upstream Elevation of Reach	596	Ft. MSL
B. Downstream Elevation of Reach	550	Ft. MSL
C. Total Available Head in Reach	46	Ft.
D. Average Slope in Reach	13.5	Ft./Mi.
E. Drainage Area above Reach Mouth	251	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

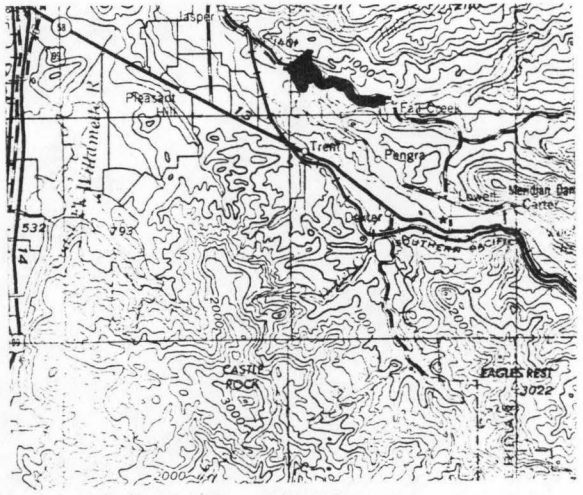
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	64.6	.25	2.21	1.000
80	112.9	.44	3.65	.947
50	354.3	1.38	9.01	.744
30	737.9	2.88	14.25	.565
10	1673.0	6.52	20.63	.361

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 717 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0002

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T18S, R1W, Sec. 25	
D. Latitude, Longitude	43°58'N, 122°46'W	
E. Stream Name	Little Fall Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	0.0 to 7.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

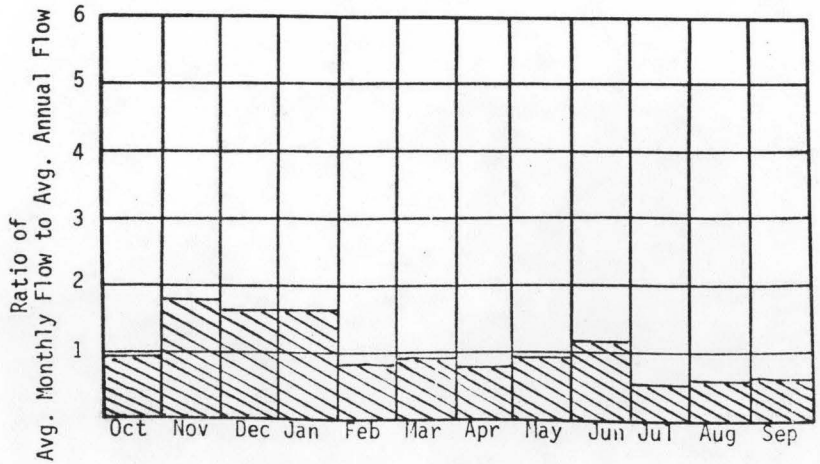
A. Upstream Elevation of Reach	897	Ft. MSL
B. Downstream Elevation of Reach	596	Ft. MSL
C. Total Available Head in Reach	201	Ft.
D. Average Slope in Reach	26.1	Ft./Mi.
E. Drainage Area above Reach Mouth	57	Sq.Mi.
F. Inflow Classification	Natural	

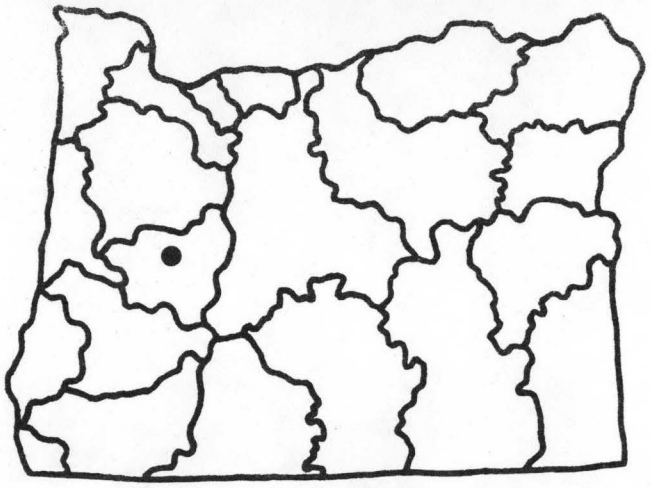
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.2	.14	1.23	1.000
80	14.0	.24	1.99	.948
50	65.2	1.11	6.95	.714
30	156.1	2.66	12.37	.531
10	381.4	6.50	19.10	.336

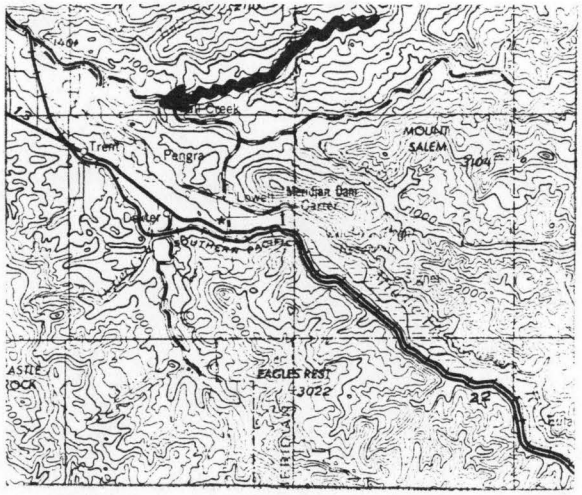
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 158 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R2E, Sec. 5
D.	Latitude, Longitude	44°01'N, 122°36'W
E.	Stream Name	Little Fall Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	7.7 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

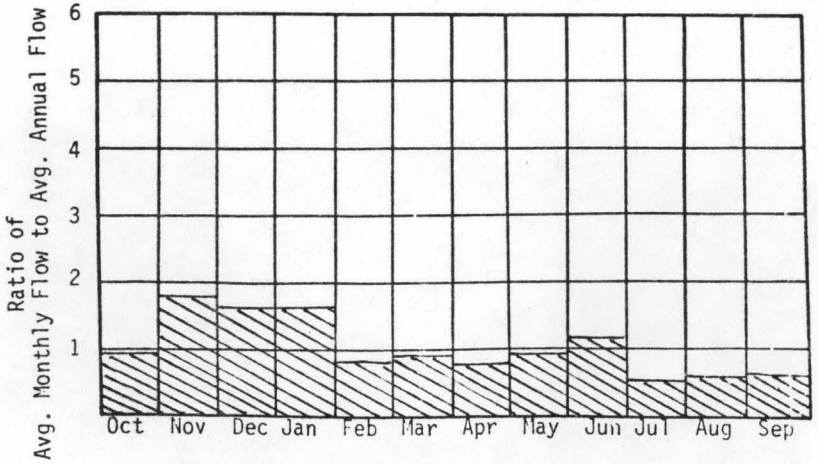
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	47	Sq.Mi.
F.	Inflow Classification	Natural	

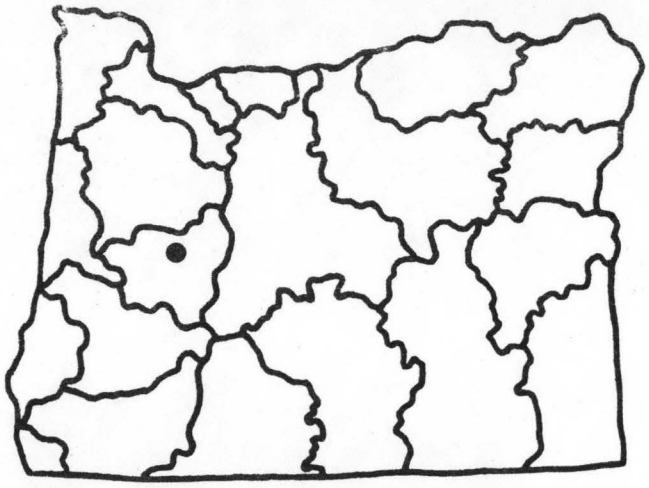
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.3	.04	.36	1.000
80	12.5	.07	.58	.949
50	59.2	.33	2.07	.713
30	142.9	.80	3.71	.530
10	350.7	1.96	5.74	.334

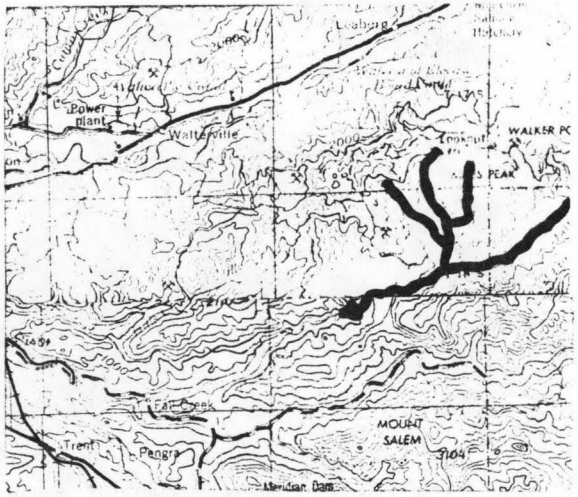
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 145 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG-SALEM

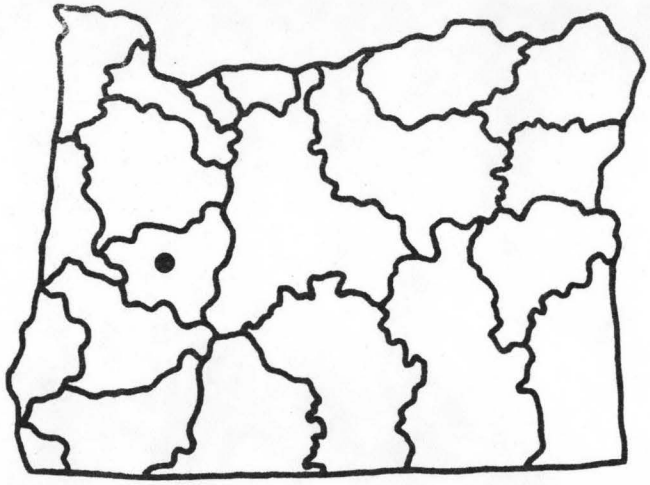


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R1W, Sec. 3
D.	Latitude, Longitude	43°56'N, 122°48'W
E.	Stream Name	Fall Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	3.4 to 7.0



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	674	Ft. MSL
B.	Downstream Elevation of Reach	596	Ft. MSL
C.	Total Available Head in Reach	78	Ft.
D.	Average Slope in Reach	21.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	190	Sq.Mi.
F.	Inflow Classification	Regulated	

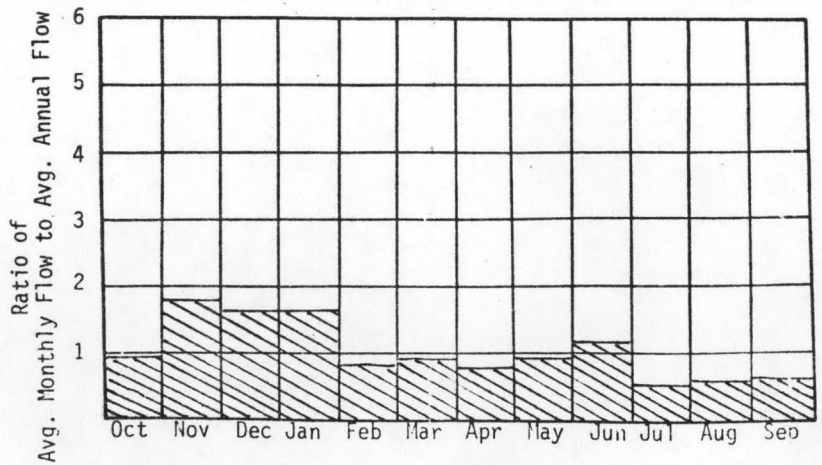
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

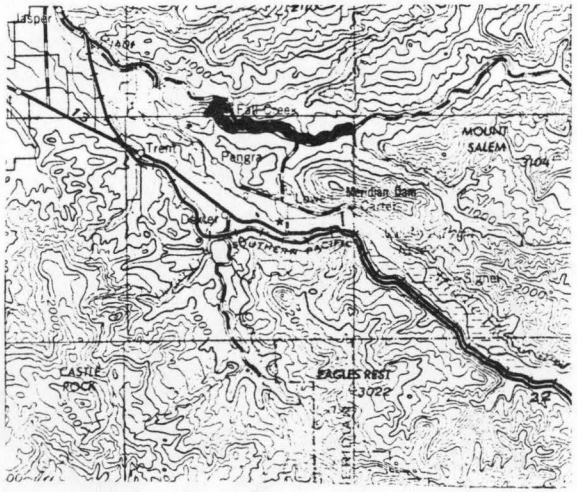
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	41.2	.27	2.39	1.000
80	71.7	.47	3.93	.947
50	245.0	1.62	10.45	.737
30	525.8	3.48	16.96	.557
10	1211.9	8.01	24.90	.355

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 516 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0007

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R2E, Sec. 19
D.	Latitude, Longitude	43°53'N, 122°38'W
E.	Stream Name	Winberry Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

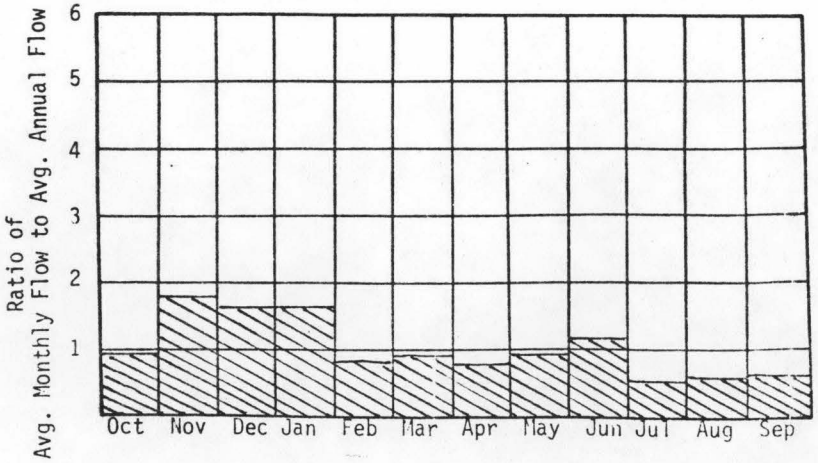
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	55	Sq.Mi.
F.	Inflow Classification	Natural	

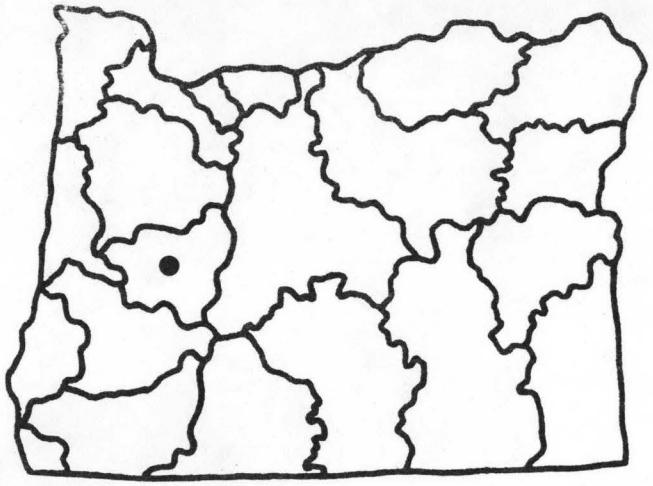
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.1	.03	.30	1.000
80	10.3	.06	.48	.949
50	50.7	.28	1.77	.711
30	124.0	.69	3.20	.527
10	306.4	1.71	4.99	.332

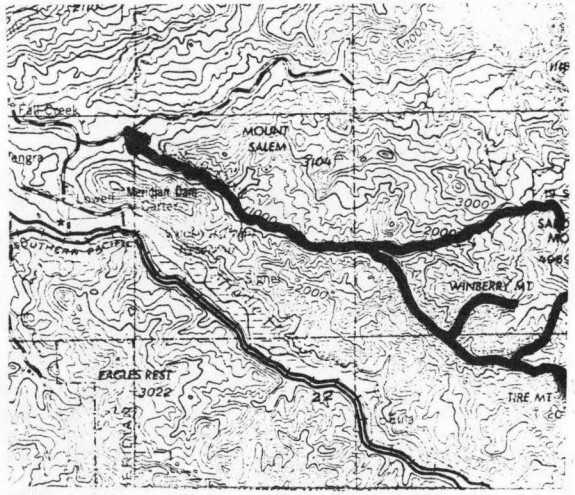
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 126 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0009

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T18S, R2E, Sec.30	
D. Latitude, Longitude	43°57'N, 122°36'W	
E. Stream Name	Fall Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	13.8 to 18.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

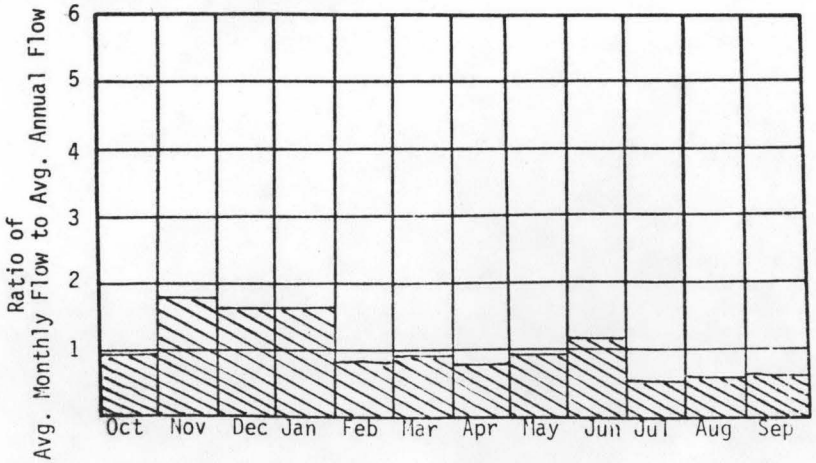
A. Upstream Elevation of Reach	988	Ft. MSL
B. Downstream Elevation of Reach	830	Ft. MSL
C. Total Available Head in Reach	158	Ft.
D. Average Slope in Reach	34.3	Ft./Mi.
E. Drainage Area above Reach Mouth	117	Sq.Mi.
F. Inflow Classification	Natural	

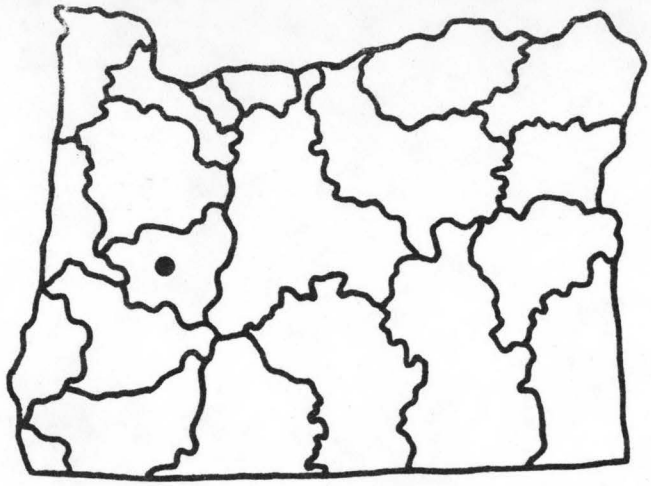
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	21.4	.29	2.51	1.000
80	36.8	.49	4.10	.948
50	142.7	1.91	12.17	.727
30	320.4	4.29	20.50	.546
10	756.2	10.13	30.73	.346

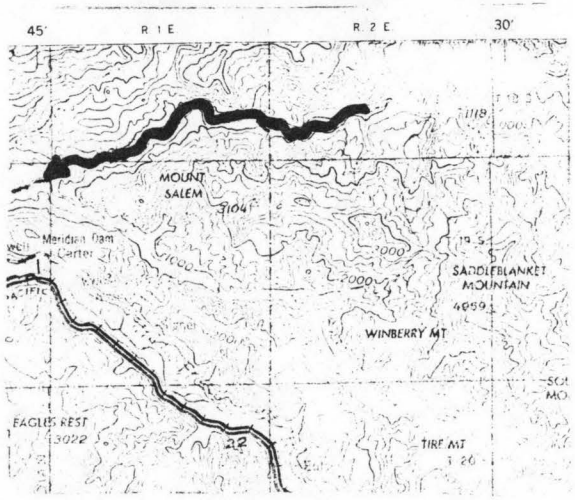
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 333 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0011

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R2E, Sec. 26
D.	Latitude, Longitude	43°58'N, 122°32'W
E.	Stream Name	Fall Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	18.4 to 23.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

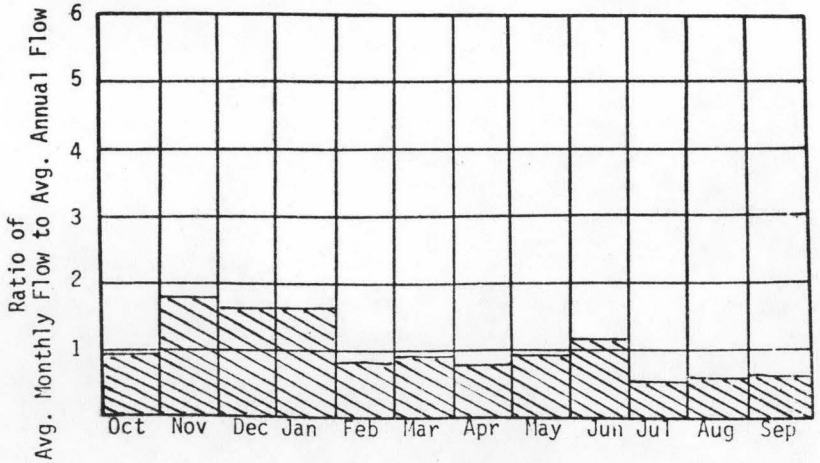
A.	Upstream Elevation of Reach	1183	Ft. MSL
B.	Downstream Elevation of Reach	988	Ft. MSL
C.	Total Available Head in Reach	195	Ft.
D.	Average Slope in Reach	39.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	100	Sq.Mi.
F.	Inflow Classification	Natural	

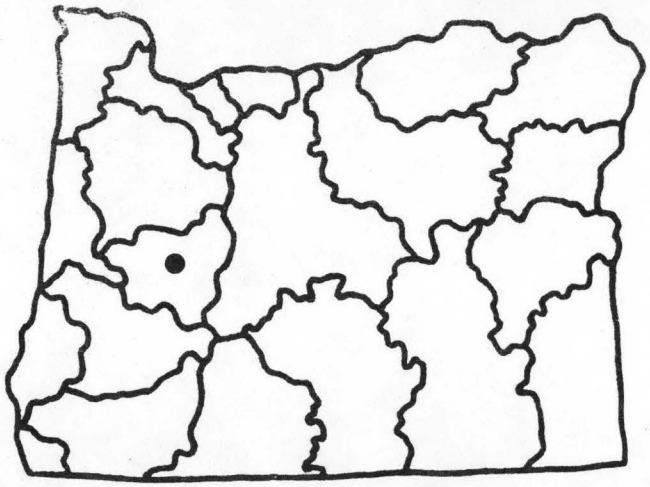
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.2	.22	1.92	1.000
80	22.7	.37	3.11	.948
50	96.2	1.59	10.03	.720
30	223.0	3.68	17.37	.538
10	535.7	8.85	26.42	.341

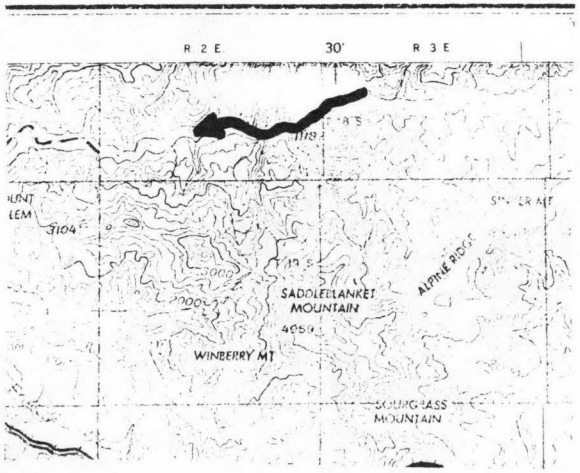
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 224 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-001-R0012

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R3E, Sec. 23
D.	Latitude, Longitude	43°58'N, 122°25'W
E.	Stream Name	Fall Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	23.4 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

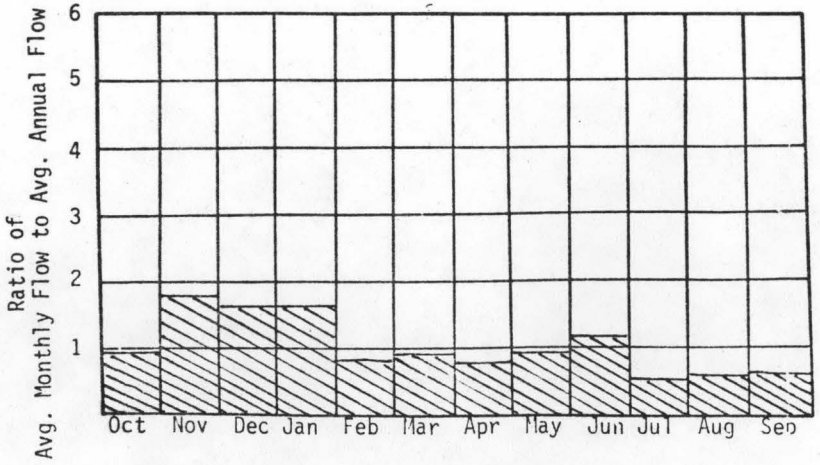
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	52	Sq.Mi.
F.	Inflow Classification	Natural	

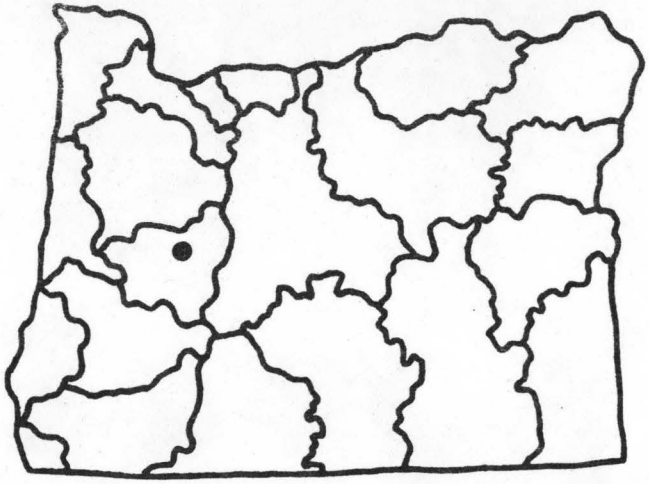
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.8	.04	.38	1.000
80	13.2	.07	.62	.949
50	62.2	.35	2.17	.714
30	149.4	.84	3.88	.530
10	365.9	2.05	6.01	.335

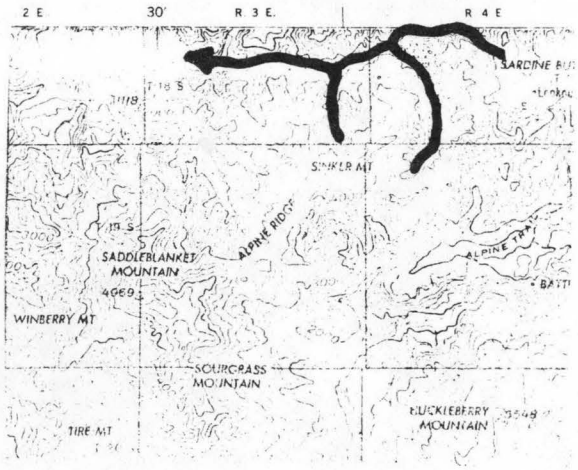
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 151 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG-SALEM

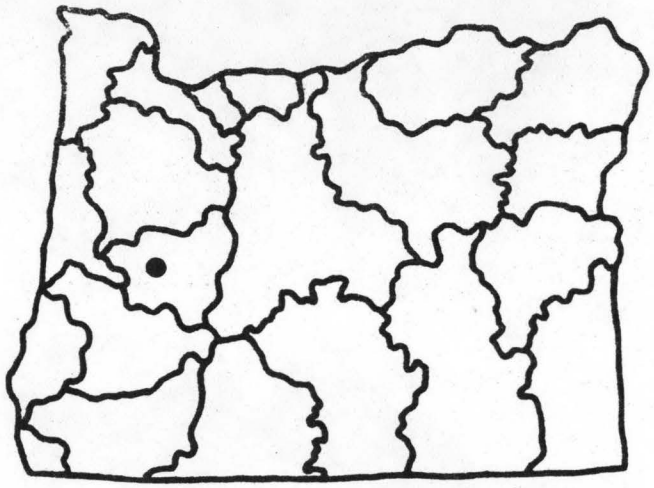


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T18S, R1W, Sec. 31
D.	Latitude, Longitude	43°56'N, 122°52'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	11.3 to 13.6



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	589	Ft. MSL
B.	Downstream Elevation of Reach	550	Ft. MSL
C.	Total Available Head in Reach	39	Ft.
D.	Average Slope in Reach	17.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	1070	Sq.Mi.
F.	Inflow Classification	Regulated	

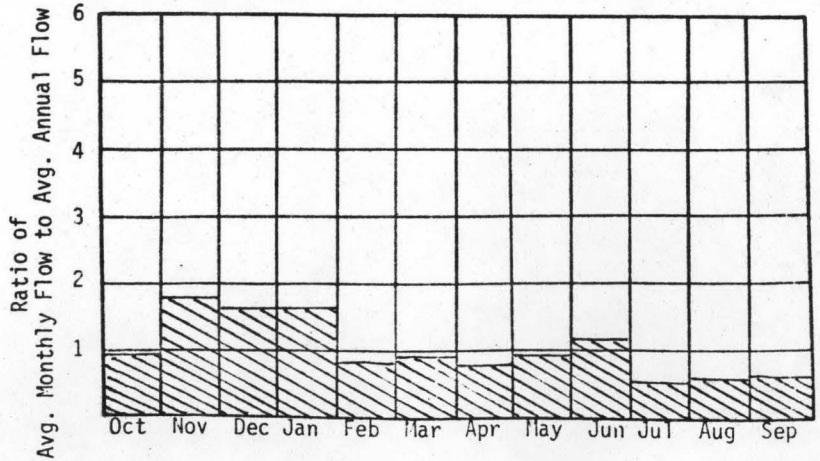
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

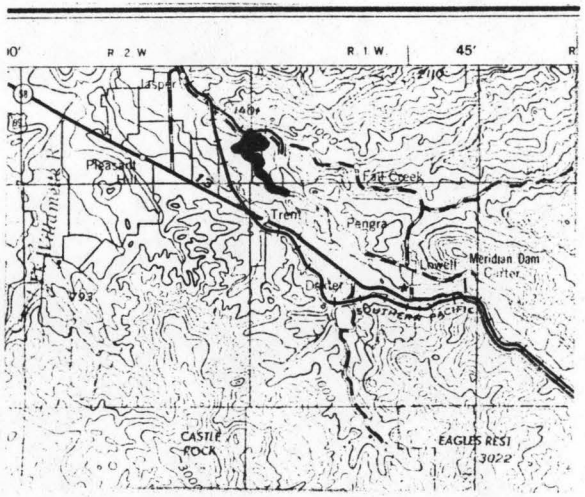
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	485.0	1.60	14.04	1.000
80	870.7	2.88	23.81	.945
50	1861.1	6.15	42.45	.788
30	3380.7	11.17	60.05	.614
10	7122.7	23.54	81.72	.396

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3161 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-005-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T20S, R1W, Sec. 4
D.	Latitude, Longitude	43°51'N, 122°49'W
E.	Stream Name	Lost Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

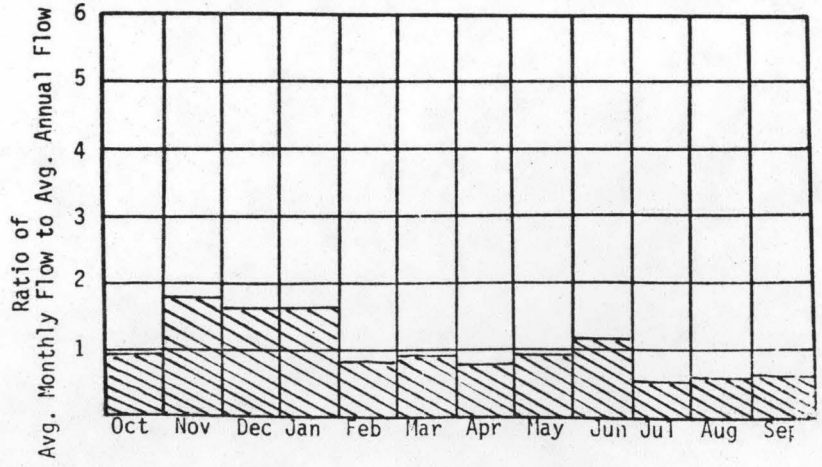
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	54	Sq.Mi.
F.	Inflow Classification	Natural	

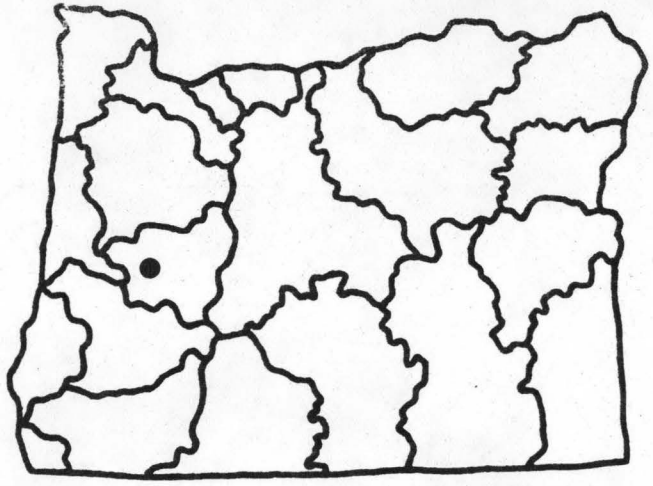
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.1	.03	.30	1.000
80	10.2	.06	.48	.949
50	50.5	.28	1.76	.711
30	123.5	.69	3.19	.527
10	305.2	1.71	4.97	.332

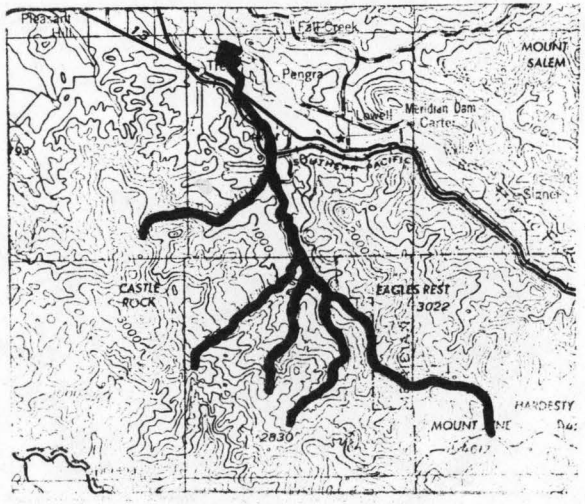
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 126 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R1W, Sec. 8
D.	Latitude, Longitude	43°56'N, 122°51'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	13.6 to 16.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

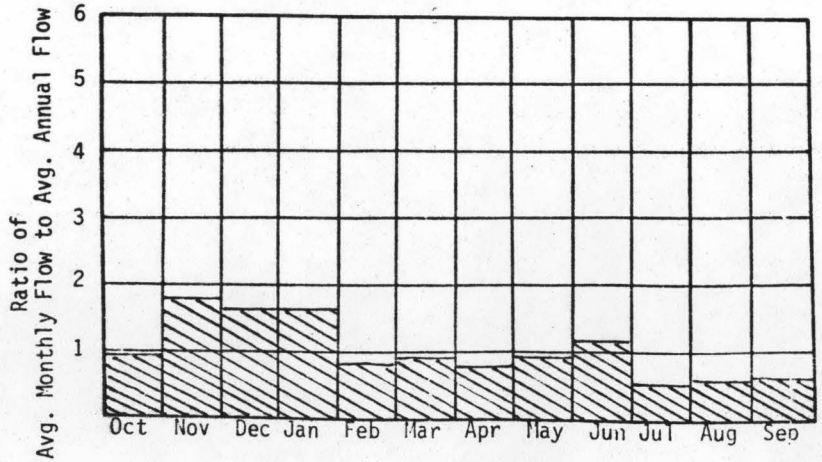
A.	Upstream Elevation of Reach	643	Ft. MSL
B.	Downstream Elevation of Reach	589	Ft. MSL
C.	Total Available Head in Reach	54	Ft.
D.	Average Slope in Reach	16.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	1014	Sq.Mi.
F.	Inflow Classification	Regulated	

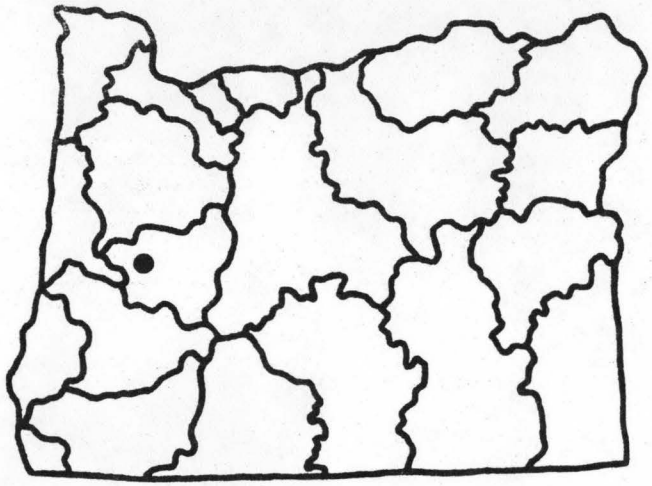
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	452.0	2.07	18.12	1.000
80	810.7	3.71	30.70	.945
50	1756.3	8.04	55.34	.786
30	3205.5	14.67	78.58	.611
10	6771.0	30.99	107.17	.395

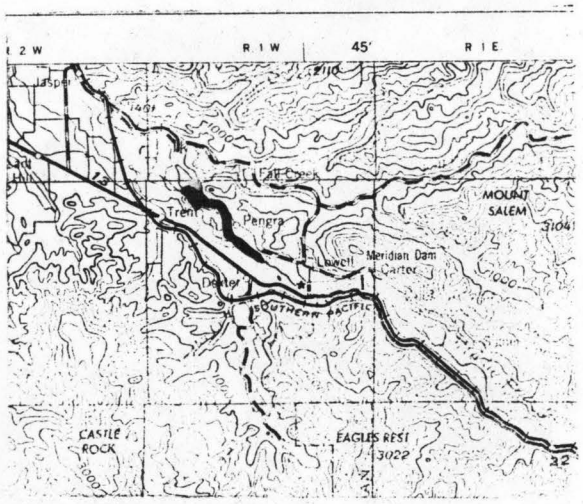
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3002 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T20S, R2E, Sec. 35
D.	Latitude, Longitude	43°47'N, 122°33'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	32.7 to 37.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

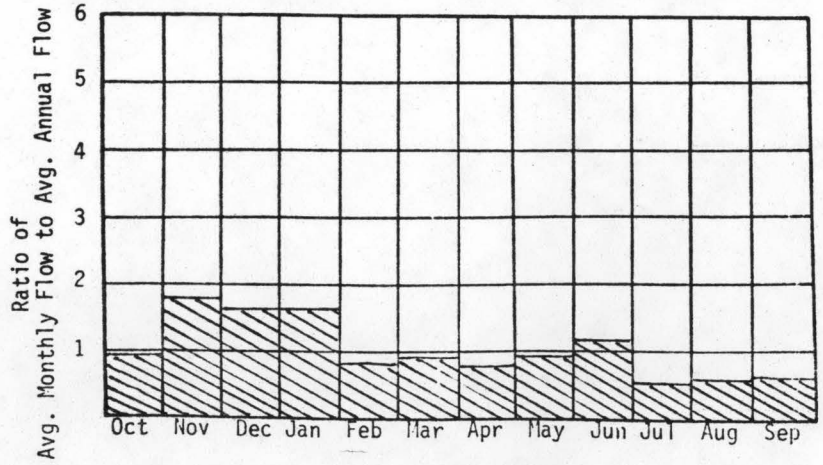
A.	Upstream Elevation of Reach	1013	Ft. MSL
B.	Downstream Elevation of Reach	937	Ft. MSL
C.	Total Available Head in Reach	76	Ft.
D.	Average Slope in Reach	16.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	941	Sq.Mi.
F.	Inflow Classification	Regulated	

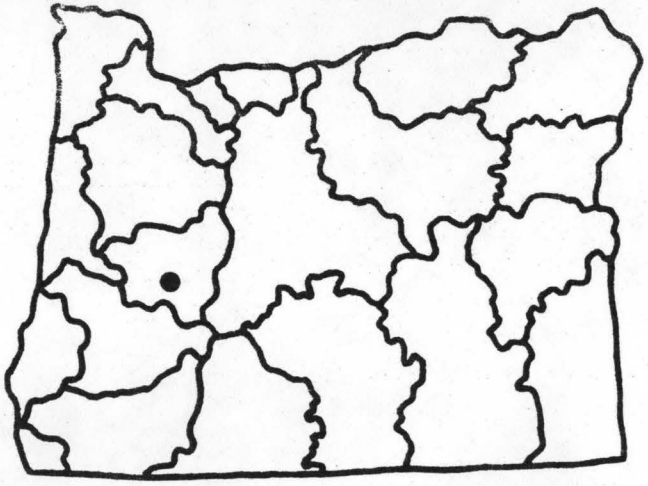
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	403.5	2.60	22.76	1.000
80	722.6	4.65	38.52	.945
50	1599.8	10.30	70.69	.783
30	2942.4	18.95	100.99	.608
10	6240.9	40.20	138.21	.393

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2761 CFS





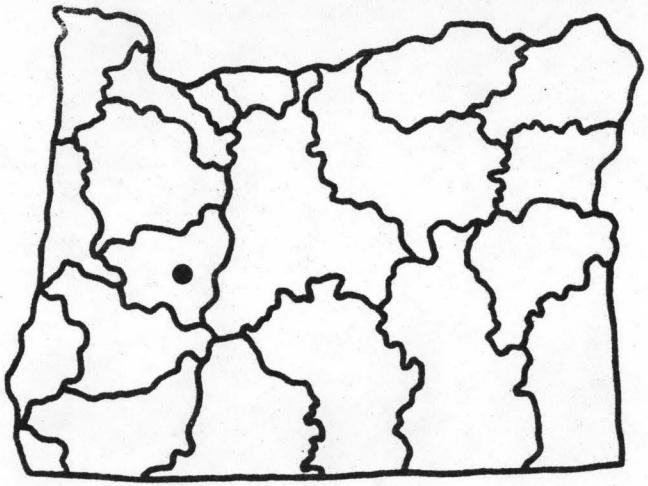
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-010-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T20S, R3E, Sec. 33
D.	Latitude, Longitude	43°47'N, 122°32'W
E.	Stream Name	North Fork of Middle Fork of Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 10.1



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1312	Ft. MSL
B.	Downstream Elevation of Reach	1013	Ft. MSL
C.	Total Available Head in Reach	299	Ft.
D.	Average Slope in Reach	29.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	247	Sq.Mi.
F.	Inflow Classification	Natural	

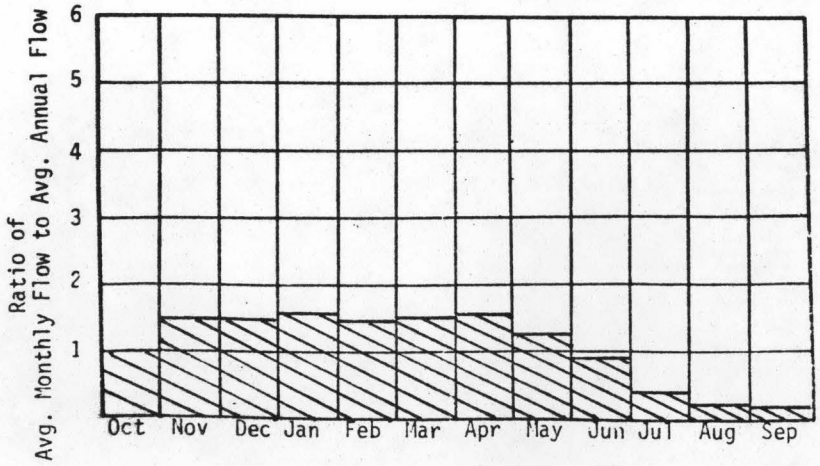
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

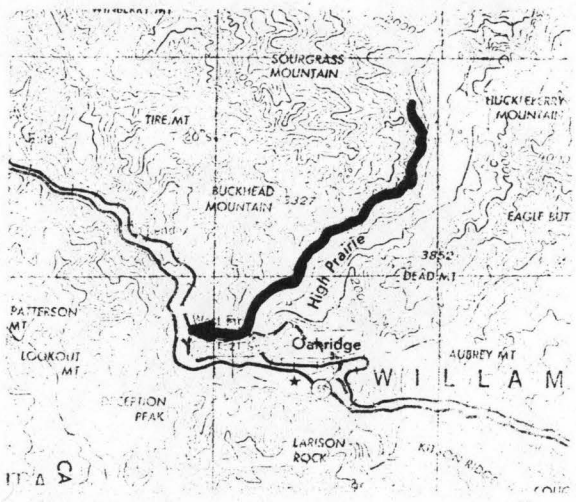
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	62.3	1.58	13.83	1.000
80	108.9	2.76	22.88	.947
50	344.1	8.72	56.81	.744
30	718.2	18.20	90.03	.565
10	1630.6	41.32	130.53	.361

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 698 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-010-R0003

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T20S, R3E, Sec. 1	
D. Latitude, Longitude	43°50'N, 122°25'W	
E. Stream Name	North Fork of Middle Fork Willamette River	
F. Major Basin Name	Upper Willamette	
G. River Mile	10.1 to 14.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

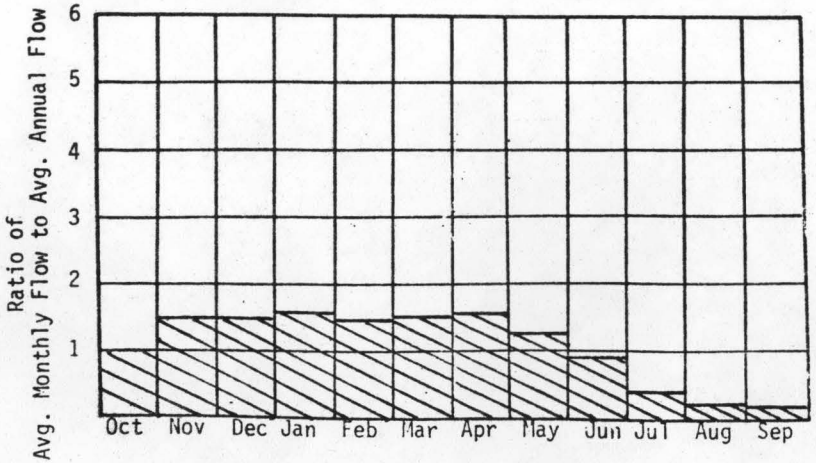
A. Upstream Elevation of Reach	1661	Ft. MSL
B. Downstream Elevation of Reach	1312	Ft. MSL
C. Total Available Head in Reach	349	Ft.
D. Average Slope in Reach	77.6	Ft./Mi.
E. Drainage Area above Reach Mouth	213	Sq.Mi.
F. Inflow Classification	Natural	

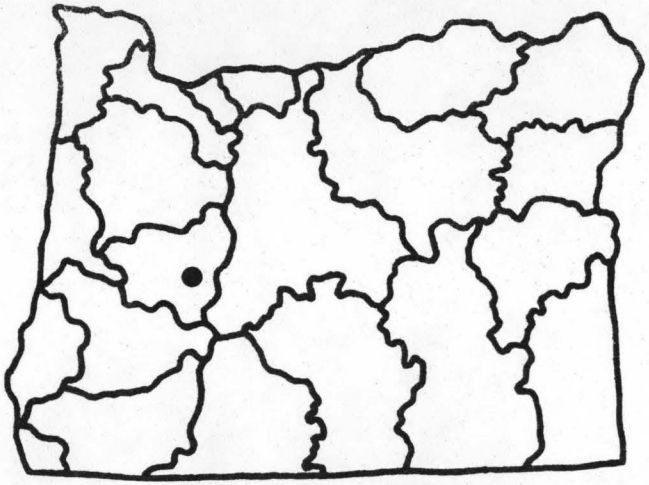
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	54.4	1.61	14.09	1.000
80	94.8	2.81	23.26	.947
50	307.6	9.10	59.09	.741
30	648.0	19.17	94.37	.562
10	1478.6	43.73	137.41	.359

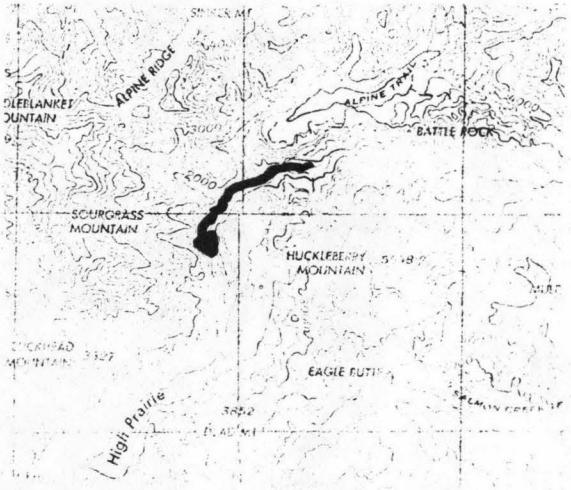
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 632 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-010-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R4E, Sec. 15
D.	Latitude, Longitude	43°54'N, 122°20'W
E.	Stream Name	Christy Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

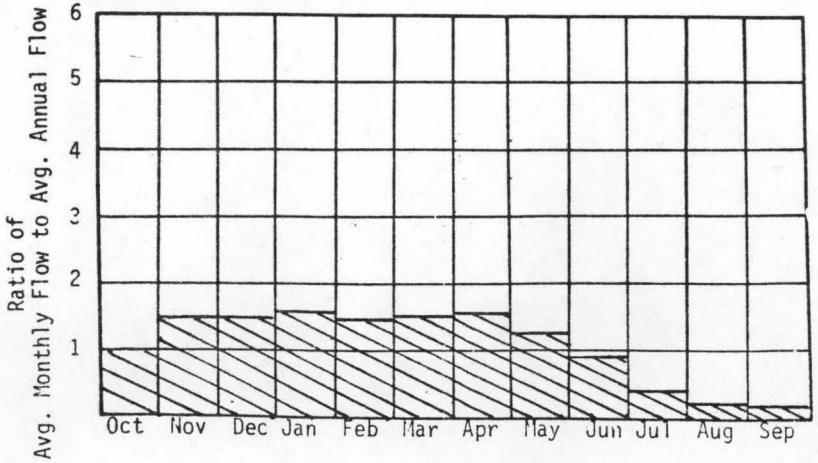
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	45	Sq.Mi.
F.	Inflow Classification	Natural	

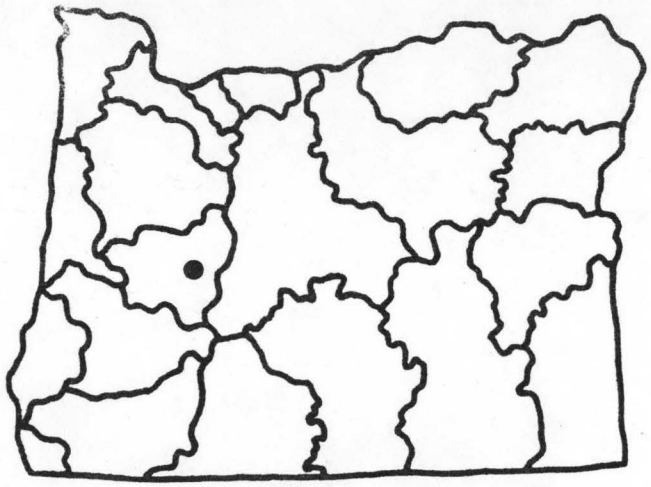
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.4	.03	.26	1.000
80	9.1	.05	.42	.949
50	45.8	.26	1.59	.709
30	112.8	.63	2.91	.525
10	280.1	1.57	4.54	.331

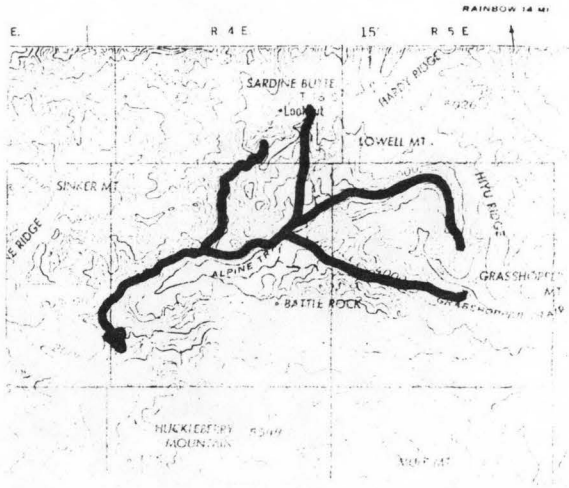
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 115 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

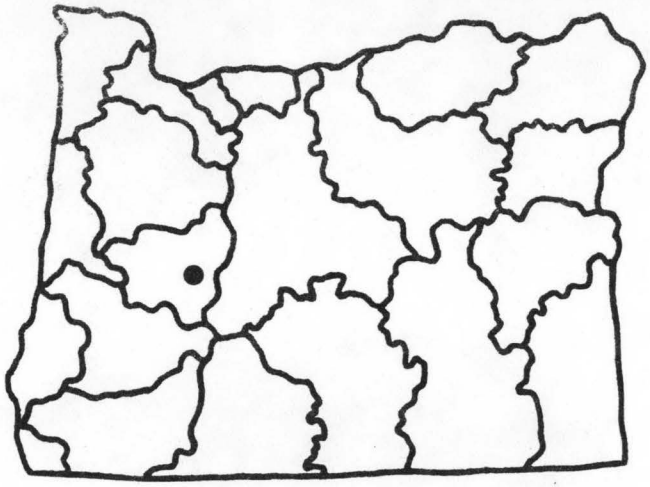


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-010-R0007

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R4E, Sec. 29
D.	Latitude, Longitude	43°52'N, 122°19'W
E.	Stream Name	North Fork of Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	14.6 to 25.0



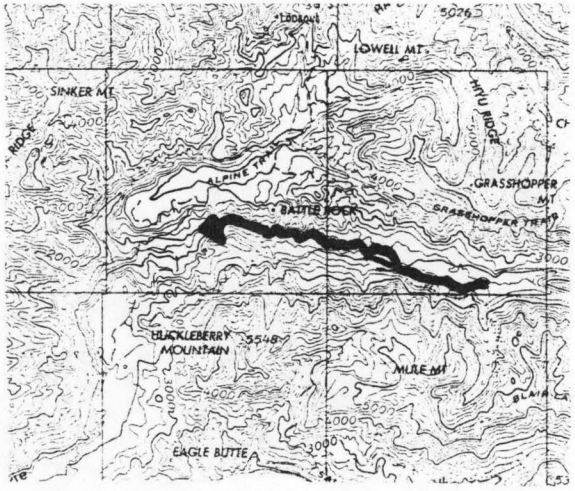
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2271	Ft. MSL
B.	Downstream Elevation of Reach	1661	Ft. MSL
C.	Total Available Head in Reach	610	Ft.
D.	Average Slope in Reach	58.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	144	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

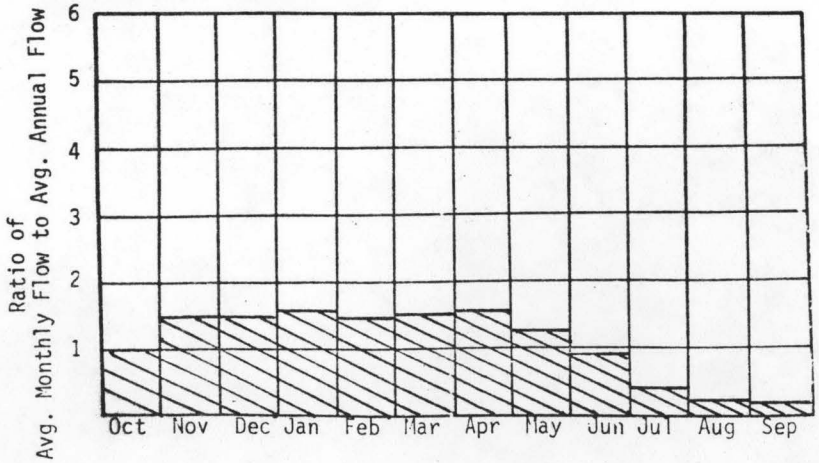
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	32.4	1.68	14.67	1.000
80	56.1	2.90	24.07	.947
50	200.9	10.39	66.69	.733
30	438.4	22.66	109.70	.553
10	1019.2	52.69	162.31	.352

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 432 CFS

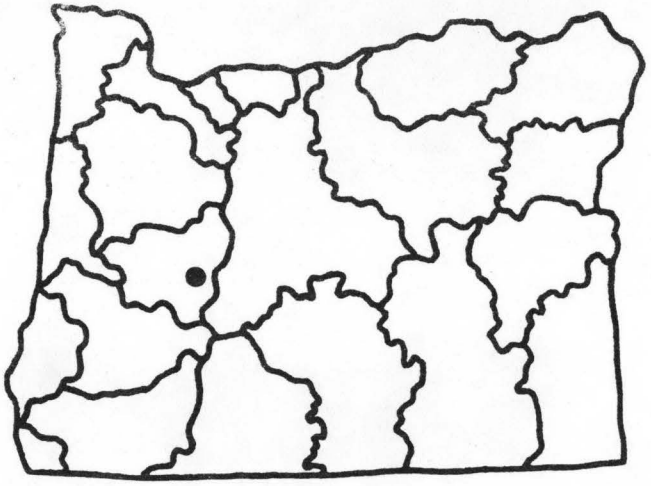


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-010-R0009

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T19S, R6E
D.	Latitude, Longitude	43°53'N, 122°08'W
E.	Stream Name	North Fork of Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	25.0 to 35.0



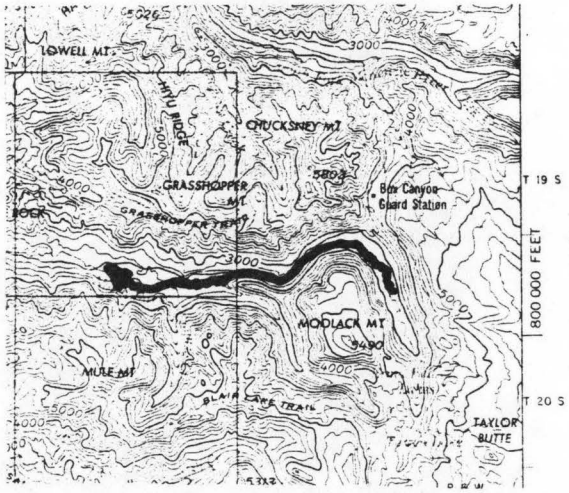
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2897	Ft. MSL
B.	Downstream Elevation of Reach	2271	Ft. MSL
C.	Total Available Head in Reach	626	Ft.
D.	Average Slope in Reach	62.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	115	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

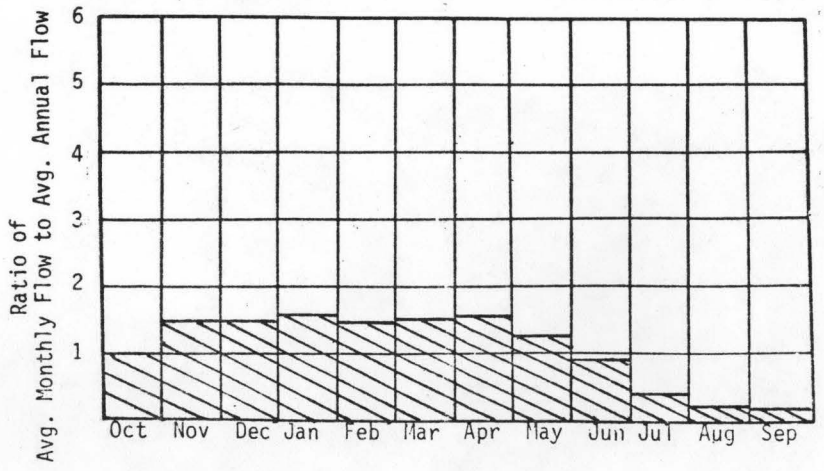
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	20.9	1.11	9.70	1.000
80	35.9	1.91	15.82	.948
50	139.8	7.42	47.21	.726
30	314.4	16.68	79.66	.545
10	742.8	39.41	119.48	.346

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 312 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-010-R0011

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T20S, R6E	
D. Latitude, Longitude	43°51'N, 122°03'W	
E. Stream Name	North Fork of Middle Fork Willamette River	
F. Major Basin Name	Upper Willamette	
G. River Mile	35.0 to 40.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

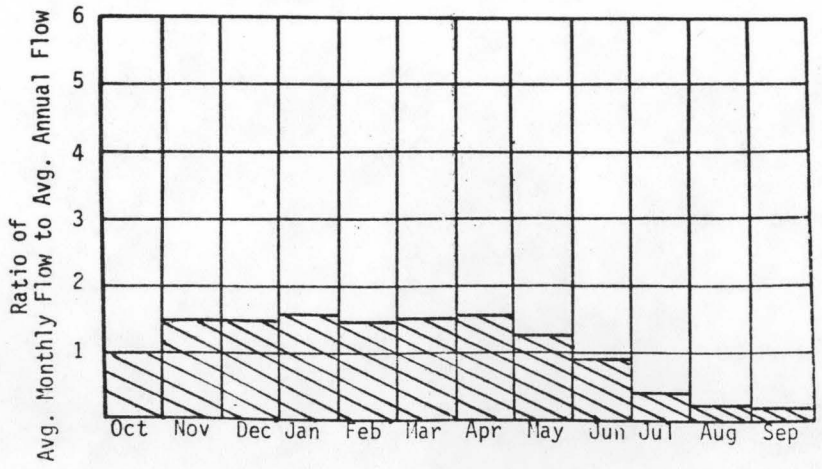
A. Upstream Elevation of Reach	4136	Ft. MSL
B. Downstream Elevation of Reach	2897	Ft. MSL
C. Total Available Head in Reach	1239	Ft.
D. Average Slope in Reach	247.8	Ft./Mi.
E. Drainage Area above Reach Mouth	69	Sq.Mi.
F. Inflow Classification	Natural	

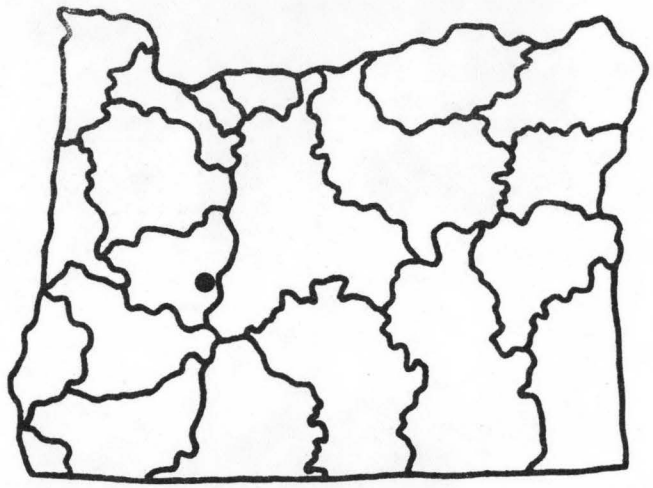
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.7	1.12	9.80	1.000
80	18.2	1.91	15.87	.948
50	80.5	8.45	53.10	.717
30	189.3	19.88	93.16	.535
10	458.4	48.14	142.66	.338

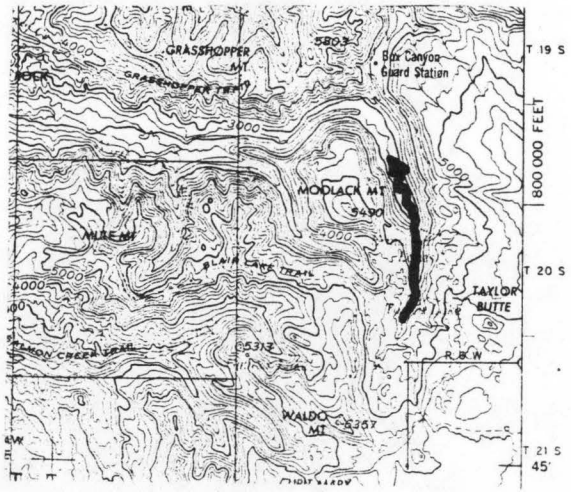
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 190 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

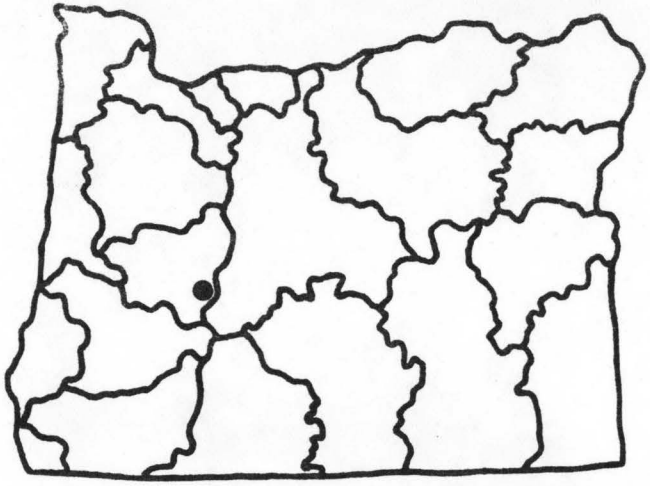


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-010-R0012

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R6E, Sec.6
D.	Latitude, Longitude	43°47'N, 122°03'W
E.	Stream Name	North Fork of Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	40.0 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	45	Sq.Mi.
F.	Inflow Classification	Natural	

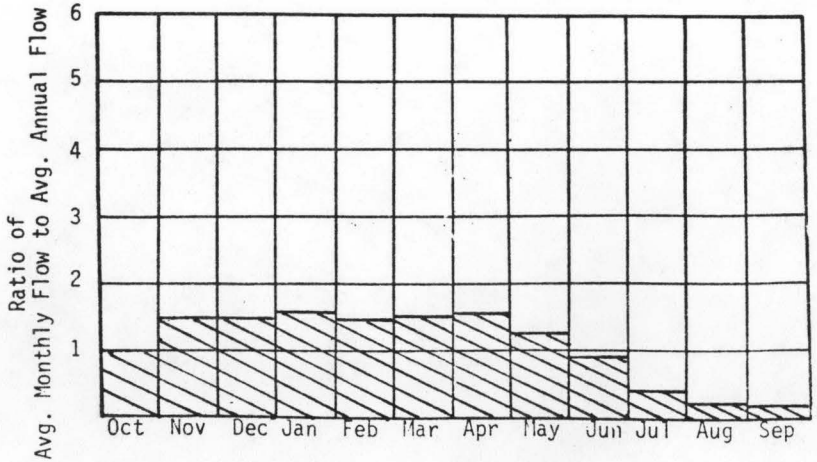
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

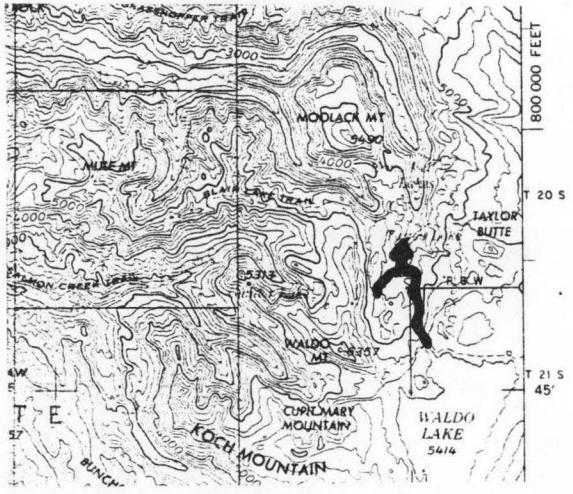
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.5	.04	.37	1.000
80	12.8	.07	.59	.949
50	60.4	.34	2.11	.713
30	145.5	.81	3.78	.530
10	356.8	2.00	5.85	.335

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 147 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0009

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R3E, Sec. 18
D.	Latitude, Longitude	43°45'N, 122°30'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	37.4 to 42.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

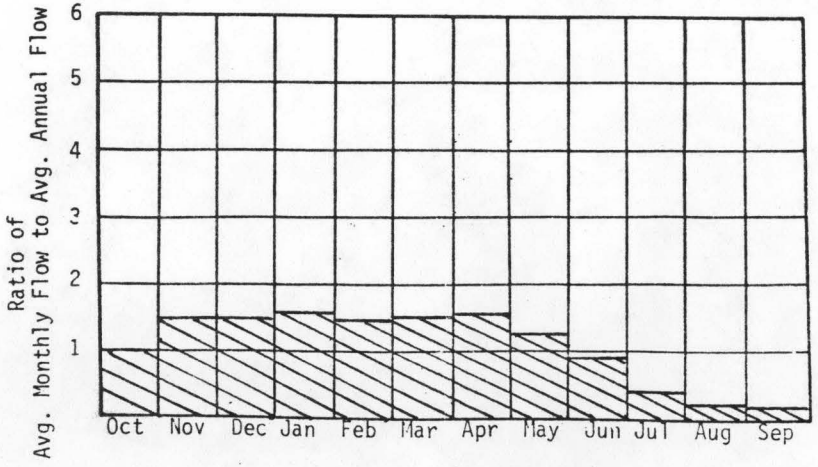
A.	Upstream Elevation of Reach	1152	Ft. MSL
B.	Downstream Elevation of Reach	1013	Ft. MSL
C.	Total Available Head in Reach	139	Ft.
D.	Average Slope in Reach	27.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	660	Sq.Mi.
F.	Inflow Classification	Natural	

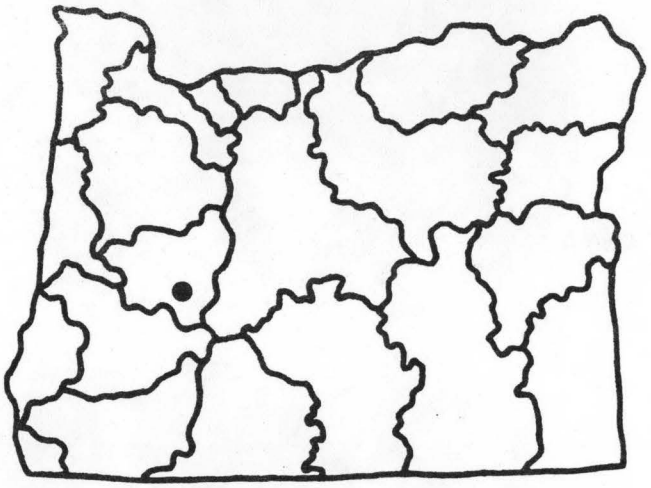
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	240.6	2.83	24.82	1.000
80	427.9	5.04	41.74	.945
50	1045.3	12.31	83.15	.771
30	1991.3	23.46	122.20	.595
10	4303.8	50.70	169.92	.383

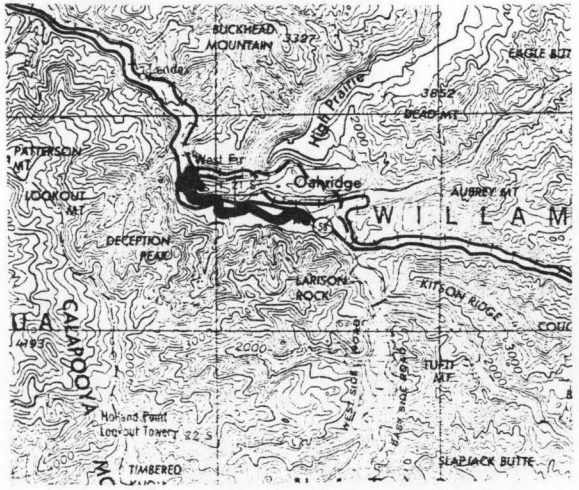
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1887 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-020-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R4E, Sec. 7
D.	Latitude, Longitude	43°46'N, 122°23'W
E.	Stream Name	Salmon Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 10.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

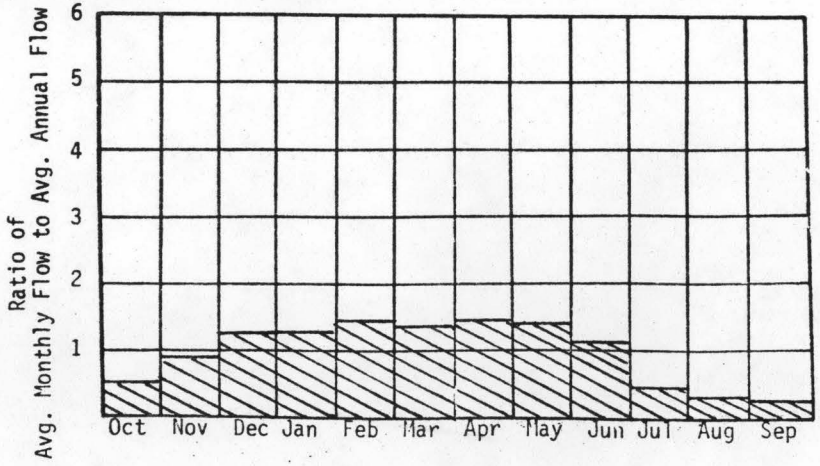
A.	Upstream Elevation of Reach	1800	Ft. MSL
B.	Downstream Elevation of Reach	1152	Ft. MSL
C.	Total Available Head in Reach	648	Ft.
D.	Average Slope in Reach	61.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	130	Sq.Mi.
F.	Inflow Classification	Natural	

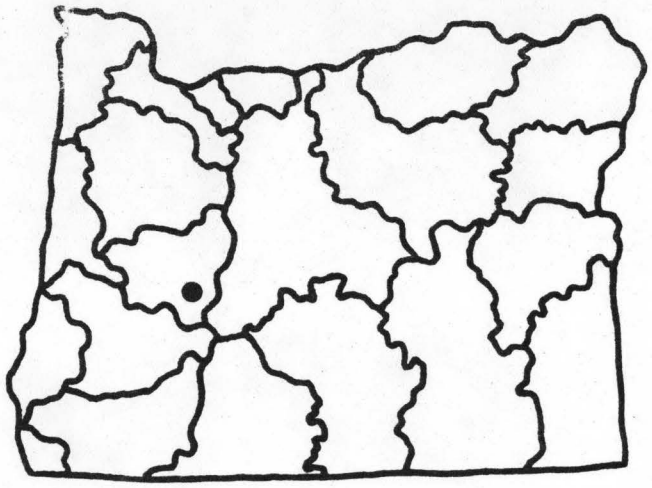
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	23.8	1.31	11.44	1.000
80	41.0	2.25	18.69	.947
50	155.7	8.55	54.55	.728
30	347.0	19.05	91.36	.547
10	815.9	44.80	136.47	.348

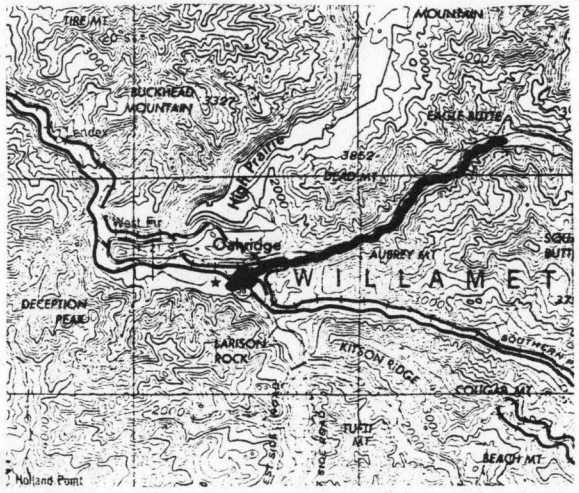
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 344 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-020-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T20S, R4E, Sec. 36
D.	Latitude, Longitude	43°50'N, 122°17'W
E.	Stream Name	Salmon Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	10.6 to 14.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

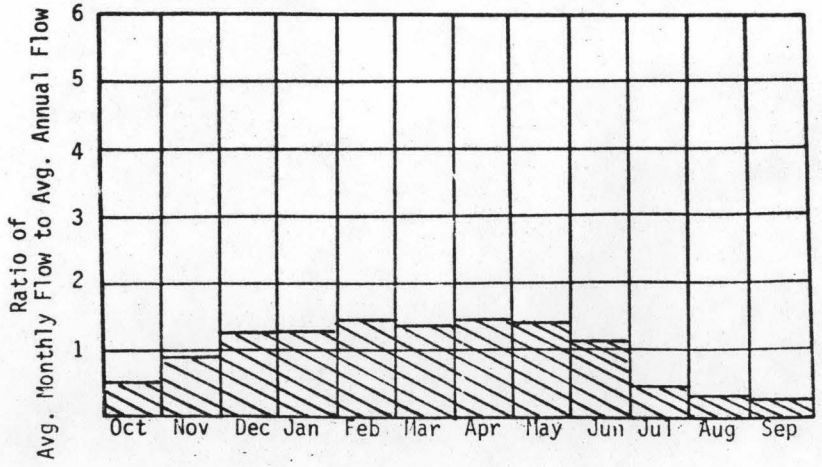
A.	Upstream Elevation of Reach	2080	Ft. MSL
B.	Downstream Elevation of Reach	1800	Ft. MSL
C.	Total Available Head in Reach	280	Ft.
D.	Average Slope in Reach	73.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	105	Sq.Mi.
F.	Inflow Classification	Natural	

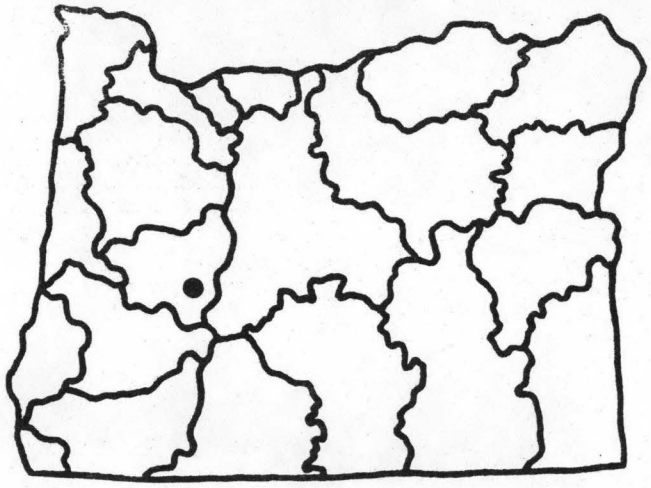
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	17.5	.42	3.64	1.000
80	30.1	.71	5.93	.948
50	121.0	2.87	18.22	.724
30	275.4	6.53	31.05	.542
10	654.8	15.54	46.82	.344

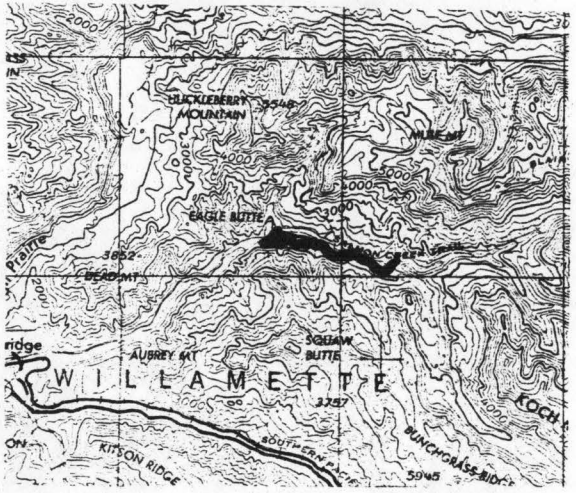
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 274 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-020-R0005

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R5E, Sec. 2
D.	Latitude, Longitude	43°48'N, 122°10'W
E.	Stream Name	Salmon Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	14.4 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

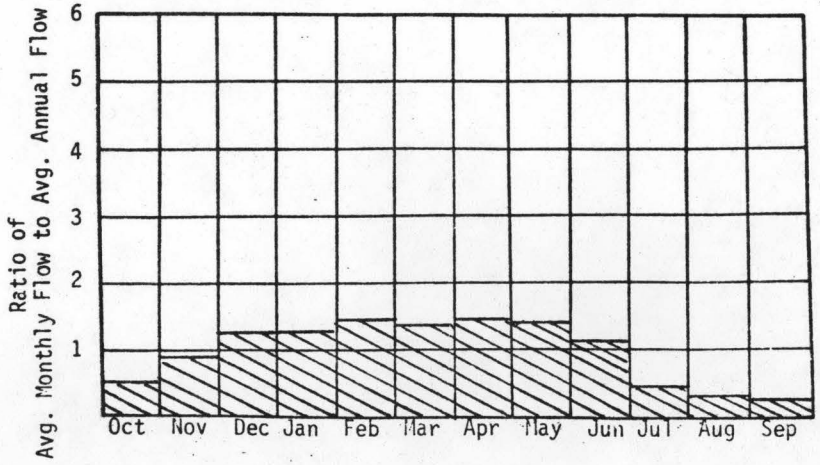
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	74	Sq.Mi.
F.	Inflow Classification	Natural	

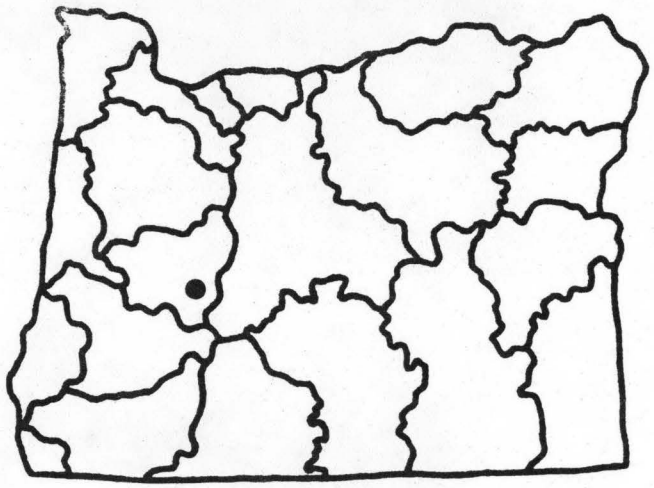
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.0	.08	.69	1.000
80	24.0	.13	1.12	.948
50	100.9	.56	3.56	.721
30	233.0	1.30	6.15	.539
10	558.6	3.12	9.34	.341

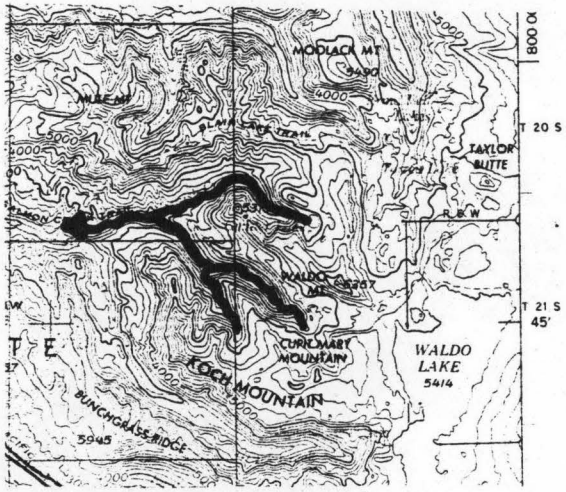
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 233 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0011

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R3E, Sec. 22
D.	Latitude, Longitude	43°43'N, 122°27'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	42.4 to 44.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

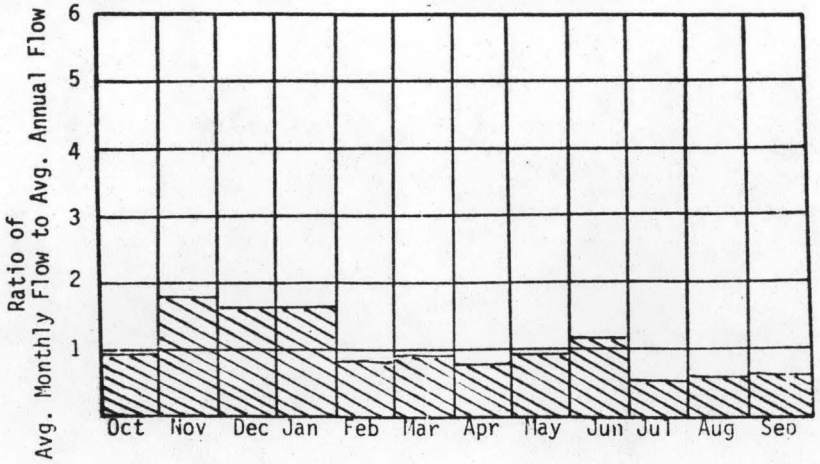
A.	Upstream Elevation of Reach	1200	Ft. MSL
B.	Downstream Elevation of Reach	1152	Ft. MSL
C.	Total Available Head in Reach	48	Ft.
D.	Average Slope in Reach	30.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	515	Sq.Mi.
F.	Inflow Classification	Regulated	

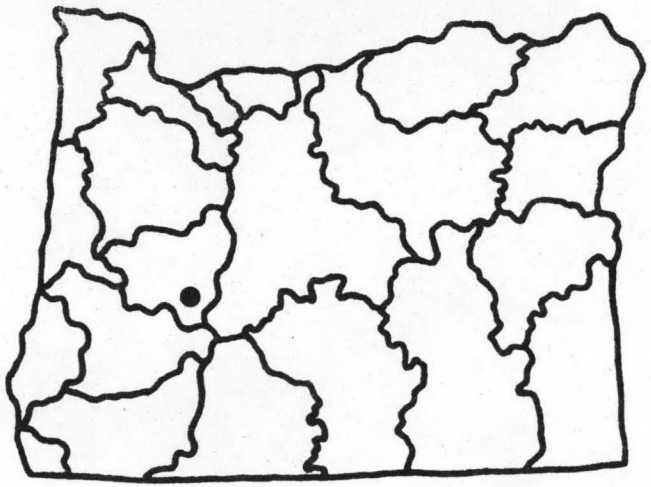
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	168.0	.68	5.99	1.000
80	297.4	1.21	10.02	.946
50	778.0	3.16	21.15	.763
30	1518.5	6.18	31.71	.586
10	3325.3	13.53	44.59	.376

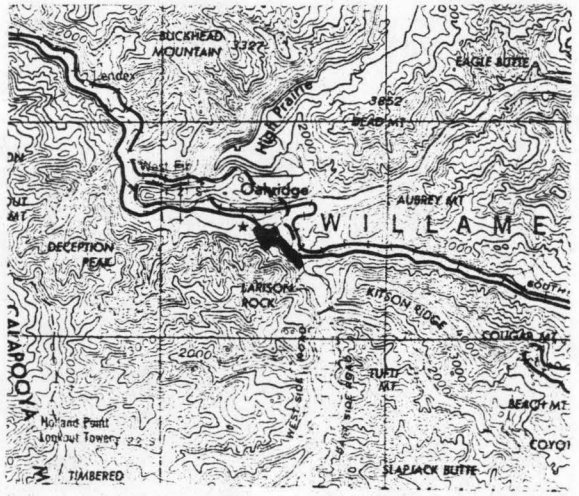
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1449 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-030-R0001

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T21S, R4E, Sec. 20
D.	Latitude, Longitude	43°44'N, 122°21'W
E.	Stream Name	Salt Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	0.0 to 10.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

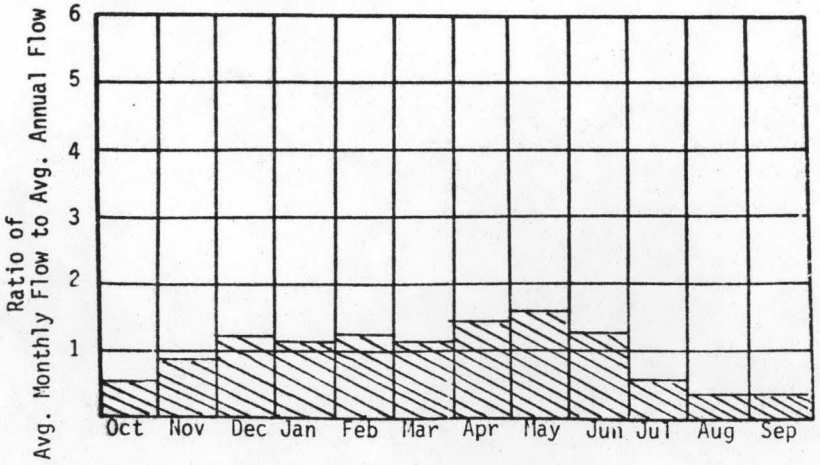
A.	Upstream Elevation of Reach	1992	Ft. MSL
B.	Downstream Elevation of Reach	1200	Ft. MSL
C.	Total Available Head in Reach	792	Ft.
D.	Average Slope in Reach	79.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	115	Sq.Mi.
F.	Inflow Classification	Natural	

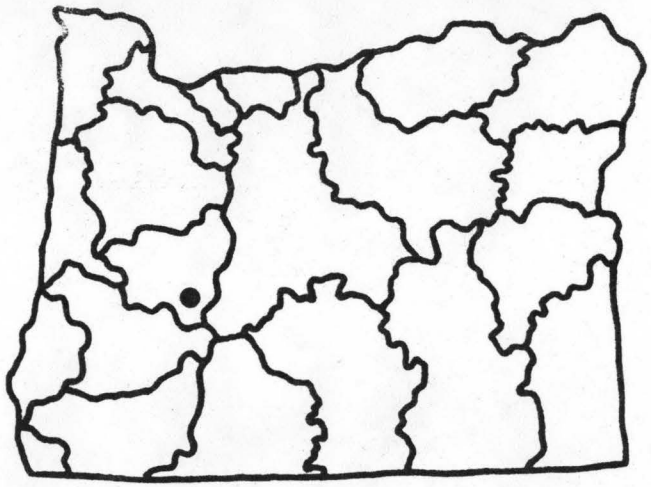
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.8	1.26	11.08	1.000
80	32.4	2.17	18.05	.948
50	128.6	8.63	54.81	.725
30	291.1	19.54	93.02	.544
10	690.2	46.33	139.96	.345

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 290 CFS





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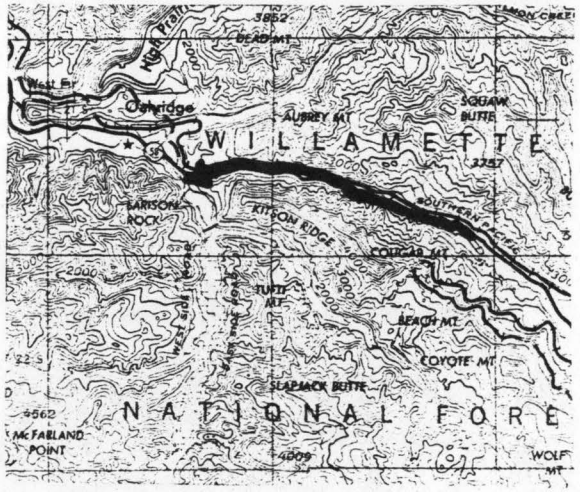
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-030-R0002

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T22S, R5E, Sec. 16	
D. Latitude, Longitude	43°40'N, 122°13'W	
E. Stream Name	Salt Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	10.0 to 20.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

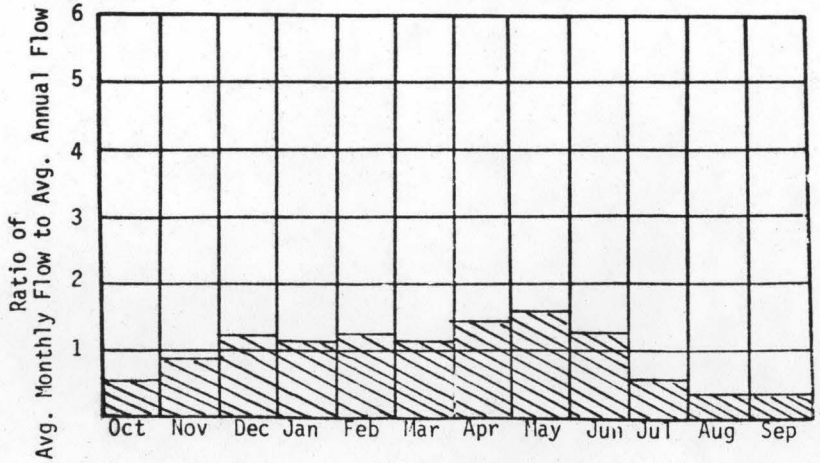
A. Upstream Elevation of Reach	3123	Ft. MSL
B. Downstream Elevation of Reach	1992	Ft. MSL
C. Total Available Head in Reach	1131	Ft.
D. Average Slope in Reach	113	Ft./Mi.
E. Drainage Area above Reach Mouth	91	Sq.Mi.
F. Inflow Classification	Natural	

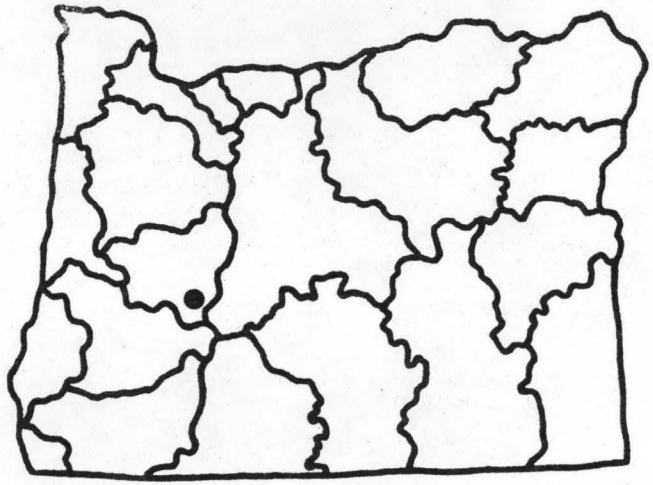
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	11.8	1.13	9.92	1.000
80	20.2	1.93	16.07	.948
50	87.6	8.39	52.84	.719
30	204.6	19.61	92.15	.536
10	493.5	47.30	140.66	.339

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 206 CFS





U.S.G.S. TOPO. SERIES
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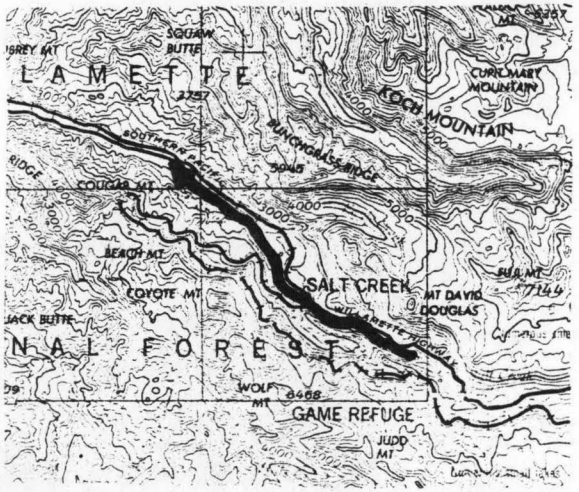
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-030-R0003

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T22S, R6E
D.	Latitude, Longitude	43°38'N, 122°04'W
E.	Stream Name	Salt Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	20.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

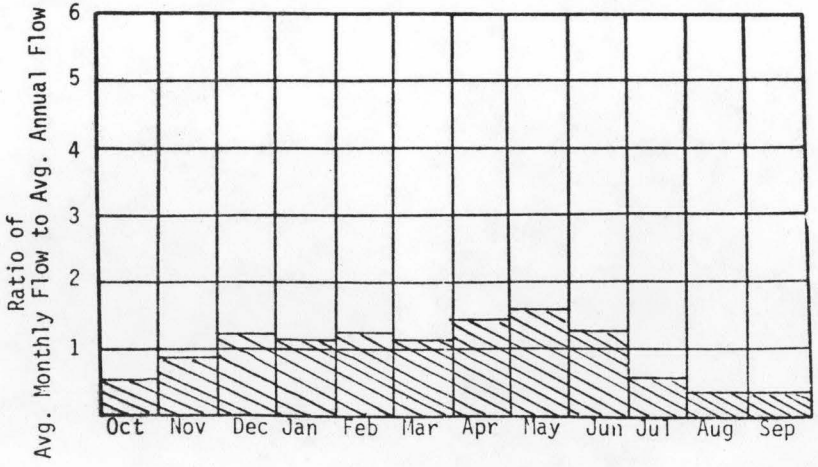
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	53	Sq.Mi.
F.	Inflow Classification	Natural	

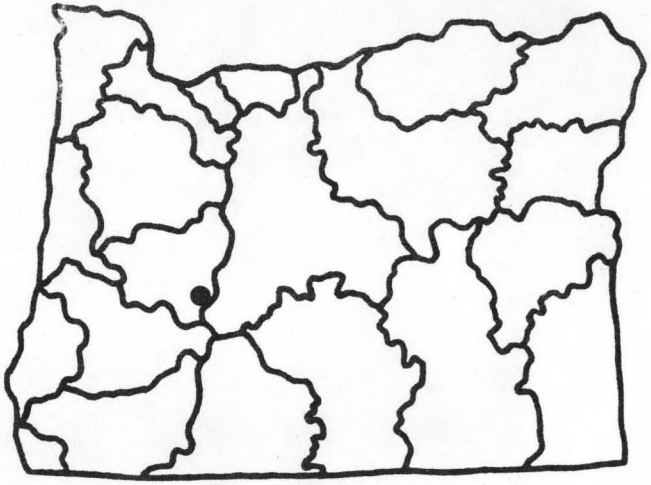
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.6	.04	.37	1.000
80	13.0	.07	.60	.949
50	61.1	.34	2.14	.713
30	147.1	.82	3.82	.530
10	360.5	2.02	5.91	.335

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 149 CFS





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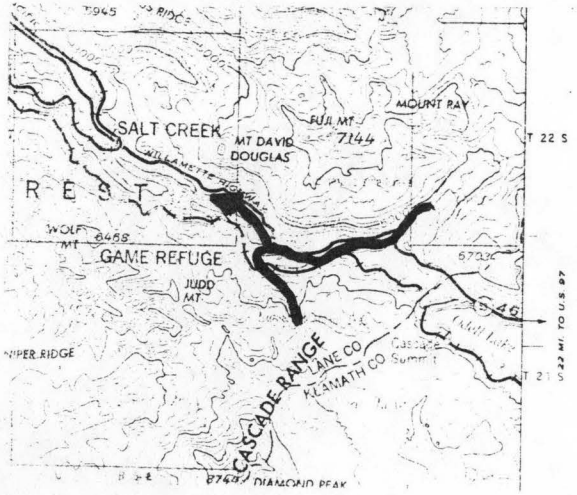


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0013

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T21S, R3E, Sec. 27	
D. Latitude, Longitude	43°43'N, 122°26'W	
E. Stream Name	Middle Fork Willamette River	
F. Major Basin Name	Upper Willamette	
G. River Mile	44.0 to 45.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

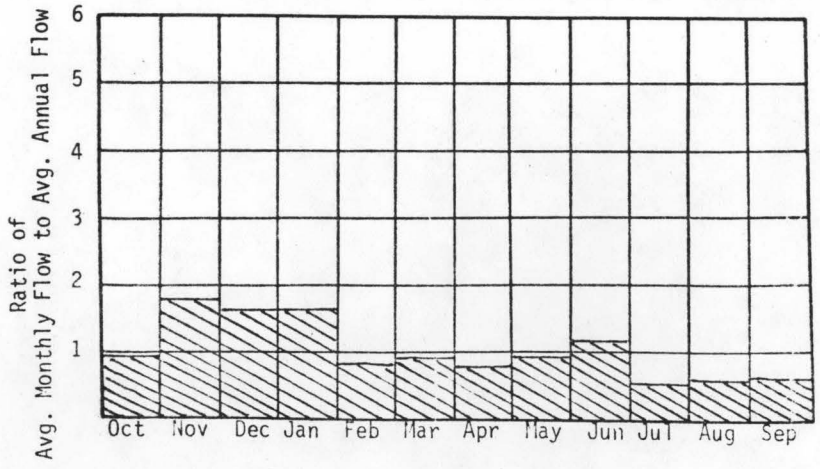
A. Upstream Elevation of Reach	1543	Ft. MSL
B. Downstream Elevation of Reach	1200	Ft. MSL
C. Total Available Head in Reach	343	Ft.
D. Average Slope in Reach	228.7	Ft./Mi.
E. Drainage Area above Reach Mouth	398	Sq.Mi.
F. Inflow Classification	Regulated	

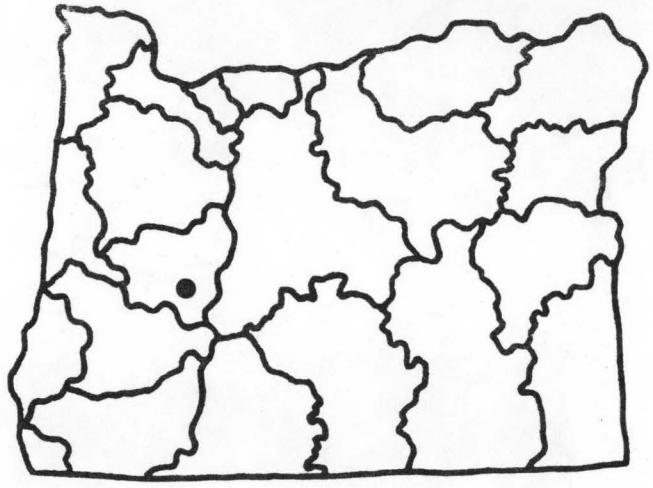
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	113.6	3.30	28.94	1.000
80	200.1	5.82	48.21	.946
50	564.1	16.40	108.44	.755
30	1130.5	32.86	166.13	.577
10	2511.0	72.99	236.44	.370

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1086 CFS





U.S.G.S. TOPO. SERIES
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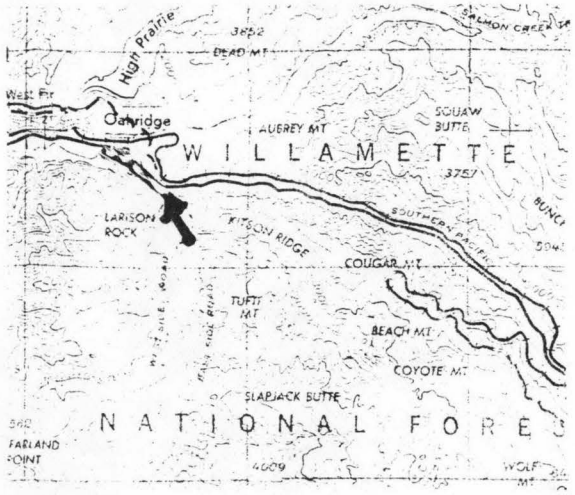
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-040-R0001

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T22S, R4E, Sec. 8	
D. Latitude, Longitude	43°41'N, 122°22'W	
E. Stream Name	Hills Creek	
F. Major Basin Name	Upper Willamette	
G. River Mile	3.2 to 5.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

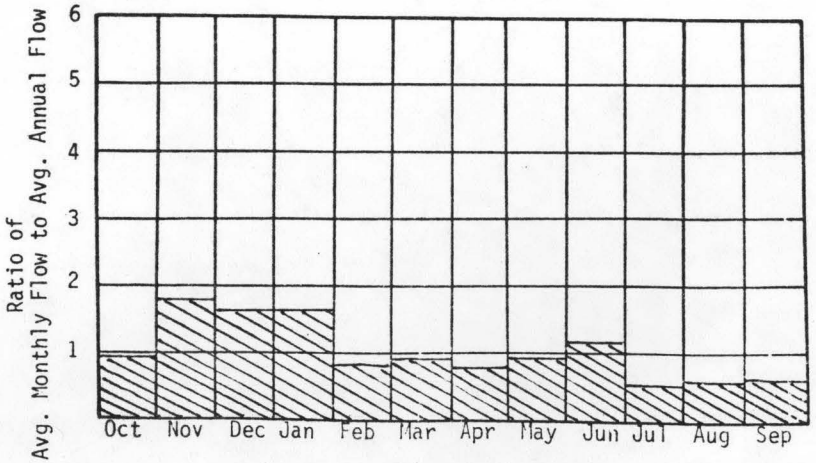
A. Upstream Elevation of Reach	1695	Ft. MSL
B. Downstream Elevation of Reach	1575	Ft. MSL
C. Total Available Head in Reach	120	Ft.
D. Average Slope in Reach	50	Ft./Mi.
E. Drainage Area above Reach Mouth	58	Sq.Mi.
F. Inflow Classification	Natural	

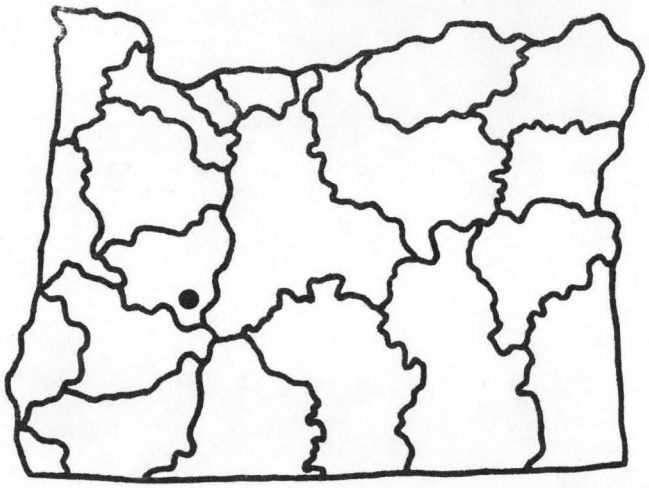
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.1	.07	.63	1.000
80	12.0	.12	1.01	.949
50	57.4	.58	3.65	.712
30	139.0	1.41	6.55	.529
10	341.5	3.47	10.16	.334

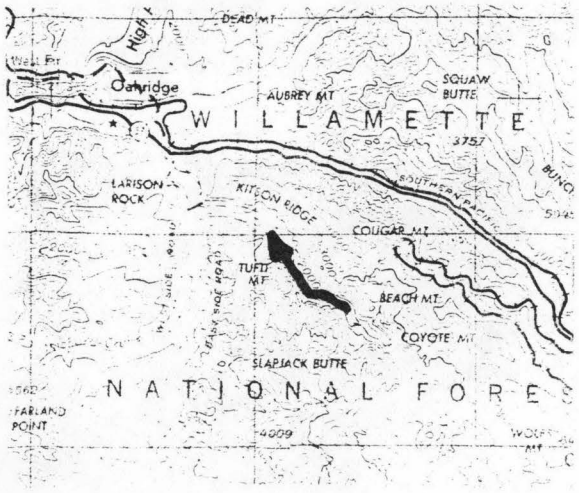
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 140 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-040-R0002

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T22S, R4E, Sec. 25
D.	Latitude, Longitude	43°38'N, 122°16'W
E.	Stream Name	Hills Creek
F.	Major Basin Name	Upper Willamette
G.	River Mile	5.6 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

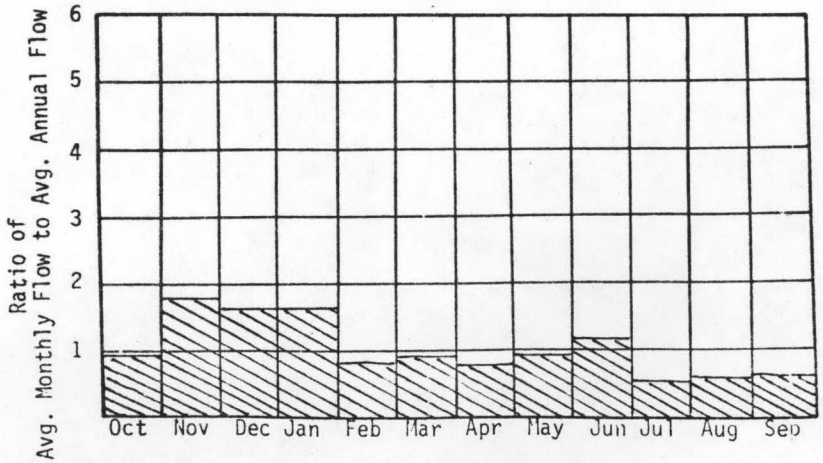
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	51	Sq.Mi.
F.	Inflow Classification	Natural	

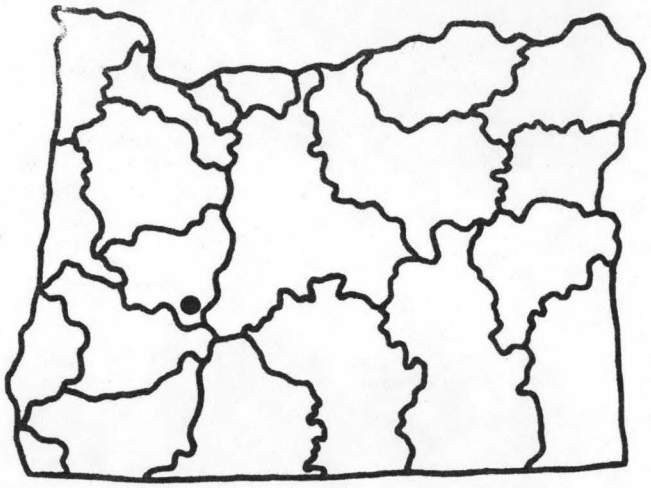
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.6	.04	.32	1.000
80	11.1	.06	.52	.949
50	54.0	.20	1.88	.712
30	131.3	.73	3.40	.528
10	323.6	1.81	5.28	.333

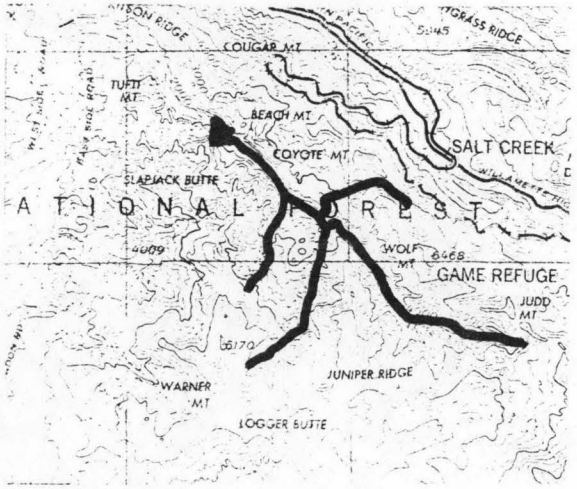
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 133 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0015

I. LOCATION

A. State	Oregon	
B. County	Lane	
C. Township, Range	T23S, R3E, Sec. 28	
D. Latitude, Longitude	43°34'N, 122°27'W	
E. Stream Name	Middle Fork Willamette River	
F. Major Basin Name	Upper Willamette	
G. River Mile	53.2 to 62.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

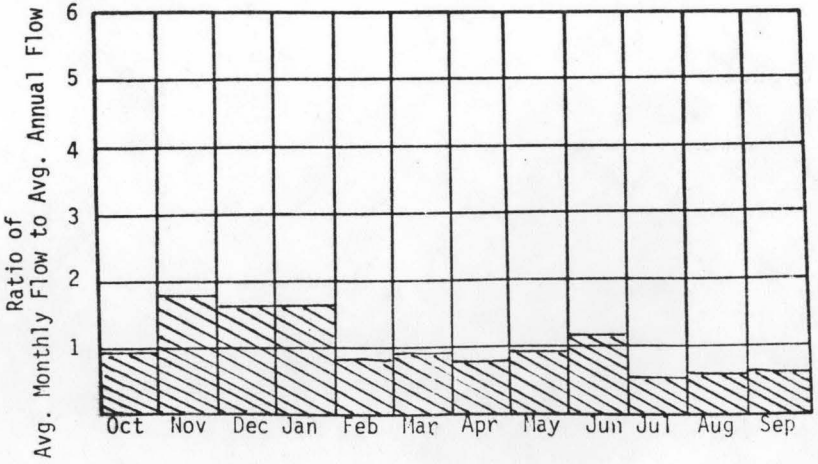
A. Upstream Elevation of Reach	1942	Ft. MSL
B. Downstream Elevation of Reach	1575	Ft. MSL
C. Total Available Head in Reach	367	Ft.
D. Average Slope in Reach	38.6	Ft./Mi.
E. Drainage Area above Reach Mouth	266	Sq.Mi.
F. Inflow Classification	Natural	

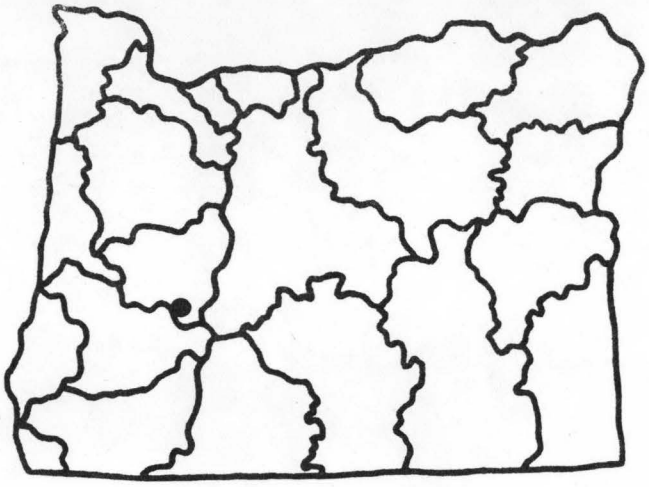
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	59.3	1.85	16.17	1.000
80	103.6	3.22	26.72	.947
50	330.5	10.28	66.90	.743
30	692.1	21.53	106.31	.564
10	1574.2	48.96	154.37	.360

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 674 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0017

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T24S, R3E, Sec. 13
D.	Latitude, Longitude	43°30'N, 122°24'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	62.7 to 65.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

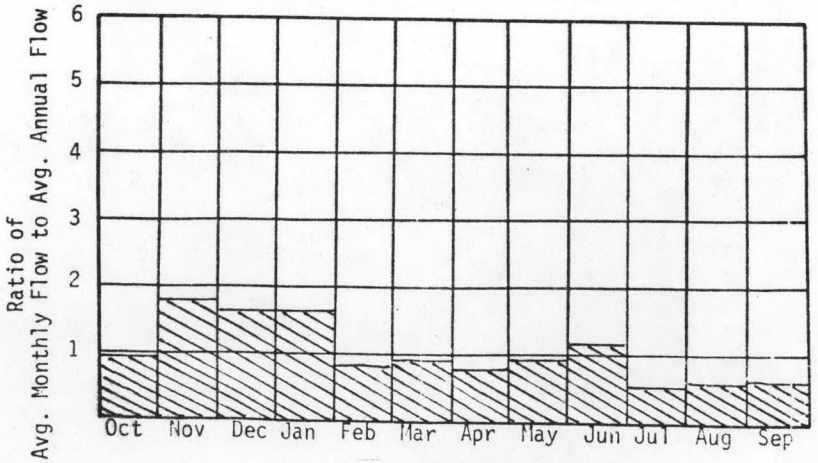
A.	Upstream Elevation of Reach	2116	Ft. MSL
B.	Downstream Elevation of Reach	1942	Ft. MSL
C.	Total Available Head in Reach	174	Ft.
D.	Average Slope in Reach	66.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	206	Sq.Mi.
F.	Inflow Classification	Natural	

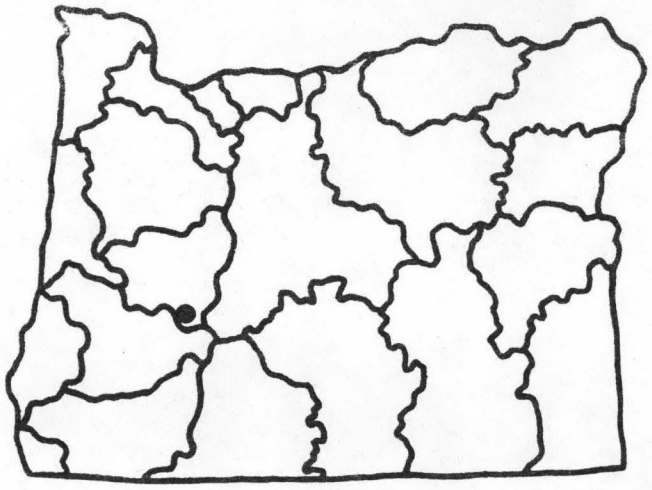
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	44.1	.65	5.70	1.000
80	76.7	1.13	9.39	.947
50	259.0	3.82	24.69	.738
30	553.5	8.16	39.90	.558
10	1272.4	18.76	58.48	.356

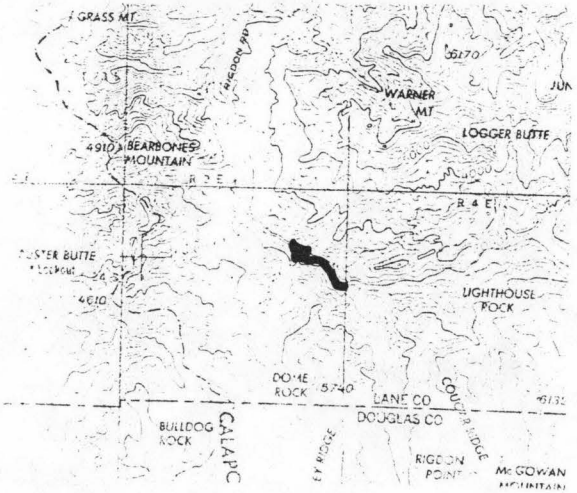
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 542 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0019

I. LOCATION

A.	State	Oregon
B.	County	Lane
C.	Township, Range	T24S, R4E, Sec. 10
D.	Latitude, Longitude	43°30'N, 122°19'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	65.3 to 73.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

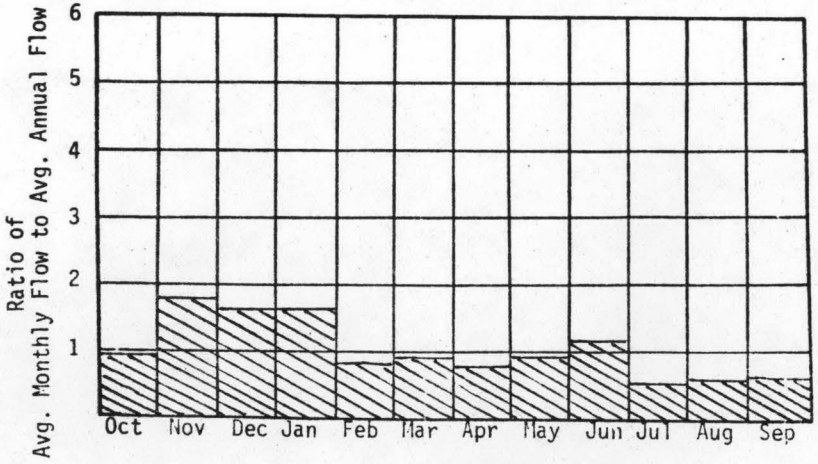
A.	Upstream Elevation of Reach	2816	Ft. MSL
B.	Downstream Elevation of Reach	2116	Ft. MSL
C.	Total Available Head in Reach	700	Ft.
D.	Average Slope in Reach	84.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	167	Sq.Mi.
F.	Inflow Classification	Natural	

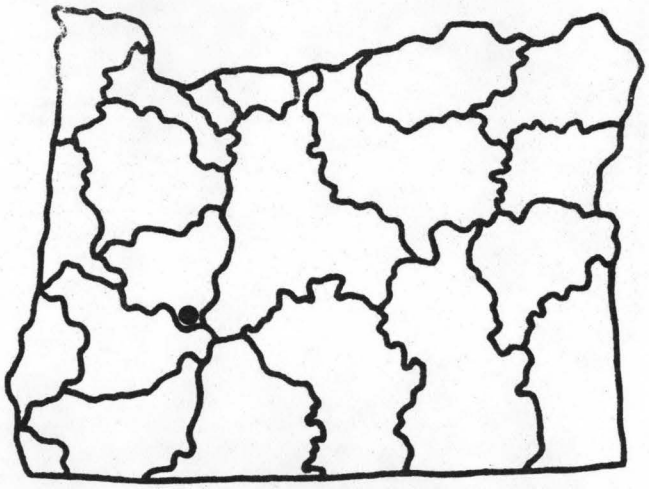
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	21.7	1.29	11.26	1.000
80	37.3	2.21	18.38	.948
50	144.3	8.56	54.50	.727
30	323.5	19.19	91.75	.546
10	763.2	45.28	137.45	.347

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 321 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
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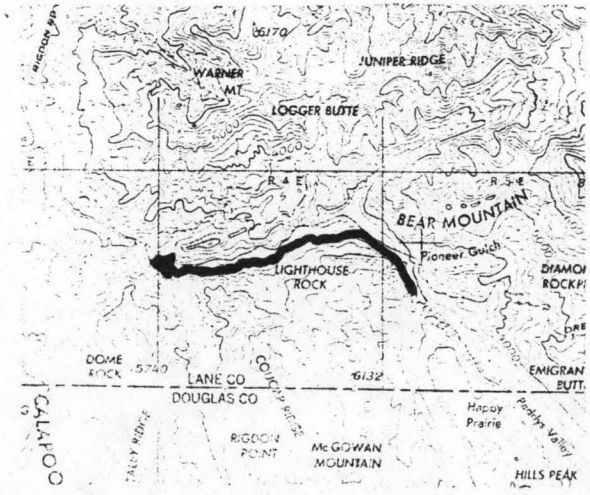


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-192-000-R0020

I. LOCATION

A.	State	Oregon
B.	County	Lane/Douglas
C.	Township, Range	T25S, R5E.
D.	Latitude, Longitude	43°26'N, 122°12'W
E.	Stream Name	Middle Fork Willamette River
F.	Major Basin Name	Upper Willamette
G.	River Mile	73.6 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

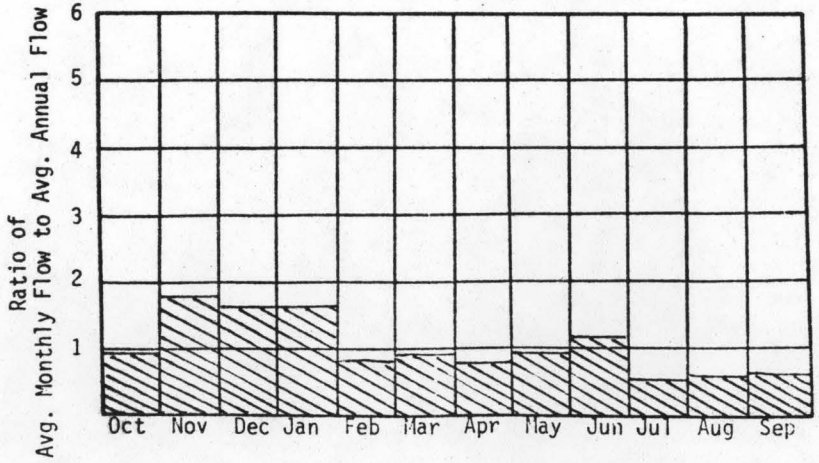
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	56	Sq.Mi.
F.	Inflow Classification	Natural	

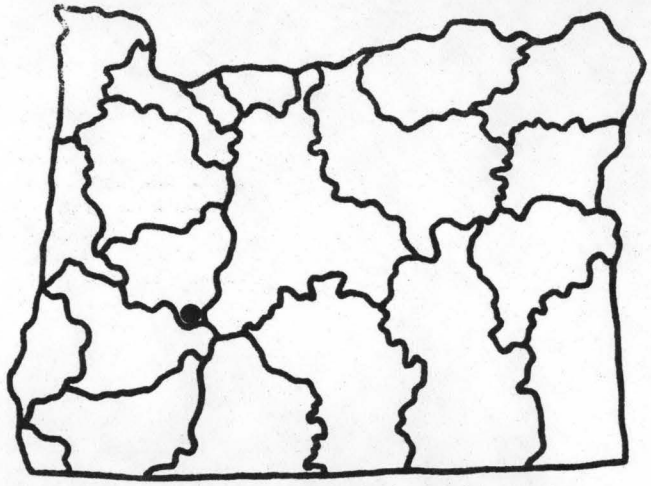
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.0	.04	.39	1.000
80	13.6	.08	.63	.949
50	63.7	.36	2.23	.714
30	152.8	.85	3.97	.531
10	373.8	2.09	6.14	.335

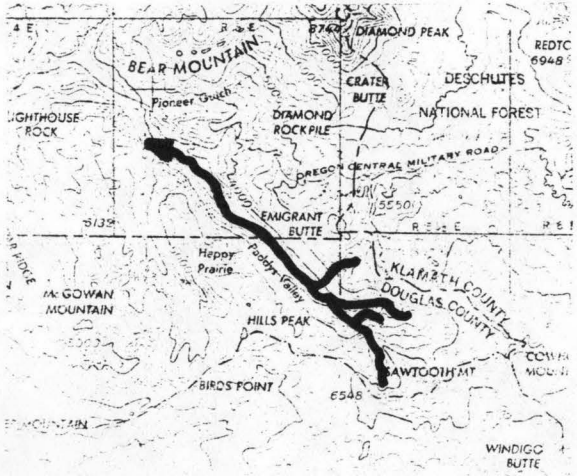
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 155 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: ROSEBURG



FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
000-000-R0021	-	-	-	X	3.0	115-B	2	10.0
151-000-R0001	-	X	X	-	5.5	69-PPL	-	8.0
151-000-R0003	-	X	X	-	1.5	69-PPL	1,2	4.0
151-000-R0005	-	X	X	-	1.5	69-PPL	1,2	3.0
151-000-R0007	X	-	-	-	0.5	34.5 BL-C	1,2	5.0
151-010-R0001	X	X	-	-	0.1	230-B	2	8.0
151-010-R0002	-	X	-	-	3.0	230-B	-	12.0
151-000-R0009	-	X	X	-	0.1	69-PPL	-	14.0
151-000-R0013	-	-	-	-	2.0	69-PPL	-	17.0
000-000-R0022	-	-	-	X	3.0	115-B	2	10.0
000-000-R0023	-	X	X	X	0.5	115-B	1,2	1.0
000-000-R0024	-	-	-	X	0.1	69-PPL	1,2	4.0
172-000-R0001	X	X	-	X	1.0	69-PPL	1,2	5.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
172-000-R0003	-	-	X	X	1.0	115-E	1,2	5.0
172-002-R0001	-	X	X	X	0.5	230/287-B	1,2	5.0
172-002-R0002	-	X	X	X	0.1	230/287-B	-	11.0
172-002-R0003	-	-	X	X	0.5	2-500-B	-	12.0
172-002-R0004	-	-	-	X	1.5	2-500-B	-	12.0
172-002-R0005	X	-	X	X	0.1	500-B	-	12.0
172-002-R0006	-	-	-	X	1.5	500-B	-	16.0
172-002-R0007	-	-	-	X	5.0	500-B	-	11.0
172-000-R0005	-	X	-	X	0.5	230/287-B	1,2	2.0
172-005-R0001	-	X	-	X	0.1	2-69-E	1,2	3.0
172-005-R0002	X	-	-	X	0.5	115-B	1,2	4.0
172-000-R0008	-	X	X	X	2.0	2-69-E	1,2	5.0
172-000-R0010	-	X	X	X	0.5	115-B	-	13.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
172-010-R0001	-	-	X	X	0.5	115-B	-	19.0
172-010-R0002	-	-	-	X	2.5	115-B	-	21.0
172-010-R0003	-	-	-	X	3.5	115-B	-	22.0
172-010-R0004	-	-	-	-	2.5	115-B	-	21.0
172-000-R0014	-	X	X	X	0.5	115-B	-	20.0
172-000-R0016	-	X	X	X	0.5	115-B	-	25.0
172-020-R0001	-	-	-	X	2.0	115-B	-	23.0
172-020-R0002	-	-	-	X	4.0	115-B	-	23.0
172-000-R0018	-	X	X	X	1.0	115-B	-	22.0
172-030-R0001	-	-	X	X	1.5	115-B	-	26.0
172-030-R0002	-	-	-	-	4.0	115-B	-	28.0
172-030-R0003	-	-	-	-	5.0	115-B	-	28.0
172-030-R0004	-	-	-	X	7.0	115-B	-	26.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
172-030-R0005	-	-	-	X	8.0	115-B	-	26.0
172-000-R0020	-	X	X	X	1.0	115-B	-	28.0
172-040-R0001	-	-	-	X	0.1	115-B	-	30.0
172-040-R0007	-	-	-	X	10.0	115-B	-	31.0
172-040-R0008	-	-	-	-	11.0	115-B	-	33.0
172-040-R0010	-	-	-	X	12.0	115-B	-	29.0
172-040-R0014	-	-	-	X	14.0	115-B	-	25.0
172-040-R0016	-	-	-	-	17.0	115-B	-	28.0
172-040-R0017	-	-	-	X	18.0	115-B	-	30.0
172-040-R0018	-	-	-	-	17.0	115-B	-	33.0
172-000-R0022	-	X	X	X	1.0	115-B	-	30.0
172-050-R0001	-	-	-	X	2.0	115-B	-	36.0
172-050-R0002	-	-	-	X	9.0	115-B	-	37.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
172-050-R0003	-	-	-	X	11.0	115-B	-	38.0
172-050-R0004	-	-	-	X	7.0	115-B	-	35.0
172-050-R0005	-	-	-	-	11.0	115-B	-	34.0
172-050-R0006	-	-	-	X	11.0	115-B	-	34.0
172-050-R0007	-	-	-	-	13.0	115-B	-	36.0
172-000-R0024	-	X	X	X	1.0	115-B	-	35.0
172-060-R0001	-	X	-	X	4.0	115-B	-	40.0
172-060-R0002	-	X	-	-	7.0	115-B	-	44.0
172-000-R0026	-	X	-	X	1.0	115-B	-	37.0
172-070-R0001	-	-	-	-	1.0	115-B	-	38.0
172-000-R0028	-	X	-	X	0.5	115-B	-	36.0
172-080-R0001	-	-	-	X	1.0	115-B	-	35.0
172-080-R0002	-	-	-	X	2.0	115-B	-	34.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
172-000-R0030	-	X	-	X	0.5	115-B	-	35.0
172-090-R0001	-	-	-	-	1.0	115-B	-	36.0
172-090-R0002	-	-	-	-	3.0	115-B	-	35.0
172-000-R0032	-	X	X	X	3.0	115-B	-	37.0
172-095-R0001	-	-	-	-	7.0	115-B	-	37.0
172-095-R0002	-	X	-	-	10.0	115-B	-	37.0
000-000-R0025	-	X	X	X	1.5	115-E	1,2	3.0
187-000-R0001	X	-	X	X	0.5	230-B	1,2	3.0
187-000-R0004	X	X	X	X	0.5	115-PPL	1,2	4.0
187-005-R0001	-	X	X	X	1.5	115-PPL	1,2	3.0
187-005-R0003	-	X	X	X	0.1	34.5 LE-C	1,2	6.0
187-005-R0006	-	X	X	X	6.0	115-PPL	-	12.0
187-005-R0008	-	X	X	X	0.5	34.5 LE-C	1,2	4.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
187-005-R0010	-	X	X	-	0.1	34.5 LE-C	-	11.0
187-005-R0012	-	-	-	-	2.5	34.5 LE-C	-	15.0
187-005-R0014	-	-	-	-	5.0	34.5 LE-C	-	17.0
187-005-R0016	-	X	X	-	2.0	34.5 LE-C	-	14.0
187-005-R0018	-	X	X	-	5.0	34.5 LE-C	-	18.0
187-005-R0020	-	-	-	-	8.0	34.5 LE-C	-	20.0
187-005-R0022	-	-	-	-	5.0	34.5 LE-C	-	17.0
187-005-R0024	-	-	-	-	7.0	34.5 LE-C	-	18.0
187-000-R0006	-	X	X	-	1.0	115-PPL	1,2	1.0
187-000-R0008	-	X	X	-	1.0	23-PPL	-	9.0
187-015-R0001	-	-	-	-	1.0	115-PPL	-	12.0
192-000-R0001	-	X	X	X	0.1	230-B	1,2	5.0
192-001-R0001	-	X	X	X	1.0	2-115-B	-	7.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
192-001-R0002	-	-	X	X	2.5	2-115-B	-	9.0
192-001-R0003	-	-	-	X	6.0	115-B	-	11.0
192-001-R0005	X	X	X	X	0.5	2-115-B	-	9.0
192-001-R0007	X	-	-	X	1.5	2-115-B	-	10.0
192-001-R0009	X	-	-	X	5.0	115-B	-	14.0
192-001-R0011	-	-	-	X	6.5	115-B	-	16.0
192-001-R0012	-	-	-	X	8.0	115-B	-	16.0
192-000-R0003	-	-	-	X	0.1	2-115-B	-	6.5
192-005-R0001	-	X	-	X	0.1	2-115-B	-	7.0
192-000-R0005	-	-	-	X	1.0	2-115-B	-	8.0
192-000-R0007	-	X	X	-	0.5	115-B	1	4.0
192-010-R0001	-	-	-	-	2.0	12.5 LE-C	1	3.0
192-010-R0003	-	-	-	-	7.0	12.5 LE-C	-	8.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
192-010-R0005	-	-	-	-	9.0	12.5 LE-C	-	10.0
192-010-R0007	-	-	-	-	12.0	12.5 LE-C	-	13.0
192-010-R0009	-	-	-	-	18.0	115-B	-	19.0
192-010-R0011	-	-	-	-	16.0	23-M-C	-	22.0
192-010-R0012	-	-	-	-	12.0	23-M-C	-	20.0
192-000-R0009	-	X	X	-	0.5	115-B	1	1.5
192-020-R0001	-	-	-	-	4.5	115-B	1	5.0
192-020-R0003	-	-	-	-	10.0	115-B	-	10.0
192-020-R0005	-	-	-	-	11.0	115-B	-	11.5
192-000-R0011	-	X	X	-	0.5	115-B	1	2.0
192-030-R0001	-	X	-	-	3.0	115-B	1	5.0
192-030-R0002	-	-	-	-	9.5	23-M-C	-	14.0
192-030-R0003	-	-	-	-	6.0	23-M-C	-	18.0
192-000-R0013	-	-	-	-	1.0	115-B	1	2.3

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
192-040-R0001	-	-	X	-	5.0	115-B	-	8.0
192-040-R0002	-	-	-	-	6.0	115-B	-	9.0
192-000-R0015	-	-	-	-	11.0	115-B	-	14.0
192-000-R0017	-	-	-	-	13.0	115-PPL	-	18.5
192-000-R0019	-	-	-	-	11.5	115-PPL	-	19.0
192-000-R0020	-	-	-	-	9.0	115-PPL	-	22.0

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0005

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	T3S, R1E, Sec.21	
D. Latitude, Longitude	45°17'N,122°41'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Mid Willamette	
G. River Mile	32.5 to 35.7	

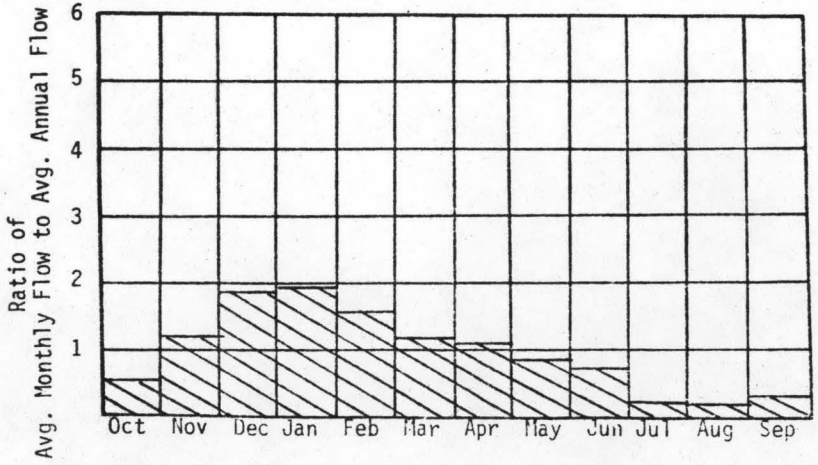
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

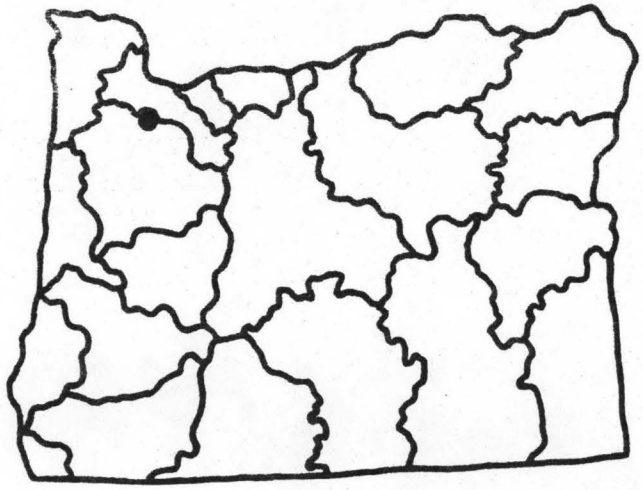
A. Upstream Elevation of Reach	51	Ft. MSL
B. Downstream Elevation of Reach	50	Ft. MSL
C. Total Available Head in Reach	1	Ft.
D. Average Slope in Reach	0.3	Ft./Mi.
E. Drainage Area above Reach Mouth	7192	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

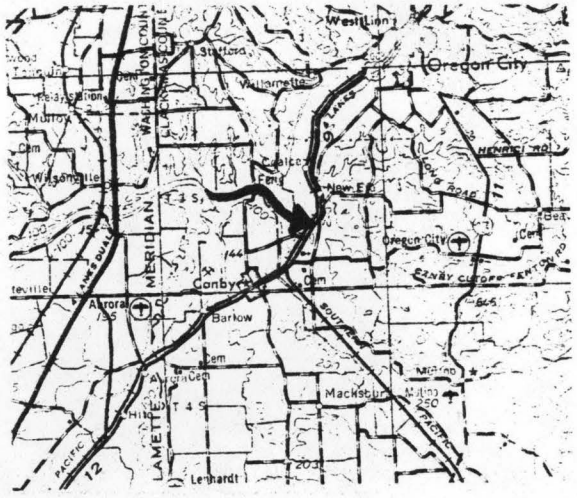
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5680.7	.48	4.22	1.000
80	8458.2	.72	6.02	.959
50	19324.2	1.64	11.26	.785
30	30521.0	2.59	14.59	.644
10	67134.0	5.69	20.03	.402

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 28986 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

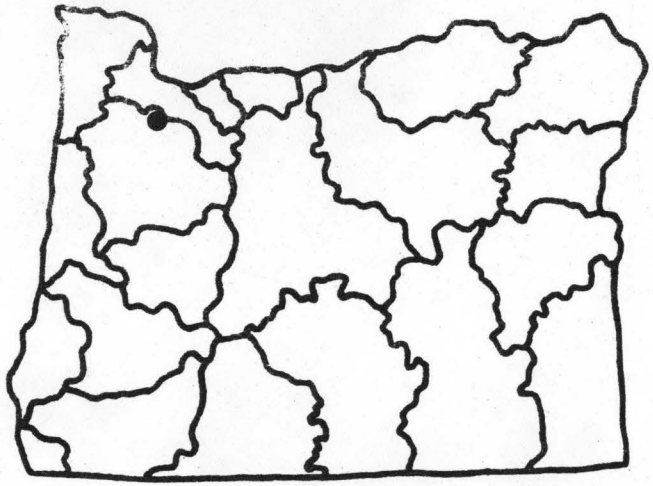


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T3S, R1E, Sec.20
D.	Latitude, Longitude	45°16'N,122°43'W
E.	Stream Name	Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 0.8



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	55	Ft. MSL
B.	Downstream Elevation of Reach	51	Ft. MSL
C.	Total Available Head in Reach	4	Ft.
D.	Average Slope in Reach	5.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	932	Sq.Mi.
F.	Inflow Classification	Natural	

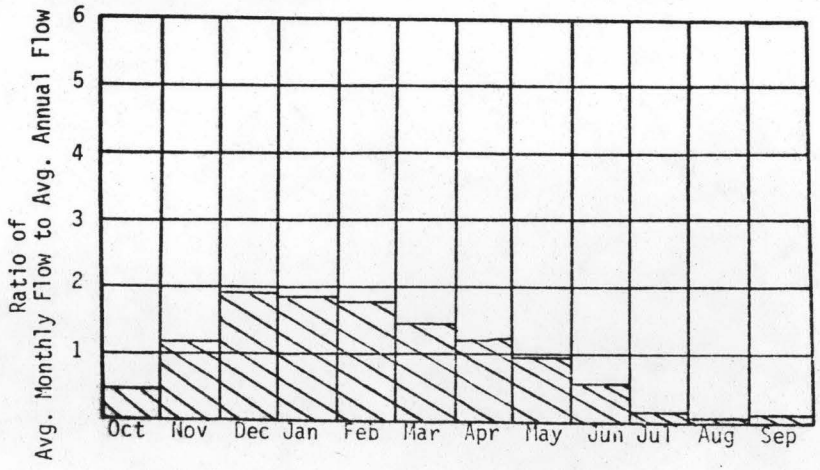
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

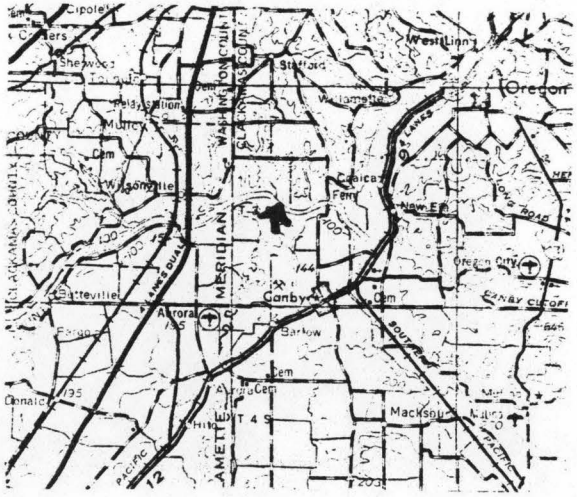
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	251.8	.09	.75	1.000
80	501.7	.17	1.40	.938
50	1857.7	.63	4.01	.728
30	3253.5	1.10	5.67	.587
10	6572.6	2.23	7.64	.392

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2924 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0001

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	T3S, R1E, Sec.31	
D. Latitude, Longitude	45°16'N,122°44'W	
E. Stream Name	Pudding River	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 7.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

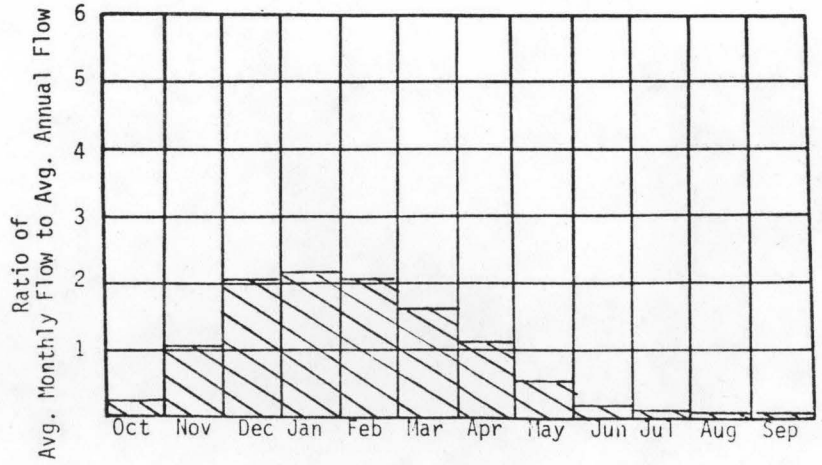
A. Upstream Elevation of Reach	67	Ft. MSL
B. Downstream Elevation of Reach	55	Ft. MSL
C. Total Available Head in Reach	12	Ft.
D. Average Slope in Reach	1.7	Ft./Mi.
E. Drainage Area above Reach Mouth	575	Sq.Mi.
F. Inflow Classification	Natural	

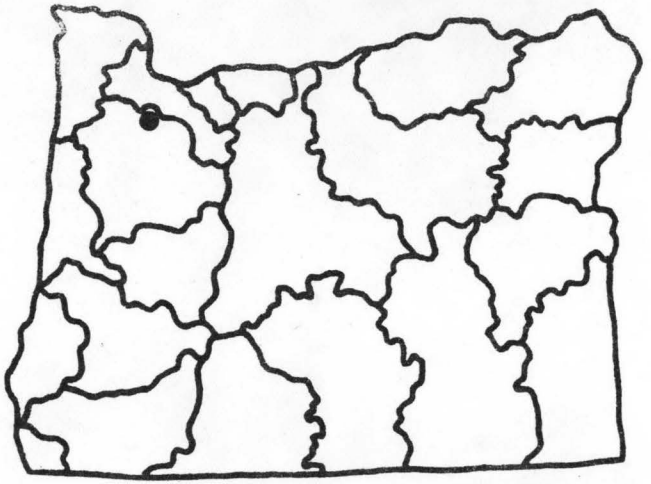
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	135.0	.14	1.20	1.000
80	272.4	.28	2.27	.937
50	1045.8	1.06	6.75	.725
30	1858.6	1.89	9.65	.583
10	3817.7	3.88	13.14	.386

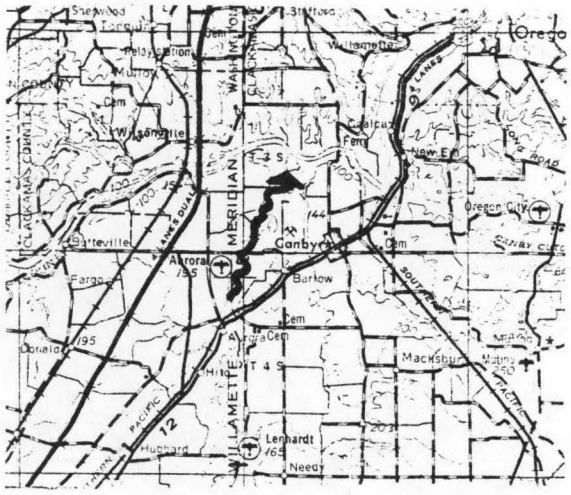
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1680 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T4S, R1W, Sec.12
D.	Latitude, Longitude	45°11'N,122°45'W
E.	Stream Name	Mill Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 2.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

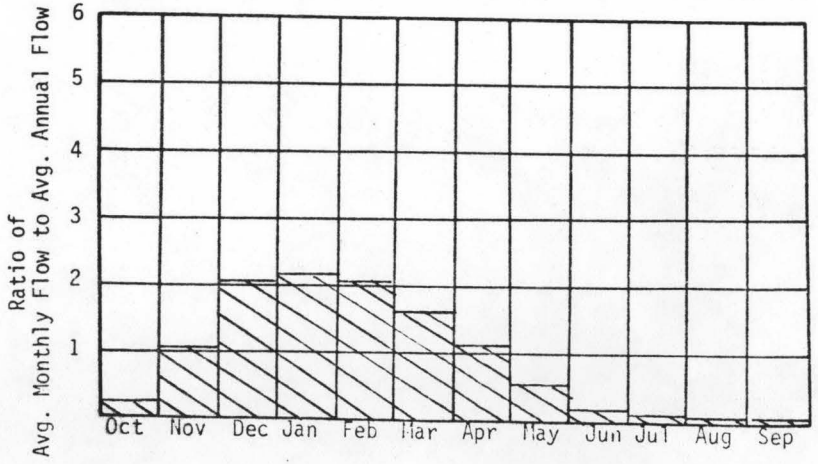
A.	Upstream Elevation of Reach	109	Ft. MSL
B.	Downstream Elevation of Reach	67	Ft. MSL
C.	Total Available Head in Reach	42	Ft.
D.	Average Slope in Reach	19.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	38	Sq.Mi.
F.	Inflow Classification	Natural	

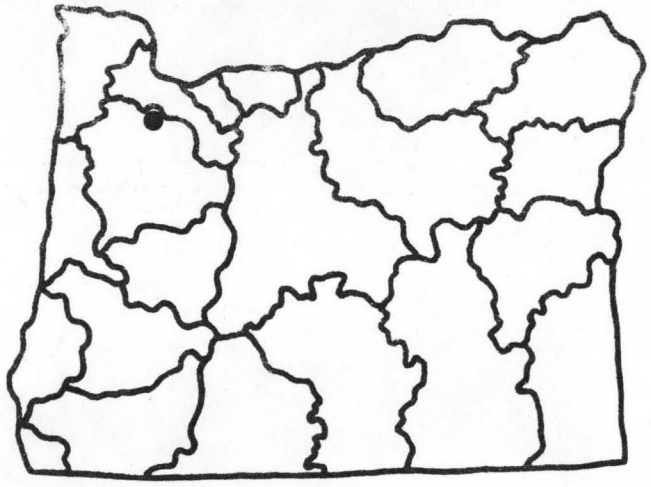
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.5	.02	.17	1.000
80	11.8	.04	.34	.933
50	54.5	.19	1.21	.711
30	104.5	.37	1.83	.562
10	233.8	.83	2.64	.362

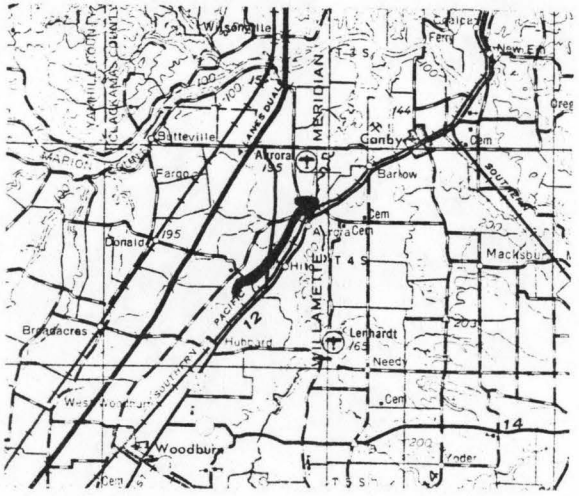
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 97 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T4S. R1W. Sec.14
D.	Latitude, Longitude	45°12'N.122°46'W
E.	Stream Name	Mill Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	2.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

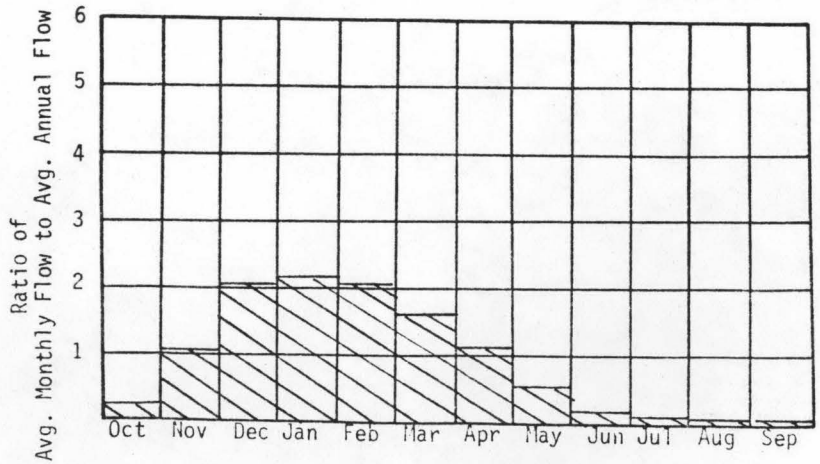
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	36	Sq.Mi.
F.	Inflow Classification	Natural	

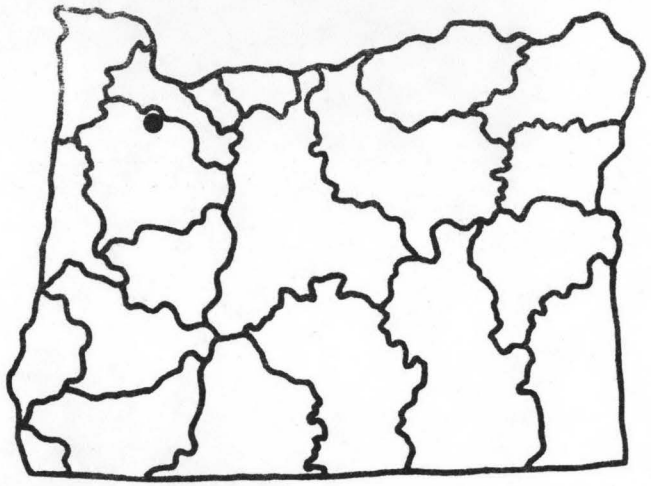
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.3	.03	.26	1.000
80	11.4	.06	.52	.933
50	52.8	.30	1.84	.711
30	101.3	.57	2.79	.562
10	226.8	1.27	4.02	.362

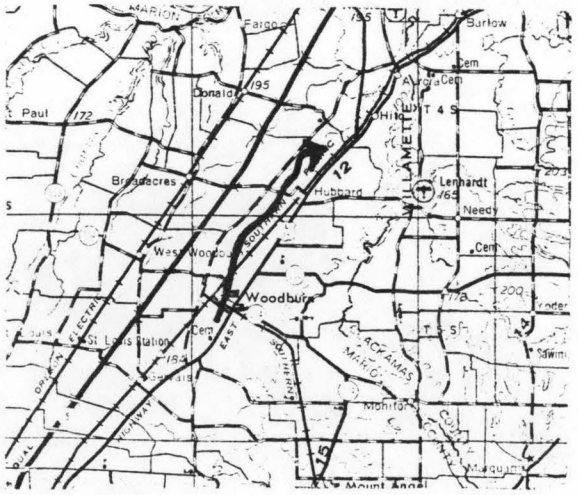
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 94 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

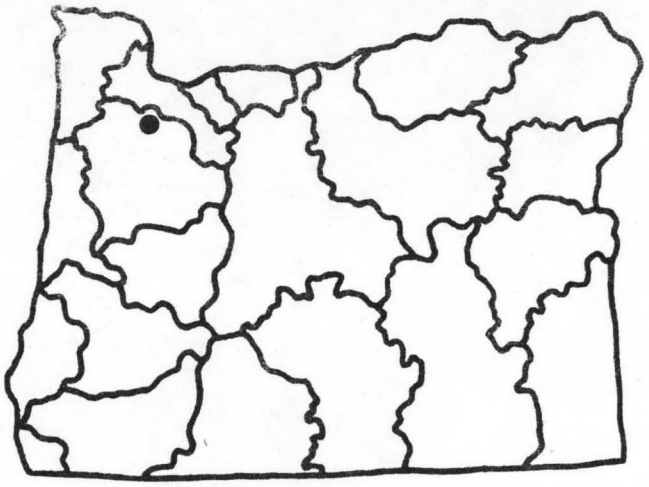


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0004

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T4S, R1W, Sec.25
D.	Latitude, Longitude	45°12'N,122°45'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	7.2 to 15.5



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	87	Ft. MSL
B.	Downstream Elevation of Reach	67	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	2.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	530	Sq.Mi.
F.	Inflow Classification	Natural	

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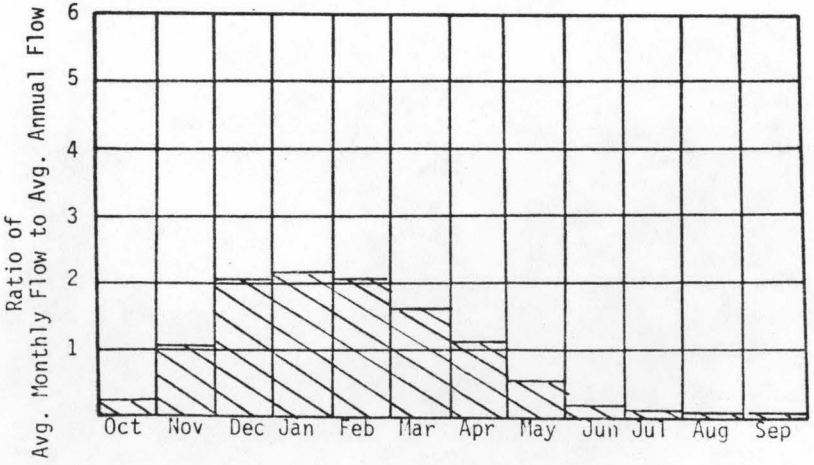
1:250,000 SCALE
MAP NAME: VANCOUVER

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	126.5	.21	1.88	1.000
80	255.4	.43	3.55	.937
50	984.5	1.67	10.59	.724
30	1752.3	2.97	15.15	.582
10	3605.5	6.11	20.65	.386

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1585 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0005

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	T5S, R1E, Sec.6	
D. Latitude, Longitude	45°10'N,122°45'W	
E. Stream Name	Rock Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 5.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

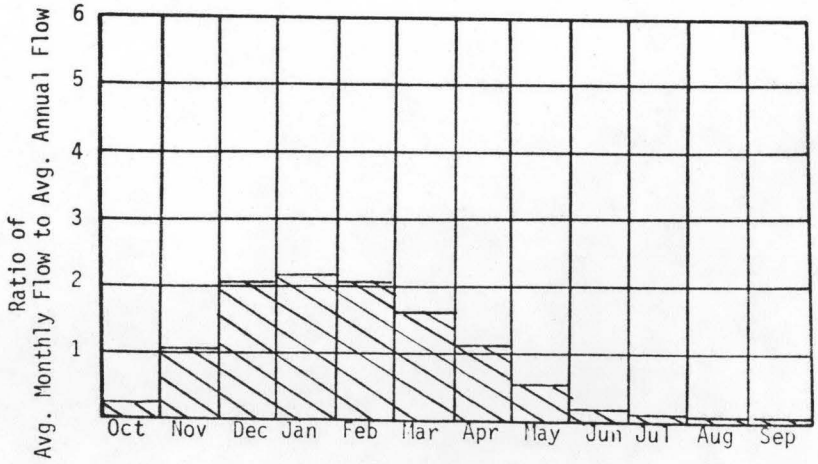
A. Upstream Elevation of Reach	99	Ft. MSL
B. Downstream Elevation of Reach	87	Ft. MSL
C. Total Available Head in Reach	12	Ft.
D. Average Slope in Reach	2.2	Ft./Mi.
E. Drainage Area above Reach Mouth	83	Sq.Mi.
F. Inflow Classification	Natural	

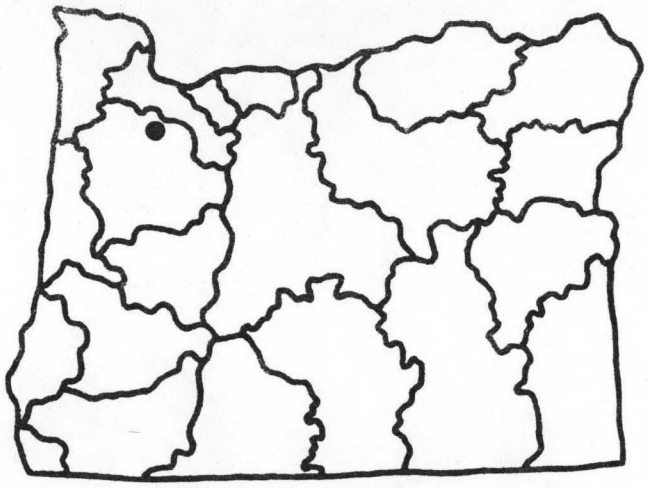
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.9	.01	.11	1.000
80	27.2	.03	.23	.934
50	119.9	.12	.76	.715
30	225.1	.23	1.14	.567
10	492.4	.50	1.61	.368

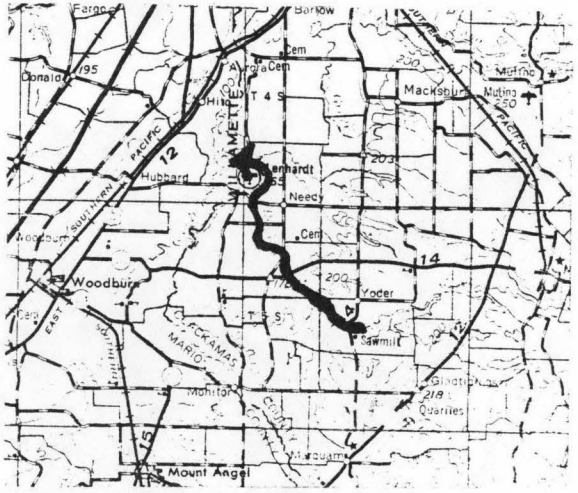
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 208 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0006

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T5S. R1E. Sec.21
D.	Latitude, Longitude	45°07'N.122°41'W
E.	Stream Name	Rock Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	5.6 to 9.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

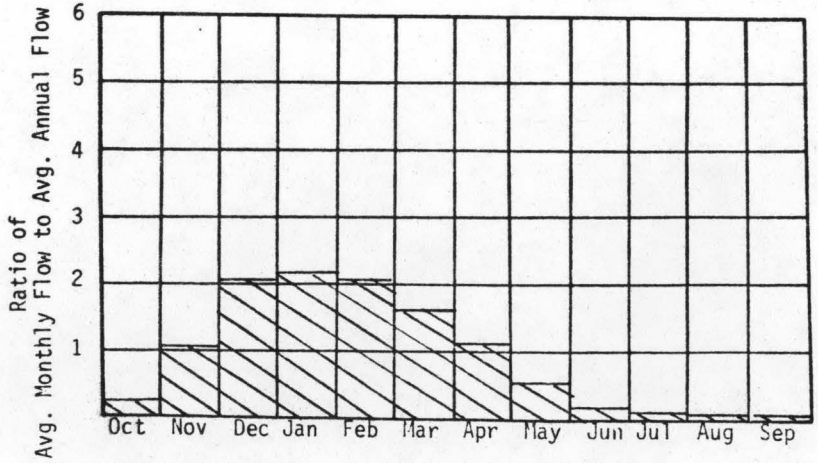
A.	Upstream Elevation of Reach	123	Ft. MSL
B.	Downstream Elevation of Reach	99	Ft. MSL
C.	Total Available Head in Reach	24	Ft.
D.	Average Slope in Reach	5.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	54	Sq.Mi.
F.	Inflow Classification	Natural	

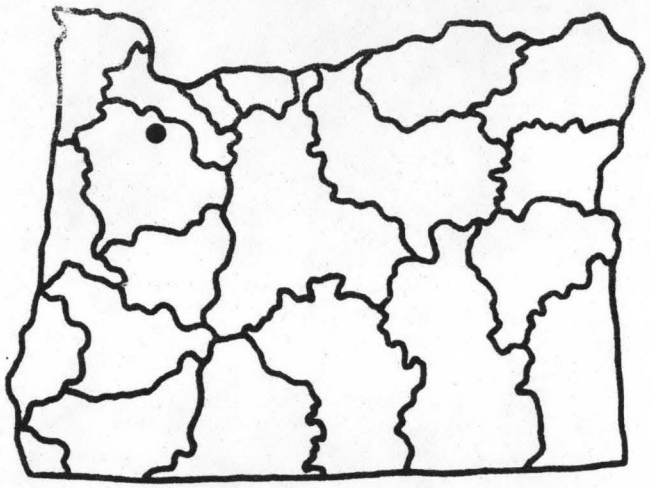
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.2	.01	.13	1.000
80	15.4	.03	.26	.934
50	70.1	.14	.89	.712
30	133.5	.27	1.34	.564
10	296.6	.60	1.92	.364

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW - 124 CFS





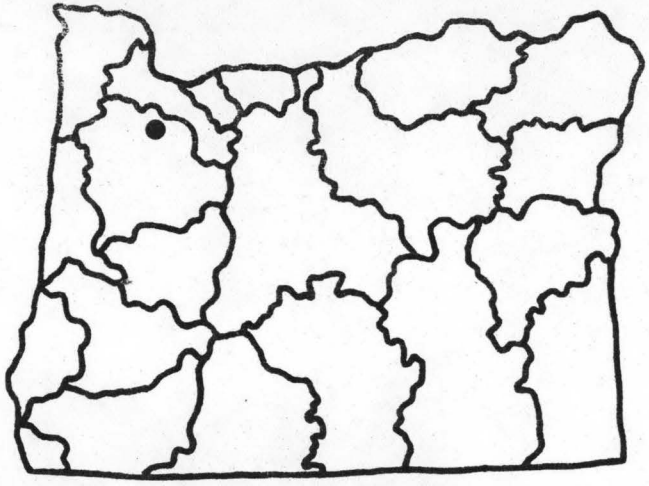
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0007

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T5S, R1E, Sec.23
D.	Latitude, Longitude	45°07'N,122°39W
E.	Stream Name	Rock Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	9.8 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural	

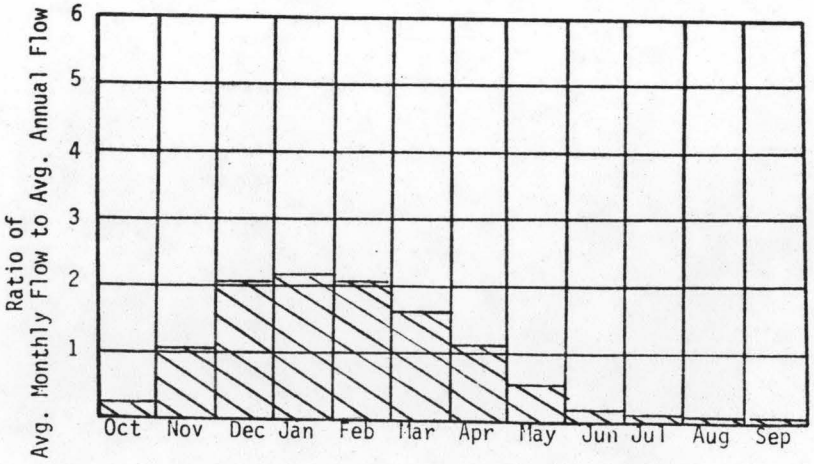
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

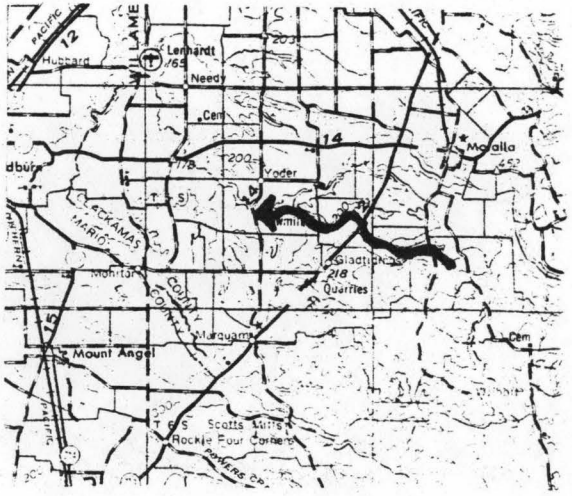
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	9.0	.05	.41	.933
50	42.2	.24	1.47	.710
30	81.3	.45	2.23	.561
10	183.3	1.03	3.23	.360

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 76 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0008

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T4S, R1W, Sec.36
D.	Latitude, Longitude	45°10'N,122°45'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	15.5 to 20.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

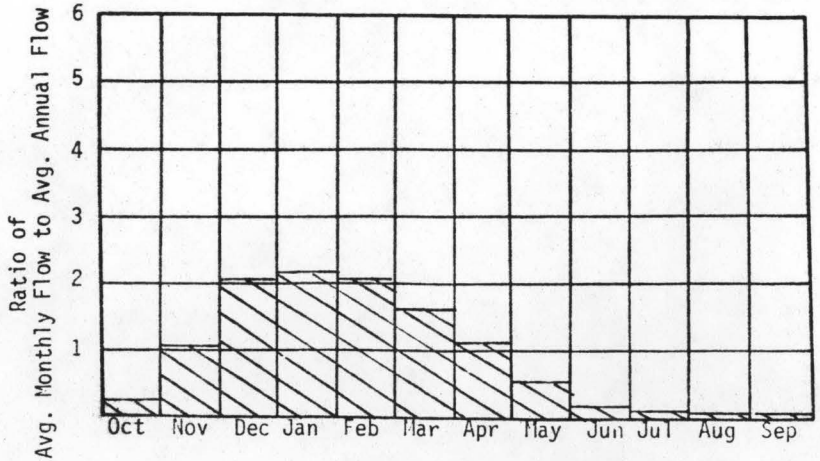
A.	Upstream Elevation of Reach	96	Ft. MSL
B.	Downstream Elevation of Reach	87	Ft. MSL
C.	Total Available Head in Reach	9	Ft.
D.	Average Slope in Reach	2.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	440	Sq.Mi.
F.	Inflow Classification	Natural	

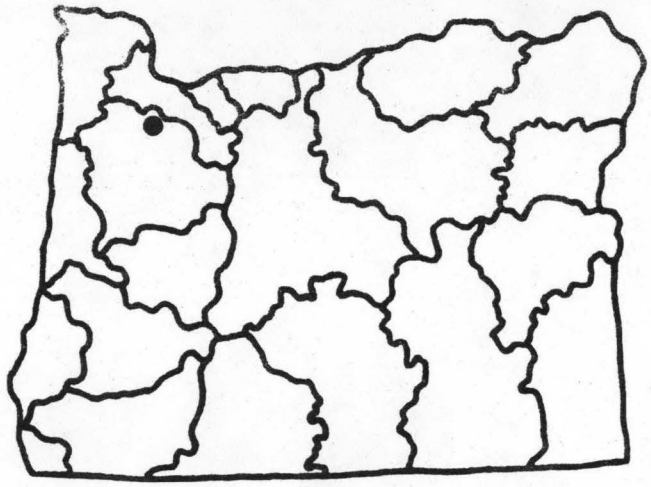
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	107.0	.08	.71	1.000
80	216.8	.17	1.36	.937
50	843.7	.64	4.08	.724
30	1507.6	1.15	5.85	.581
10	3115.9	2.38	8.00	.384

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1366 CFS





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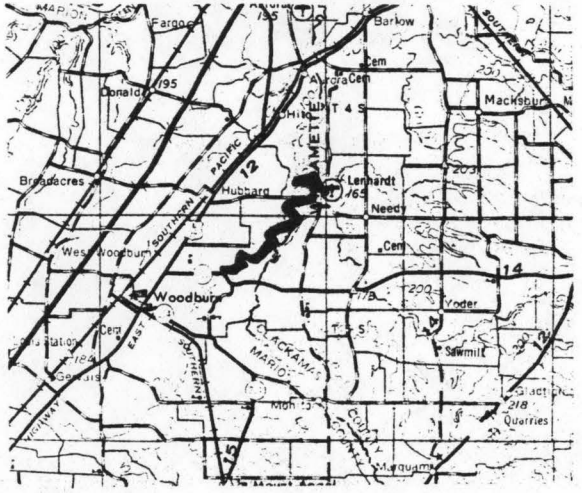
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0009

I. LOCATION

A.	State	Oregon
B.	County	Marion-Clackamas
C.	Township, Range	T5S, R1W, Sec.23
D.	Latitude, Longitude	45°07'N,122°46'W
E.	Stream Name	Butte Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 8.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

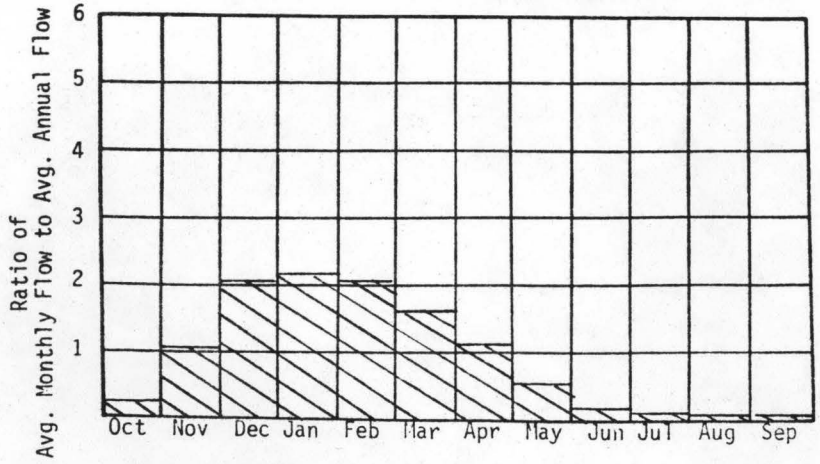
A.	Upstream Elevation of Reach	203	Ft. MSL
B.	Downstream Elevation of Reach	96	Ft. MSL
C.	Total Available Head in Reach	107	Ft.
D.	Average Slope in Reach	13.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	66	Sq.Mi.
F.	Inflow Classification	Natural	

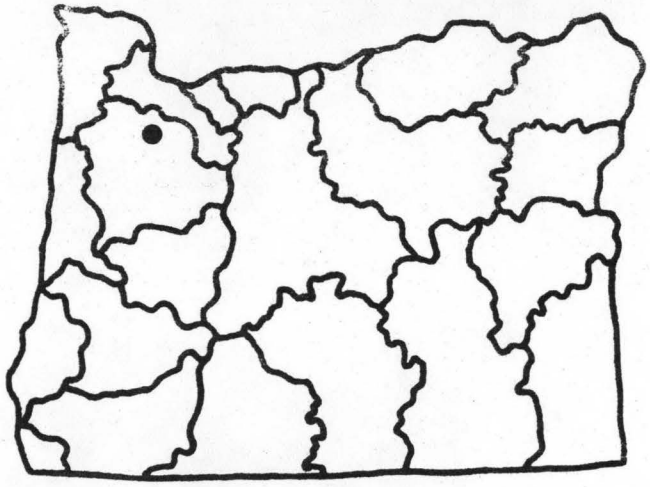
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	17.3	.16	1.37	1.000
80	36.3	.33	2.69	.935
50	157.0	1.42	8.93	.716
30	292.9	2.66	13.25	.569
10	635.6	5.76	18.69	.370

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 270 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0010

I. LOCATION

A. State	Oregon	
B. County	Marion-Clackamas	
C. Township, Range	T6S, R1E, Sec23	
D. Latitude, Longitude	45°05'N,122°39'W	
E. Stream Name	Butte Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	8.1 to 16.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

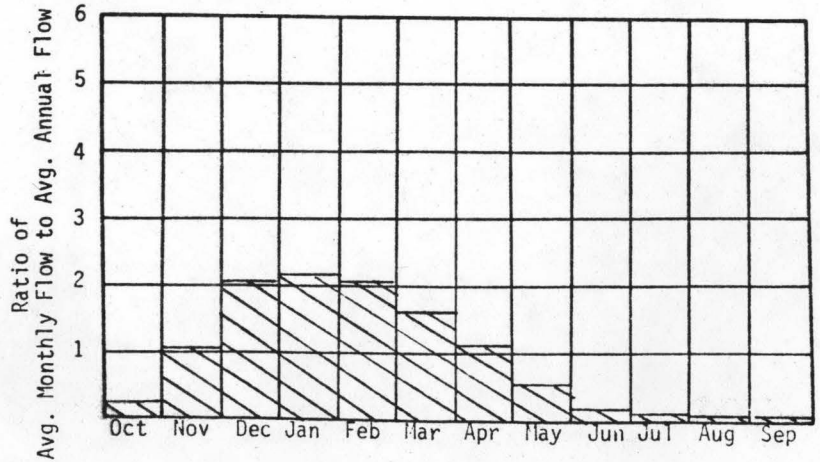
A. Upstream Elevation of Reach	557	Ft. MSL
B. Downstream Elevation of Reach	203	Ft. MSL
C. Total Available Head in Reach	354	Ft.
D. Average Slope in Reach	40.7	Ft./Mi.
E. Drainage Area above Reach Mouth	56	Sq.Mi.
F. Inflow Classification	Natural	

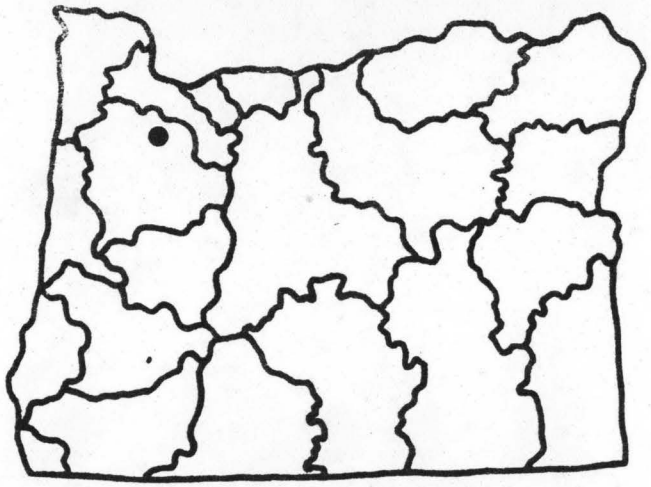
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.9	.39	3.39	1.000
80	27.2	.82	6.68	.934
50	119.8	3.59	22.50	.715
30	225.0	6.75	33.56	.567
10	492.1	14.76	47.60	.368

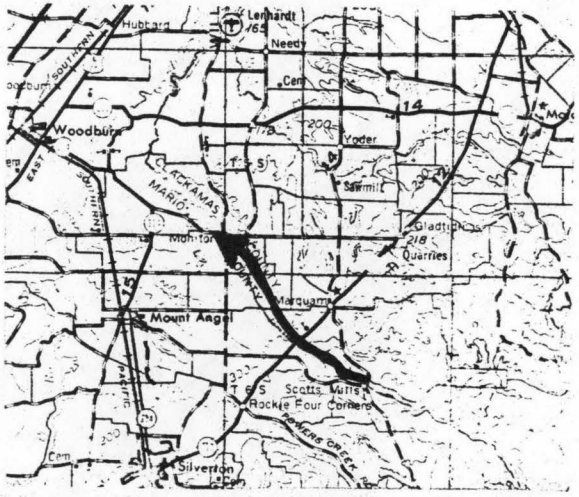
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 208 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0011

I. LOCATION

A. State	Oregon	
B. County	Marion-Clackamas	
C. Township, Range	T7S, R2E, Sec.15	
D. Latitude, Longitude	44°57'N,122°32'W	
E. Stream Name	Butte Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	16.8 to 26.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

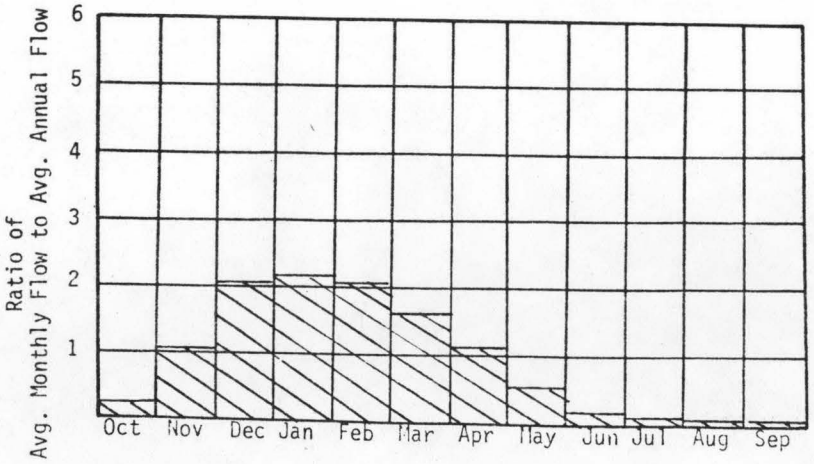
A. Upstream Elevation of Reach	1534	Ft. MSL
B. Downstream Elevation of Reach	557	Ft. MSL
C. Total Available Head in Reach	977	Ft.
D. Average Slope in Reach	105.1	Ft./Mi.
E. Drainage Area above Reach Mouth	29	Sq.Mi.
F. Inflow Classification	Natural	

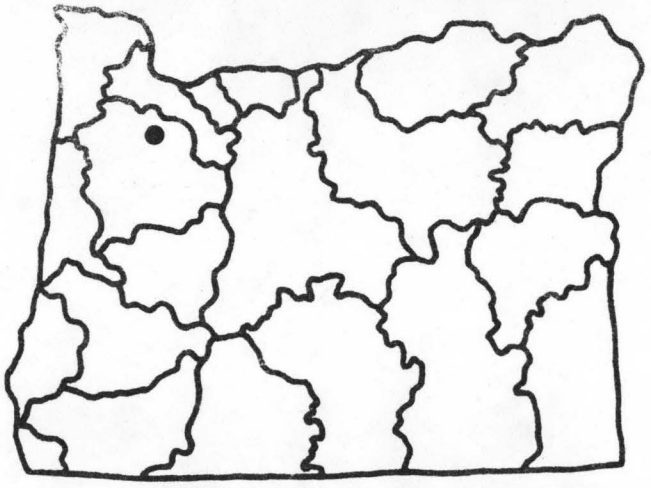
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.3	.52	4.55	1.000
80	13.4	1.11	9.09	.933
50	61.7	5.10	31.83	.712
30	117.8	9.75	48.10	.563
10	262.6	21.74	69.11	.363

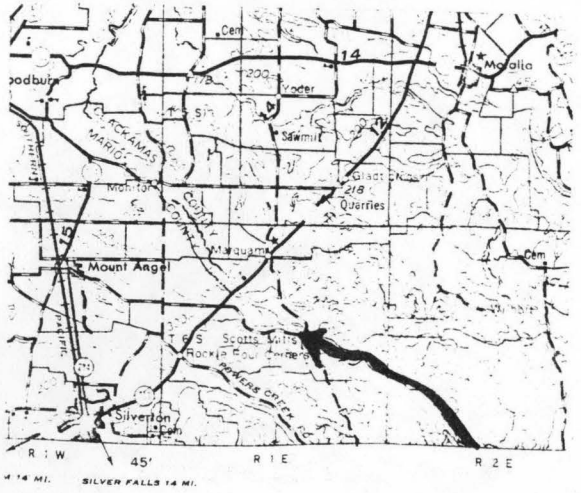
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW 110 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0012

I. LOCATION

A.	State	Oregon
B.	County	Marion-Clackamas
C.	Township, Range	T7S. R3E. Sec.31
D.	Latitude, Longitude	44°55'N.122°29'W
E.	Stream Name	Butte Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	26.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

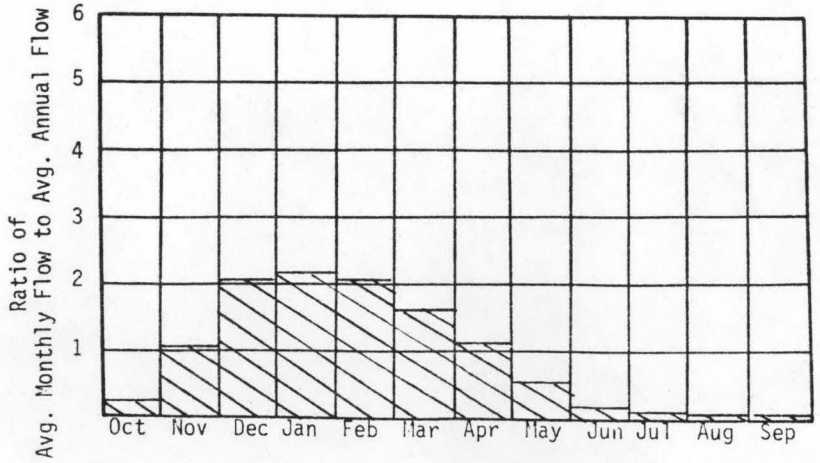
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	9	Sq.Mi.
F.	Inflow Classification	Natural	

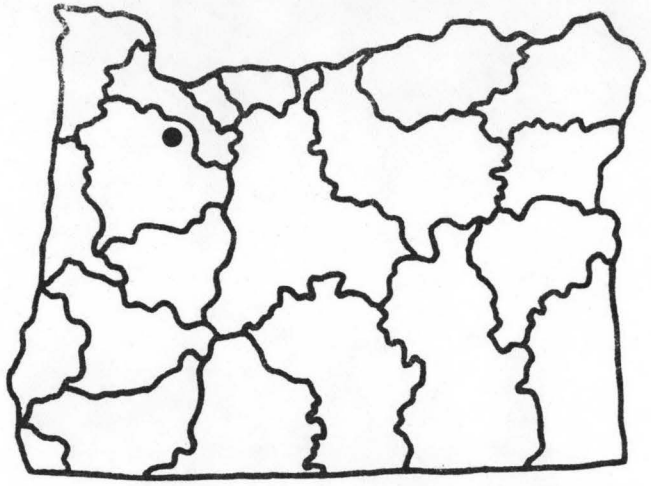
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.2	.02	.16	1.000
80	6.9	.04	.32	.933
50	33.0	.18	1.14	.709
30	64.0	.36	1.75	.559
10	145.2	.81	2.55	.358

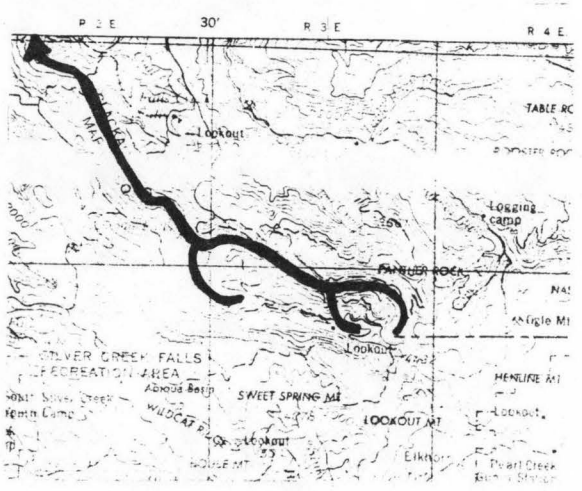
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 60 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0013

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T5S, R1W, Sec.16	
D. Latitude, Longitude	45°08'N,122°50'W	
E. Stream Name	Pudding River	
F. Major Basin Name	Mid Willamette	
G. River Mile	20.2 to 32.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

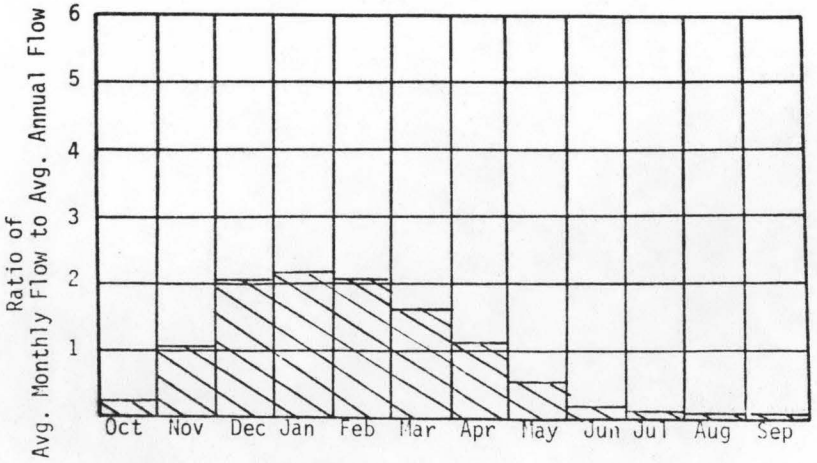
A. Upstream Elevation of Reach	120	Ft. MSL
B. Downstream Elevation of Reach	96	Ft. MSL
C. Total Available Head in Reach	24	Ft.
D. Average Slope in Reach	2.0	Ft./Mi.
E. Drainage Area above Reach Mouth	370	Sq.Mi.
F. Inflow Classification	Natural	

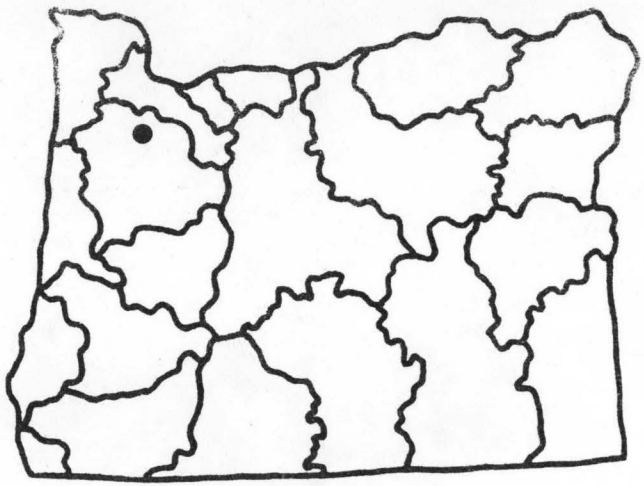
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	81.4	.17	1.45	1.000
80	165.9	.34	2.77	.936
50	655.9	1.33	8.44	.722
30	1179.6	2.40	12.17	.579
10	2456.0	5.00	16.72	.382

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1071 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0014

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T6S, R1W, Sec.6
D.	Latitude, Longitude	45°05'N,122°51'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	32.2 to 36.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

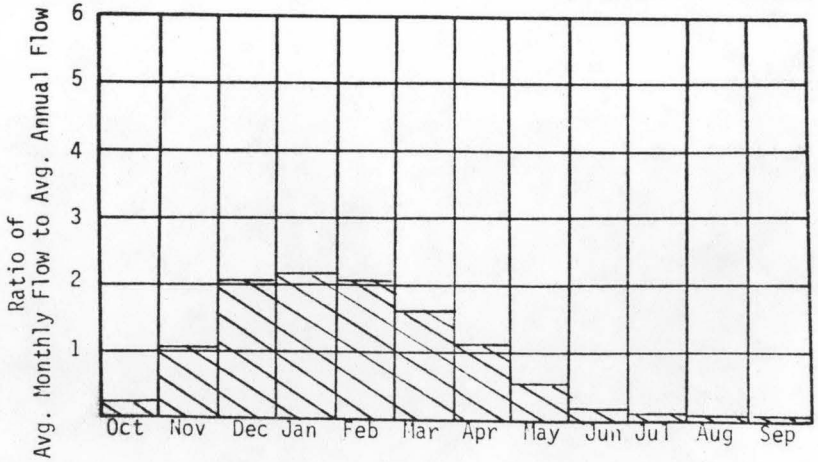
A.	Upstream Elevation of Reach	130	Ft. MSL
B.	Downstream Elevation of Reach	120	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	2.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	332	Sq.Mi.
F.	Inflow Classification	Natural	

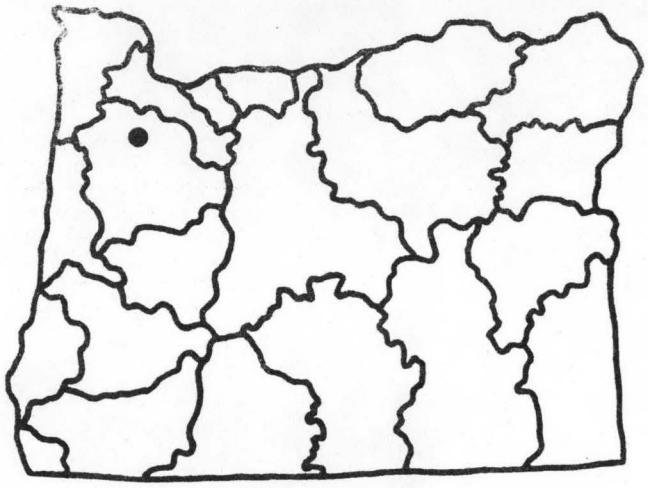
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	77.2	.07	.57	1.000
80	157.5	.13	1.09	.936
50	624.7	.53	3.35	.722
30	1124.8	.95	4.83	.579
10	2345.1	1.99	6.65	.382

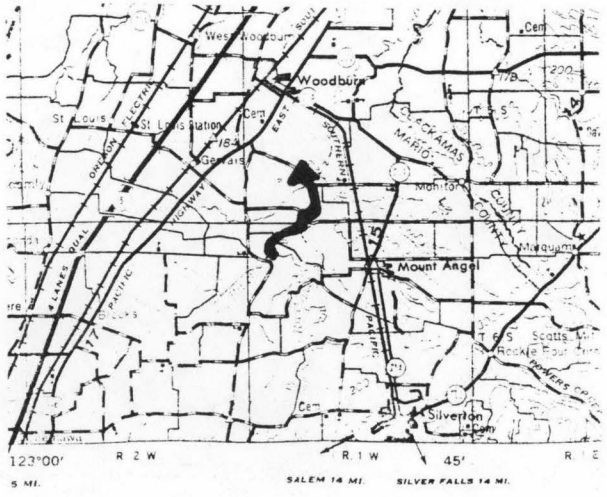
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1022 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

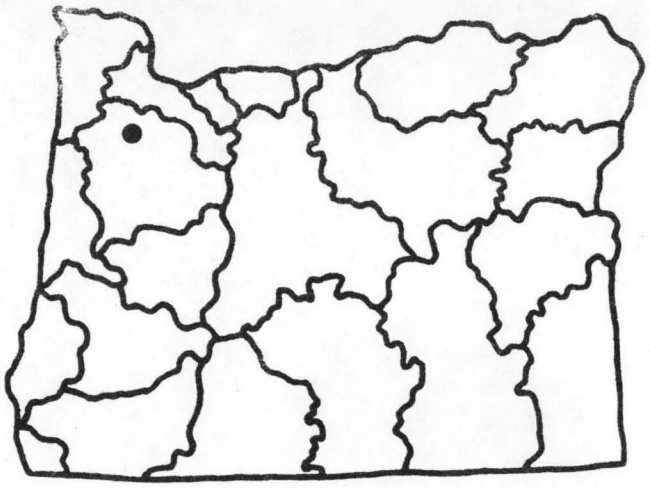


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0015

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T6S, R2W, Sec.23
D.	Latitude, Longitude	45°07'N,122°54'W
E.	Stream Name	Little Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 8.2



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	151	Ft. MSL
B.	Downstream Elevation of Reach	130	Ft. MSL
C.	Total Available Head in Reach	21	Ft.
D.	Average Slope in Reach	2.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	74	Sq.Mi.
F.	Inflow Classification	Natural	

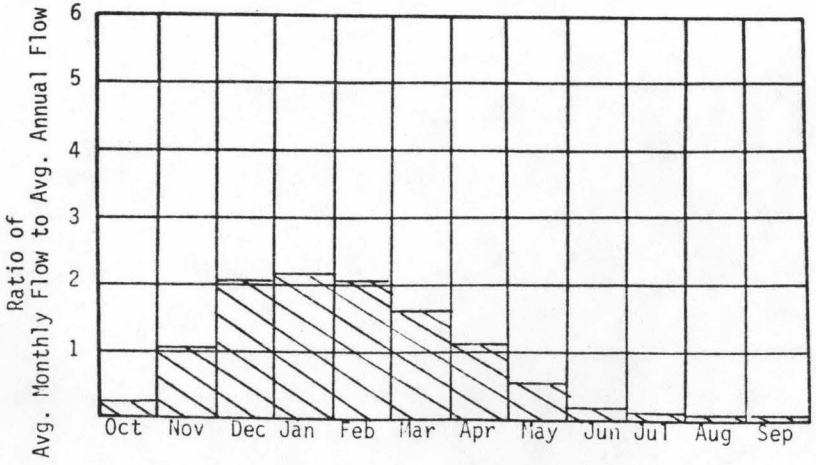
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

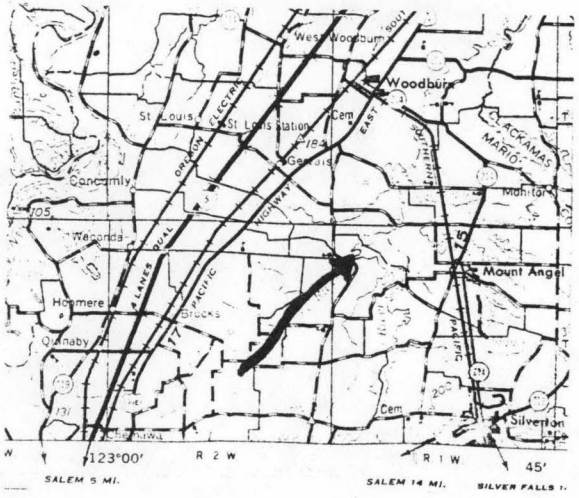
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.1	.01	.13	1.000
80	17.2	.03	.25	.934
50	78.0	.14	.87	.713
30	148.1	.26	1.30	.565
10	327.9	.58	1.86	.365

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 138 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0016

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	7S, R2W, Sec.4
D.	Latitude, Longitude	45°00'N,122°56'W
E.	Stream Name	Little Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	8.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

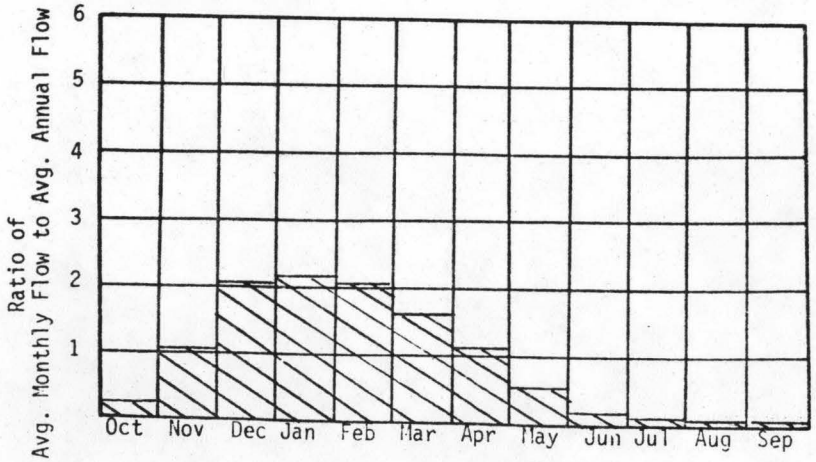
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	26.3	Sq.Mi.
F.	Inflow Classification	Natural	

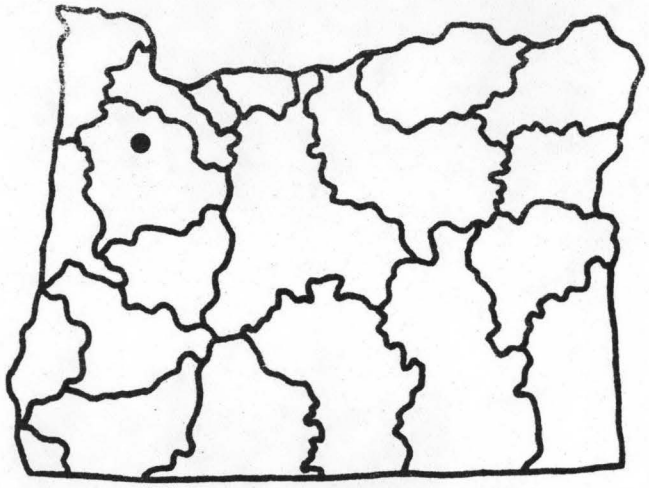
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.3	.02	.21	1.000
80	9.3	.05	.43	.933
50	43.8	.25	1.53	.710
30	84.4	.47	2.32	.561
10	190.1	1.06	3.36	.360

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 79 CFS





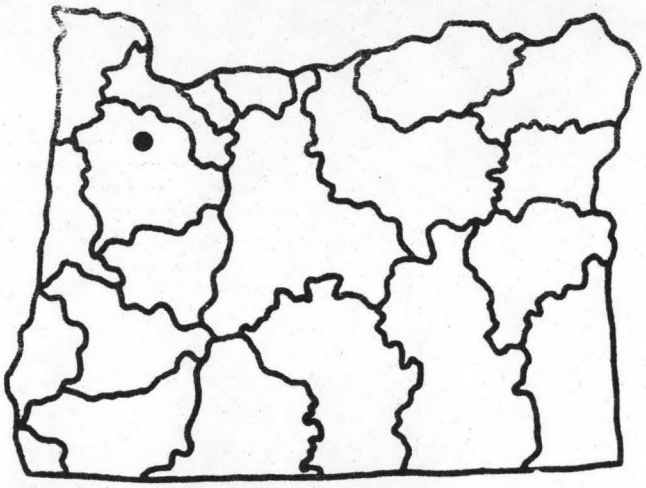
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER-SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0017

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T6S, R1W, Sec.8
D.	Latitude, Longitude	45°04'N,122°50'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	36.9 to 45.7



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	147	Ft. MSL
B.	Downstream Elevation of Reach	130	Ft. MSL
C.	Total Available Head in Reach	17	Ft.
D.	Average Slope in Reach	1.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	254	Sq.Mi.
F.	Inflow Classification	Natural	

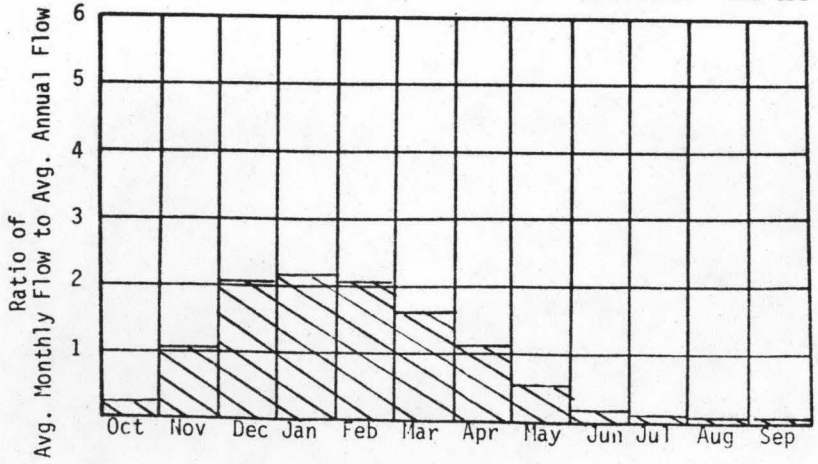
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

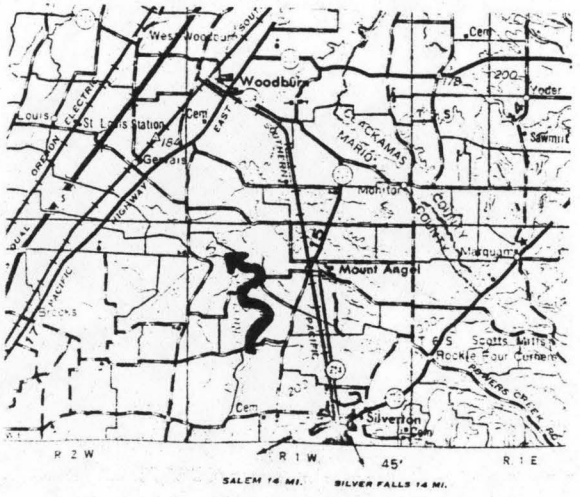
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	61.0	.09	.77	1.000
80	125.0	.18	1.48	.936
50	502.9	.72	4.58	.721
30	910.6	1.31	6.63	.577
10	1910.5	2.75	9.16	.380

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 829 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0018

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T6S, R1W, Sec.24
D.	Latitude, Longitude	45°02'N,122°45'W
E.	Stream Name	Abiqua Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 8.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

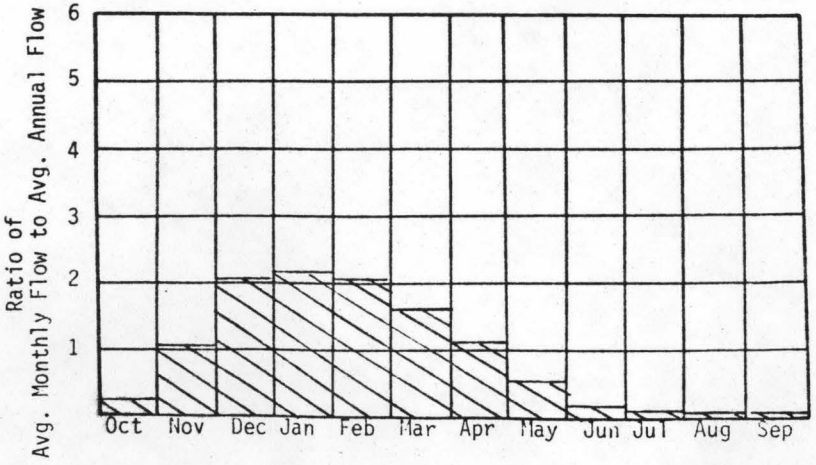
A.	Upstream Elevation of Reach	404	Ft. MSL
B.	Downstream Elevation of Reach	147	Ft. MSL
C.	Total Available Head in Reach	257	Ft.
D.	Average Slope in Reach	31	Ft./Mi.
E.	Drainage Area above Reach Mouth	81	Sq.Mi.
F.	Inflow Classification	Natural	

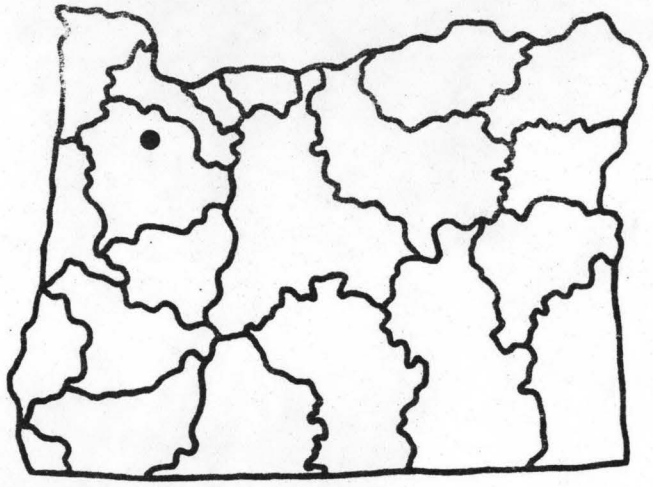
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	19.8	.43	3.77	1.000
80	41.4	.90	7.38	.935
50	177.8	3.87	24.29	.716
30	330.5	7.20	35.95	.570
10	714.6	15.56	50.61	.371

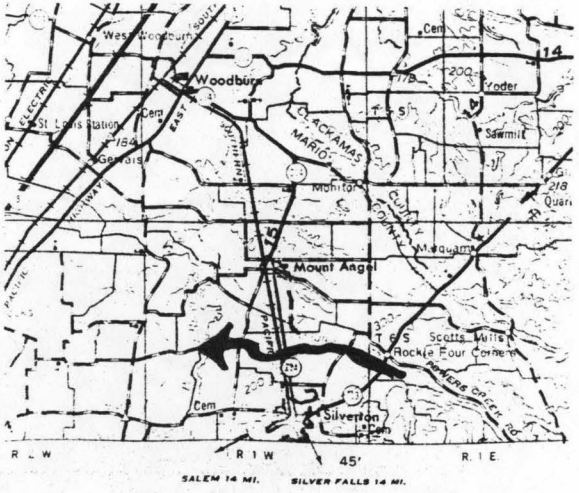
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 304 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0019

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T7S, R1E, Sec.2
D.	Latitude, Longitude	44°59'N,122°39'W
E.	Stream Name	Abiqua Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	8.3 to 14.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

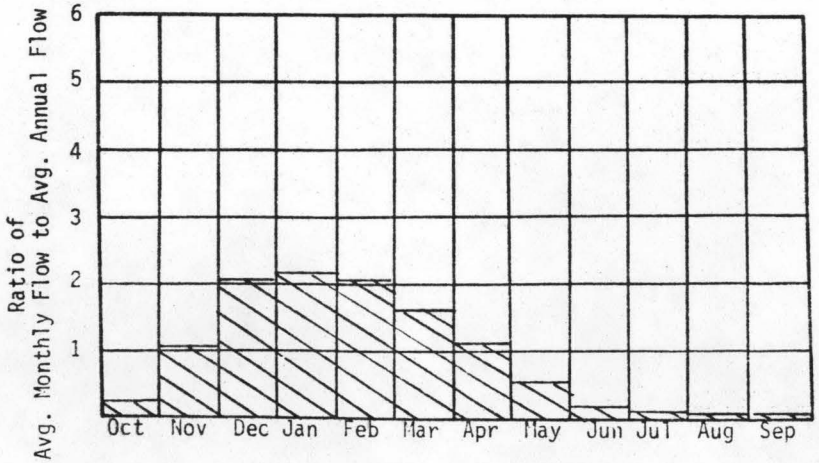
A.	Upstream Elevation of Reach	968	Ft. MSL
B.	Downstream Elevation of Reach	404	Ft. MSL
C.	Total Available Head in Reach	564	Ft.
D.	Average Slope in Reach	95.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	55	Sq.Mi.
F.	Inflow Classification	Natural	

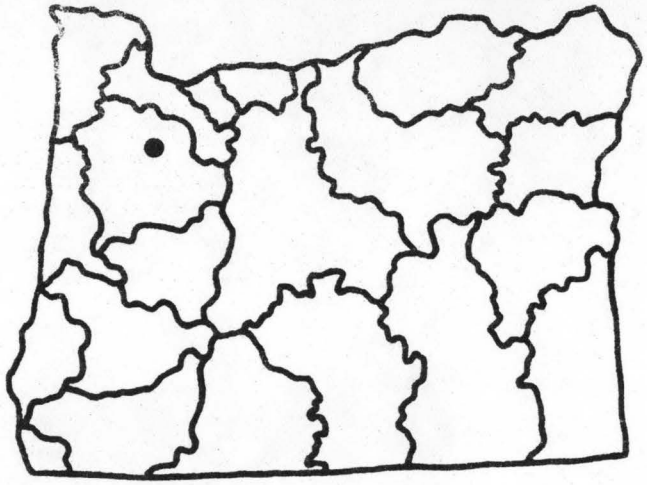
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	15.1	.72	6.32	1.000
80	31.8	1.52	12.44	.934
50	138.7	6.63	41.53	.715
30	259.5	12.40	61.76	.568
10	565.1	27.01	87.36	.369

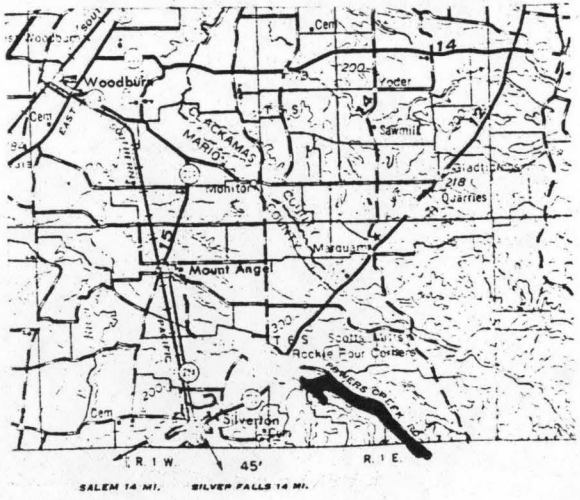
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 240 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0020

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T7S, R2E, Sec.34
D.	Latitude, Longitude	44°57'N,122°33'W
E.	Stream Name	Abiqua Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	14.2 to 23.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

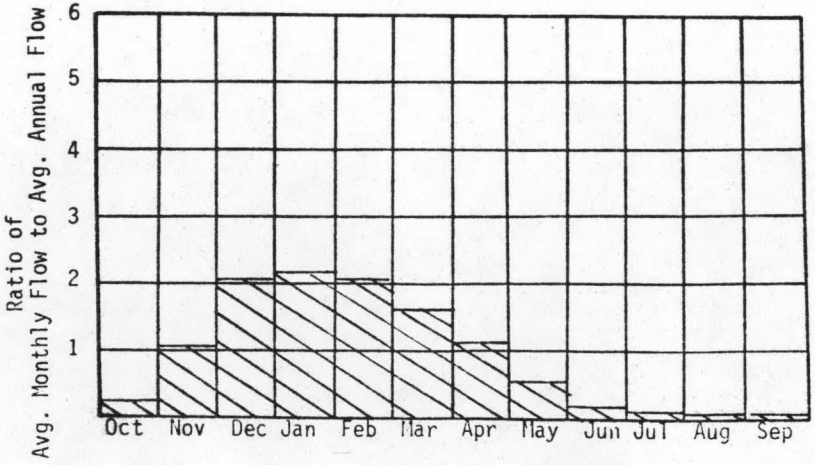
A.	Upstream Elevation of Reach	1364	Ft. MSL
B.	Downstream Elevation of Reach	968	Ft. MSL
C.	Total Available Head in Reach	396	Ft.
D.	Average Slope in Reach	44.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	30	Sq.Mi.
F.	Inflow Classification	Natural	

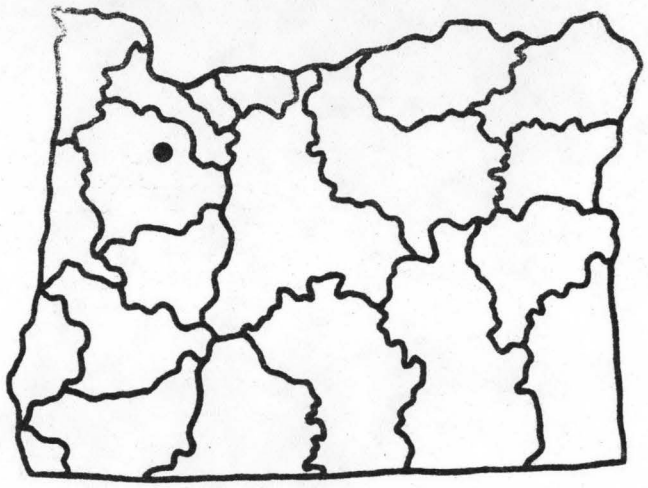
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.0	.23	2.05	1.000
80	14.9	.50	4.10	.933
50	68.1	2.29	14.26	.712
30	129.8	4.36	21.52	.564
10	288.6	9.68	30.85	.364

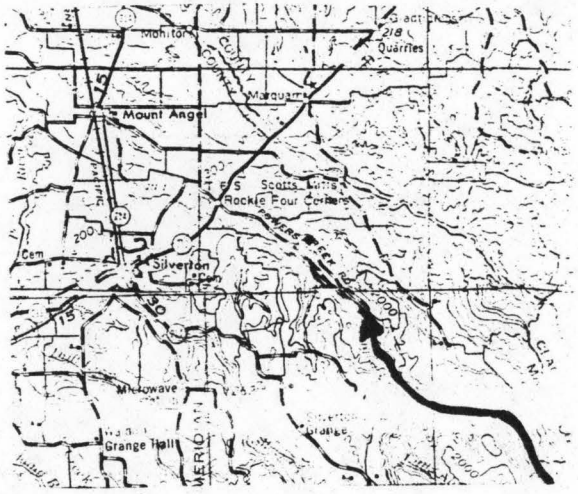
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 120 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0021

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T8S, R3E, Sec.7	
D. Latitude, Longitude	44°52'N,122°30'W	
E. Stream Name	Abiqua Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	23.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

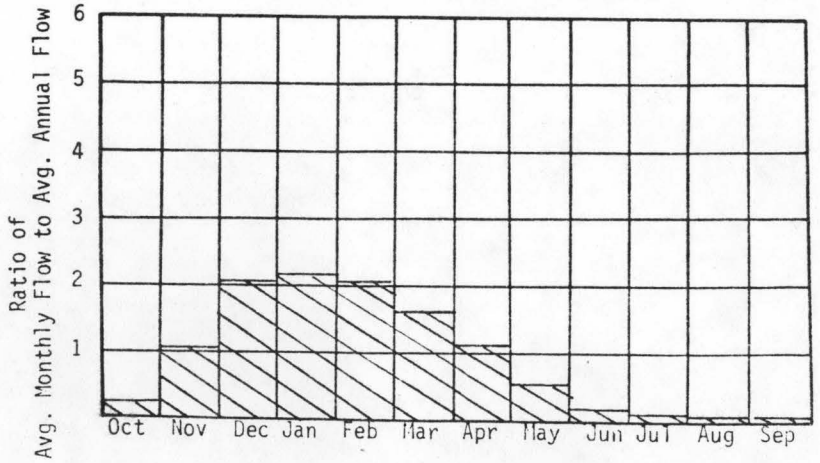
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	11	Sq.Mi.
F. Inflow Classification	Natural	

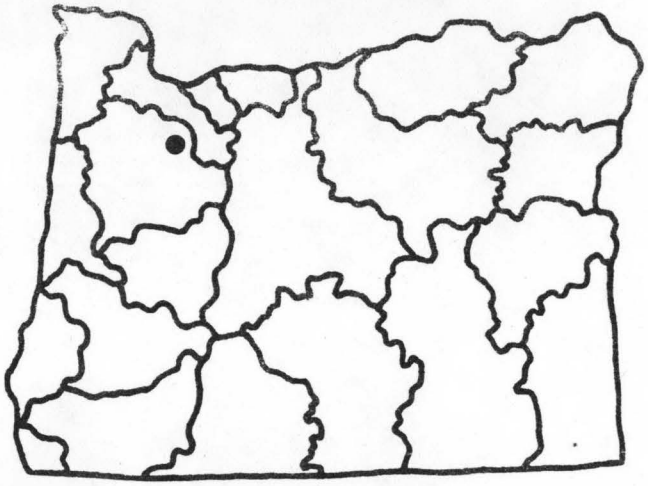
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	8.9	.05	.41	.933
50	41.7	.23	1.45	.710
30	80.5	.45	2.21	.561
10	181.5	1.02	3.20	.360

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 75 CFS





U.S.G.S. TOPO. SERIES
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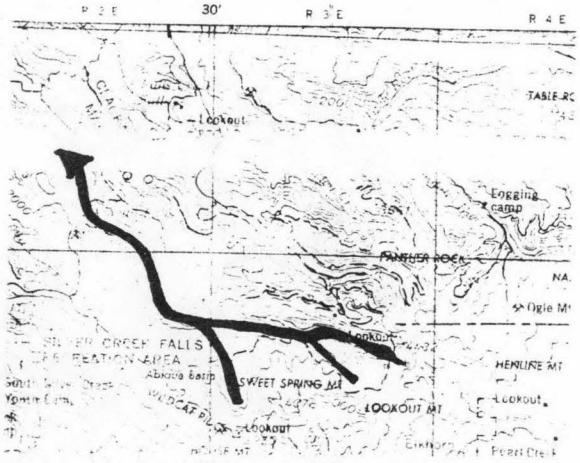
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0022

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T6S. R1W. Sec.29
D.	Latitude, Longitude	45°01'N.122°50'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	45.7 to 49.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

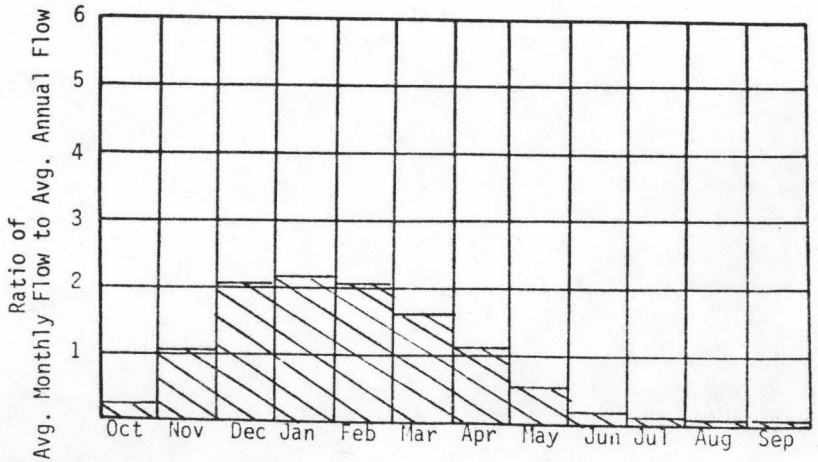
A.	Upstream Elevation of Reach	155	Ft. MSL
B.	Downstream Elevation of Reach	147	Ft. MSL
C.	Total Available Head in Reach	8	Ft.
D.	Average Slope in Reach	2.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	157	Sq.Mi.
F.	Inflow Classification	Natural	

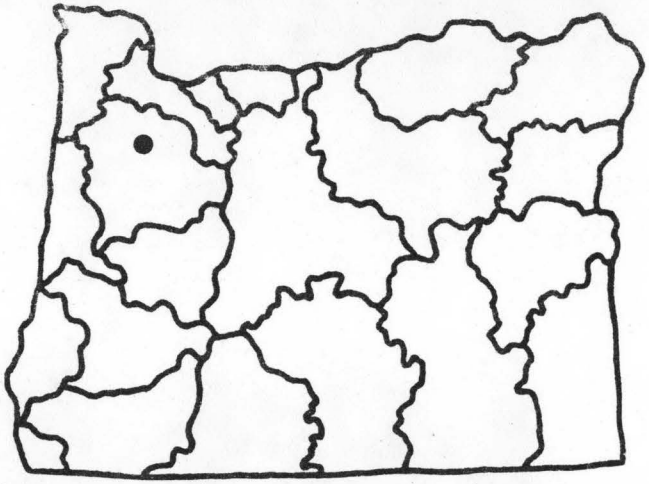
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWh	PLANT FACTOR
95	33.9	.02	.20	1.000
80	70.3	.05	.39	.935
50	292.4	.20	1.25	.719
30	536.9	.36	1.83	.574
10	1144.2	.78	2.55	.375

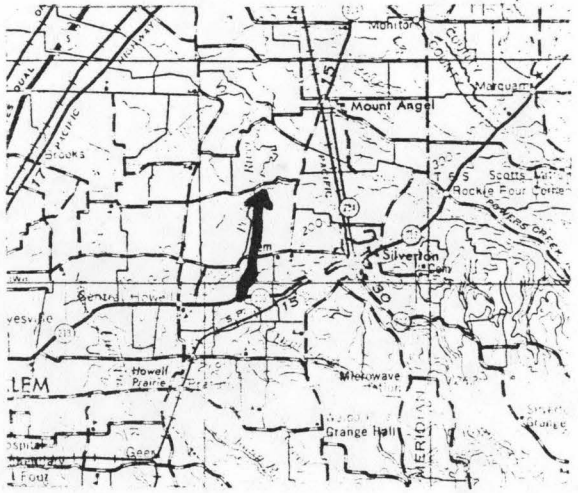
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 492 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0023

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T7S, R1W, Sec.2
D.	Latitude, Longitude	44°59'N,122°56'W
E.	Stream Name	Silver Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 9.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

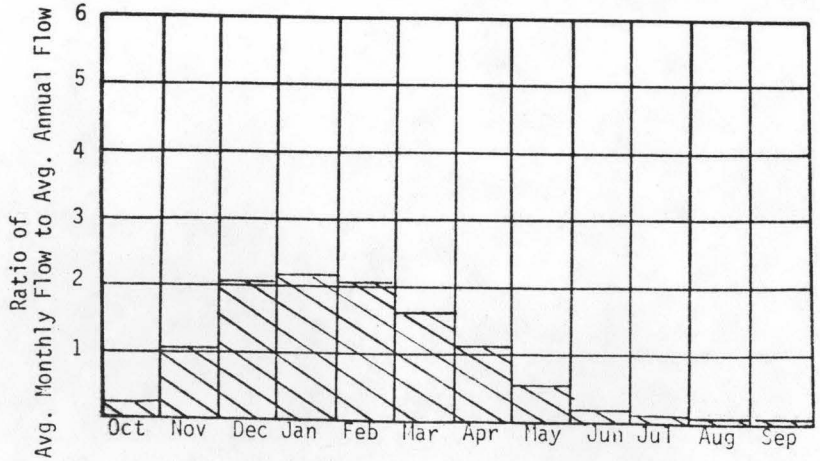
A.	Upstream Elevation of Reach	440	Ft. MSL
B.	Downstream Elevation of Reach	155	Ft. MSL
C.	Total Available Head in Reach	285	Ft.
D.	Average Slope in Reach	31.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	154	Sq.Mi.
F.	Inflow Classification	Natural	

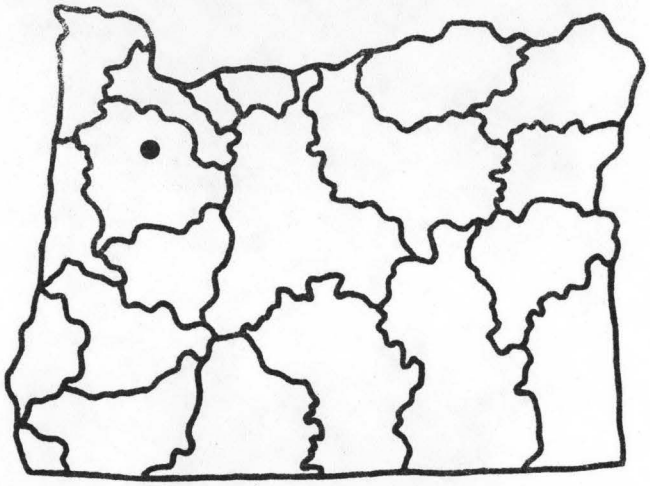
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.1	.32	2.76	1.000
80	27.6	.67	5.45	.934
50	121.3	2.93	18.34	.715
30	227.8	5.50	27.35	.568
10	497.9	12.03	38.78	.368

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 210 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0024

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T7S. R1E. Sec.33	
D. Latitude, Longitude	44°55'N,122°41'W	
E. Stream Name	Silver Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	9.0 to 16.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

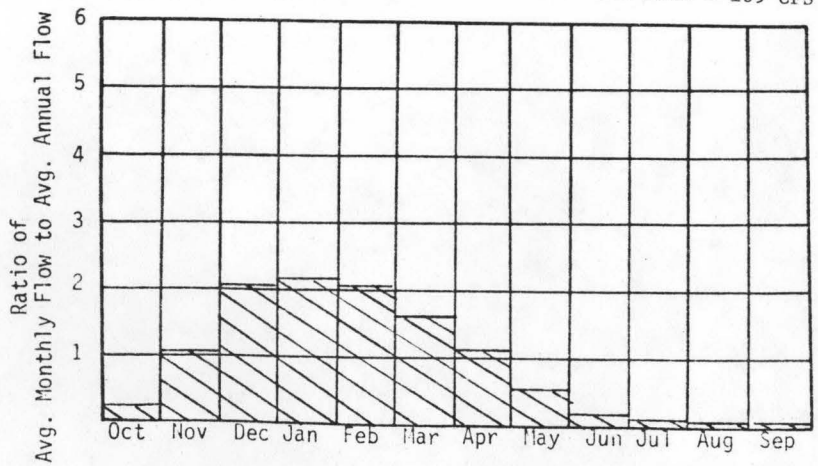
A. Upstream Elevation of Reach	800	Ft. MSL
B. Downstream Elevation of Reach	440	Ft. MSL
C. Total Available Head in Reach	360	Ft.
D. Average Slope in Reach	48.6	Ft./Mi.
E. Drainage Area above Reach Mouth	40	Sq.Mi.
F. Inflow Classification	Natural	

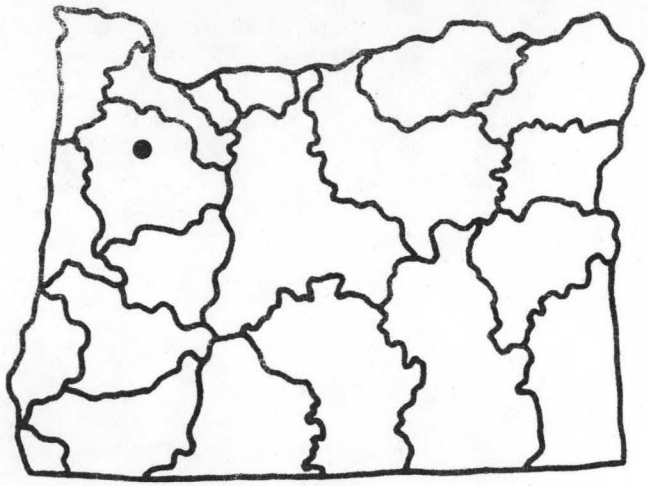
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.2	.31	2.73	1.000
80	21.7	.66	5.41	.934
50	96.8	2.95	18.46	.714
30	182.8	5.58	27.66	.566
10	402.3	12.27	39.39	.366

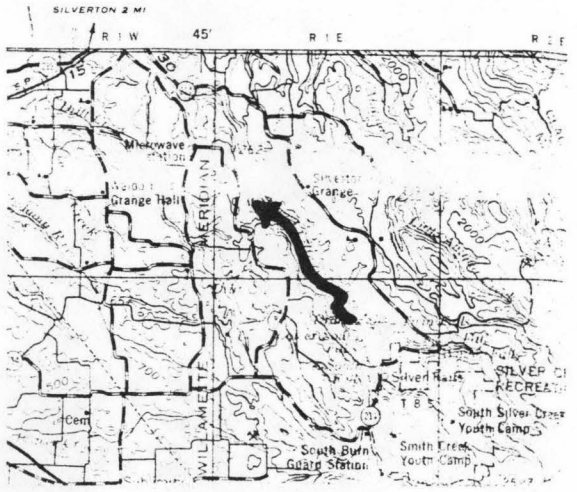
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 169 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0025

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T8S. R1E. Sec.10
D.	Latitude, Longitude	44°53'N.122°40'W
E.	Stream Name	North Fork Silver Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

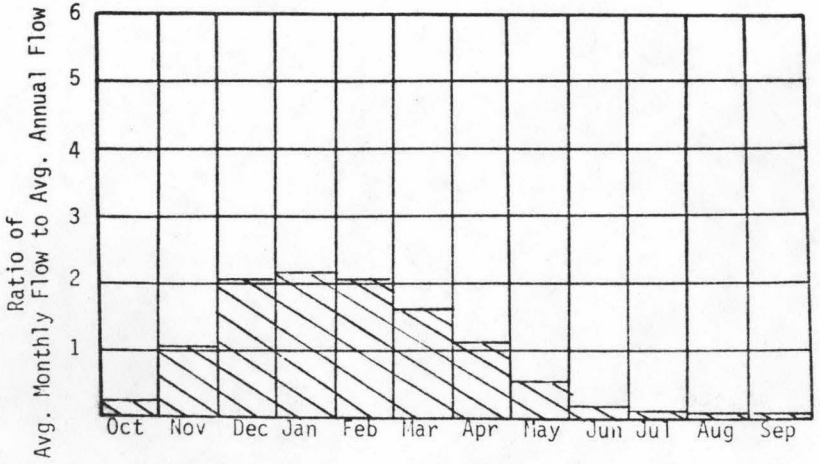
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16	Sq.Mi.
F.	Inflow Classification	Natural	

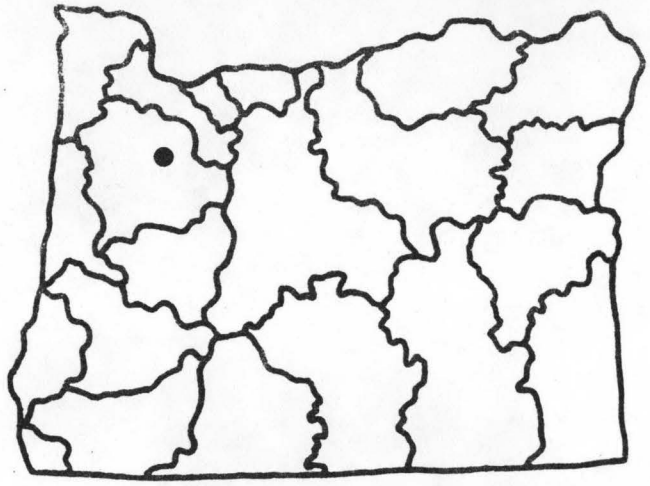
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.9	.03	.24	1.000
80	10.5	.06	.48	.933
50	48.7	.27	1.70	.711
30	93.6	.52	2.58	.562
10	210.2	1.18	3.72	.361

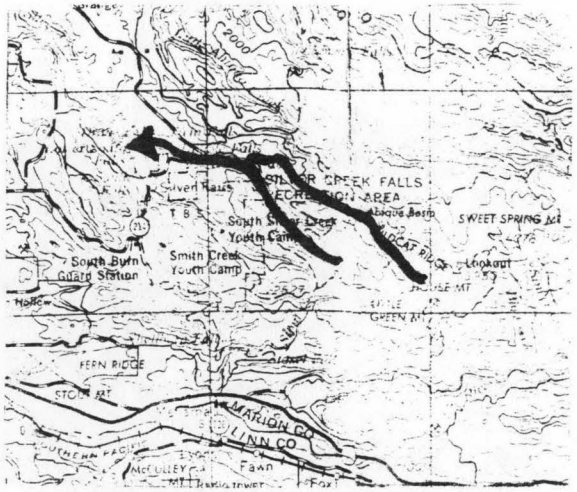
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 87 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0026

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T8S, R1E, Sec.10
D.	Latitude, Longitude	44°53'N,122°40'W
E.	Stream Name	South Fork Silver Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

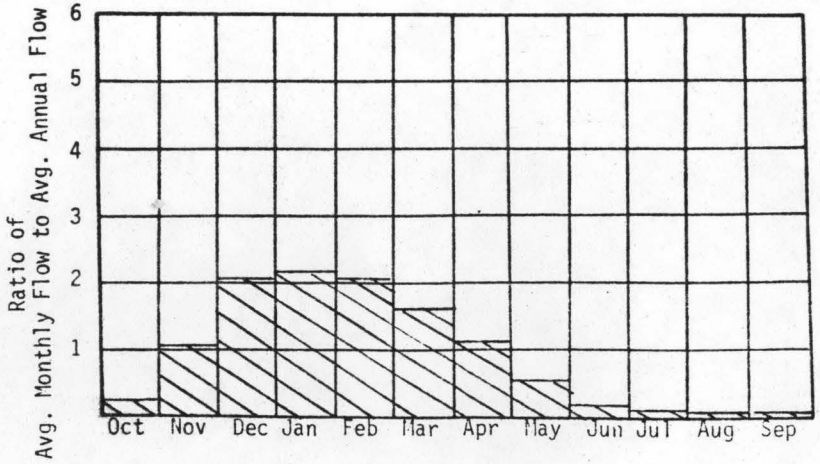
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14	Sq.Mi.
F.	Inflow Classification	Natural	

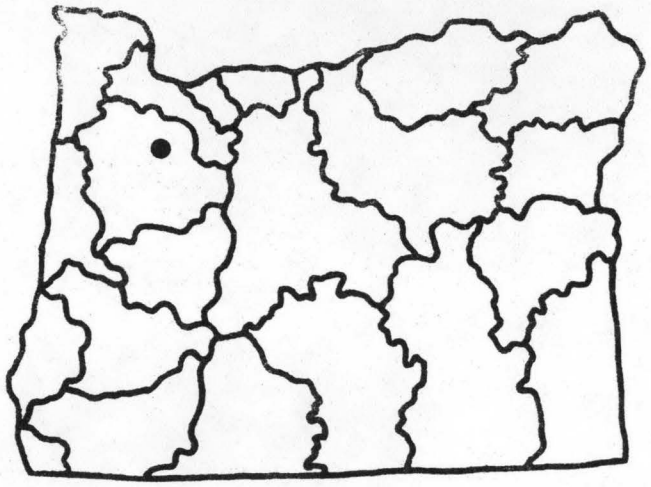
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.02	.18	1.000
80	7.9	.04	.36	.933
50	37.6	.21	1.31	.710
30	72.8	.41	2.00	.560
10	164.6	.92	2.90	.359

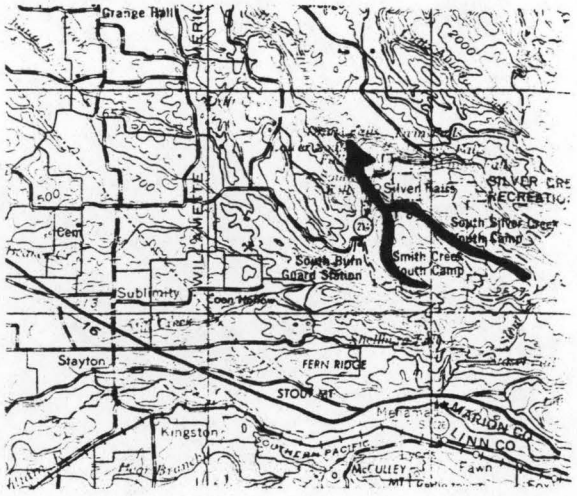
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 68 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

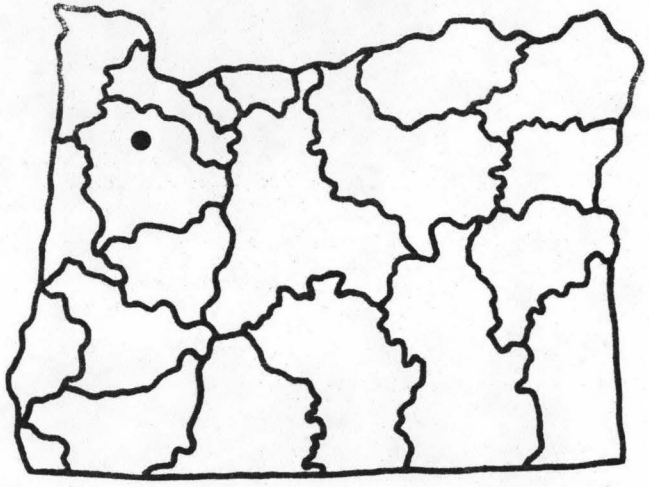


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0027

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T7S, R1W, Sec.5
D.	Latitude, Longitude	44°50'N,122°50'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	49.2 to 51.0



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	167	Ft. MSL
B.	Downstream Elevation of Reach	155	Ft. MSL
C.	Total Available Head in Reach	12	Ft.
D.	Average Slope in Reach	6.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	99	Sq.Mi.
F.	Inflow Classification	Natural	

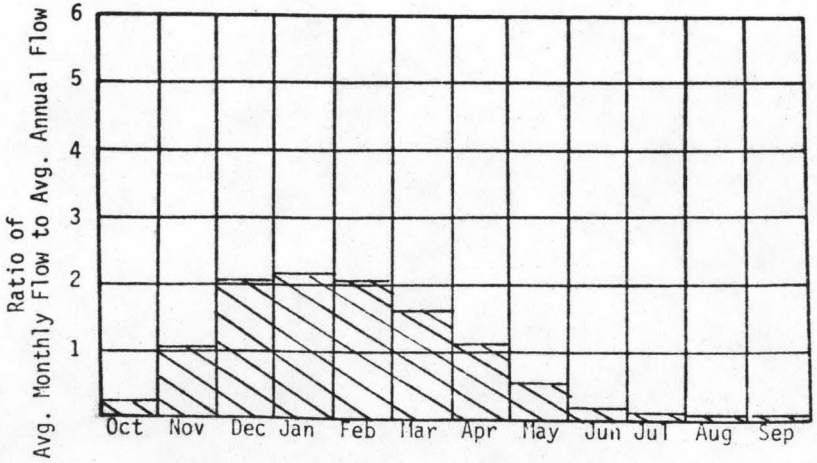
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

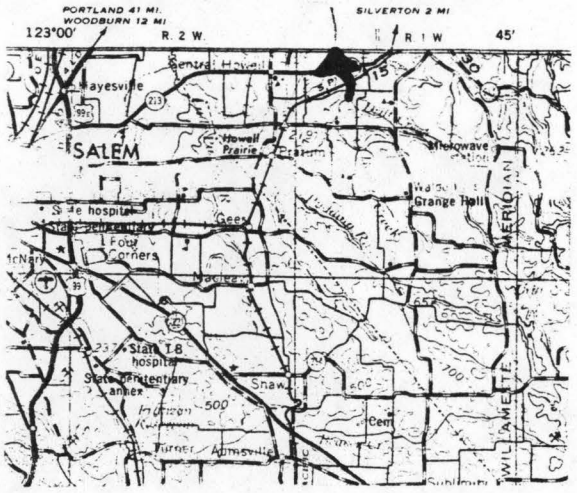
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	17.1	.02	.15	1.000
80	36.0	.04	.30	.935
50	155.9	.16	.99	.716
30	290.8	.30	1.47	.569
10	631.1	.64	2.08	.370

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 268 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0028

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T7S. R1W. Sec.15	
D. Latitude, Longitude	44°57'N.122°47'W	
E. Stream Name	Drift Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 6.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

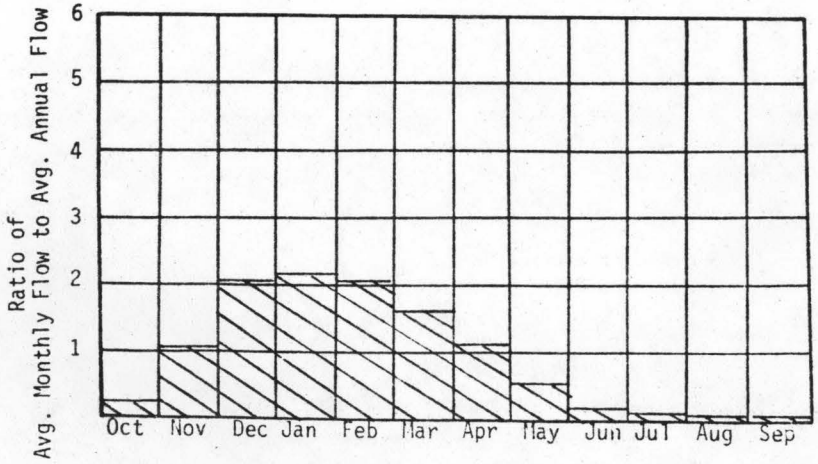
A. Upstream Elevation of Reach	637	Ft. MSL
B. Downstream Elevation of Reach	167	Ft. MSL
C. Total Available Head in Reach	470	Ft.
D. Average Slope in Reach	77	Ft./Mi.
E. Drainage Area above Reach Mouth	24	Sq.Mi.
F. Inflow Classification	Natural	

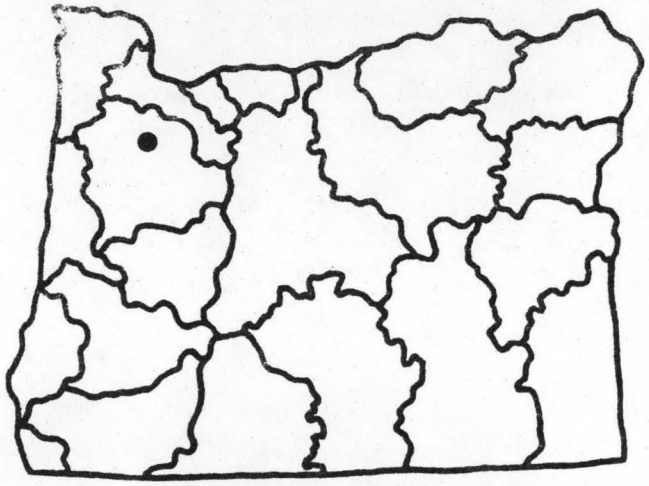
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.5	.18	1.58	1.000
80	9.7	.39	3.17	.933
50	45.6	1.82	11.31	.710
30	87.8	3.50	17.20	.561
10	197.5	7.87	24.85	.361

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 82 CFS





U.S.G.S. TOPO. SERIES
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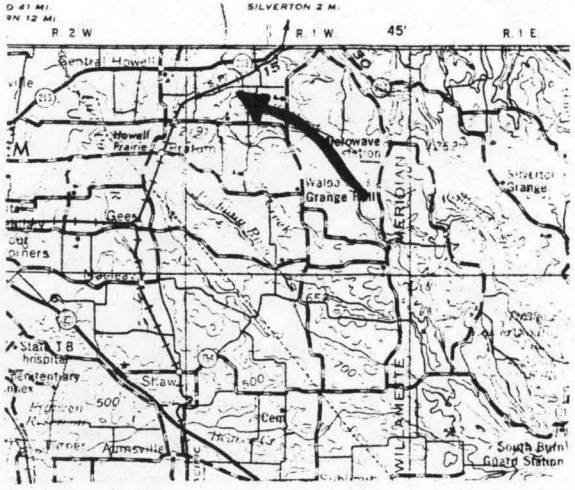
MAP NAME: SALEM

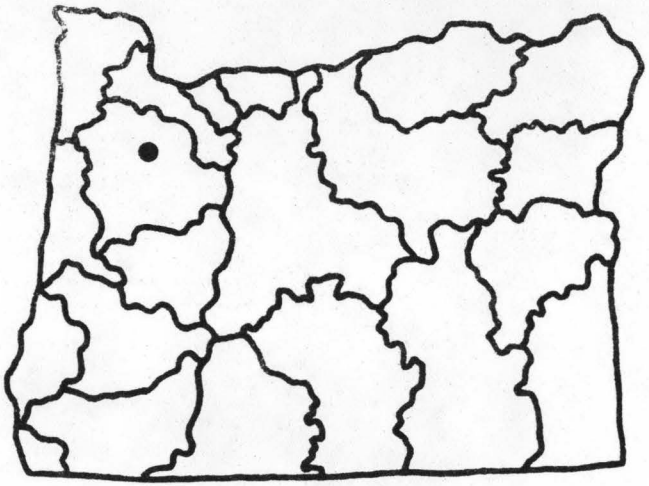


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0029

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T7S, R1W, Sec.25
D.	Latitude, Longitude	44°55'N,122°45'W
E.	Stream Name	Drift Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	6.1 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14	Sq.Mi.
F.	Inflow Classification	Natural	

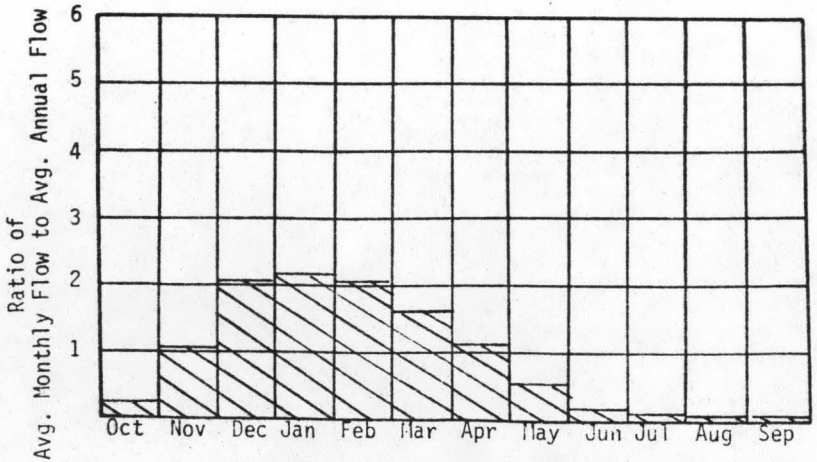
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

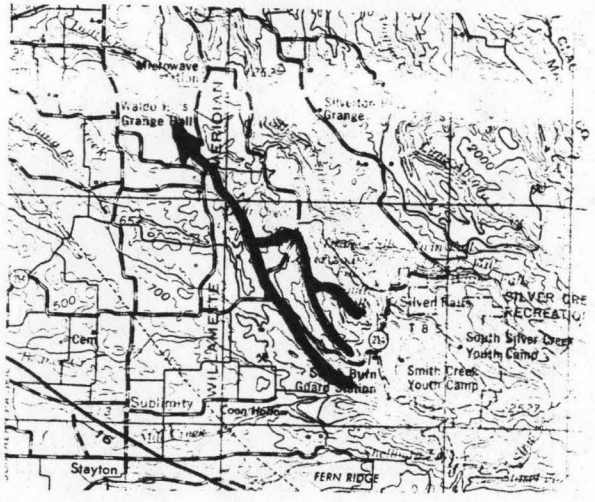
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.5	.02	.17	1.000
80	7.6	.04	.35	.933
50	36.1	.20	1.25	.709
30	69.9	.39	1.92	.560
10	158.2	.88	2.78	.359

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 65 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0030

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T7S, R1W, Sec.18
D.	Latitude, Longitude	44°58'N,122°51'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	51.0 to 54.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

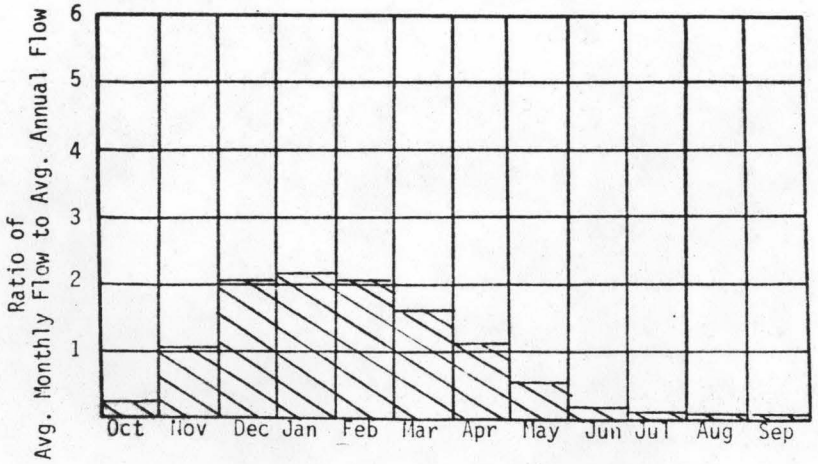
A.	Upstream Elevation of Reach	177	Ft. MSL
B.	Downstream Elevation of Reach	167	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	3	Ft./Mi.
E.	Drainage Area above Reach Mouth	35	Sq.Mi.
F.	Inflow Classification	Natural	

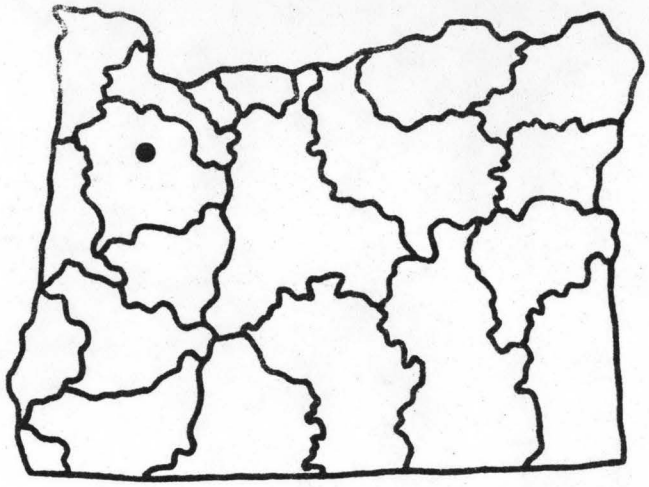
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.4	.01	.07	1.000
80	20.0	.02	.14	.934
50	89.6	.08	.47	.713
30	169.5	.14	.71	.566
10	373.8	.32	1.02	.366

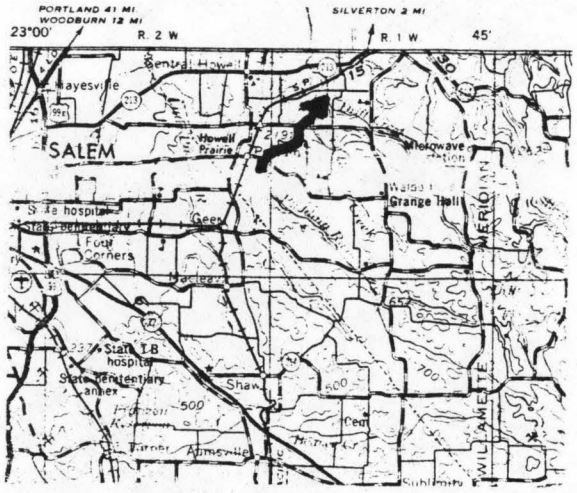
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 157 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-005-R0031

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T7S, R1W, Sec.24
D.	Latitude, Longitude	44°57'N,122°52'W
E.	Stream Name	Pudding River
F.	Major Basin Name	Mid Willamette
G.	River Mile	54.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

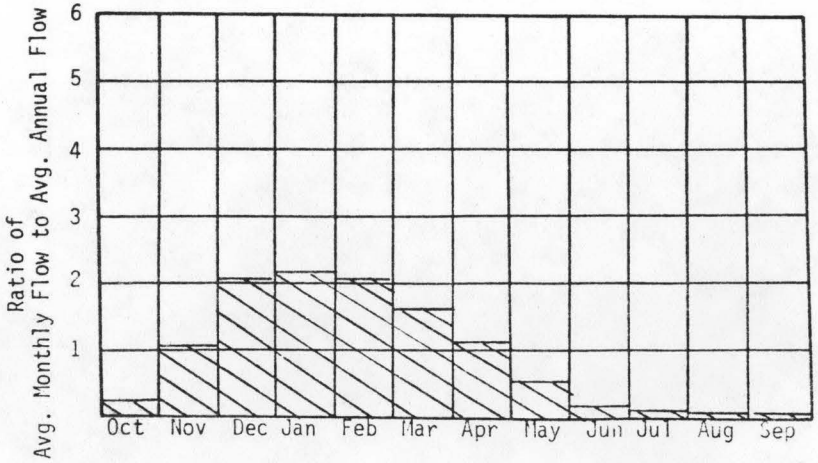
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16	Sq.Mi.
F.	Inflow Classification	Natural	

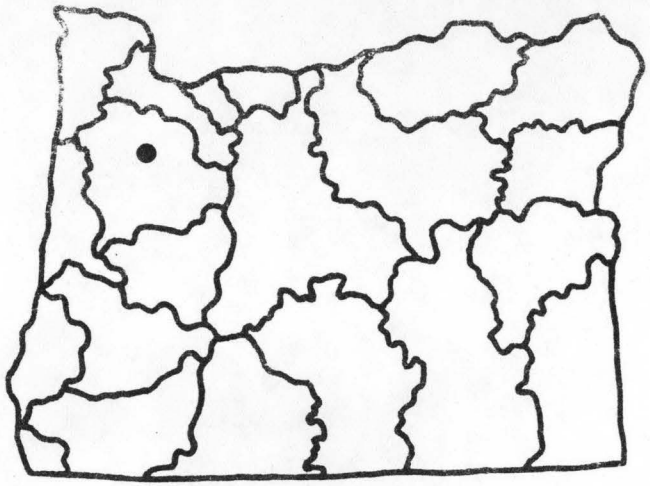
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.0	.04	.34	1.000
80	15.0	.08	.68	.933
50	68.3	.38	2.38	.712
30	130.1	.73	3.59	.564
10	289.3	1.62	5.15	.364

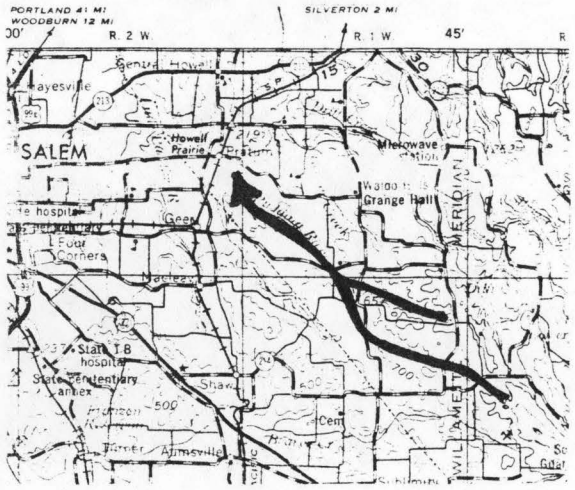
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 121 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T4S, R1E, Sec.5
D.	Latitude, Longitude	45°15'N,122°42'W
E.	Stream Name	Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.8 to 8.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

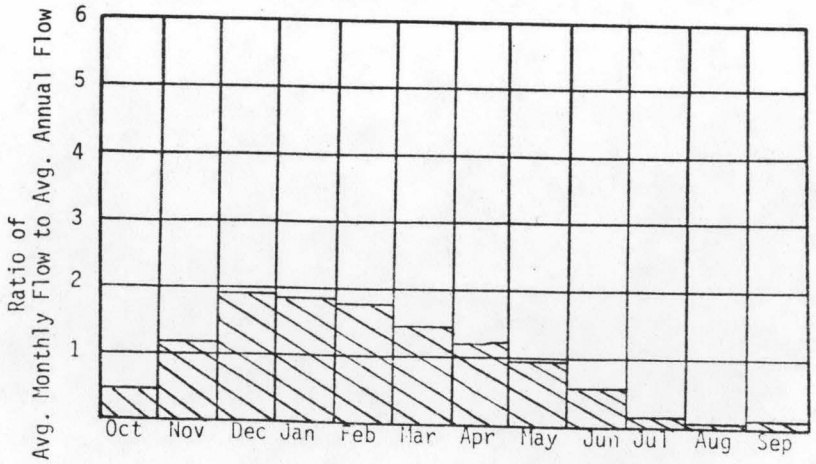
A.	Upstream Elevation of Reach	125	Ft. MSL
B.	Downstream Elevation of Reach	55	Ft. MSL
C.	Total Available Head in Reach	70	Ft.
D.	Average Slope in Reach	9.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	355	Sq.Mi.
F.	Inflow Classification	Natural	

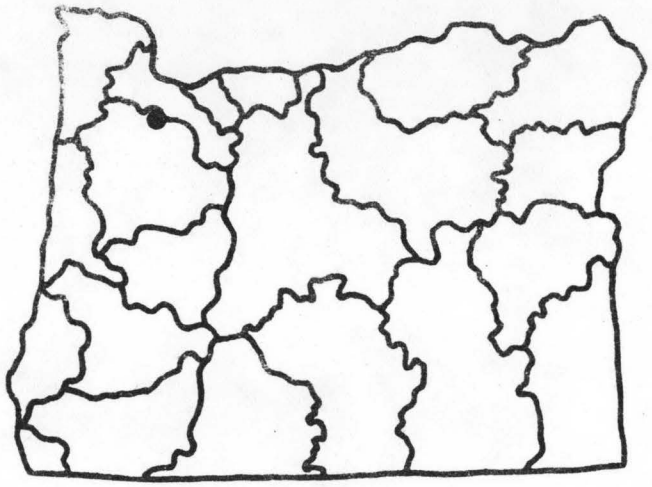
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	102.8	.61	5.34	1.000
80	208.4	1.24	10.14	.937
50	813.0	4.82	30.57	.723
30	1454.1	8.63	43.89	.581
10	3008.7	17.85	60.05	.384

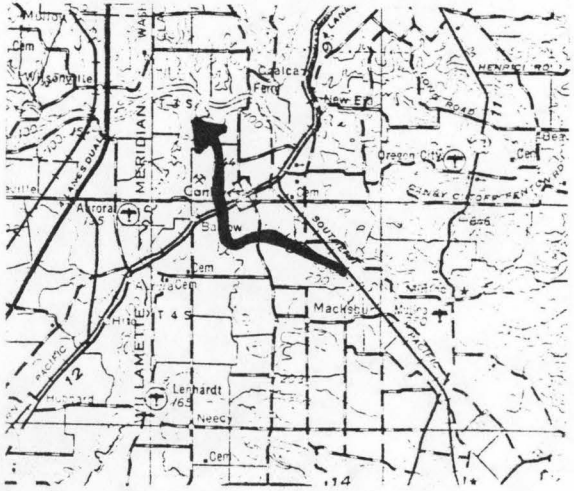
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1318 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-010-R0001

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	T4S. R2E. Sec.17	
D. Latitude, Longitude	45°14'N.122°35'W	
E. Stream Name	Milk Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 9.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

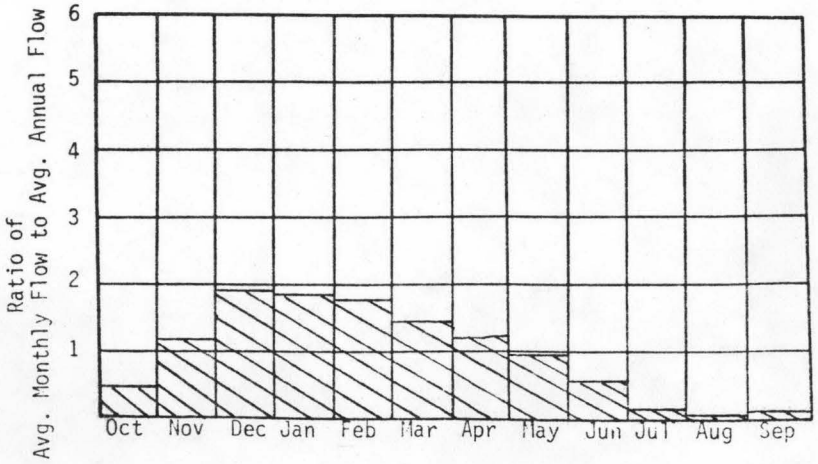
A. Upstream Elevation of Reach	221	Ft. MSL
B. Downstream Elevation of Reach	125	Ft. MSL
C. Total Available Head in Reach	96	Ft.
D. Average Slope in Reach	10	Ft./Mi.
E. Drainage Area above Reach Mouth	101	Sq.Mi.
F. Inflow Classification	Natural	

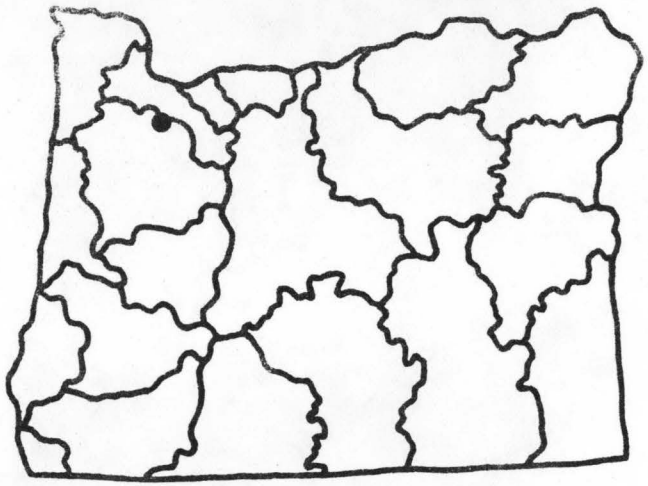
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	16.9	.14	1.20	1.000
80	35.5	.29	2.36	.935
50	153.9	1.25	7.85	.716
30	287.1	2.34	11.65	.569
10	623.4	5.07	16.44	.370

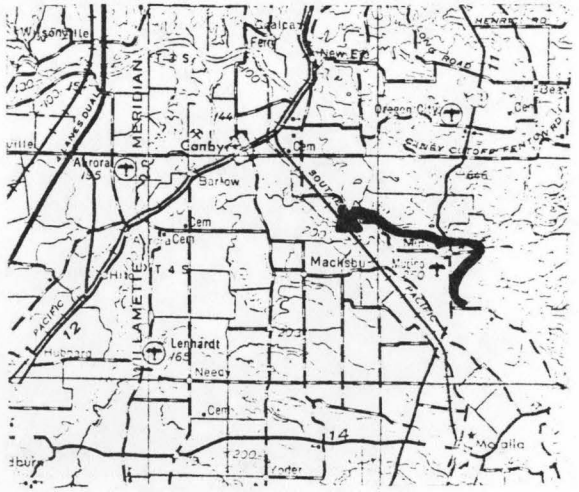
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 264 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-010-R0002

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	T5S, R3E, Sec.6	
D. Latitude, Longitude	45°10'N,122°29'W	
E. Stream Name	Milk Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	9.6 to 18.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

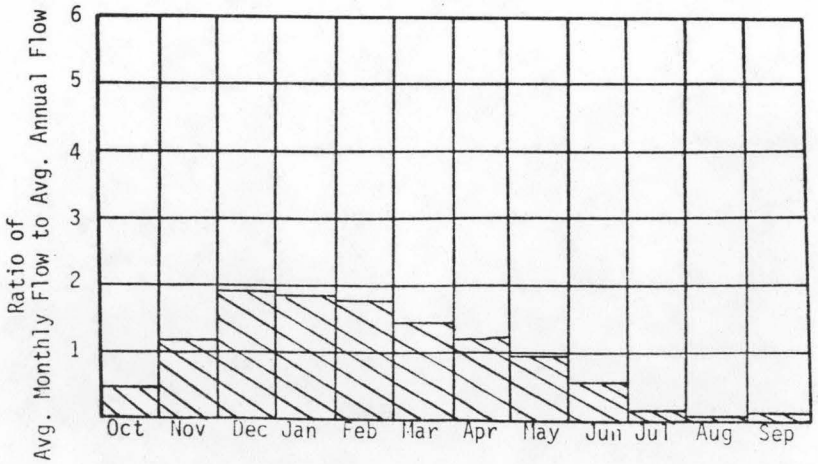
A. Upstream Elevation of Reach	546	Ft. MSL
B. Downstream Elevation of Reach	221	Ft. MSL
C. Total Available Head in Reach	325	Ft.
D. Average Slope in Reach	38.7	Ft./Mi.
E. Drainage Area above Reach Mouth	68	Sq.Mi.
F. Inflow Classification	Natural	

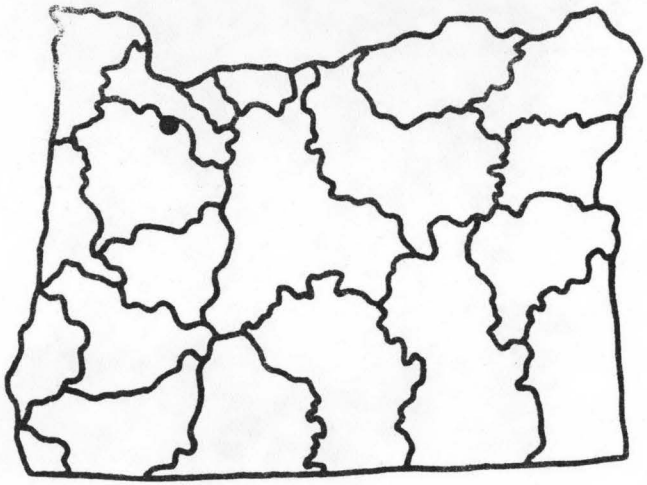
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.2	.28	2.45	1.000
80	21.6	.59	4.86	.934
50	96.3	2.65	16.58	.714
30	181.9	5.01	24.84	.566
10	400.4	11.03	35.39	.366

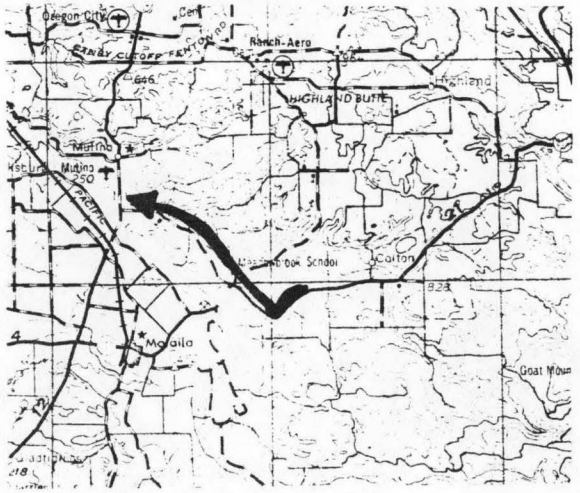
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 168 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

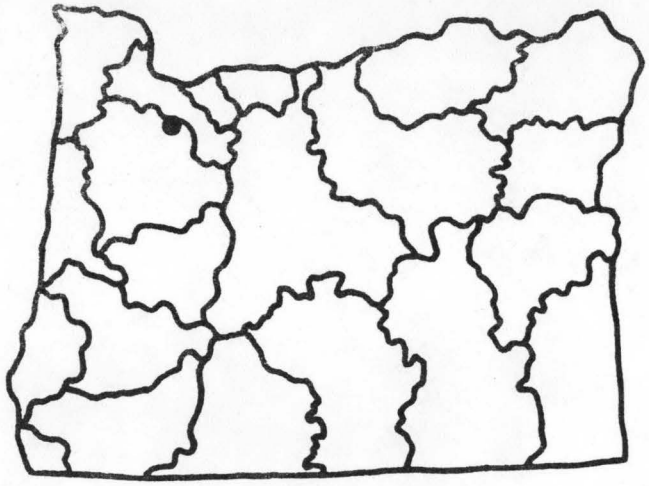


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-010-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T4S, R3E, Sec.34
D.	Latitude, Longitude	45°10'N,122°25'W
E.	Stream Name	Milk Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	18.0 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	32	Sq.Mi.
F.	Inflow Classification	Natural	

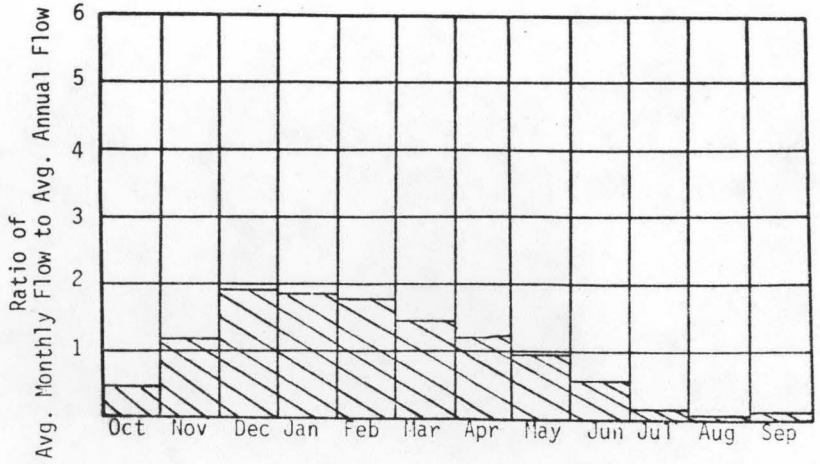
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

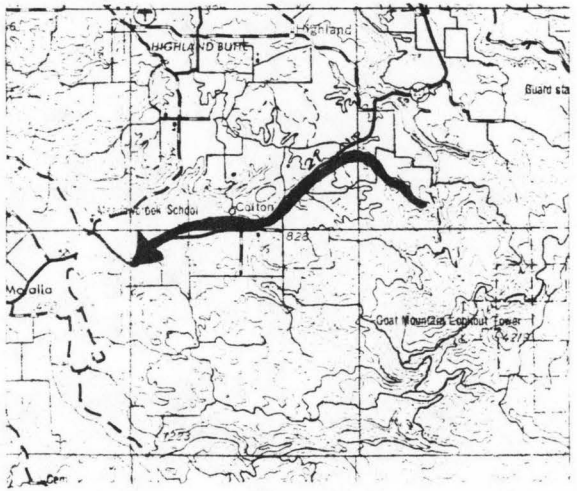
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.6	.04	.33	1.000
80	14.2	.08	.65	.933
50	65.0	.36	2.27	.712
20	124.0	.69	3.43	.564
10	276.1	1.54	4.92	.363

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 115 CFS



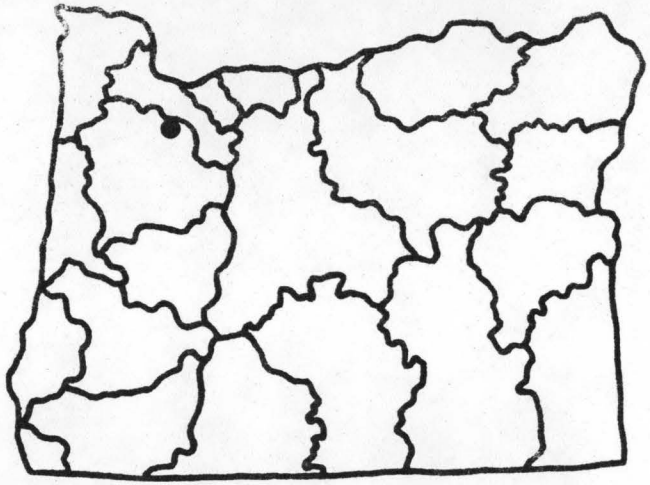


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T4S, R2E, Sec.17
D.	Latitude, Longitude	45°13'N,122°36'W
E.	Stream Name	Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	8.0 to 17.0



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	290	Ft. MSL
B.	Downstream Elevation of Reach	125	Ft. MSL
C.	Total Available Head in Reach	165	Ft.
D.	Average Slope in Reach	183	Ft./Mi.
E.	Drainage Area above Reach Mouth	227	Sq.Mi.
F.	Inflow Classification	Natural	

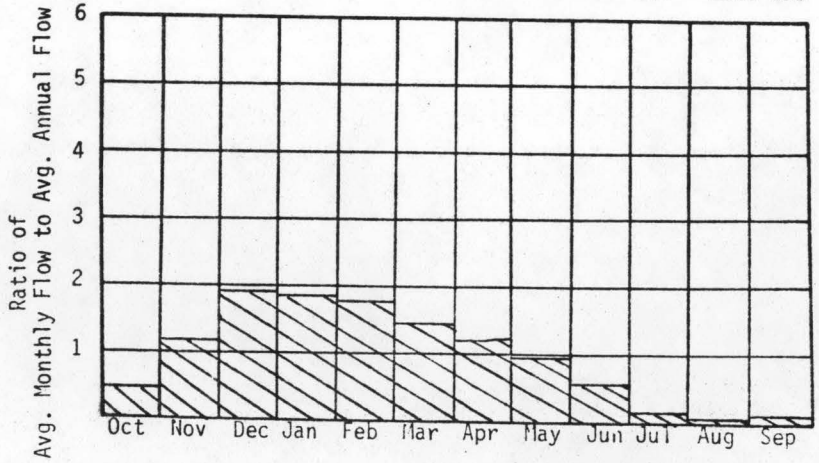
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

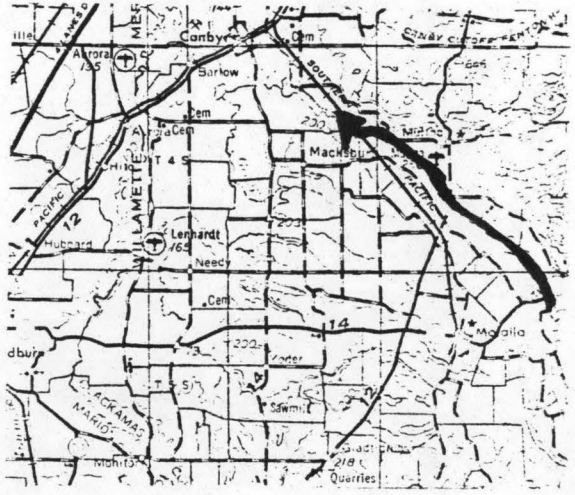
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	75.6	1.06	9.26	1.000
80	154.2	2.16	17.68	.936
50	612.3	8.56	54.16	.722
30	1103.2	15.43	78.21	.579
10	2301.4	32.18	107.56	.382

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1002 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T5S, R2E, Sec.22
D.	Latitude, Longitude	45°07'N,122°33'W
E.	Stream Name	Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	17.0 to 26.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

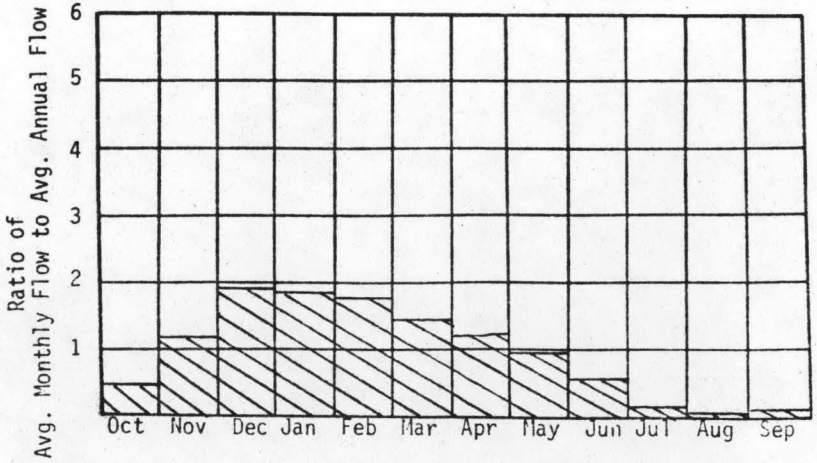
A.	Upstream Elevation of Reach	535	Ft. MSL
B.	Downstream Elevation of Reach	290	Ft. MSL
C.	Total Available Head in Reach	245	Ft.
D.	Average Slope in Reach	25	Ft./Mi.
E.	Drainage Area above Reach Mouth	213	Sq.Mi.
F.	Inflow Classification	Natural	

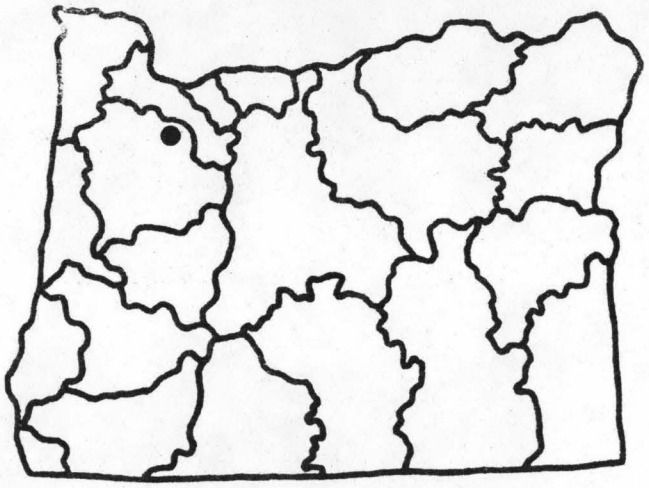
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	71.8	1.49	13.06	1.000
80	146.6	3.04	24.97	.936
50	584.1	12.13	76.69	.722
30	1053.6	21.88	110.85	.578
10	2201.0	45.70	152.59	.381

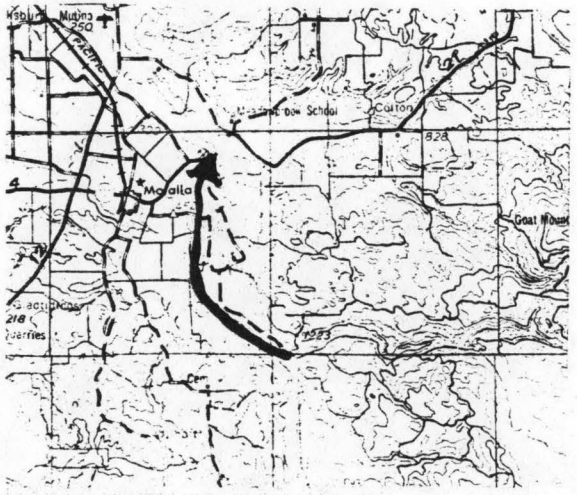
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 958 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-015-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T5S, R3E, Sec.34
D.	Latitude, Longitude	45°05'N,122°25'W
E.	Stream Name	North Fork Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 9.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

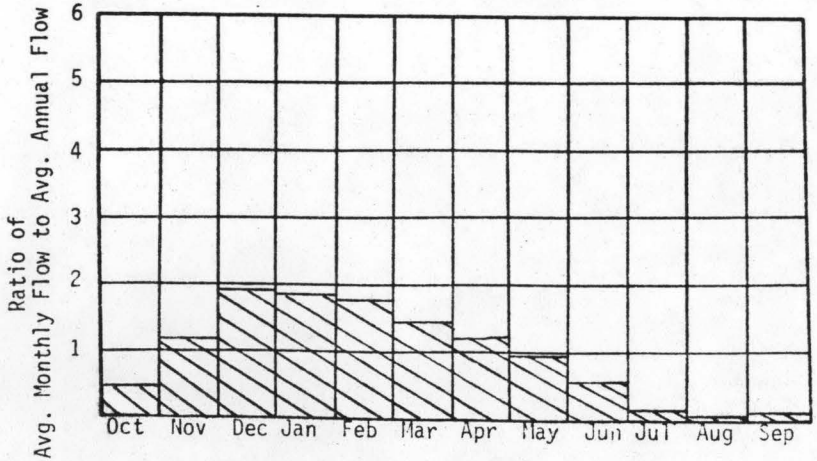
A.	Upstream Elevation of Reach	1680	Ft. MSL
B.	Downstream Elevation of Reach	535	Ft. MSL
C.	Total Available Head in Reach	1145	Ft.
D.	Average Slope in Reach	127	Ft./Mi.
E.	Drainage Area above Reach Mouth	59	Sq.Mi.
F.	Inflow Classification	Natural	

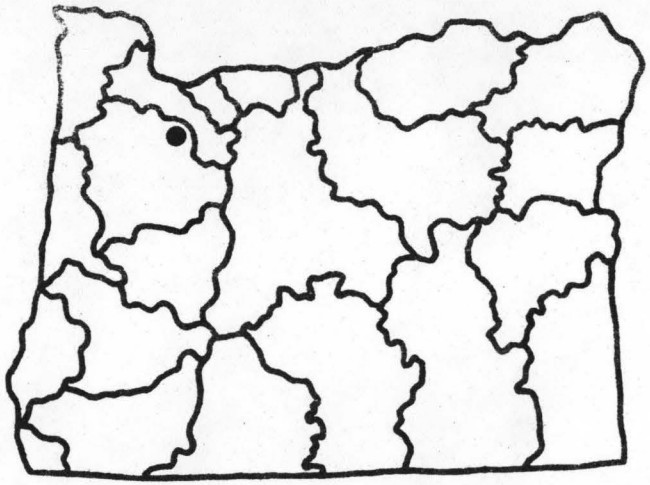
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.3	1.00	8.76	1.000
80	21.8	2.12	17.34	.934
50	97.5	9.46	59.14	.714
30	184.0	17.86	88.57	.566
10	404.9	39.29	126.12	.366

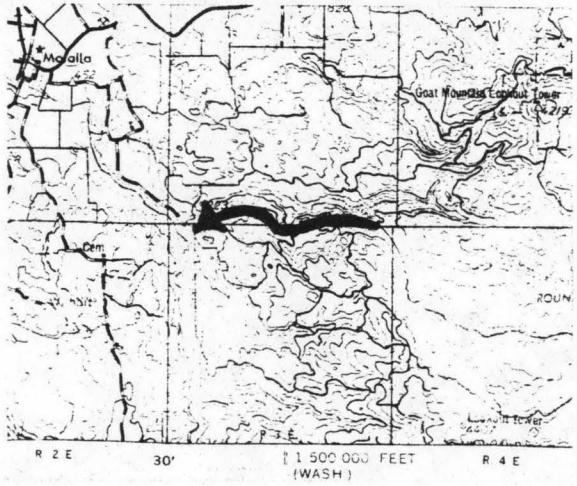
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 170 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-015-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T6S. R4E. Sec.6
D.	Latitude, Longitude	45°04'N.122°22'W
E.	Stream Name	North Fork Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	9.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

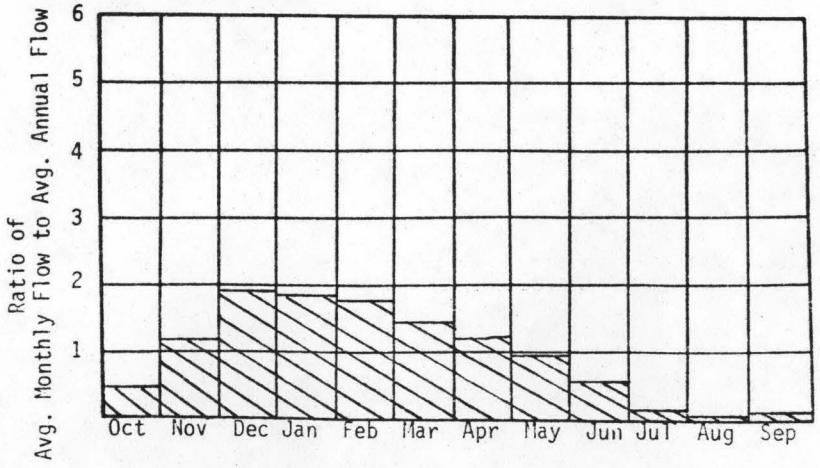
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14	Sq.Mi.
F.	Inflow Classification	Natural	

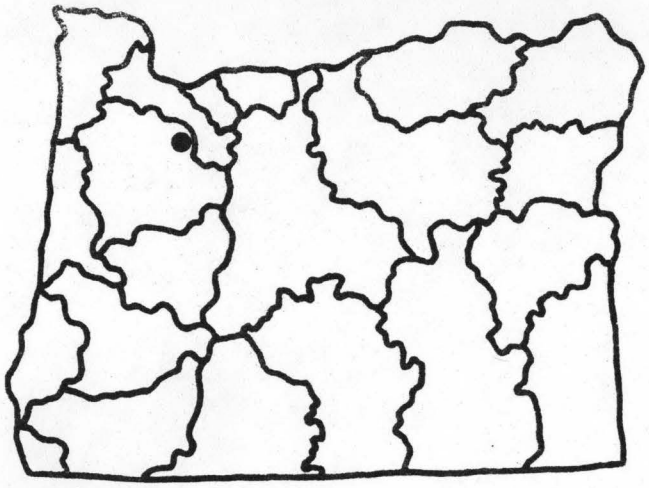
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	8.9	.05	.41	.933
50	41.9	.23	1.46	.710
30	80.8	.45	2.22	.561
10	182.1	1.02	3.21	.360

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 75 CFS





U.S.G.S. TOPO. SERIES
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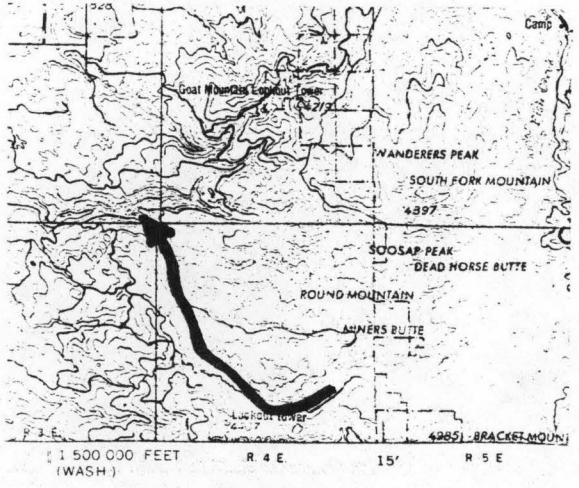
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0005

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	T6S. R3E. Sec.18	
D. Latitude, Longitude	45°03'N.122°30'W	
E. Stream Name	Molalla River	
F. Major Basin Name	Mid Willamette	
G. River Mile	26.5 to 32.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

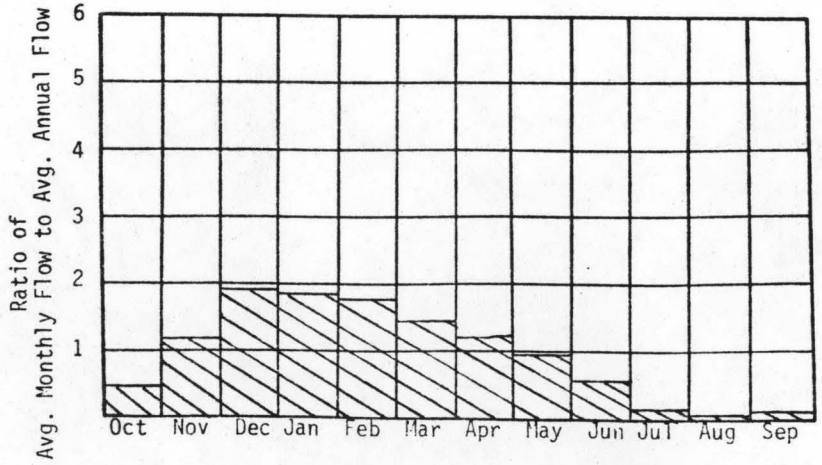
A. Upstream Elevation of Reach	785	Ft. MSL
B. Downstream Elevation of Reach	535	Ft. MSL
C. Total Available Head in Reach	250	Ft.
D. Average Slope in Reach	52	Ft./Mi.
E. Drainage Area above Reach Mouth	134	Sq.Mi.
F. Inflow Classification	Natural	

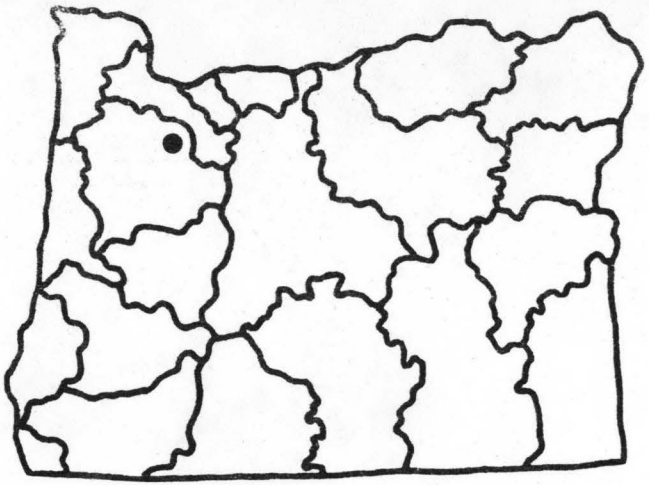
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	44.5	.94	8.26	1.000
80	91.7	1.94	15.93	.936
50	375.9	7.96	50.21	.720
30	685.6	14.53	73.20	.575
10	1450.6	30.73	101.60	.377

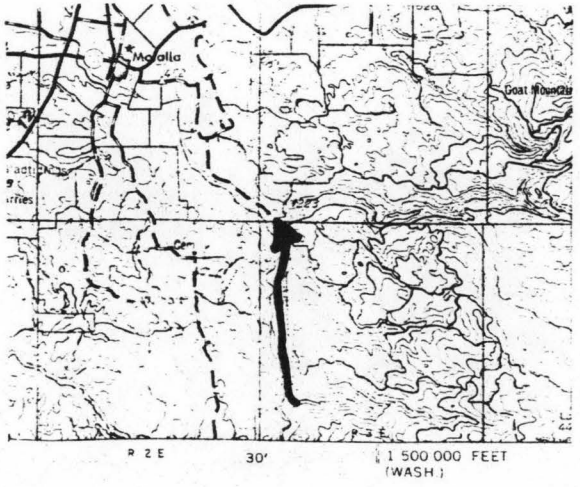
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 626 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T7S, R3E, Sec.8
D.	Latitude, Longitude	44°58'N,122°28'W
E.	Stream Name	Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	32.2 to 39.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

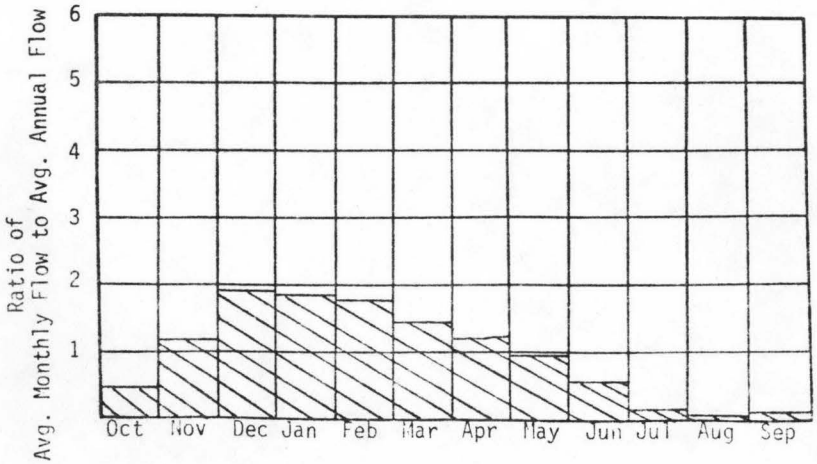
A.	Upstream Elevation of Reach	1180	Ft. MSL
B.	Downstream Elevation of Reach	785	Ft. MSL
C.	Total Available Head in Reach	395	Ft.
D.	Average Slope in Reach	53	Ft./Mi.
E.	Drainage Area above Reach Mouth	98	Sq.Mi.
F.	Inflow Classification	Natural	

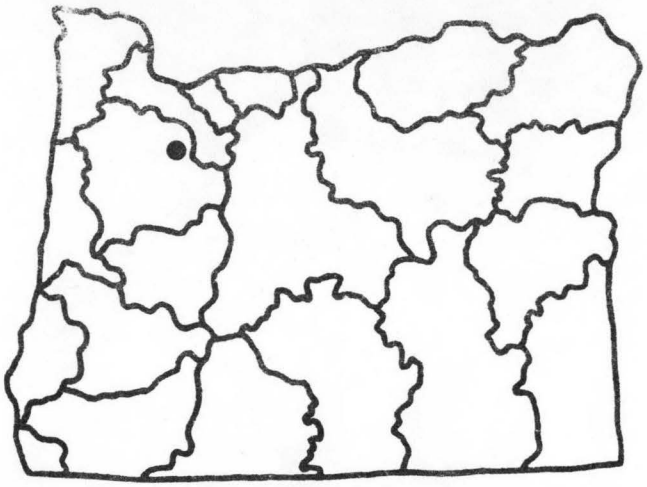
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	34.7	1.16	10.17	1.000
80	71.8	2.40	19.70	.935
50	298.6	9.99	62.92	.719
30	547.8	18.34	92.16	.574
10	1166.9	39.06	128.46	.375

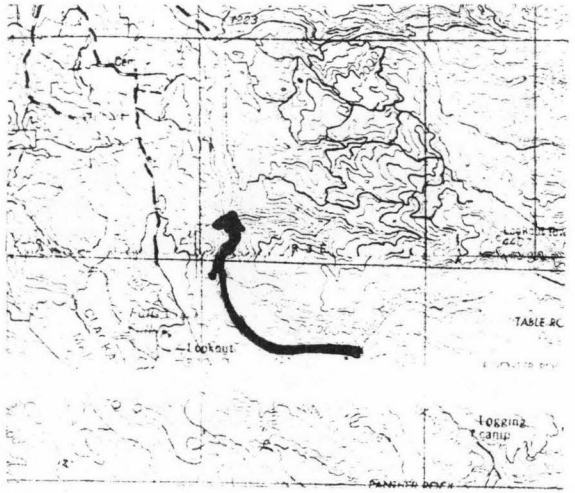
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 502 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-020-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T7S, R4E, Sec.5
D.	Latitude, Longitude	44°59'N,122°20'W
E.	Stream Name	Table Rock Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 8.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

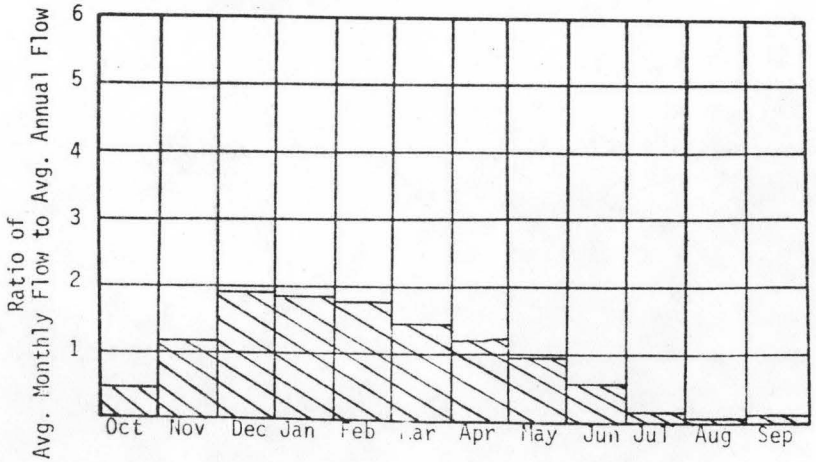
A.	Upstream Elevation of Reach	2280	Ft. MSL
B.	Downstream Elevation of Reach	1180	Ft. MSL
C.	Total Available Head in Reach	1100	Ft.
D.	Average Slope in Reach	135	Ft./Mi.
E.	Drainage Area above Reach Mouth	39	Sq.Mi.
F.	Inflow Classification	Natural	

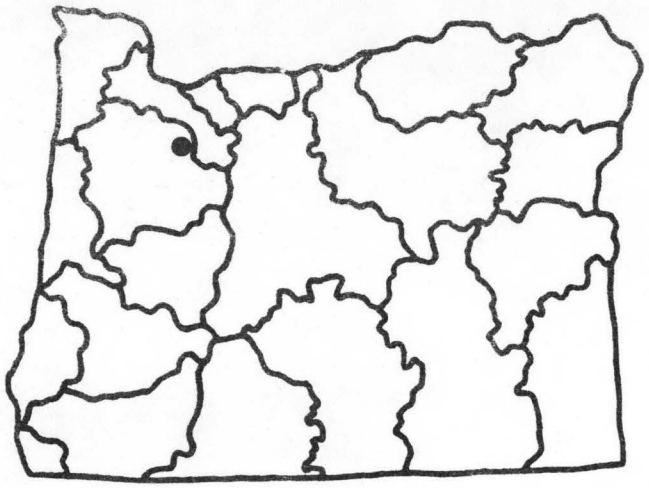
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.6	.89	7.81	1.000
80	20.3	1.89	15.49	.934
50	91.0	8.48	53.01	.713
30	172.1	16.04	79.50	.566
10	379.4	35.37	113.36	.366

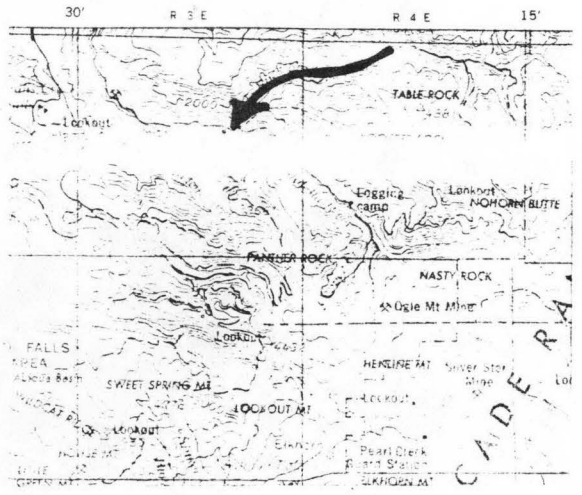
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 159 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

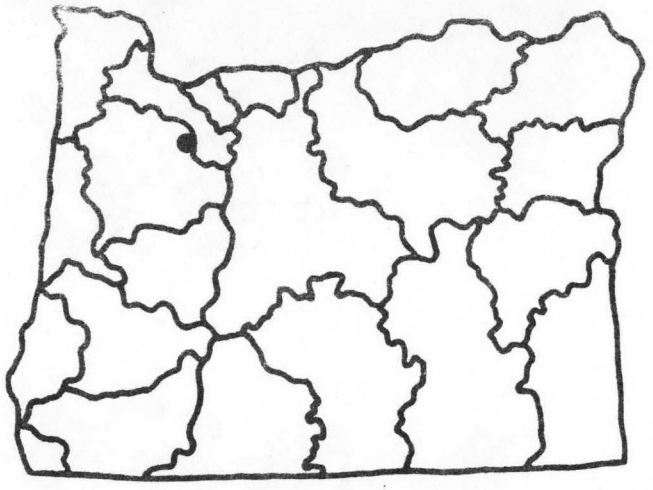


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-020-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T7S, R4E, Sec.2
D.	Latitude, Longitude	44°59'N,122°16'W
E.	Stream Name	Table Rock Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	8.1 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16	Sq.Mi.
F.	Inflow Classification	Natural	

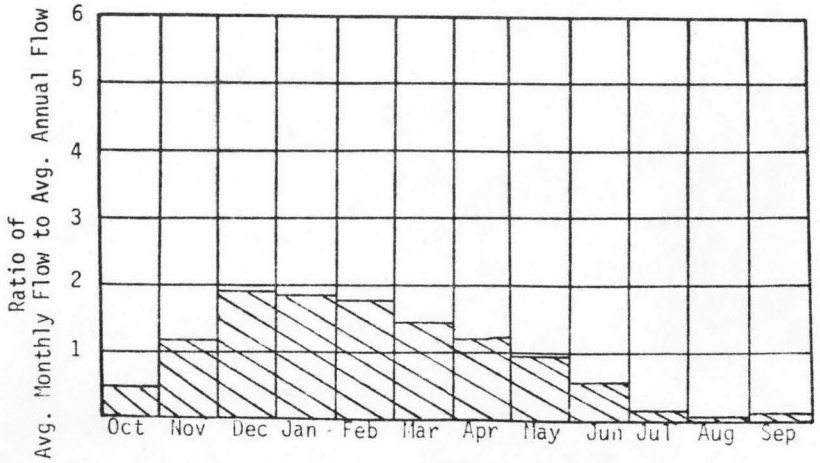
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

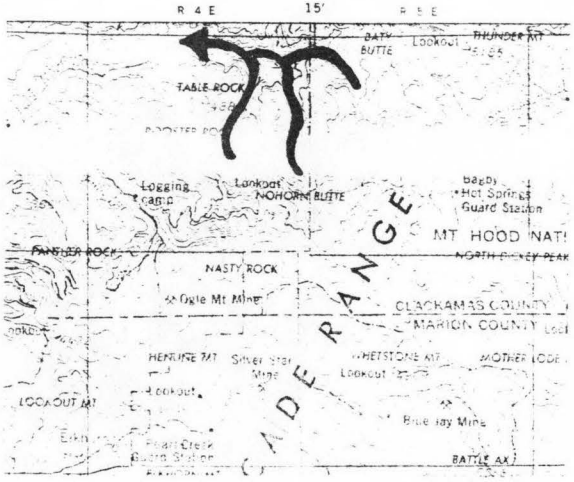
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.5	.03	.27	1.000
80	11.8	.07	.54	.933
50	54.5	.30	1.90	.711
30	104.4	.58	2.88	.562
10	233.7	1.31	4.14	.362

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 97 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0007

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	T7S, R4E, Sec.30	
D. Latitude, Longitude	44°56'N,122°22'W	
E. Stream Name	Molalla River	
F. Major Basin Name	Mid Willamette	
G. River Mile	39.6 to 46.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

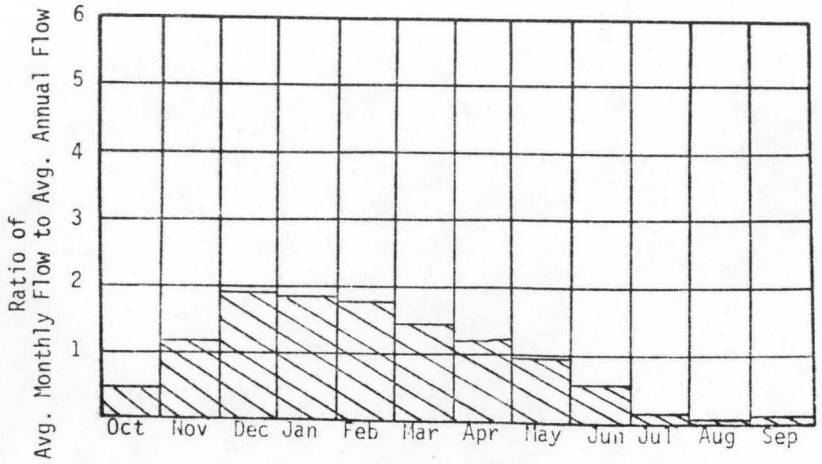
A. Upstream Elevation of Reach	1600	Ft. MSL
B. Downstream Elevation of Reach	1180	Ft. MSL
C. Total Available Head in Reach	420	Ft.
D. Average Slope in Reach	62	Ft./Mi.
E. Drainage Area above Reach Mouth	35	Sq.Mi.
F. Inflow Classification	Natural	

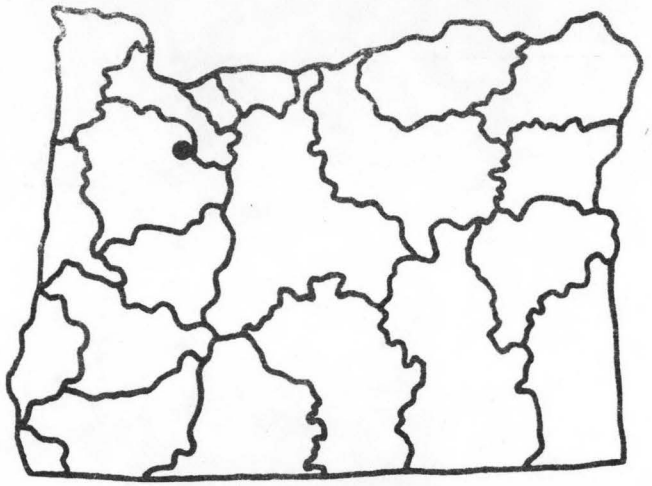
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.0	.32	2.81	1.000
80	19.2	.68	5.59	.934
50	86.3	3.07	19.19	.713
30	163.5	5.82	28.81	.565
10	360.9	12.85	41.12	.365

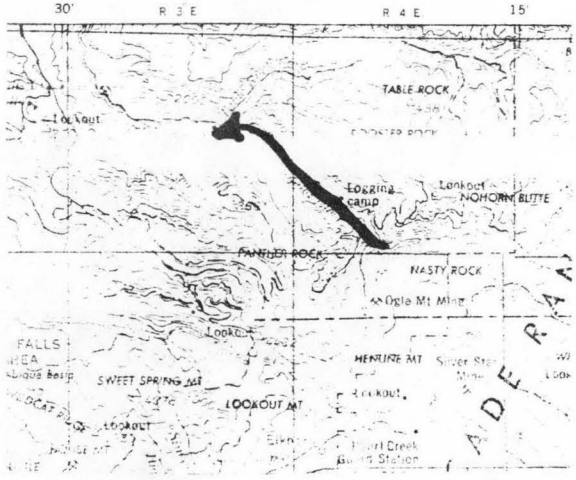
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 152 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-036-000-R0008

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T7S. R4E. Sec.33
D.	Latitude, Longitude	44°55'N,122°18'W
E.	Stream Name	Molalla River
F.	Major Basin Name	Mid Willamette
G.	River Mile	46.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

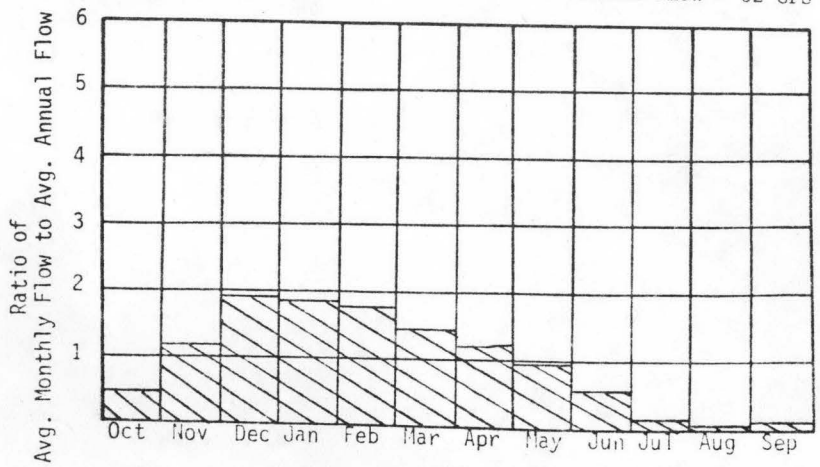
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	8	Sq.Mi.
F.	Inflow Classification	Natural	

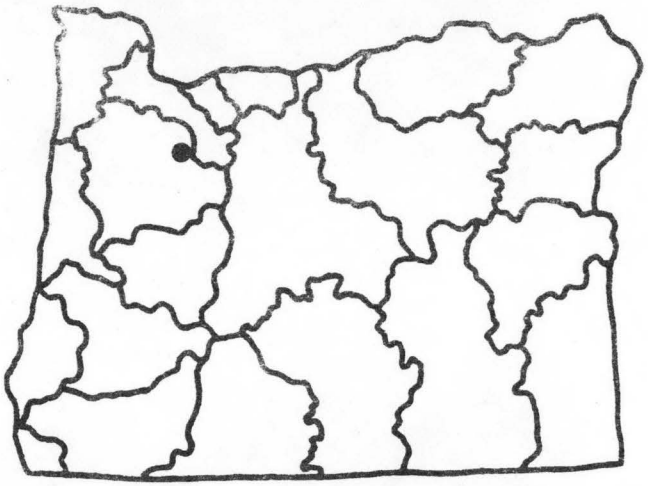
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.02	.16	1.000
80	7.1	.04	.33	.933
50	34.0	.19	1.18	.709
30	65.9	.37	1.81	.559
10	149.4	.84	2.62	.358

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 62 CFS





U.S.G.S. TOPO. SERIES
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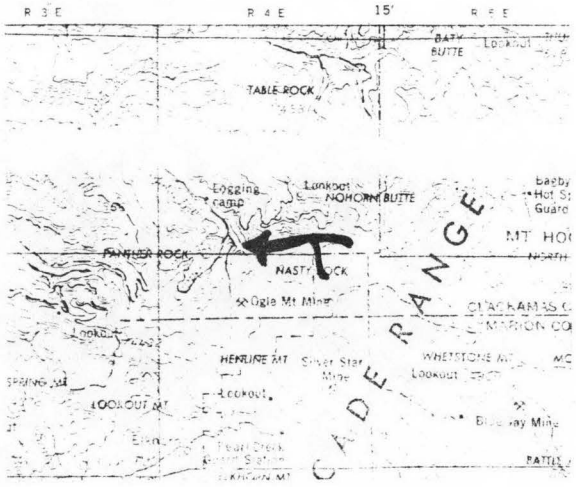
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T3S, R1W, Sec.28
D.	Latitude, Longitude	45°17'N,122°49'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	35.7 to 45.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

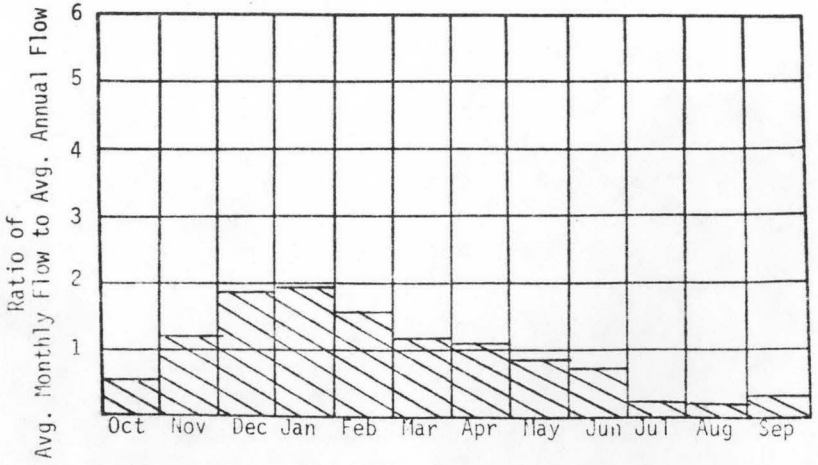
A.	Upstream Elevation of Reach	52	Ft. MSL
B.	Downstream Elevation of Reach	51	Ft. MSL
C.	Total Available Head in Reach	1	Ft.
D.	Average Slope in Reach	0.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	6247	Sq.Mi.
F.	Inflow Classification	Regulated	

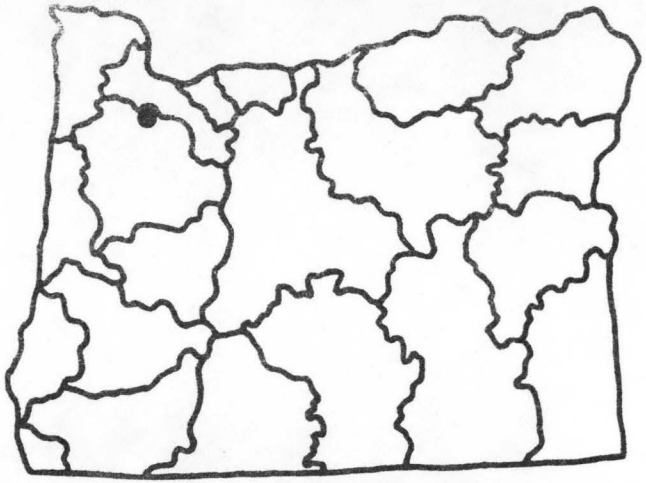
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5055.7	.43	3.75	1.000
80	7567.9	.64	5.39	.959
50	17411.8	1.48	10.14	.784
30	27644.2	2.34	13.17	.642
10	60271.6	5.11	18.02	.403

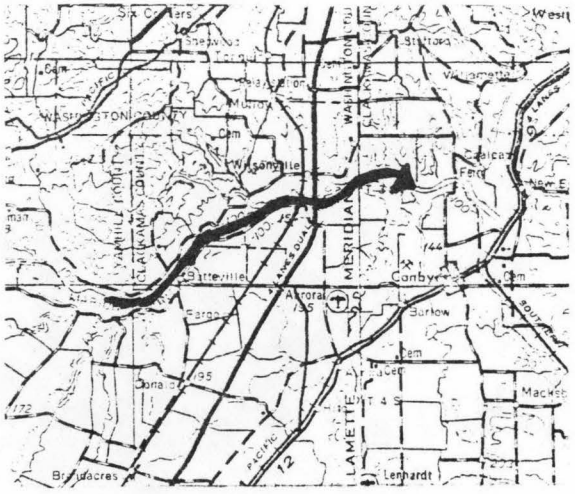
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 26084 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-046-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T4S, R2W, Sec.1
D.	Latitude, Longitude	45°15'N,122°53'W
E.	Stream Name	Champoeg River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

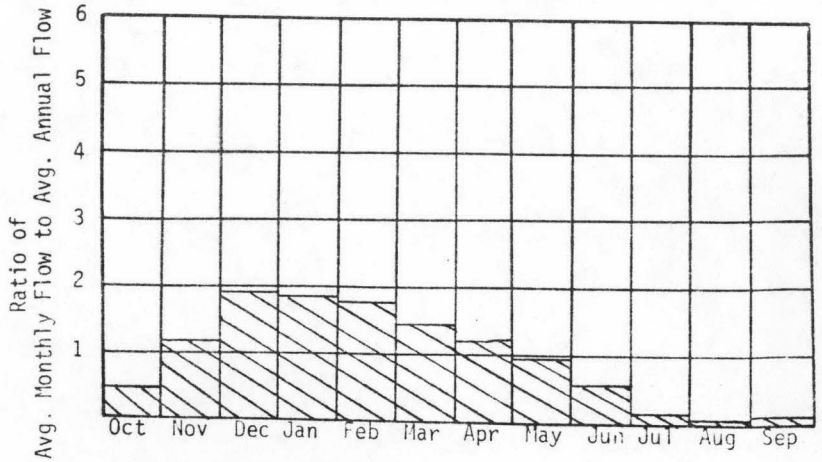
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	45	Sq.Mi.
F.	Inflow Classification	Natural	

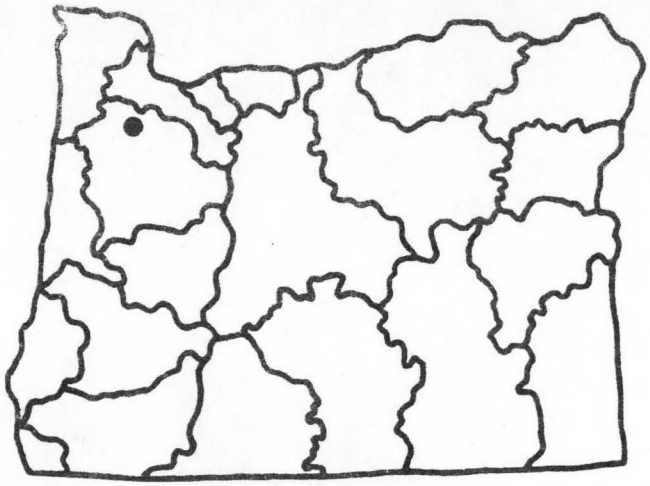
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.8	.04	.33	1.000
80	14.4	.08	.66	.933
50	66.1	.37	2.31	.712
30	126.0	.70	3.48	.564
10	280.3	1.57	4.99	.363

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 117 CFS





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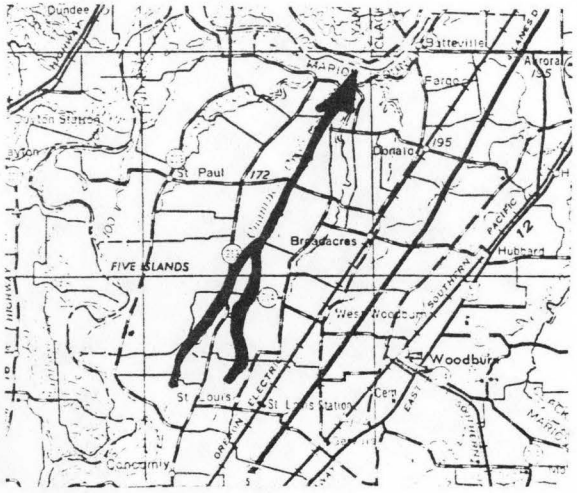


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T3S, R2W, Sec.33
D.	Latitude, Longitude	45°16'N,122°55'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	45.1 to 50.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

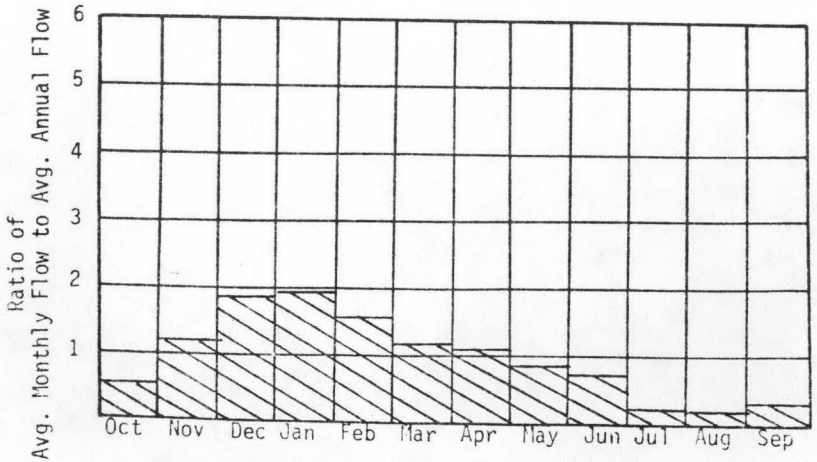
A.	Upstream Elevation of Reach	53	Ft. MSL
B.	Downstream Elevation of Reach	52	Ft. MSL
C.	Total Available Head in Reach	1	Ft.
D.	Average Slope in Reach	0.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	6146	Sq.Mi.
F.	Inflow Classification	Regulated	

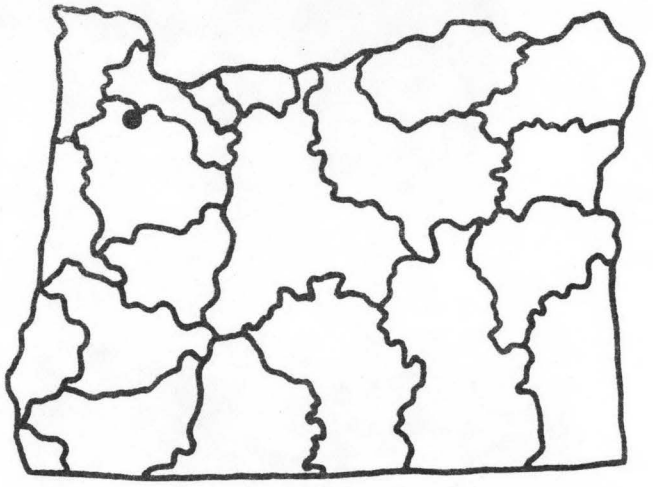
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5009.6	.42	3.72	1.000
80	7502.2	.64	5.34	.958
50	17270.0	1.46	10.05	.784
30	27430.3	2.32	13.07	.642
10	59764.0	5.06	17.87	.403

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 25869 CFS





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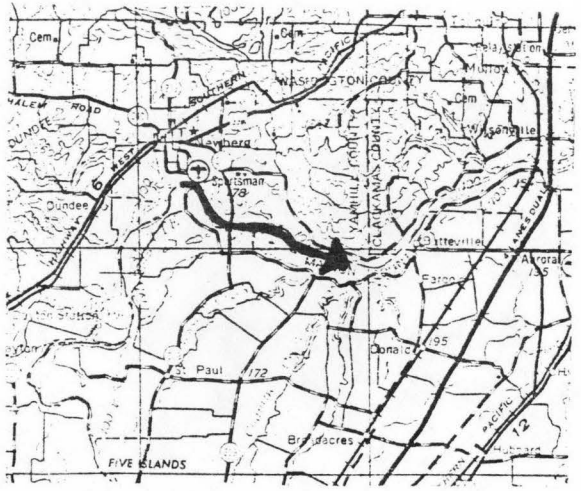


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0008

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T4S, R3W, Sec,1
D.	Latitude, Longitude	45°15'N,123°00'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	50.8 to 54.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

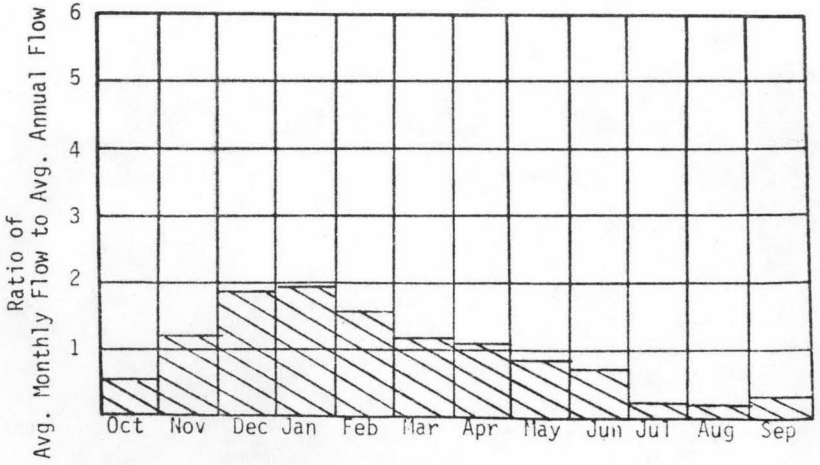
A.	Upstream Elevation of Reach	54	Ft. MSL
B.	Downstream Elevation of Reach	53	Ft. MSL
C.	Total Available Head in Reach	1	Ft.
D.	Average Slope in Reach	0.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	6081	Sq.Mi.
F.	Inflow Classification	Regulated	

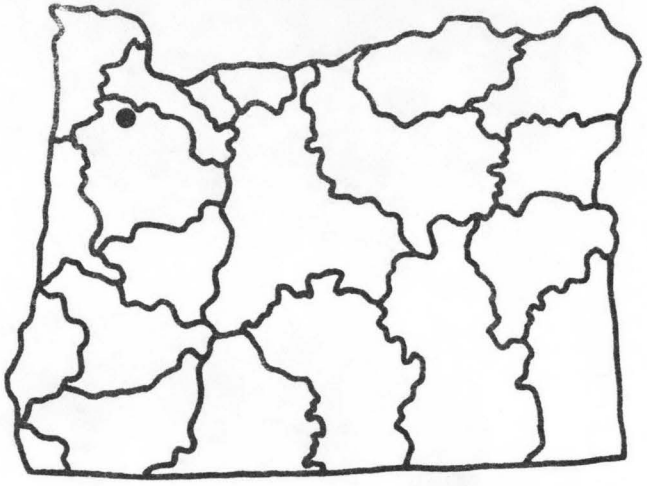
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWh	PLANT FACTOR
95	4990.6	.42	3.70	1.000
80	7475.0	.63	5.32	.958
50	17211.4	1.46	10.02	.784
30	27341.8	2.32	13.03	.642
10	59554.0	5.05	17.81	.403

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 25780 CFS





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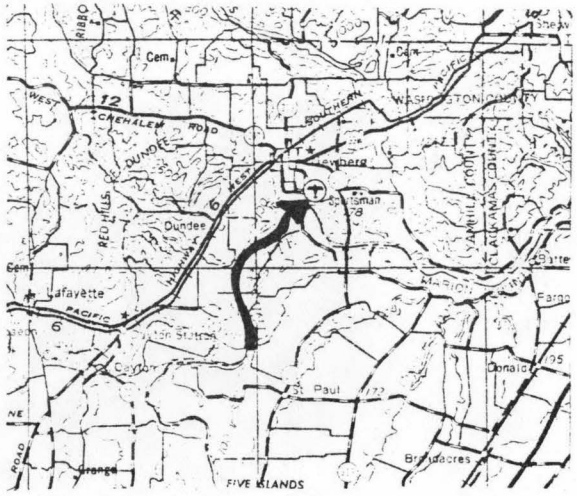
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Yamhill	
C. Township, Range	T4S, R3W, Sec.10	
D. Latitude, Longitude	45°14'N,123°03'W	
E. Stream Name	Yamhill River	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 5.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

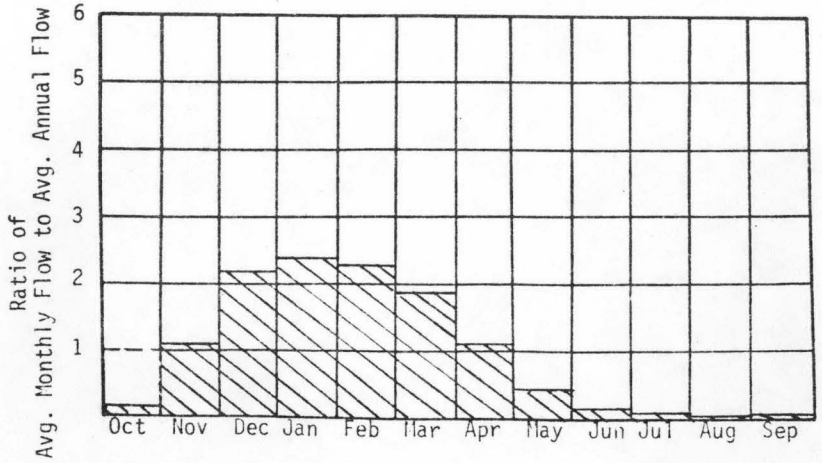
A. Upstream Elevation of Reach	60	Ft. MSL
B. Downstream Elevation of Reach	54	Ft. MSL
C. Total Available Head in Reach	6	Ft.
D. Average Slope in Reach	1.1	Ft./Mi.
E. Drainage Area above Reach Mouth	737	Sq.Mi.
F. Inflow Classification	Natural	

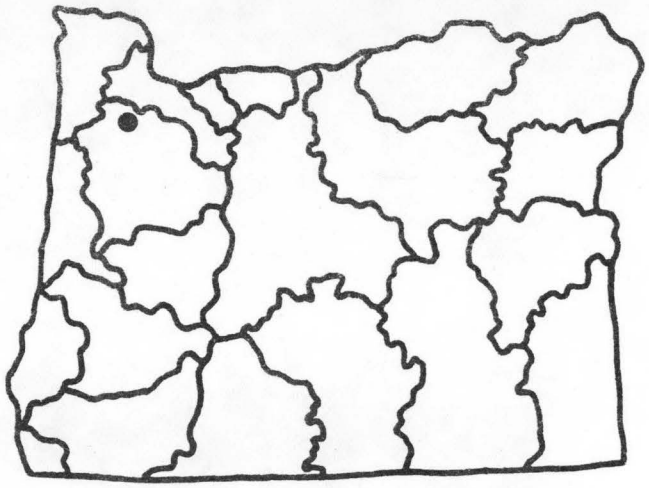
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	69.9	.04	.31	1.000
80	149.8	.08	.62	.933
50	882.1	.45	2.74	.698
30	2128.1	1.08	4.96	.524
10	6305.4	3.21	8.68	.309

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2478 CFS





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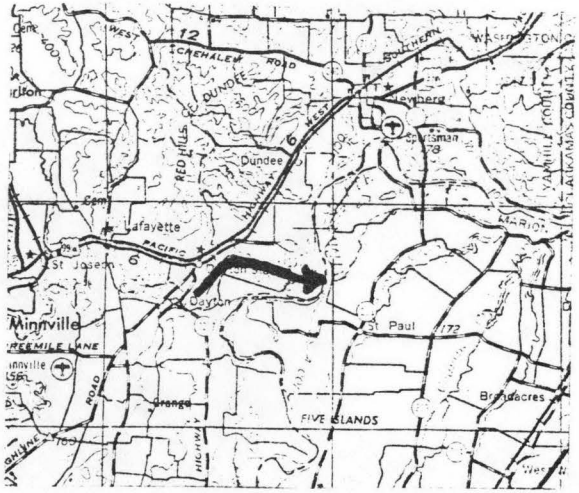


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Yamhill	
C. Township, Range	T4S, R3W, Sec.7	
D. Latitude, Longitude	45°14'N,123°07'W	
E. Stream Name	Yamhill River	
F. Major Basin Name	Mid Willamette	
G. River Mile	5.3 to 11.2	

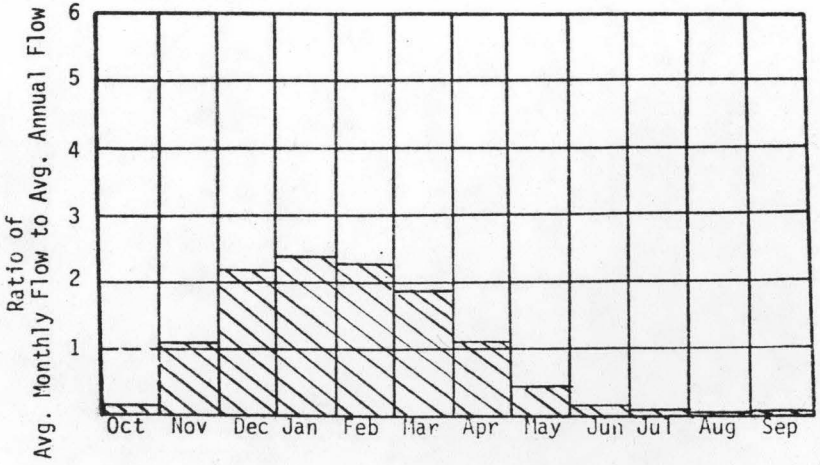
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

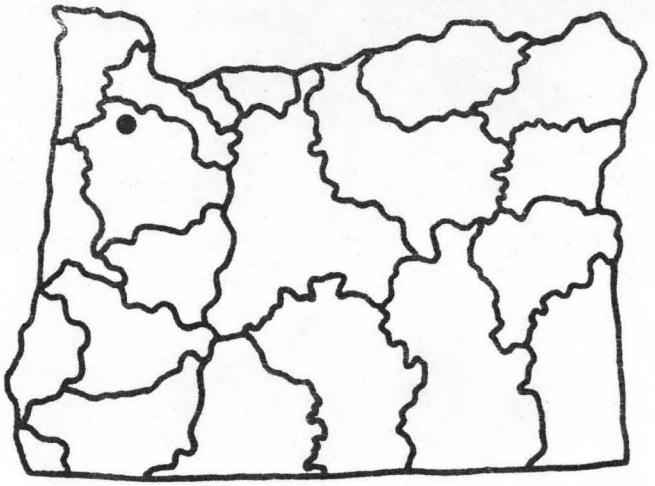
A. Upstream Elevation of Reach	65	Ft. MSL
B. Downstream Elevation of Reach	60	Ft. MSL
C. Total Available Head in Reach	5	Ft.
D. Average Slope in Reach	0.8	Ft./Mi.
E. Drainage Area above Reach Mouth	696	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	66.3	.03	.25	1.000
80	142.2	.06	.49	.933
50	839.1	.36	2.17	.698
30	2028.6	.86	3.94	.523
10	5999.4	2.54	6.89	.309

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 2351 CFS





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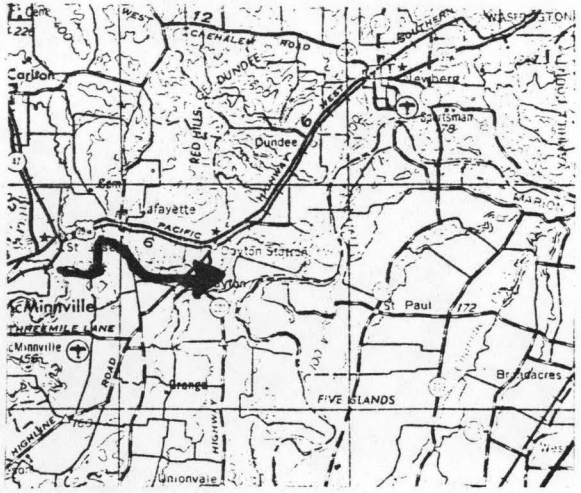


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-005-R0001

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T4S, R4W, Sec.10
D.	Latitude, Longitude	45°14'N,123°10'W
E.	Stream Name	North Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 4.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

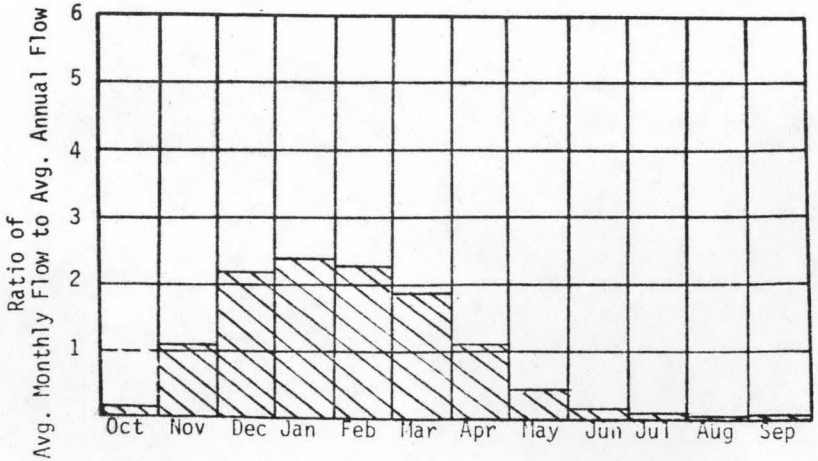
A.	Upstream Elevation of Reach	113	Ft. MSL
B.	Downstream Elevation of Reach	65	Ft. MSL
C.	Total Available Head in Reach	48	Ft.
D.	Average Slope in Reach	12	Ft./Mi.
E.	Drainage Area above Reach Mouth	164	Sq.Mi.
F.	Inflow Classification	Regulated	

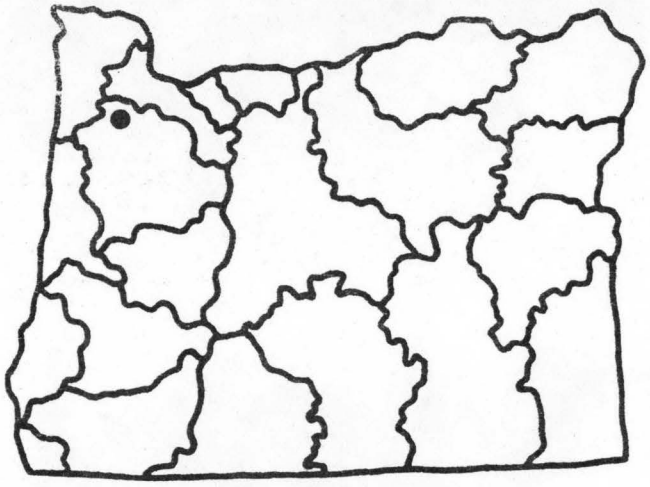
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.3	.05	.47	1.000
80	29.6	.12	.98	.931
50	187.1	.76	4.63	.694
30	480.7	1.96	8.82	.515
10	1344.1	5.47	14.97	.313

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 526 CFS





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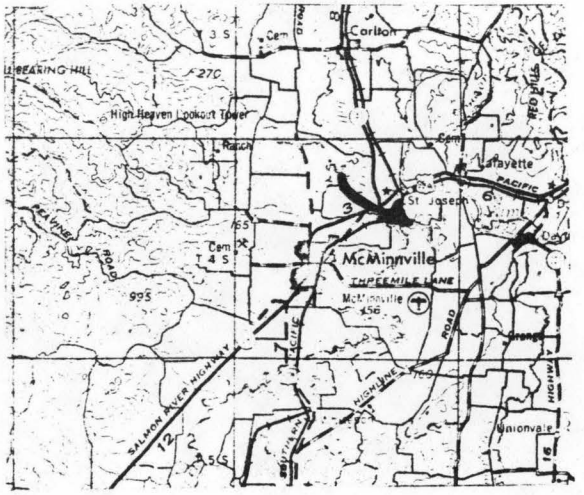


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-005-R0002

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T3S, R5W
D.	Latitude, Longitude	45°16'N,123°23'W
E.	Stream Name	Panther Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

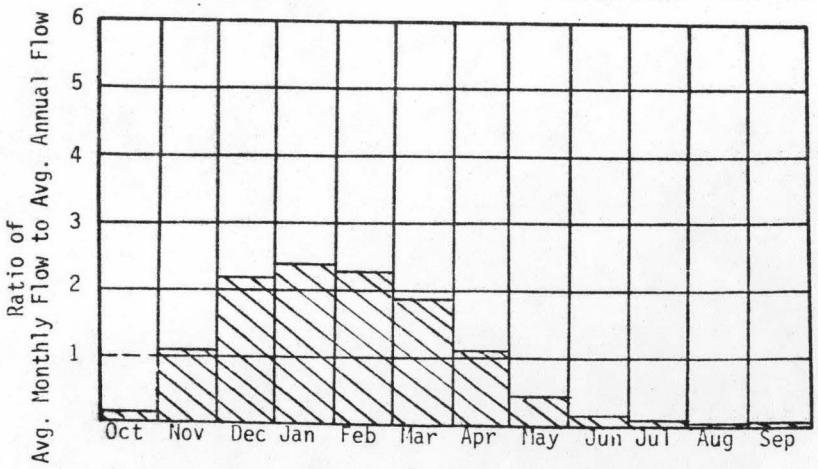
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	37	Sq.Mi.
F.	Inflow Classification	Natural	

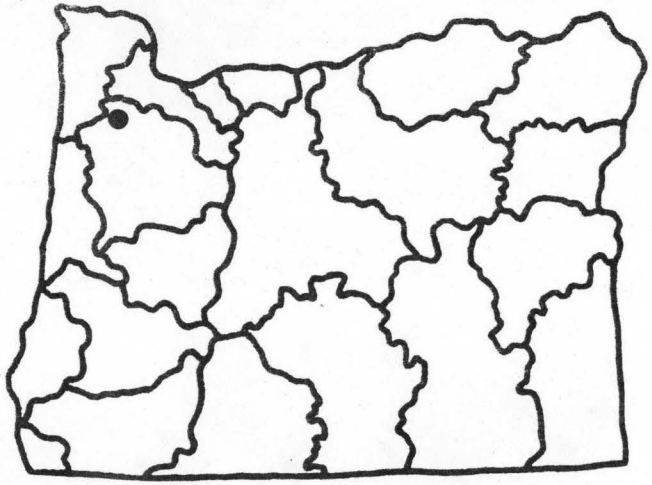
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.4	.01	.12	1.000
80	5.6	.03	.26	.929
50	38.3	.21	1.30	.691
30	104.9	.59	2.60	.506
10	276.5	1.55	4.28	.316

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 108 CFS





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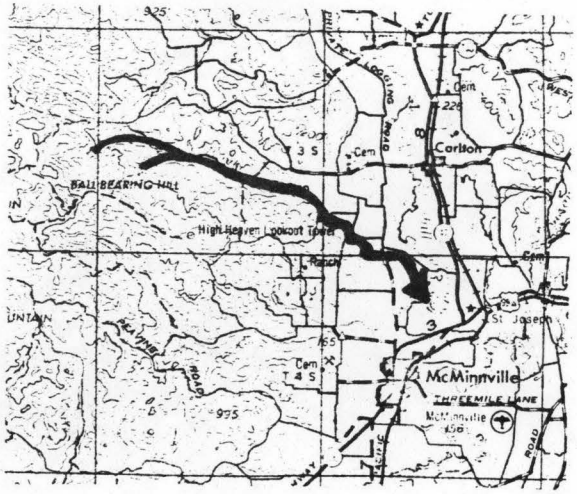


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-005-R0003

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T3S, R4W, Sec.28
D.	Latitude, Longitude	45°17'N,123°10'W
E.	Stream Name	North Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	4.0 to 14.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

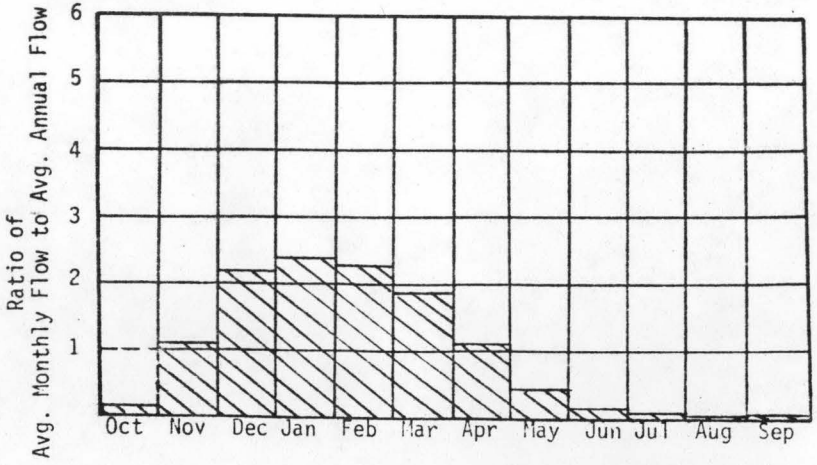
A.	Upstream Elevation of Reach	129	Ft. MSL
B.	Downstream Elevation of Reach	113	Ft. MSL
C.	Total Available Head in Reach	16	Ft.
D.	Average Slope in Reach	1.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	123	Sq.Mi.
F.	Inflow Classification	Regulated	

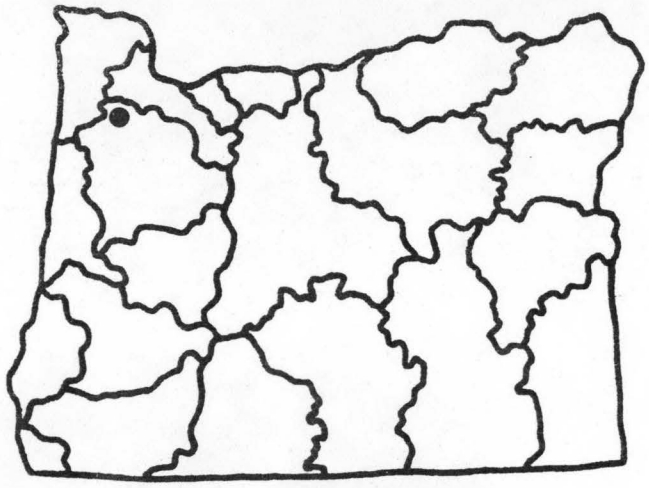
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.5	.01	.11	1.000
80	21.3	.03	.24	.931
50	136.4	.18	1.12	.694
30	354.9	.48	2.16	.513
10	980.6	1.33	3.65	.313

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 383 CFS





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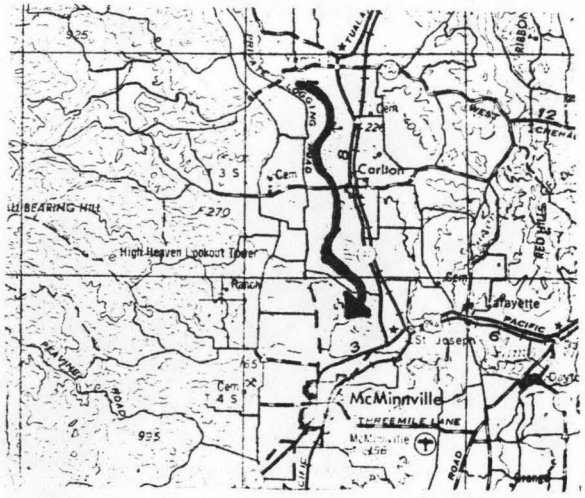


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-005-R0004

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T2S, R5W, Sec.25
D.	Latitude, Longitude	45°22'N,123°15'W
E.	Stream Name	North Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	14.1 to 25.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

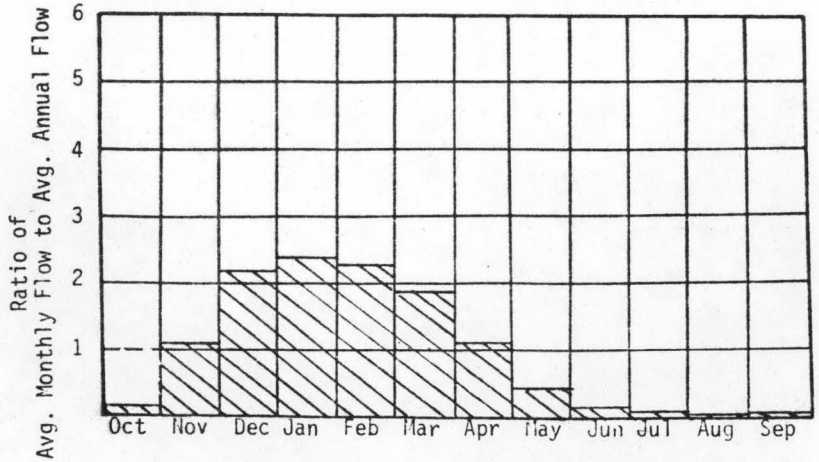
A.	Upstream Elevation of Reach	300	Ft. MSL
B.	Downstream Elevation of Reach	129	Ft. MSL
C.	Total Available Head in Reach	171	Ft.
D.	Average Slope in Reach	15.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	88	Sq.Mi.
F.	Inflow Classification	Regulated	

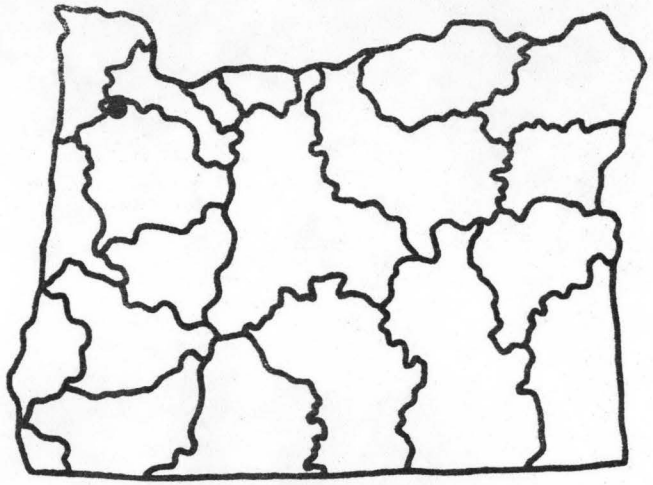
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.8	.08	.74	1.000
80	13.3	.19	1.57	.930
50	86.8	1.26	7.64	.693
30	230.1	3.33	14.91	.510
10	625.1	9.06	24.94	.314

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 244 CFS





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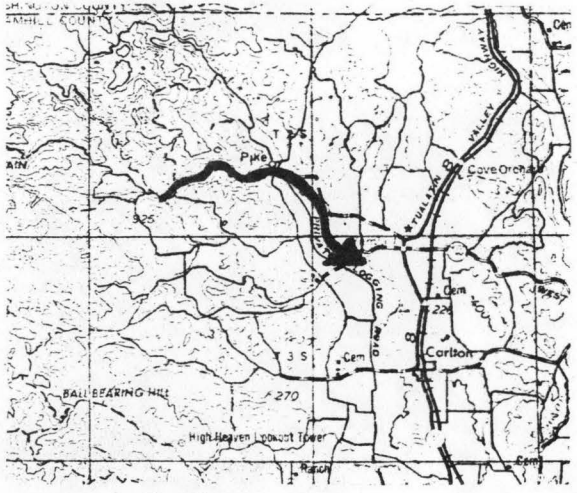


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-005-R0005

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T2S, R5W, Sec.33
D.	Latitude, Longitude	45°21'N.123°19'W
E.	Stream Name	North Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	25.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

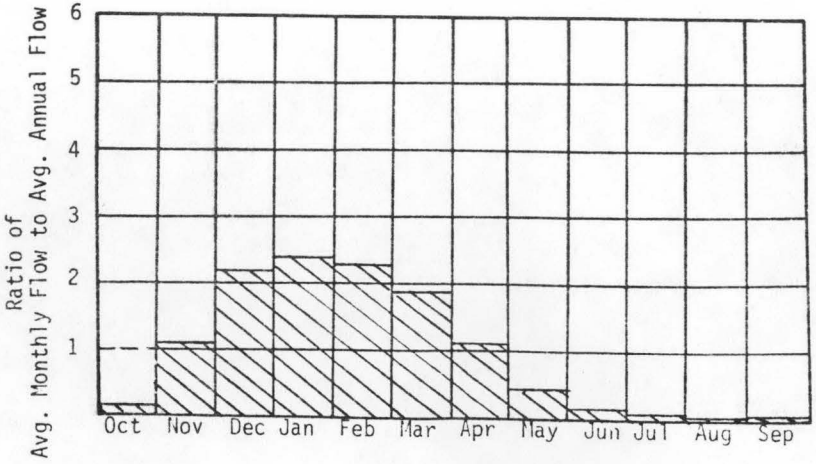
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	26	Sq.Mi.
F.	Inflow Classification	Natural	

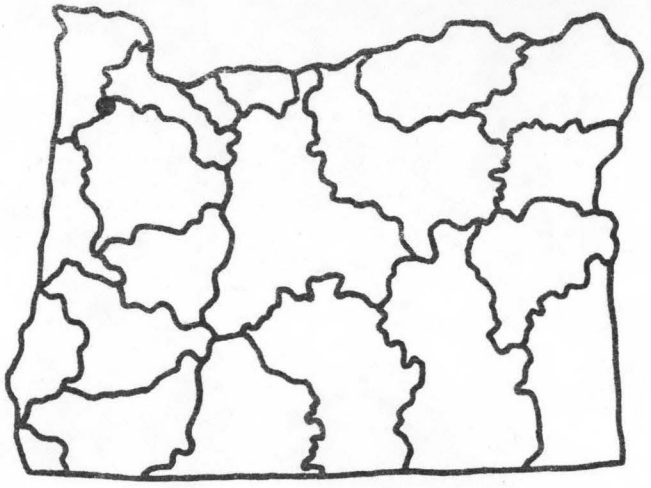
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.5	.01	.12	1.000
80	5.8	.03	.26	.929
50	39.2	.22	1.33	.691
30	107.3	.60	2.66	.506
10	283.1	1.58	4.39	.316

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 110 CFS





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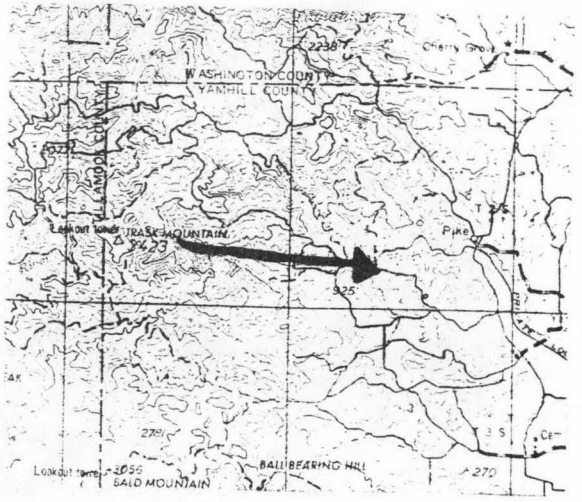
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0001

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T4S, R4W, Sec.22
D.	Latitude, Longitude	45°13'N,123°10'W
E.	Stream Name	South Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 6.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

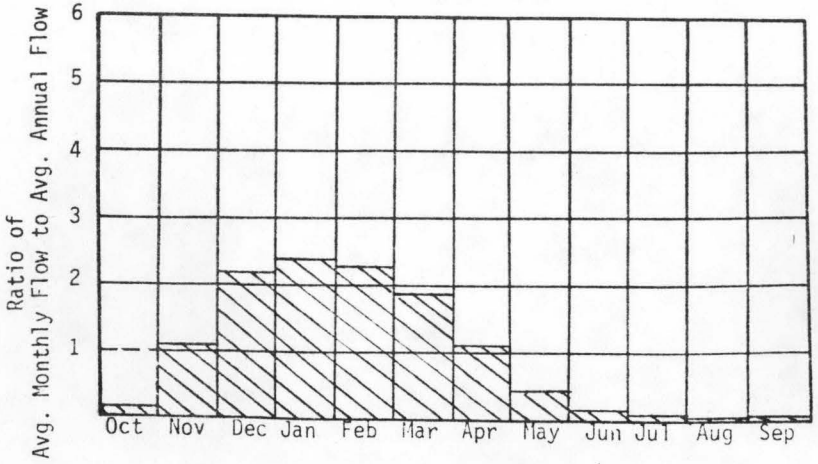
A.	Upstream Elevation of Reach	74	Ft. MSL
B.	Downstream Elevation of Reach	65	Ft. MSL
C.	Total Available Head in Reach	9	Ft.
D.	Average Slope in Reach	1.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	504	Sq.Mi.
F.	Inflow Classification	Natural	

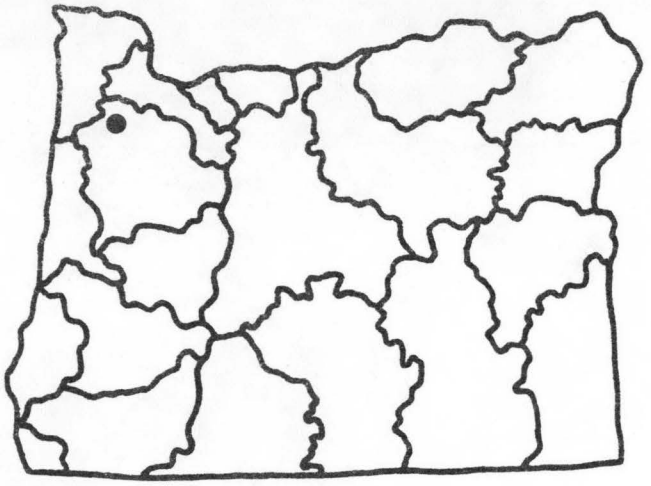
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	46.9	.04	.31	1.000
80	101.4	.08	.63	.933
50	607.3	.46	2.83	.697
30	1487.6	1.13	5.18	.521
10	4346.4	3.32	9.00	.310

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1702 CFS





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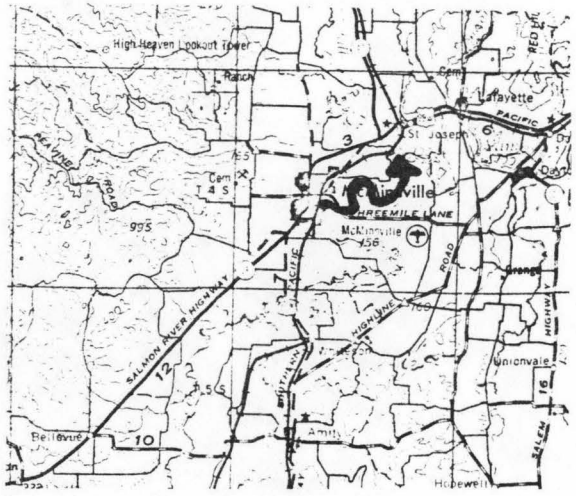


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0002

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T4S, R4W, Sec.34
D.	Latitude, Longitude	45°11'N,123°10'W
E.	Stream Name	South Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	6.0 to 18.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

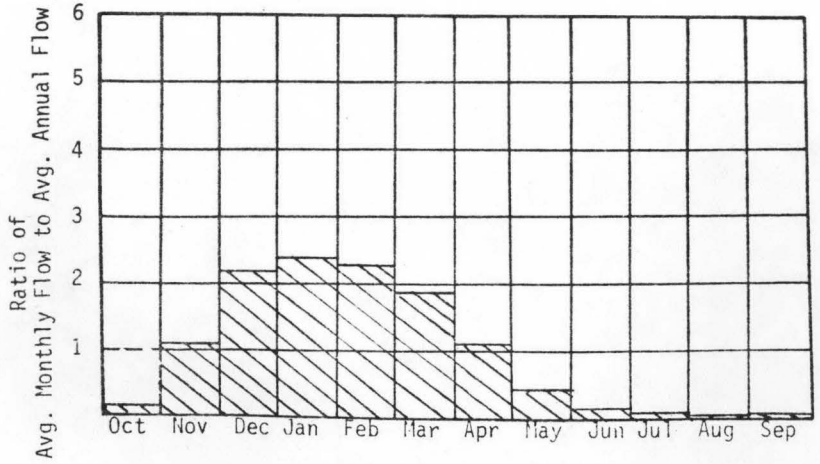
A.	Upstream Elevation of Reach	92	Ft. MSL
B.	Downstream Elevation of Reach	74	Ft. MSL
C.	Total Available Head in Reach	18	Ft.
D.	Average Slope in Reach	1.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	486	Sq.Mi.
F.	Inflow Classification	Natural	

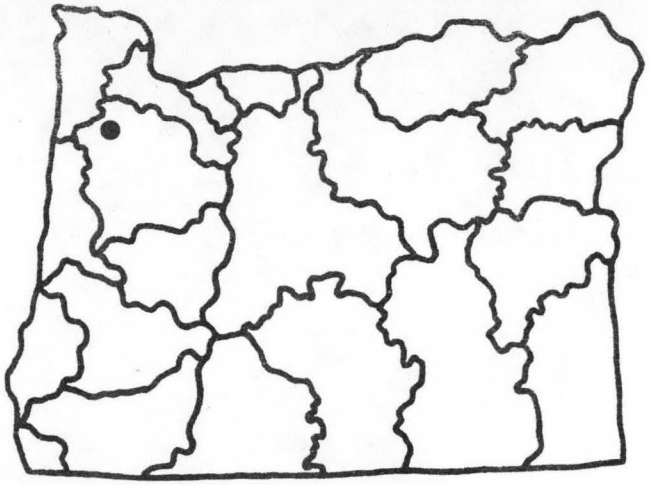
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	45.7	.07	.61	1.000
80	98.8	.15	1.23	.933
50	592.4	.90	5.52	.697
30	1452.5	2.22	10.12	.521
10	4240.0	6.47	17.57	.310

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1660 CFS





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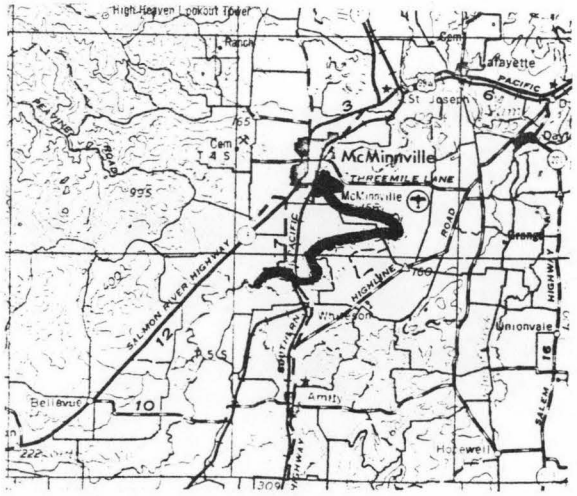


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0003

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T5S, R4W, Sec.7
D.	Latitude, Longitude	45°08'N,123°13'W
E.	Stream Name	Salt Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 10.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

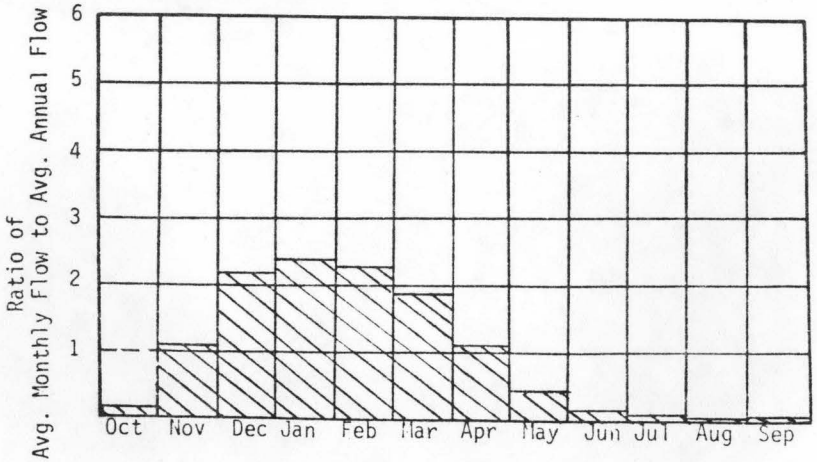
A.	Upstream Elevation of Reach	110	Ft. MSL
B.	Downstream Elevation of Reach	92	Ft. MSL
C.	Total Available Head in Reach	18	Ft.
D.	Average Slope in Reach	1.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	97	Sq.Mi.
F.	Inflow Classification	Natural	

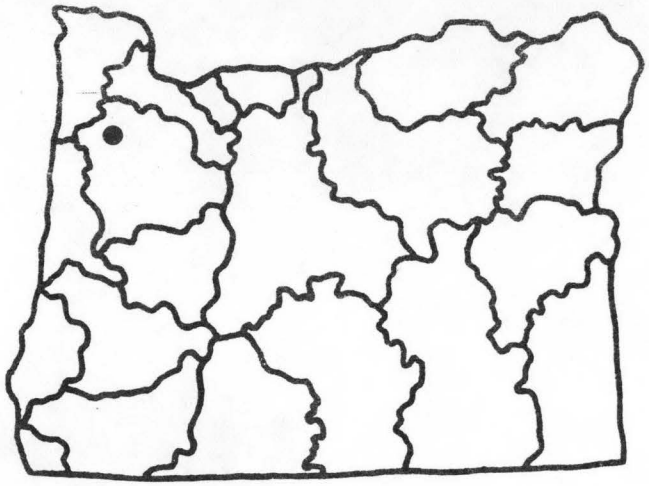
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.01	.05	1.000
80	8.5	.01	.11	.929
50	56.9	.09	.53	.692
30	153.4	.23	1.04	.508
10	410.4	.63	1.73	.315

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 160 CFS





U.S.G.S. TOPO. SERIES
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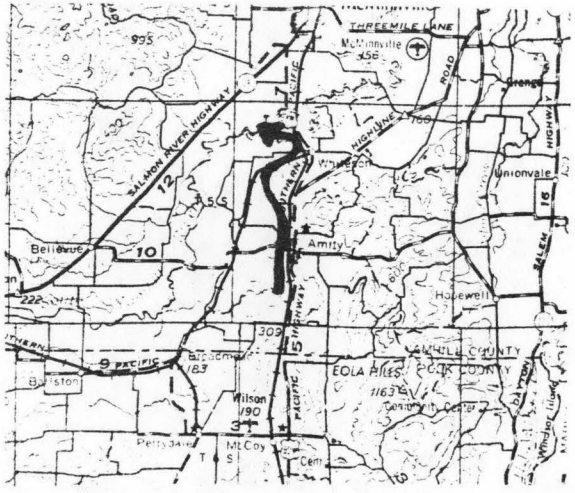


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0004

I. LOCATION

A. State	Oregon	
B. County	Yamhill	
C. Township, Range	T5S, R4W, Sec.29	
D. Latitude, Longitude	45°07'N,123°13'W	
E. Stream Name	Salt Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	10.3 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

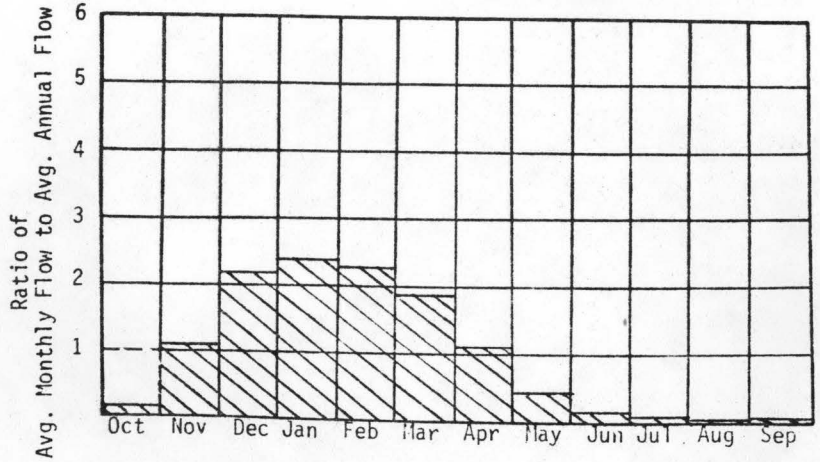
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	48	Sq.Mi.
F. Inflow Classification	Natural	

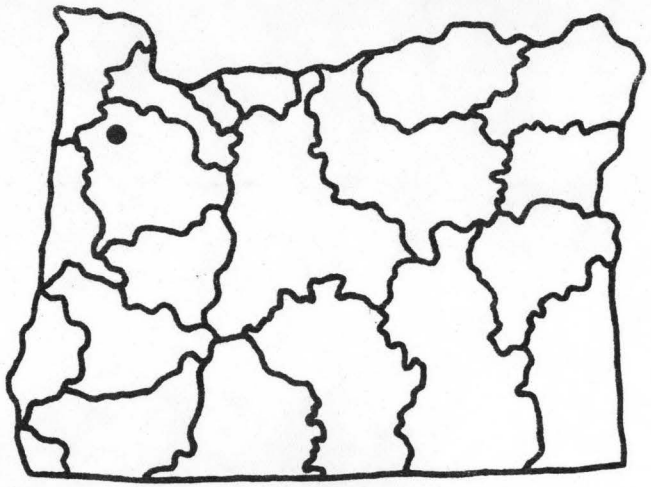
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.5	.01	.12	1.000
80	5.8	.03	.26	.929
50	39.0	.22	1.32	.691
30	106.8	.60	2.65	.506
10	281.7	1.58	4.36	.316

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 110 CFS





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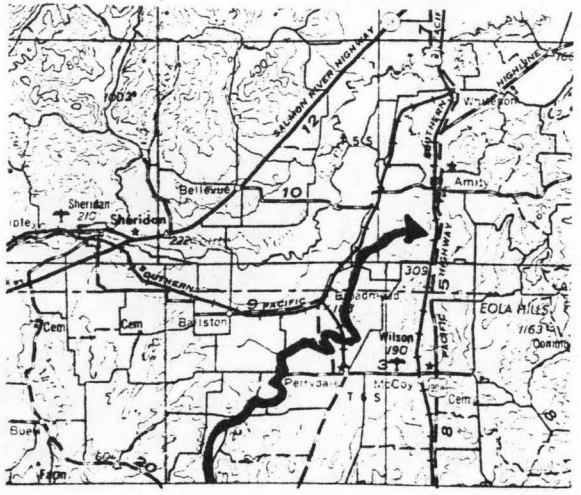


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0005

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T5S, R5W, Sec.12
D.	Latitude, Longitude	45°09'N,123°15'W
E.	Stream Name	South Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	18.1 to 24.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

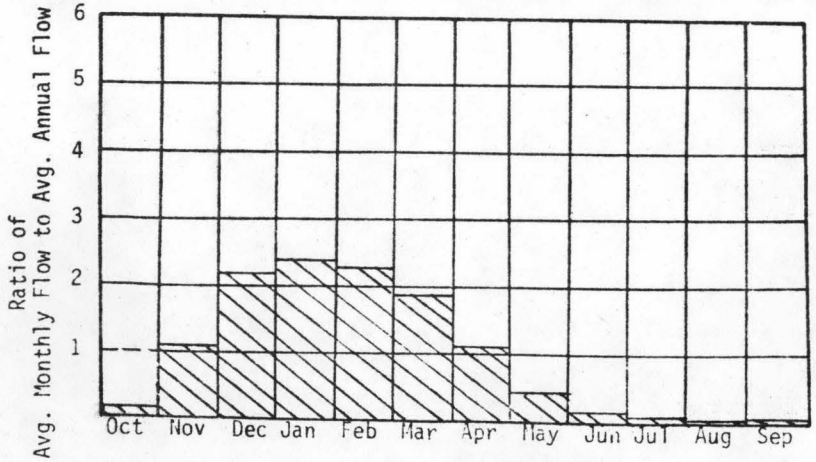
A.	Upstream Elevation of Reach	100	Ft. MSL
B.	Downstream Elevation of Reach	92	Ft. MSL
C.	Total Available Head in Reach	8	Ft.
D.	Average Slope in Reach	1.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	373	Sq.Mi.
F.	Inflow Classification	Natural	

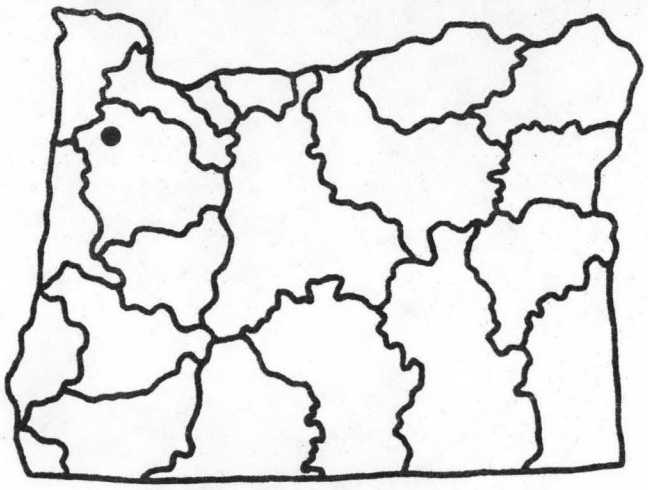
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	37.5	.03	.22	1.000
80	81.6	.06	.45	.932
50	493.2	.33	2.04	.697
30	1218.2	.83	3.76	.520
10	3531.8	2.39	6.51	.310

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1383 CFS





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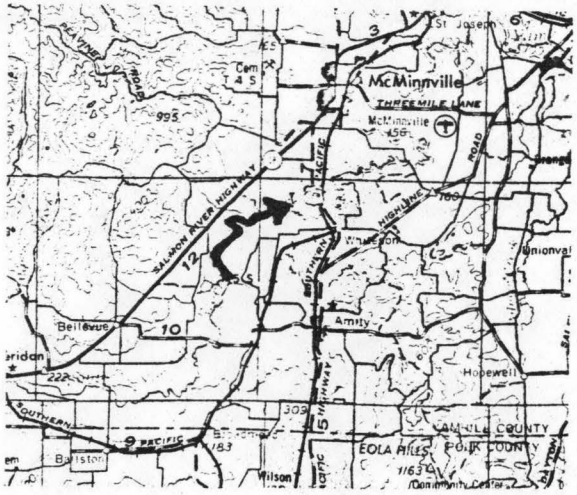


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0006

I. LOCATION

A. State	Oregon	
B. County	Yamhill	
C. Township, Range	T5S, R5W, Sec.14	
D. Latitude, Longitude	45°08'N,123°15'W	
E. Stream Name	Deer Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

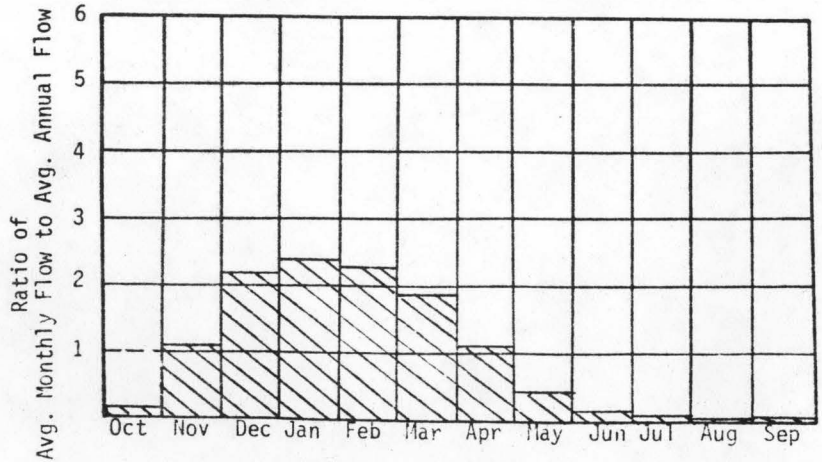
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	57	Sq.Mi.
F. Inflow Classification	Natural	

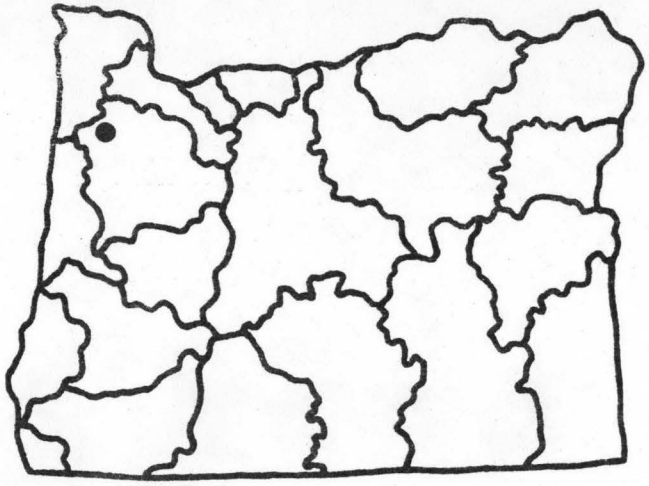
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.02	.16	1.000
80	7.7	.04	.35	.929
50	51.5	.29	1.75	.692
30	139.4	.78	3.47	.508
10	371.6	2.08	5.74	.316

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 145 CFS





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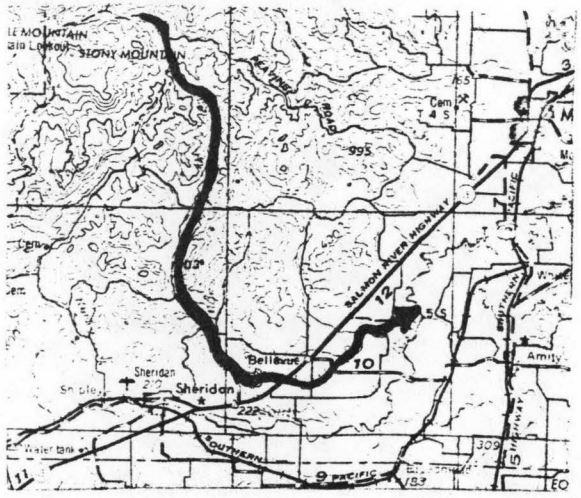


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0007

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T5S, R5W, Sec.34
D.	Latitude, Longitude	45°05'N,123°16'W
E.	Stream Name	South Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	24.6 to 35.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

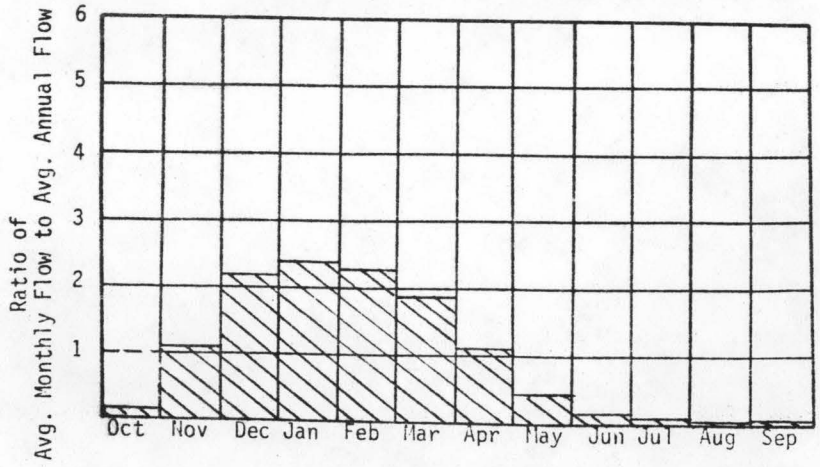
A.	Upstream Elevation of Reach	150	Ft. MSL
B.	Downstream Elevation of Reach	100	Ft. MSL
C.	Total Available Head in Reach	50	Ft.
D.	Average Slope in Reach	4.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	302	Sq.Mi.
F.	Inflow Classification	Natural	

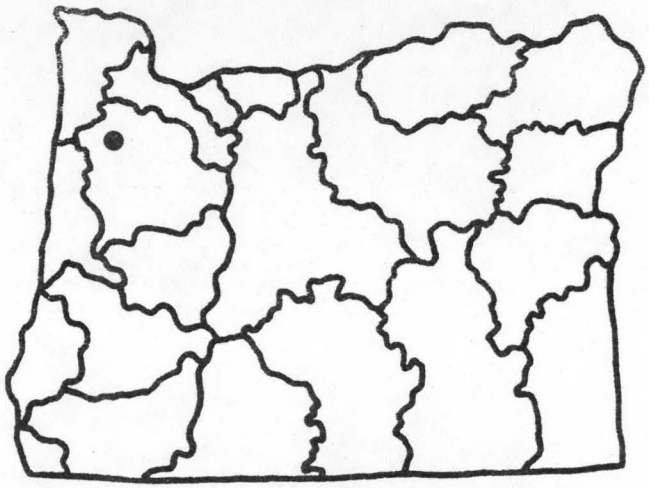
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	31.2	.13	1.16	1.000
80	68.1	.29	2.36	.932
50	415.2	1.76	10.73	.696
30	1032.6	4.38	19.90	.519
10	2974.7	12.60	34.32	.311

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1164 CFS





U.S.G.S. TOPO. SERIES
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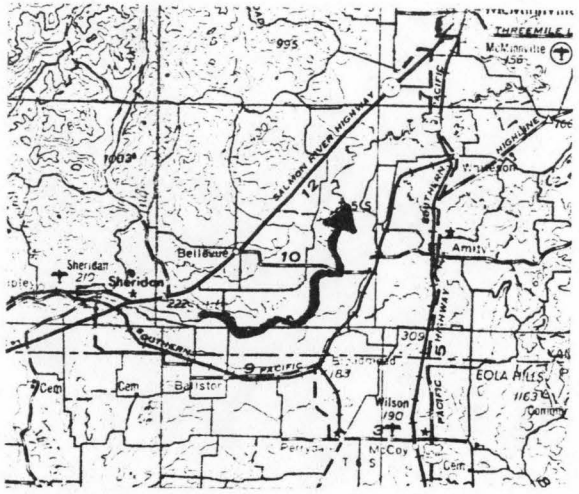


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0008

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T5S, R6W, Sec.34
D.	Latitude, Longitude	45°05'N,123°25'W
E.	Stream Name	South Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	35.1 to 40.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

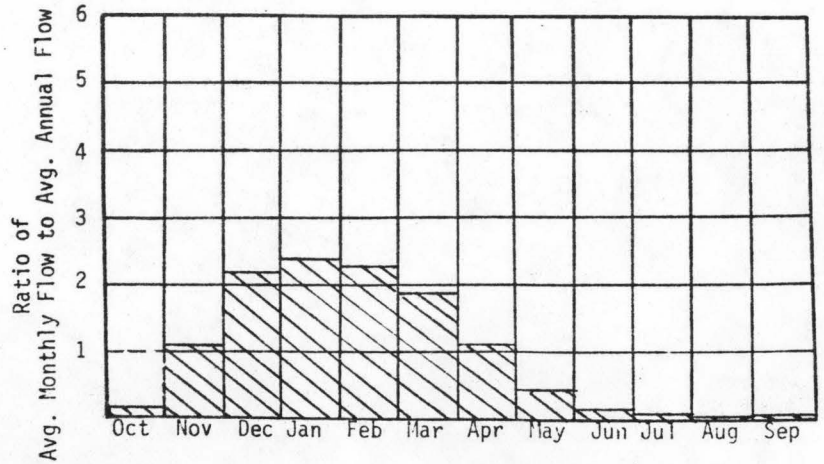
A.	Upstream Elevation of Reach	190	Ft. MSL
B.	Downstream Elevation of Reach	150	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	6.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	276	Sq.Mi.
F.	Inflow Classification	Natural	

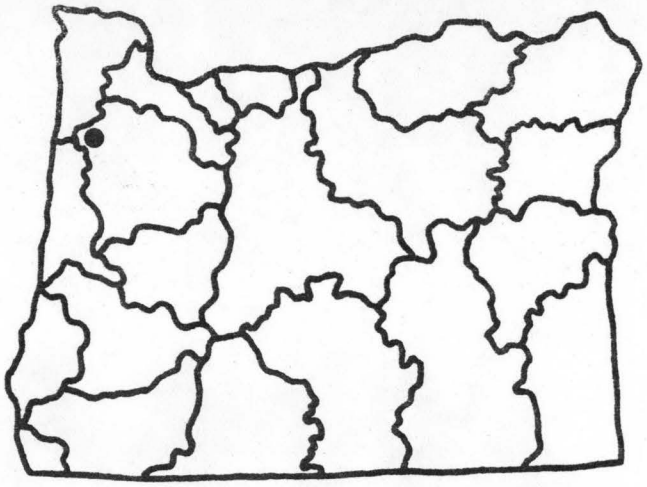
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	29.6	.10	.88	1.000
80	64.8	.22	1.79	.932
50	395.6	1.34	8.18	.696
30	985.8	3.34	15.19	.519
10	2834.6	9.61	26.17	.311

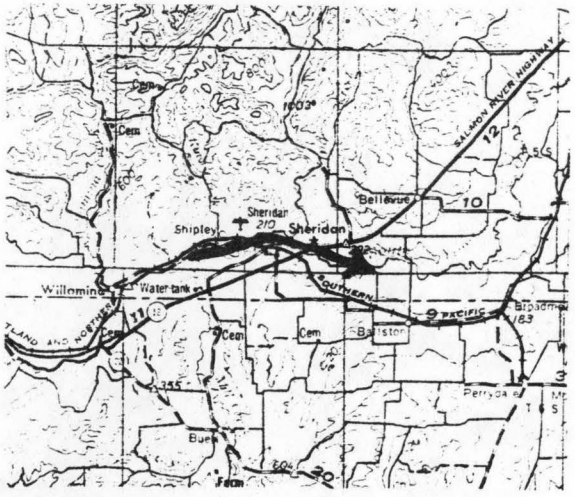
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1109 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0009

I. LOCATION

A. State	Oregon	
B. County	Polk County	
C. Township, Range	T6S, R6W	
D. Latitude, Longitude	45°15'N,123°27'W	
E. Stream Name	Mill Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 10.8	

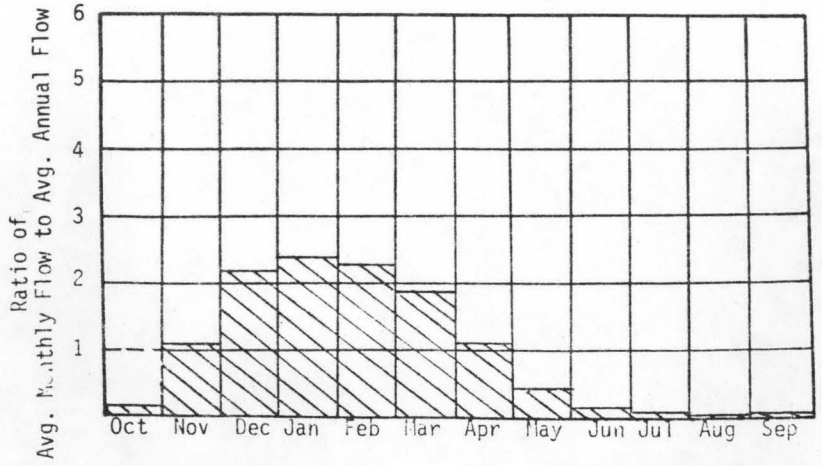
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

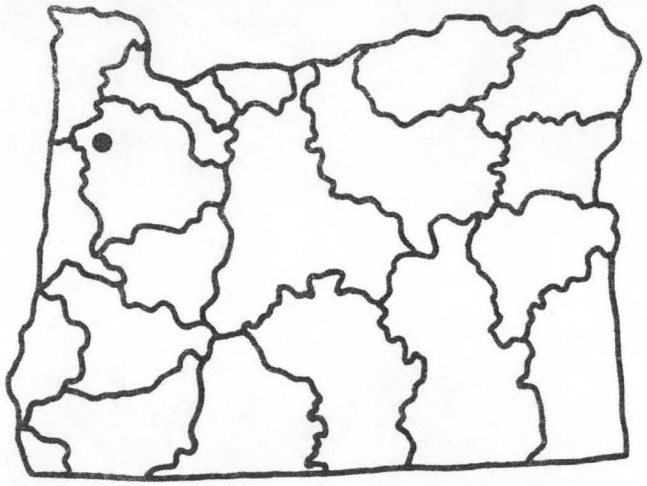
A. Upstream Elevation of Reach	1500	Ft. MSL
B. Downstream Elevation of Reach	190	Ft. MSL
C. Total Available Head in Reach	1310	Ft.
D. Average Slope in Reach	121.3	Ft./Mi.
E. Drainage Area above Reach Mouth	54	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

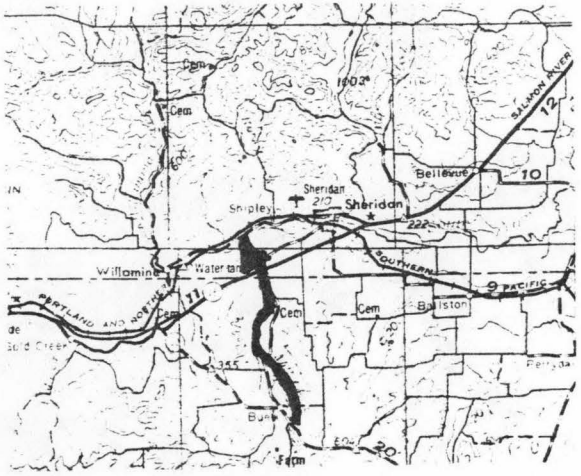
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.40	3.49	1.000
80	8.3	.92	7.46	.929
50	55.1	6.12	37.09	.692
30	148.8	16.52	73.52	.508
10	397.5	44.12	121.89	.315

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 156 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0010

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T7S, R7W
D.	Latitude, Longitude	44°57'N,123°35'W
E.	Stream Name	Mill Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	10.8 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

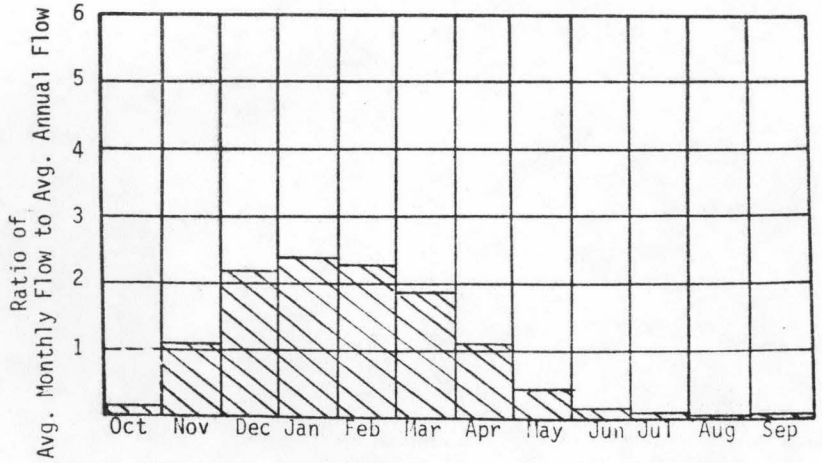
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	28	Sq.Mi.
F.	Inflow Classification	Natural	

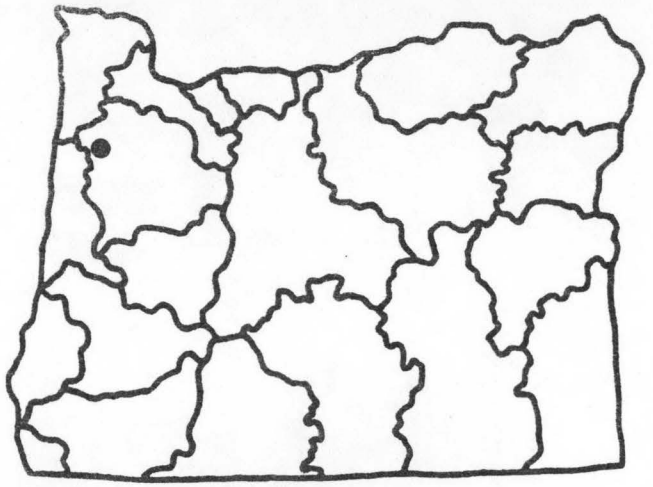
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.6	.01	.13	1.000
80	6.1	.03	.28	.929
50	41.4	.23	1.40	.691
30	113.1	.63	2.81	.507
10	298.9	1.67	4.63	.316

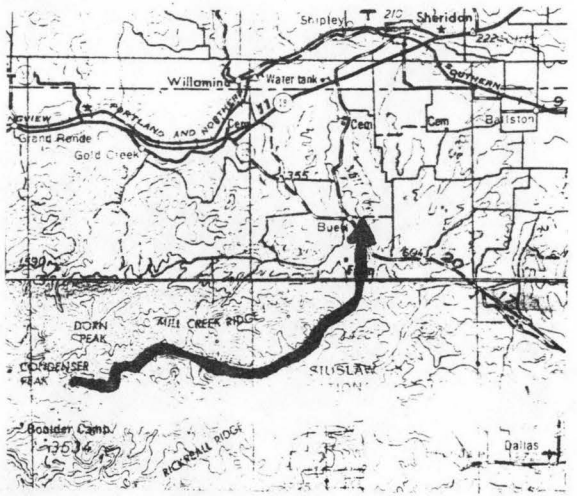
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 117 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0011

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T6S, R6W
D.	Latitude, Longitude	45°03'N,123°29'W
E.	Stream Name	South Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	40.6 to 42.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

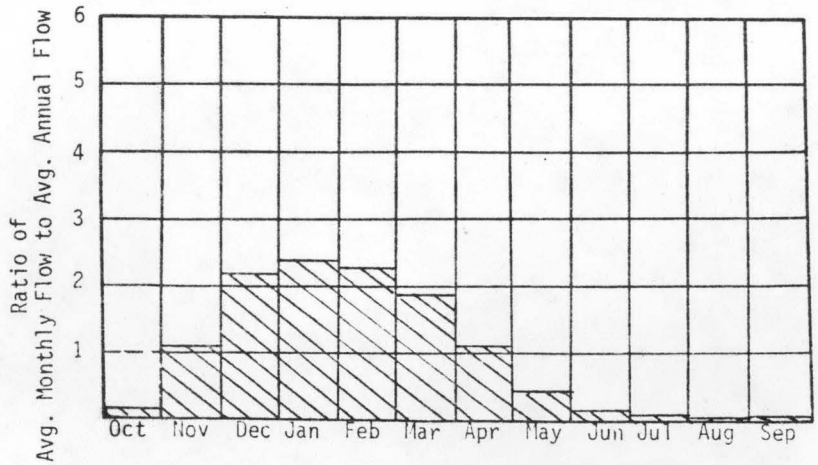
A.	Upstream Elevation of Reach	201	Ft. MSL
B.	Downstream Elevation of Reach	200	Ft. MSL
C.	Total Available Head in Reach	1	Ft.
D.	Average Slope in Reach	0.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	206	Sq.Mi.
F.	Inflow Classification	Natural	

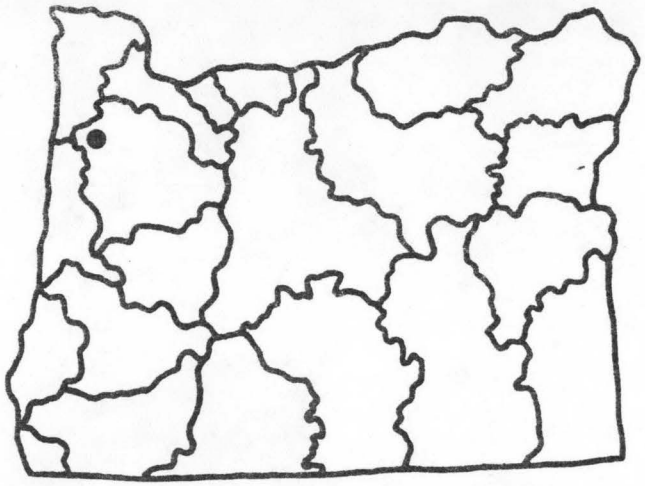
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	22.5	.00	.02	1.000
80	49.6	.00	.03	.932
50	306.3	.03	.16	.696
30	771.3	.07	.30	.517
10	2196.7	.19	.51	.311

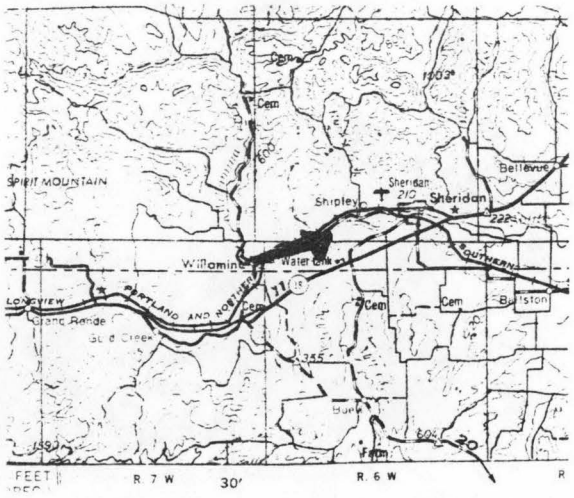
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 860 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0012

I. LOCATION

A. State	Oregon	
B. County	Yamhill	
C. Township, Range	T5S, R7W, Sec.25	
D. Latitude, Longitude	45°07'N,123°30'W	
E. Stream Name	Willamina Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 7.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

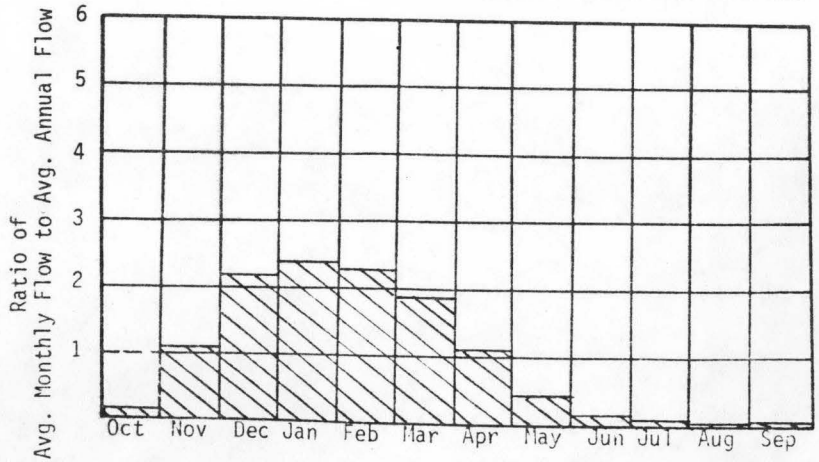
A. Upstream Elevation of Reach	440	Ft. MSL
B. Downstream Elevation of Reach	201	Ft. MSL
C. Total Available Head in Reach	239	Ft.
D. Average Slope in Reach	33.7	Ft./Mi.
E. Drainage Area above Reach Mouth	59	Sq.Mi.
F. Inflow Classification	Natural	

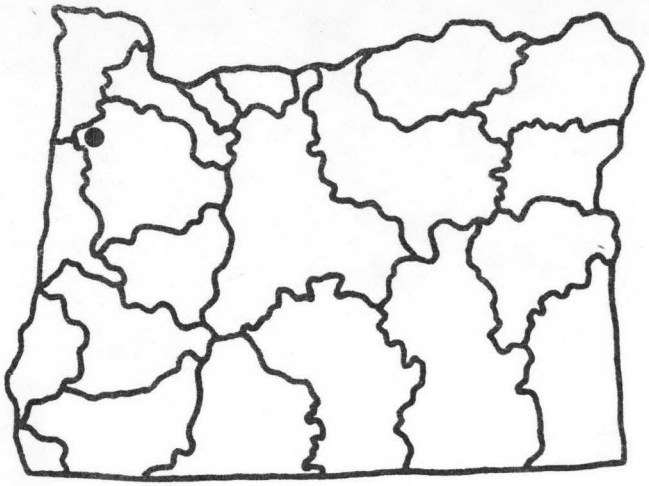
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.9	.10	.87	1.000
80	11.2	.23	1.85	.930
50	74.0	1.50	9.10	.692
30	197.5	4.00	17.86	.510
10	533.4	10.80	29.78	.315

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 208 CFS





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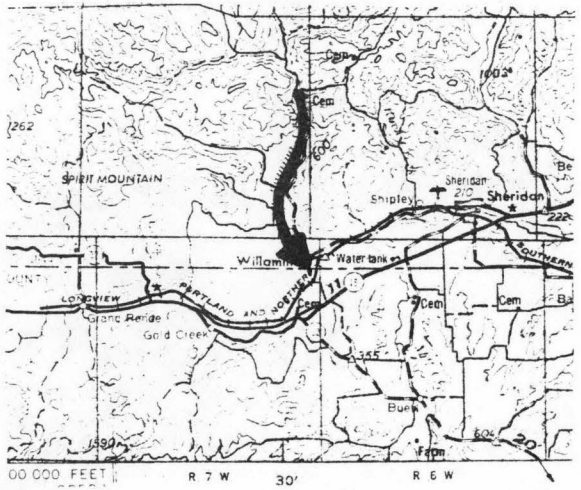
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0013

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T5S, R7W, Sec.12
D.	Latitude, Longitude	45°09'N,123°30'W
E.	Stream Name	Willamina Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	7.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

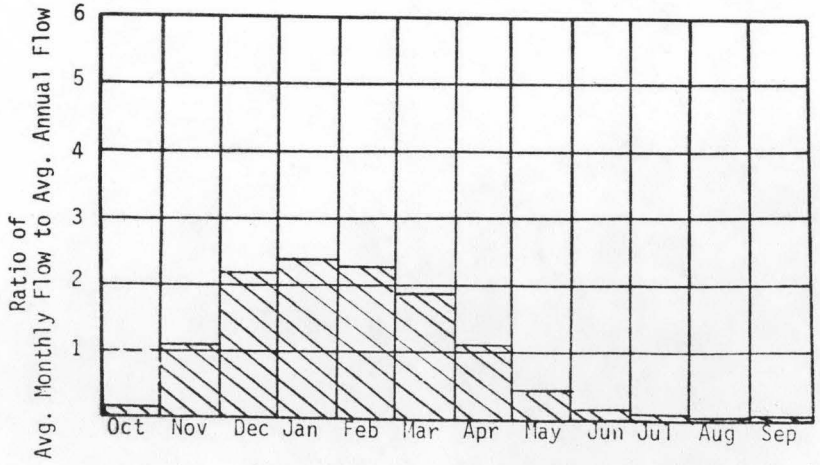
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	39	Sq.Mi.
F.	Inflow Classification	Natural	

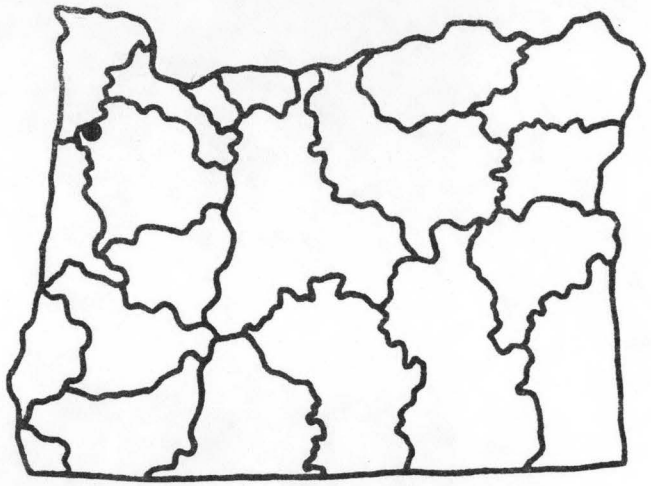
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.9	.02	.14	1.000
80	6.8	.04	.31	.929
50	45.7	.26	1.55	.691
30	124.3	.70	3.09	.507
10	329.8	1.84	5.10	.316

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 129 CFS





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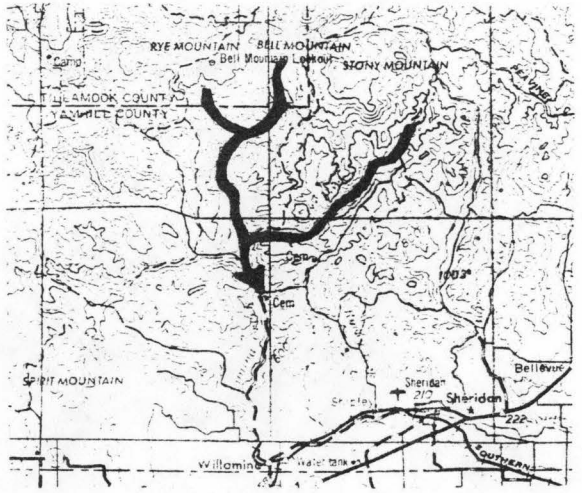
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0014

I. LOCATION

A.	State	Oregon
B.	County	Yamhill
C.	Township, Range	T6S, R7W, Sec.15
D.	Latitude, Longitude	45°02'N,123°32'W
E.	Stream Name	South Yamhill River
F.	Major Basin Name	Mid Willamette
G.	River Mile	42.7 to 50.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

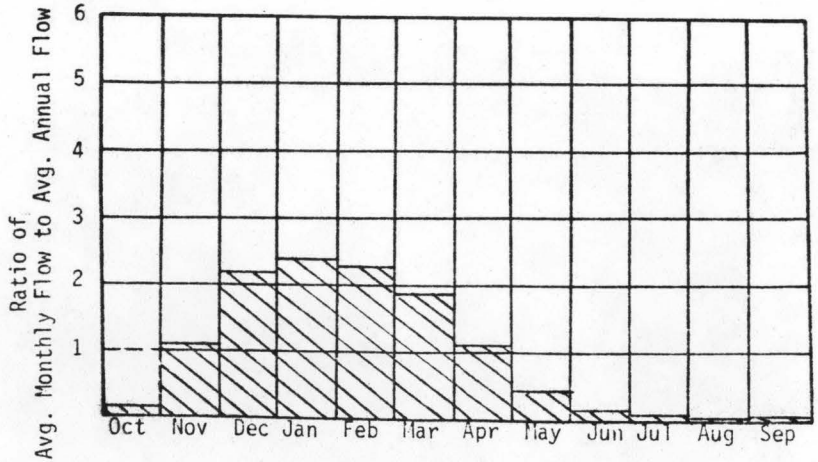
A.	Upstream Elevation of Reach	265	Ft. MSL
B.	Downstream Elevation of Reach	201	Ft. MSL
C.	Total Available Head in Reach	64	Ft.
D.	Average Slope in Reach	8.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	141	Sq.Mi.
F.	Inflow Classification	Natural	

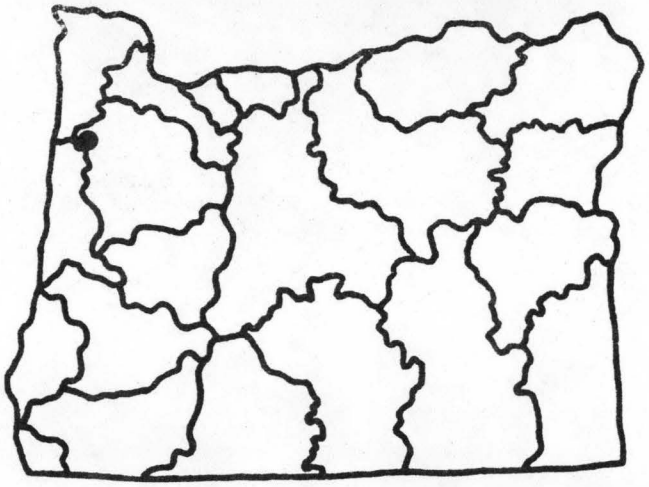
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	11.2	.06	.53	1.000
80	25.1	.14	1.11	.931
50	159.8	.87	5.27	.694
30	413.0	2.24	10.08	.514
10	1148.1	6.23	17.07	.313

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 498 CFS





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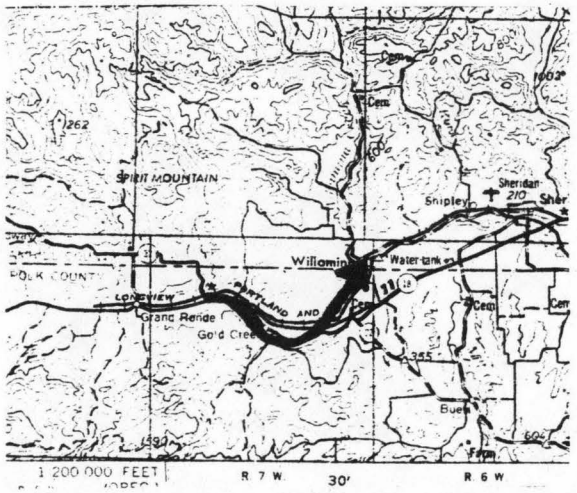


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0015

I. LOCATION

A. State	Oregon	
B. County	Yamhill	
C. Township, Range	T6S, R7W, Sec.18	
D. Latitude, Longitude	45°03'N,123°36'W	
E. Stream Name	South Yamhill River	
F. Major Basin Name	Mid Willamette	
G. River Mile	50.2 to 54.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

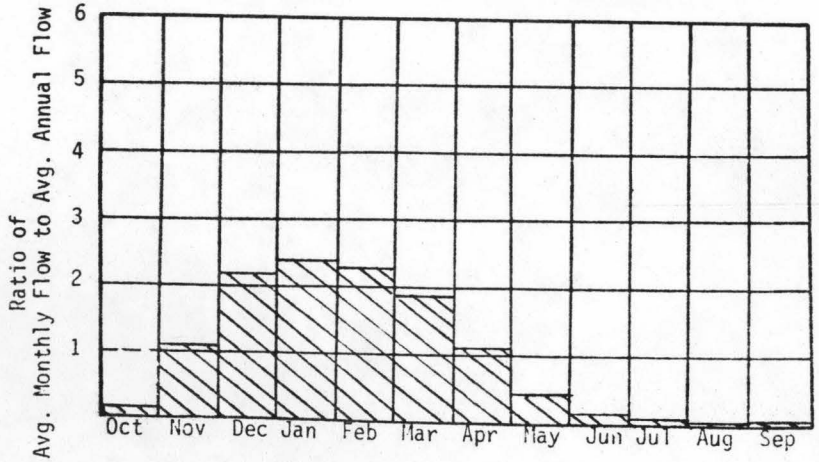
A. Upstream Elevation of Reach	315	Ft. MSL
B. Downstream Elevation of Reach	265	Ft. MSL
C. Total Available Head in Reach	50	Ft.
D. Average Slope in Reach	11.1.	Ft./Mi.
E. Drainage Area above Reach Mouth	91	Sq.Mi.
F. Inflow Classification	Natural	

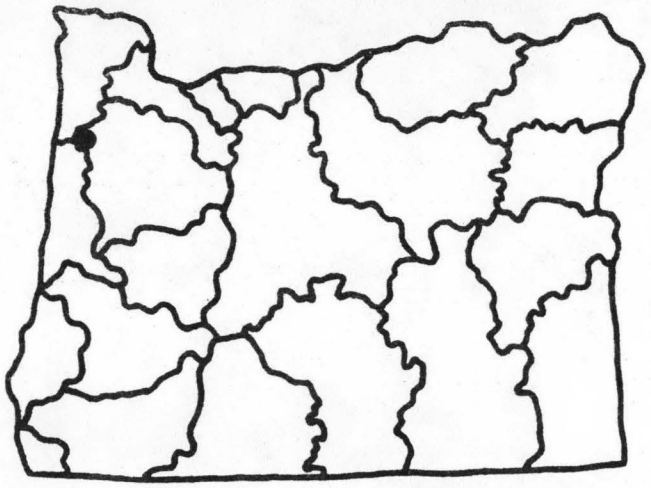
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.6	.03	.24	1.000
80	15.0	.06	.52	.930
50	97.4	.41	2.51	.693
30	256.9	1.09	4.87	.511
10	701.1	2.97	8.17	.314

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 274 CFS





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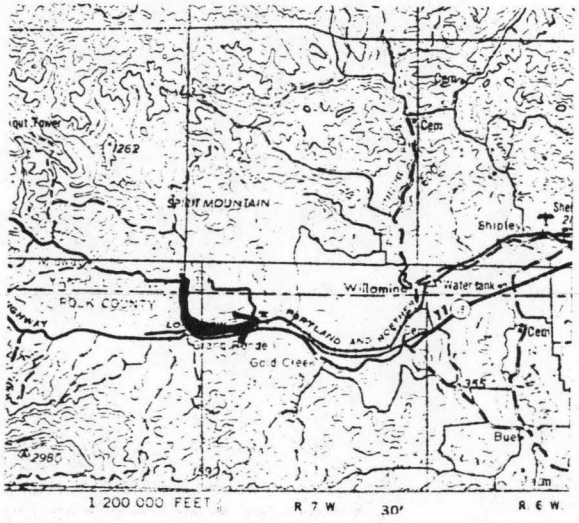
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0016

I. LOCATION

A.	State	Oregon
B.	County	Yamhill County
C.	Township, Range	T5S, R8W
D.	Latitude, Longitude	45°05'N,123°38'W
E.	Stream Name	Agency Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

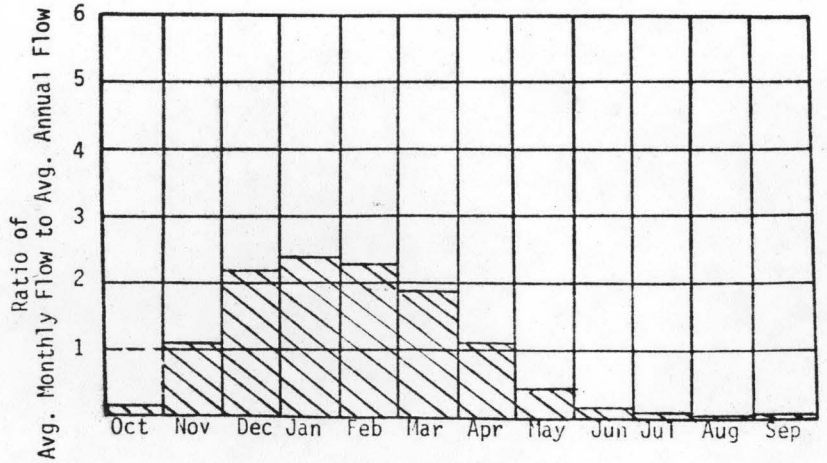
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	25	Sq.Mi.
F.	Inflow Classification	Natural	

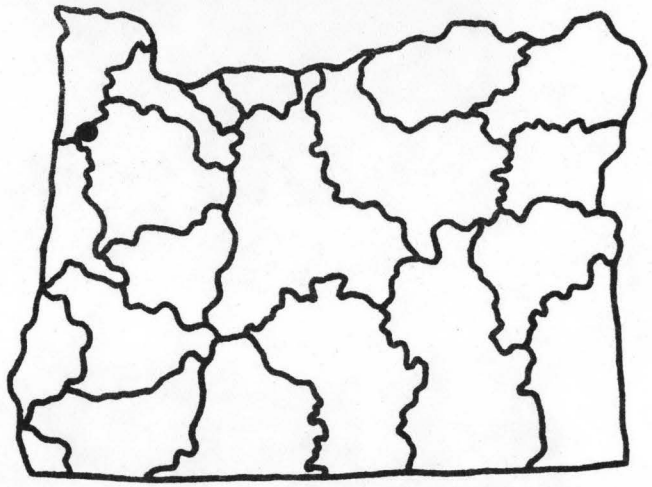
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.0	.01	.10	1.000
80	4.7	.03	.22	.929
50	32.5	.18	1.10	.691
30	89.5	.50	2.22	.505
10	234.4	1.31	3.64	.317

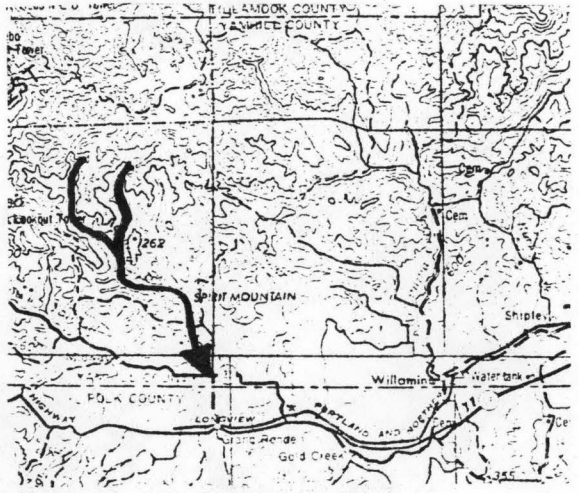
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 91 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-055-010-R0017

I. LOCATION

A. State	Oregon	
B. County	Yamhill	
C. Township, Range	T6S, R8W, Sec.2	
D. Latitude, Longitude	45°04'N.123°37'W	
E. Stream Name	South Yamhill River	
F. Major Basin Name	Mid Willamette	
G. River Mile	54.7 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

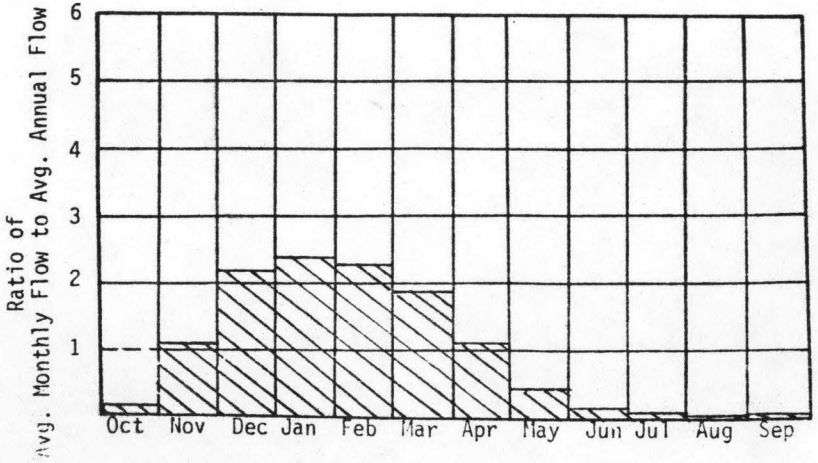
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	96	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	26	Sq.Mi.
F. Inflow Classification	Natural	

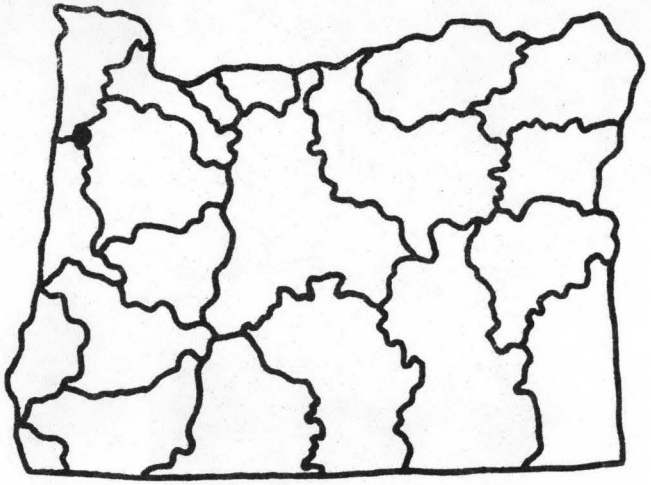
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.0	.01	.10	1.000
80	4.6	.03	.21	.929
50	31.5	.18	1.07	.691
30	86.9	.49	2.15	.505
10	227.3	1.27	3.53	.317

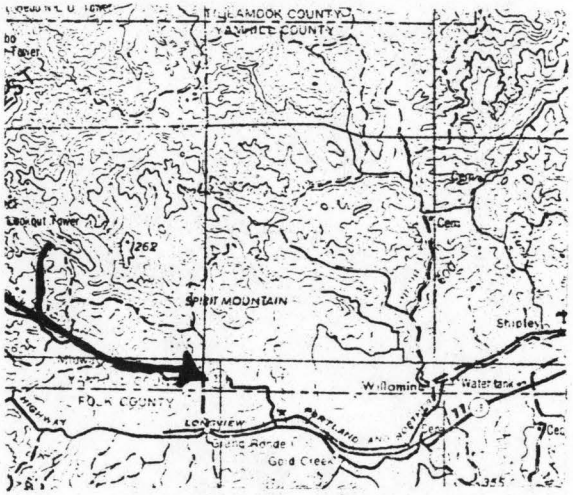
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 89 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0009

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T4S. R3W. Sec.23	
D. Latitude, Longitude	45°12'N.123°02'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Mid Willamette	
G. River Mile	54.9 to 64.9	

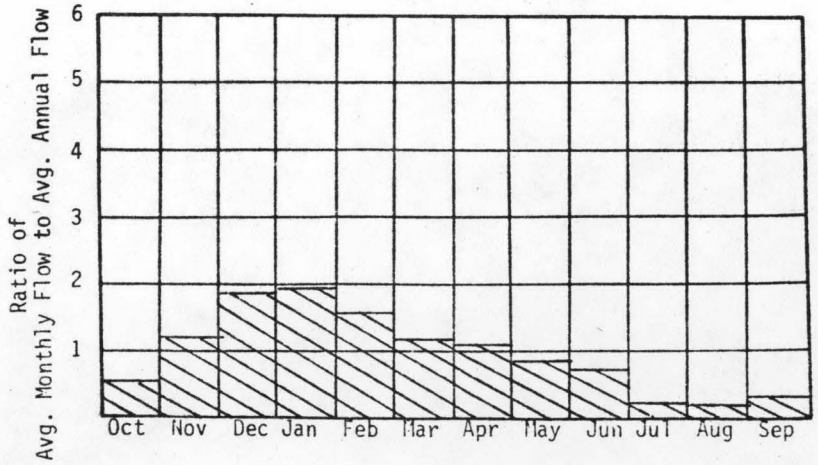
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

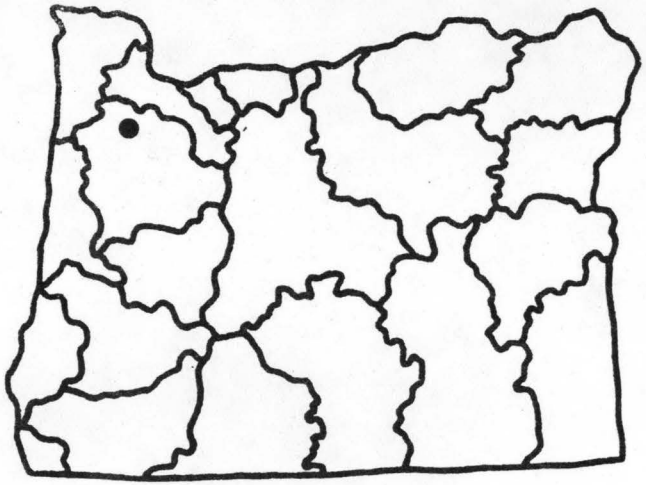
A. Upstream Elevation of Reach	70	Ft. MSL
B. Downstream Elevation of Reach	54	Ft. MSL
C. Total Available Head in Reach	16	Ft.
D. Average Slope in Reach	1.6	Ft./Mi.
E. Drainage Area above Reach Mouth	5329	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

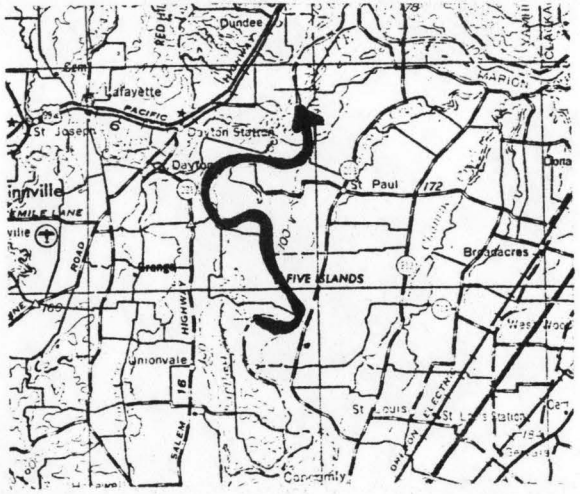
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4484.4	6.08	53.27	1.000
80	6749.9	9.15	76.81	.958
50	15642.0	21.21	145.46	.783
30	24967.9	33.85	189.77	.640
10	53944.4	73.14	258.61	.404

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 23402 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0010

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T5S. R3W. Sec.24
D.	Latitude, Longitude	45°07'N.123°00'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	64.9 to 71.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

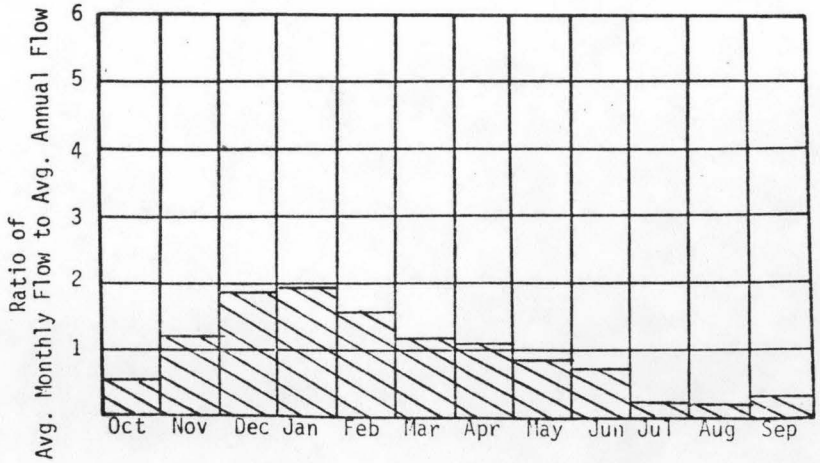
A.	Upstream Elevation of Reach	88	Ft. MSL
B.	Downstream Elevation of Reach	70	Ft. MSL
C.	Total Available Head in Reach	18	Ft.
D.	Average Slope in Reach	2.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	5315	Sq.Mi.
F.	Inflow Classification	Regulated	

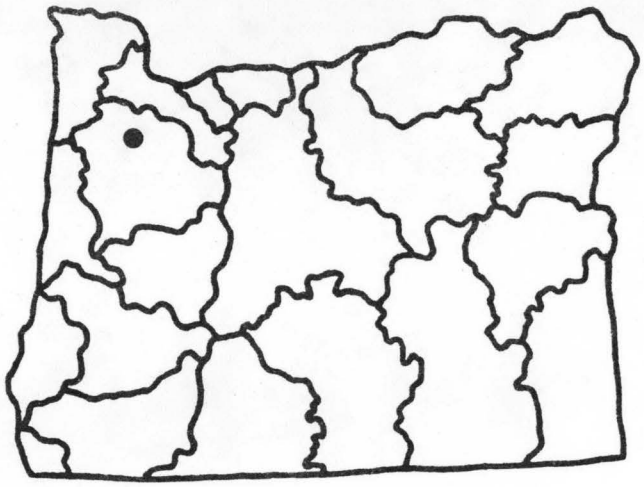
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4474.7	6.83	59.79	1.000
80	6735.9	10.28	86.23	.958
50	15611.7	23.81	163.33	.783
30	24921.9	38.02	213.09	.640
10	53836.2	82.12	290.36	.404

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 23356 CFS





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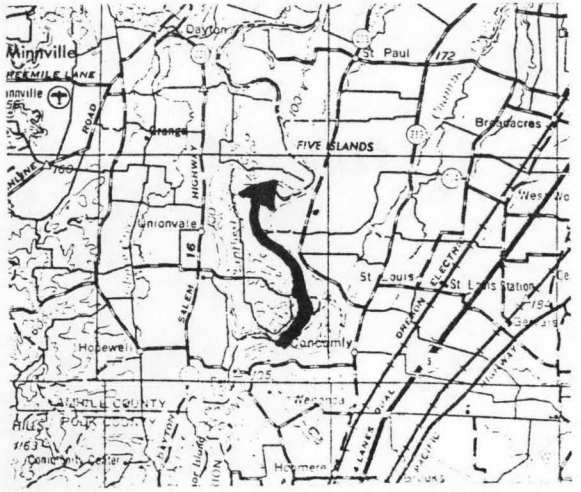


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0011

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T6S, R3W, Sec.29	
D. Latitude, Longitude	45°01'N,123°05'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Mid Willamette	
G. River Mile	71.9 to 83.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

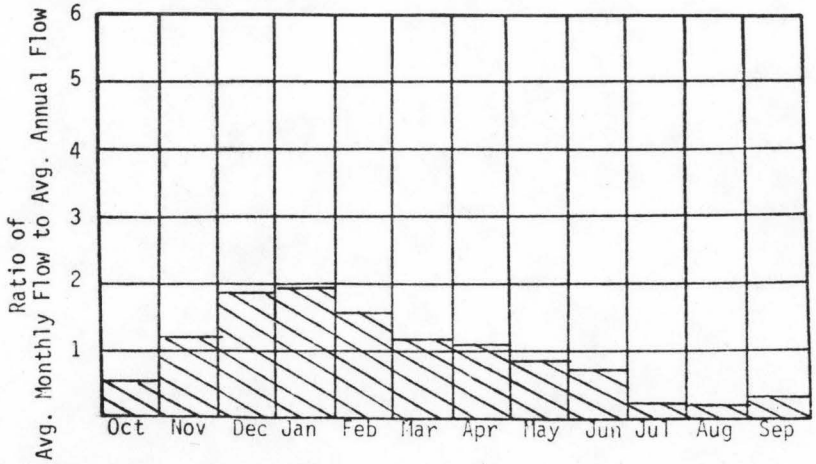
A. Upstream Elevation of Reach	115	Ft. MSL
B. Downstream Elevation of Reach	88	Ft. MSL
C. Total Available Head in Reach	27	Ft.
D. Average Slope in Reach	2.1	Ft./Mi.
E. Drainage Area above Reach Mouth	5285	Sq.Mi.
F. Inflow Classification	Natural	

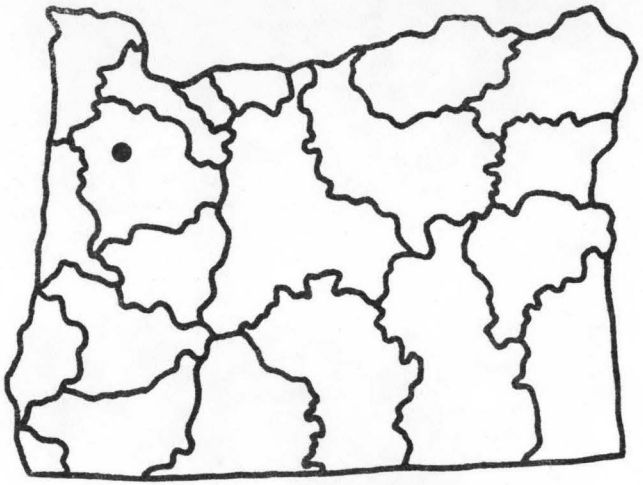
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4455.8	10.20	89.31	1.000
80	6708.7	15.35	128.83	.958
50	15552.6	35.59	244.05	.783
30	24832.3	56.82	318.45	.640
10	53625.4	122.70	433.88	.404

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 23266 CFS





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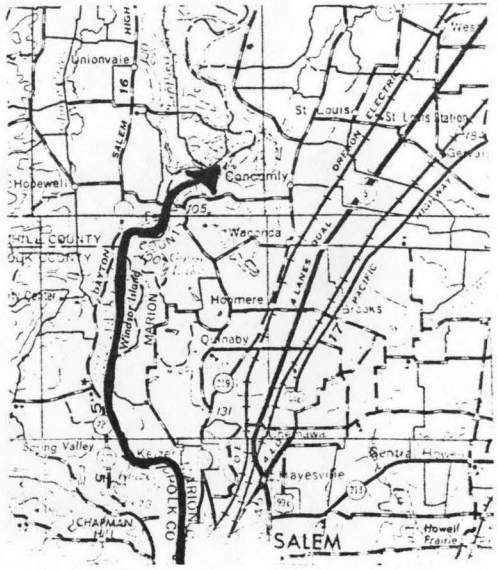
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T8S. R2W. Sec.6	
D. Latitude, Longitude	44°54'N.122°59'W	
E. Stream Name	Mill Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 9.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

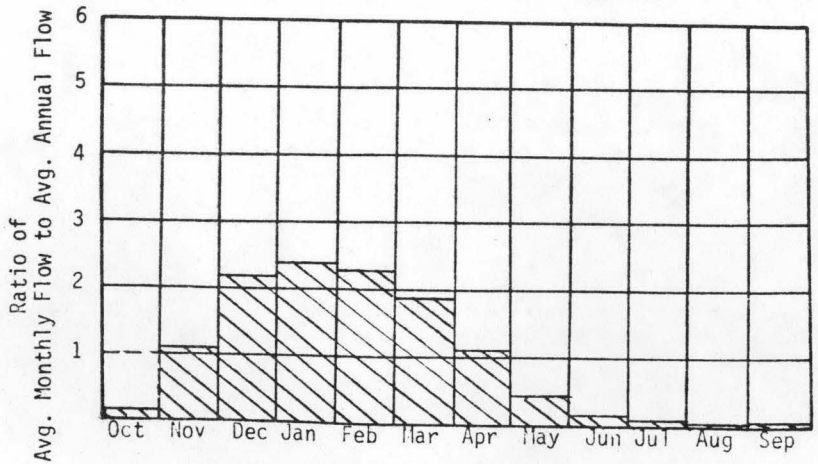
A. Upstream Elevation of Reach	260	Ft. MSL
B. Downstream Elevation of Reach	115	Ft. MSL
C. Total Available Head in Reach	145	Ft.
D. Average Slope in Reach	15.6	Ft./Mi.
E. Drainage Area above Reach Mouth	125	Sq.Mi.
F. Inflow Classification	Natural	

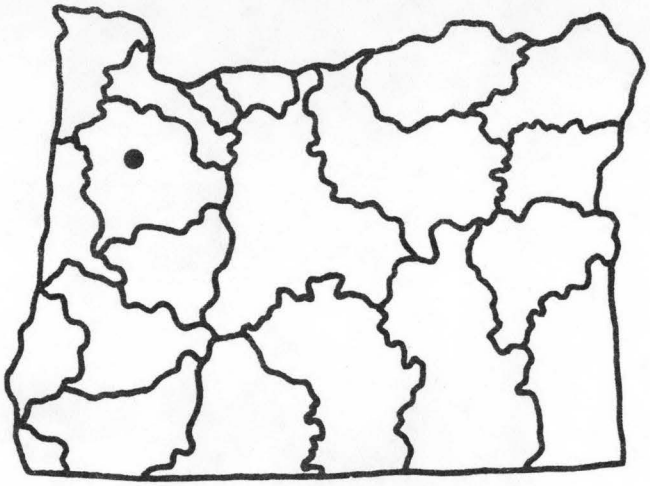
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	24.3	.30	2.62	1.000
80	50.7	.62	5.10	.935
50	215.2	2.65	16.62	.717
30	398.3	4.89	24.50	.571
10	856.3	10.52	34.36	.373

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 366 CFS





U.S.G.S. TOPO. SERIES
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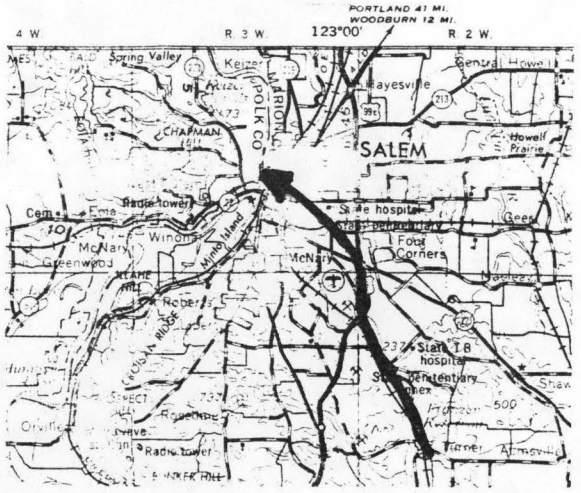
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-009-R0001

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T9S, R2W
D.	Latitude, Longitude	44°48'N122°58'W
E.	Stream Name	McKinney Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 1.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

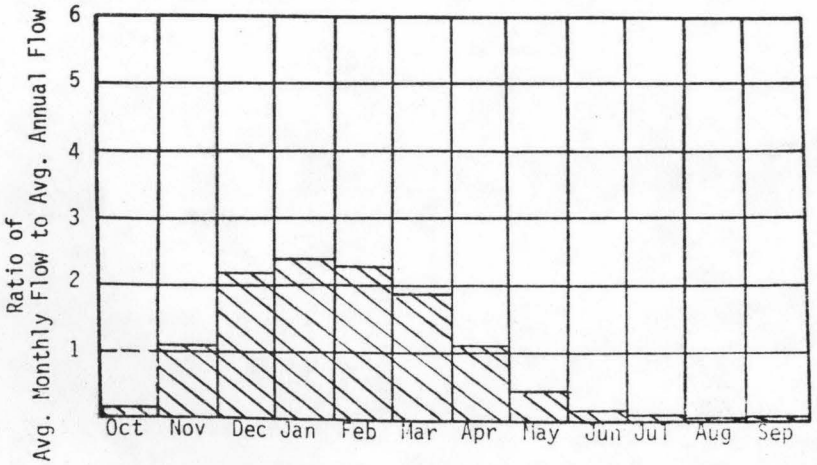
A.	Upstream Elevation of Reach	300	Ft. MSL
B.	Downstream Elevation of Reach	260	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	40	Ft./Mi.
E.	Drainage Area above Reach Mouth	40	Sq.Mi.
F.	Inflow Classification	Natural	

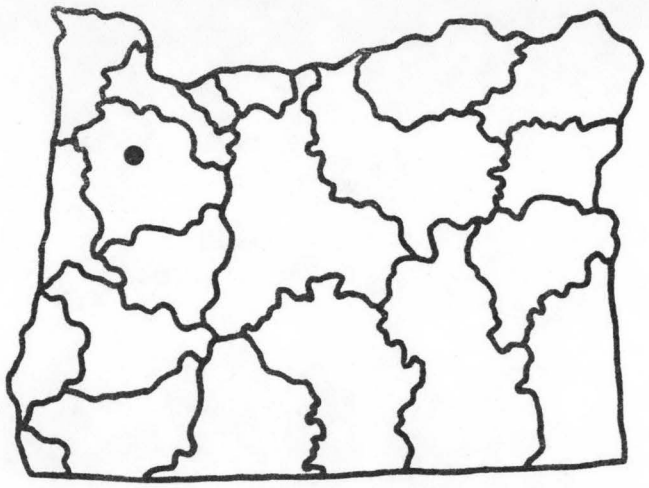
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.02	.14	1.000
80	10.3	.03	.29	.933
50	48.1	.16	1.01	.711
30	92.4	.31	1.54	.562
10	207.5	.70	2.22	.361

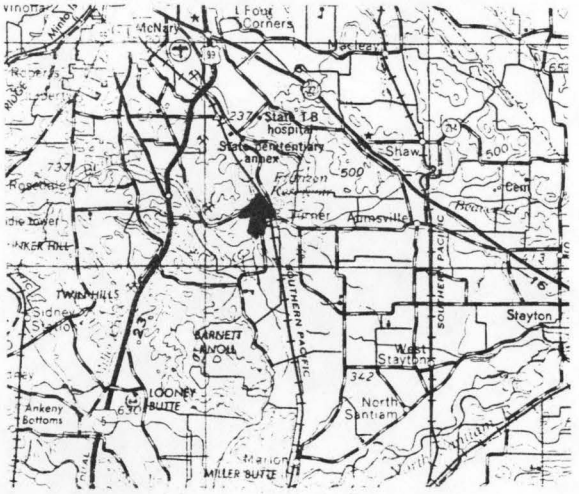
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 86 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-009-R0002

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T9S. R2W
D.	Latitude, Longitude	44°54'N.123°58'W
E.	Stream Name	McKinney Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	1.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

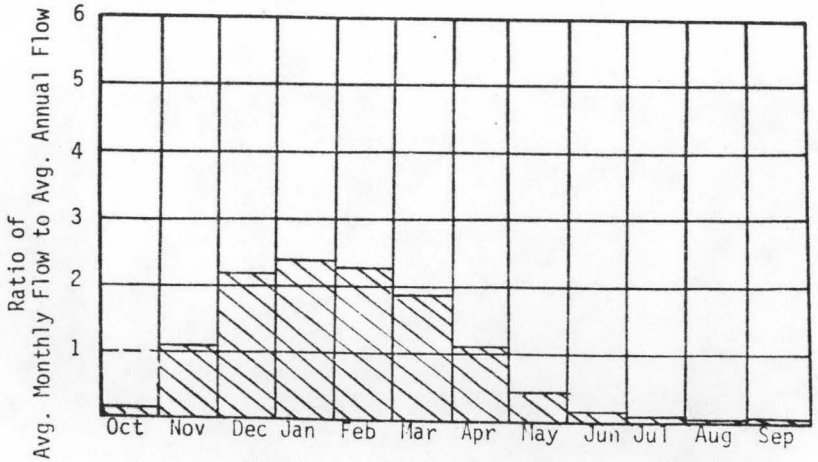
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	24	Sq.Mi.
F.	Inflow Classification	Natural	

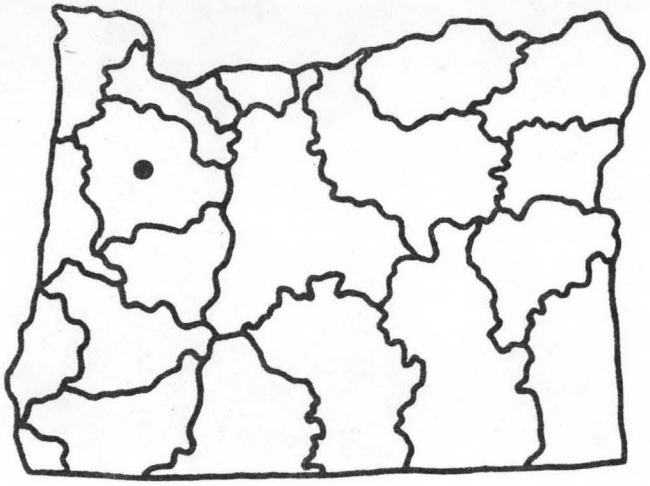
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.02	.17	1.000
80	7.7	.04	.35	.933
50	36.6	.20	1.27	.710
30	70.8	.40	1.94	.560
10	160.2	.90	2.82	.359

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 66 CFS





U.S.G.S. TOPO. SERIES
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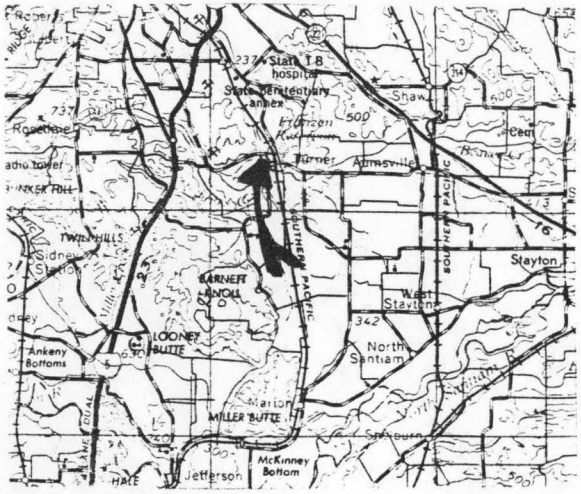
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T8S, R2W, Sec.33
D.	Latitude, Longitude	44°50'N,122°56'W
E.	Stream Name	Mill Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	9.3 to 11.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

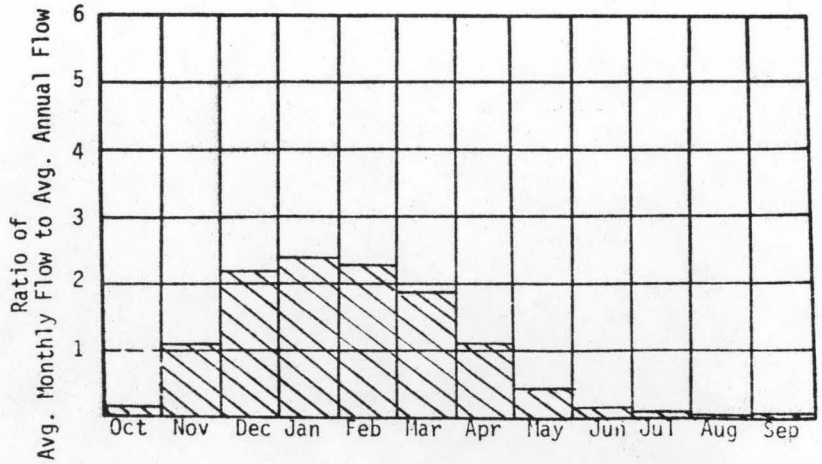
A.	Upstream Elevation of Reach	295	Ft. MSL
B.	Downstream Elevation of Reach	260	Ft. MSL
C.	Total Available Head in Reach	35	Ft.
D.	Average Slope in Reach	15.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	69	Sq.Mi.
F.	Inflow Classification	Natural	

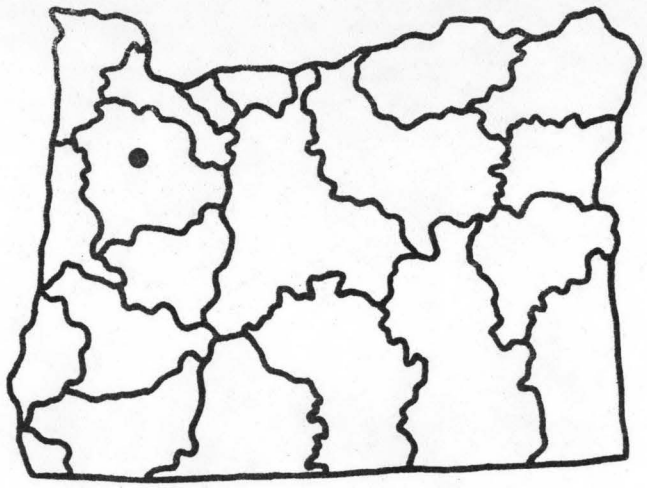
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.8	.04	.39	1.000
80	31.3	.09	.76	.934
50	136.5	.40	2.54	.715
30	255.5	.76	3.77	.568
10	556.7	1.65	5.34	.369

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 236 CFS





U.S.G.S. TOPO. SERIES
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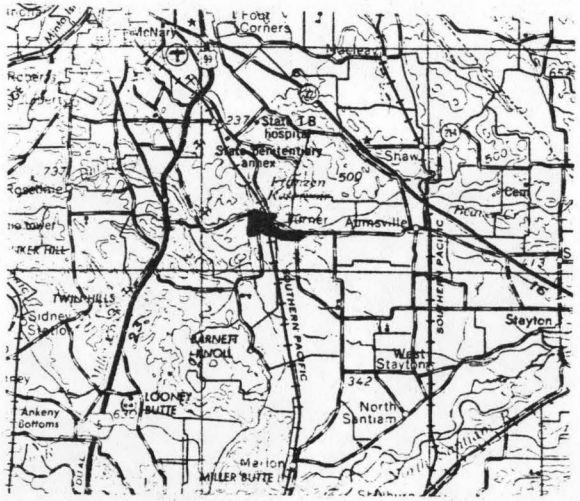
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-015-R0001

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T8S, R1W	
D. Latitude, Longitude	44°48'N,122°52'W	
E. Stream Name	Beaver Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 4.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

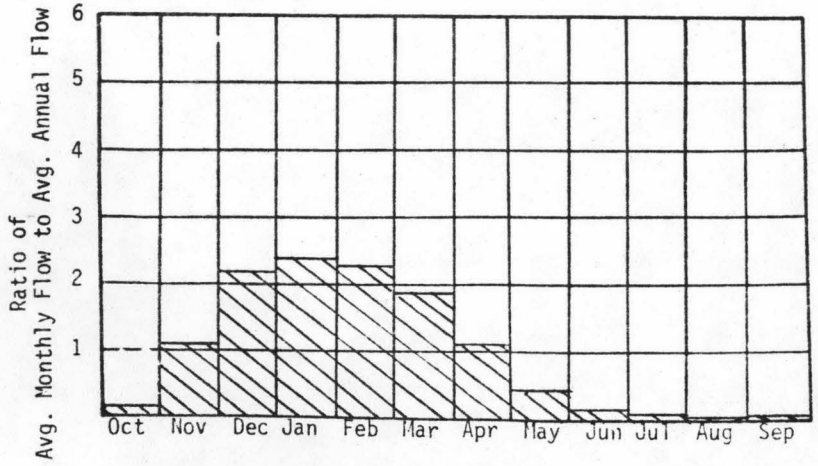
A. Upstream Elevation of Reach	350	Ft. MSL
B. Downstream Elevation of Reach	295	Ft. MSL
C. Total Available Head in Reach	55	Ft.
D. Average Slope in Reach	13.8	Ft./Mi.
E. Drainage Area above Reach Mouth	28	Sq.Mi.
F. Inflow Classification	Natural	

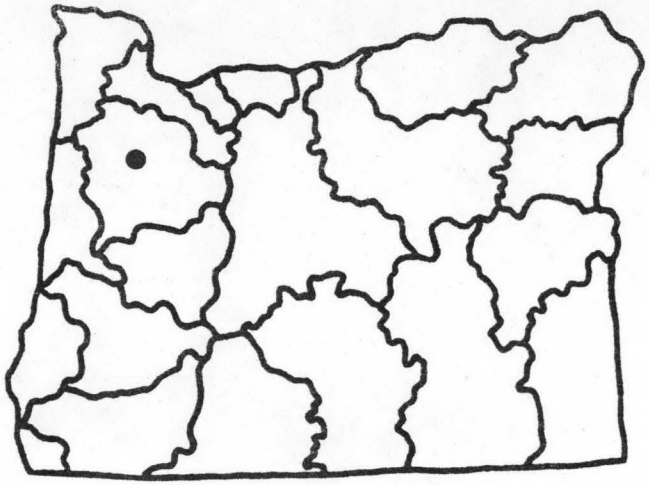
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.03	.23	1.000
80	12.0	.06	.46	.933
50	55.5	.26	1.61	.711
30	106.3	.50	2.44	.563
10	237.6	1.11	3.51	.362

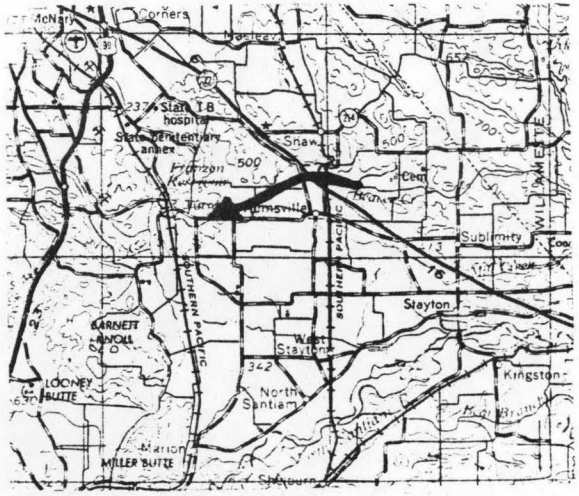
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 98 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-015-R0002

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T8S. R1E
D.	Latitude, Longitude	44°47'N.122°42'W
E.	Stream Name	Beaver Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	4.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

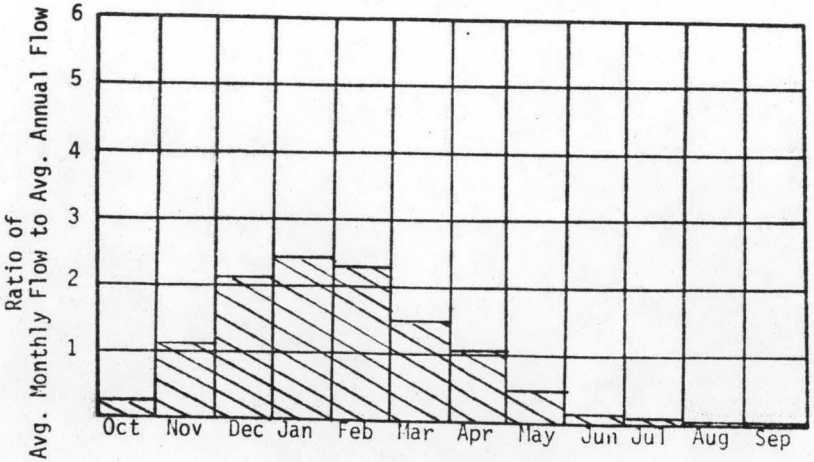
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

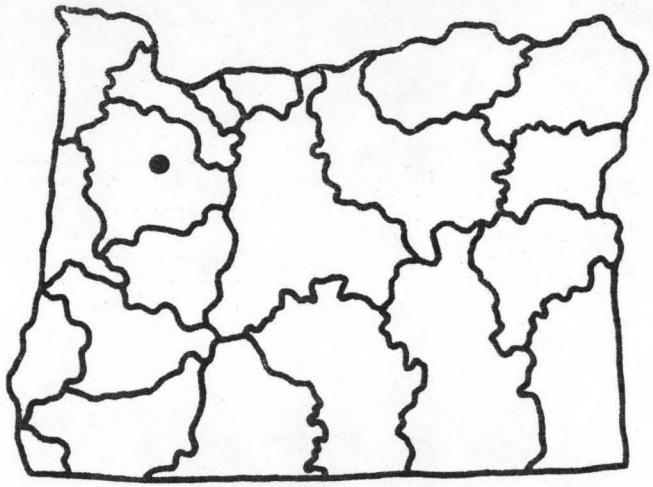
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	8.9	.05	.41	.933
50	41.9	.23	1.46	.710
30	80.9	.45	2.22	.561
10	182.4	1.02	3.22	.360

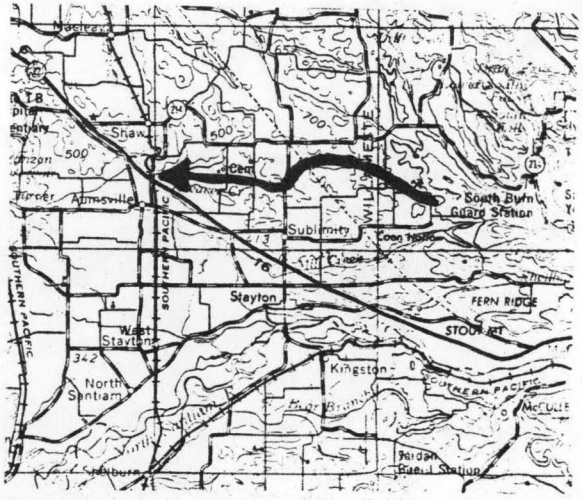
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 75 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-000-R0003

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T8S. R2W. Sec.26	
D. Latitude, Longitude	44°50'N.122°53'W	
E. Stream Name	Mill Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	11.6 to 17.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

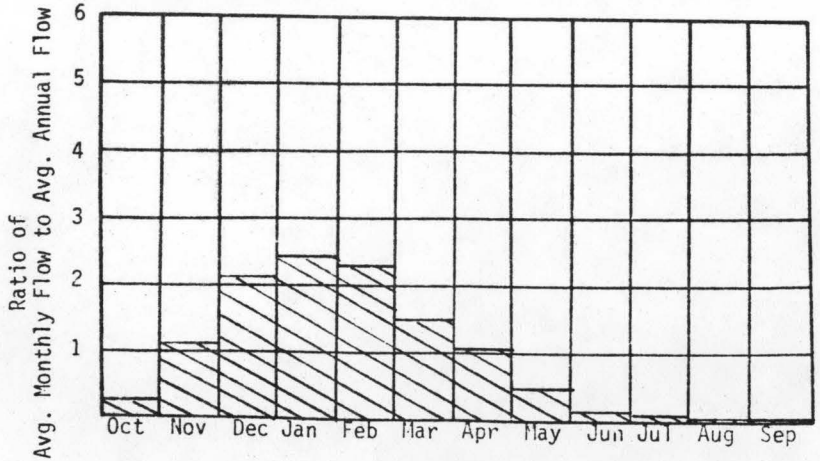
A. Upstream Elevation of Reach	387	Ft. MSL
B. Downstream Elevation of Reach	295	Ft. MSL
C. Total Available Head in Reach	92	Ft.
D. Average Slope in Reach	13.9	Ft./Mi.
E. Drainage Area above Reach Mouth	29	Sq.Mi.
F. Inflow Classification	Natural	

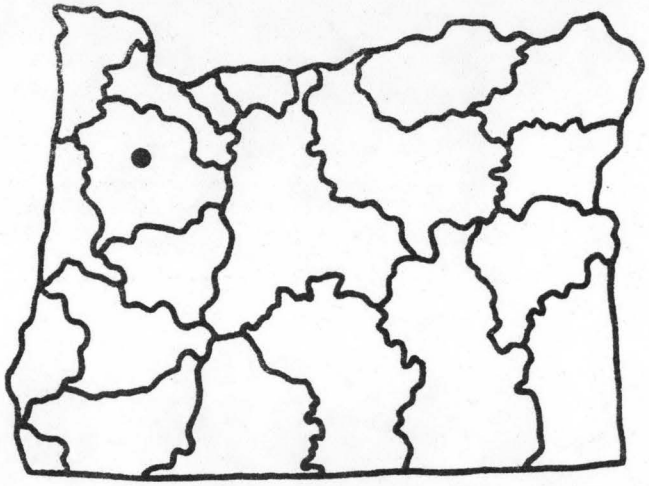
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.04	.33	1.000
80	10.3	.08	.66	.933
50	48.1	.38	2.34	.711
30	92.5	.72	3.55	.562
10	207.8	1.62	5.12	.361

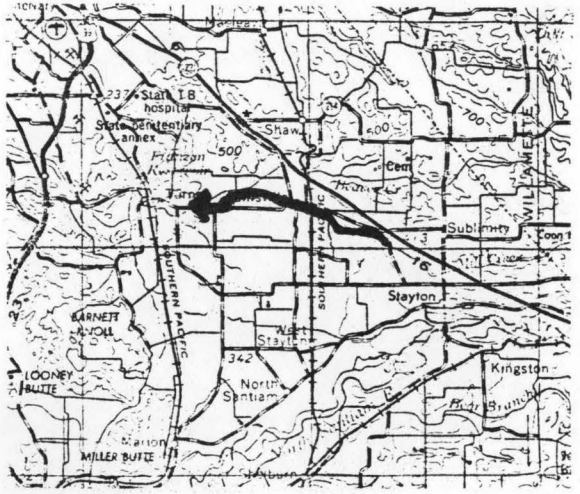
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 86 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-084-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T8S. R1W. Sec.32
D.	Latitude, Longitude	44°49'N.129°50'W
E.	Stream Name	Mill Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	17.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

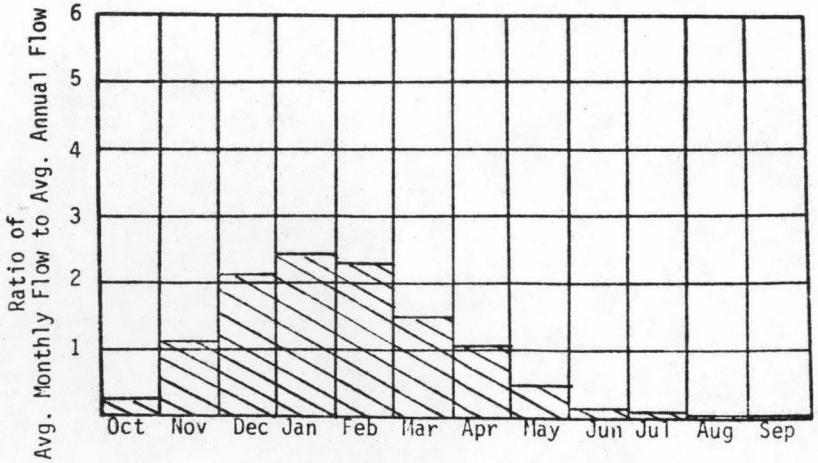
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16	Sq.Mi.
F.	Inflow Classification	Natural	

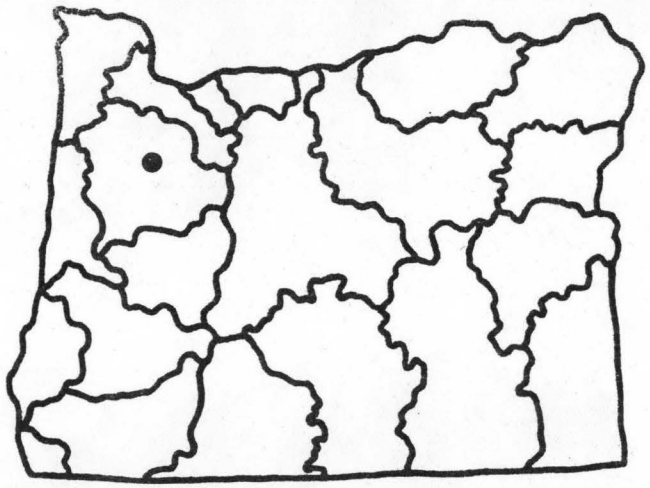
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.02	.17	1.000
80	7.7	.04	.35	.933
50	36.6	.20	1.27	.710
30	70.8	.40	1.94	.560
10	160.3	.90	2.82	.359

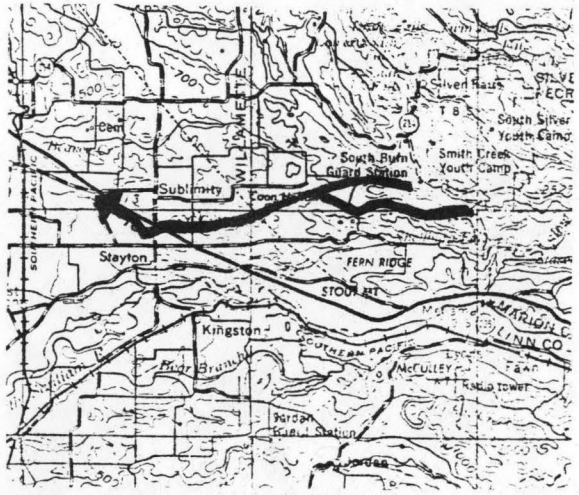
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 66 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0012

I. LOCATION

A.	State	Oregon
B.	County	Marion-Polk
C.	Township, Range	T7S. R3W. Sec.29
D.	Latitude, Longitude	44°55'N.123°05'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	83.6 to 88.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

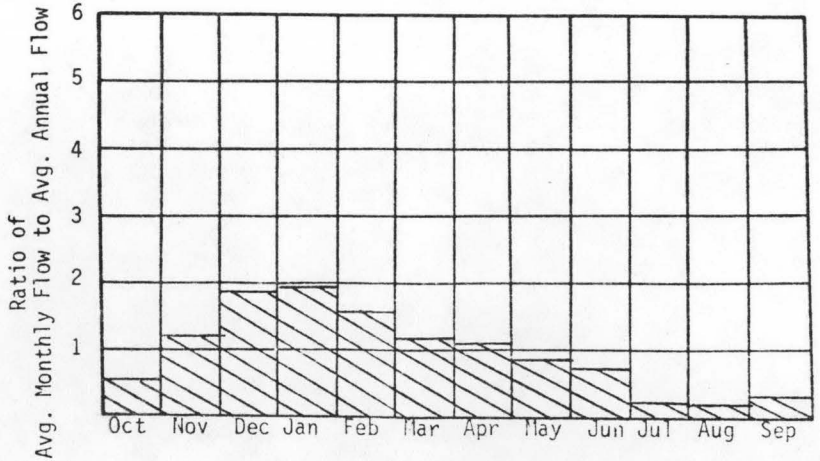
A.	Upstream Elevation of Reach	123	Ft. MSL
B.	Downstream Elevation of Reach	115	Ft. MSL
C.	Total Available Head in Reach	8	Ft.
D.	Average Slope in Reach	1.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	5104	Sq.Mi.
F.	Inflow Classification	Regulated	

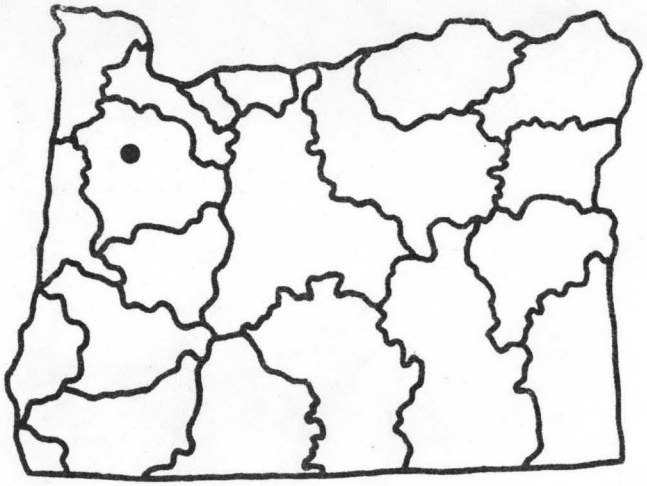
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4367.8	2.96	25.94	1.000
80	6582.3	4.46	37.45	.958
50	15277.8	10.36	71.02	.783
30	24415.3	16.55	92.72	.639
10	52645.3	35.69	126.25	.404

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 22850 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-089-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T7S, R4W, Sec.26
D.	Latitude, Longitude	44°55'N,123°09'W
E.	Stream Name	Rickreail Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 5.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

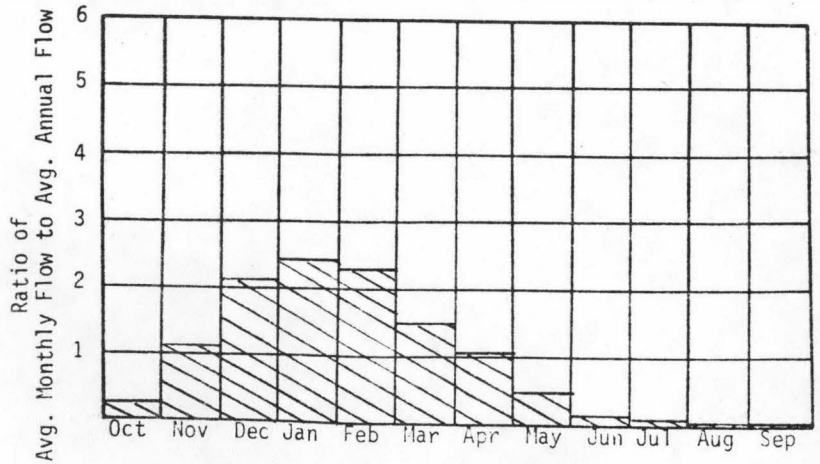
A.	Upstream Elevation of Reach	150	Ft. MSL
B.	Downstream Elevation of Reach	123	Ft. MSL
C.	Total Available Head in Reach	27	Ft.
D.	Average Slope in Reach	4.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	98	Sq.Mi.
F.	Inflow Classification	Regulated	

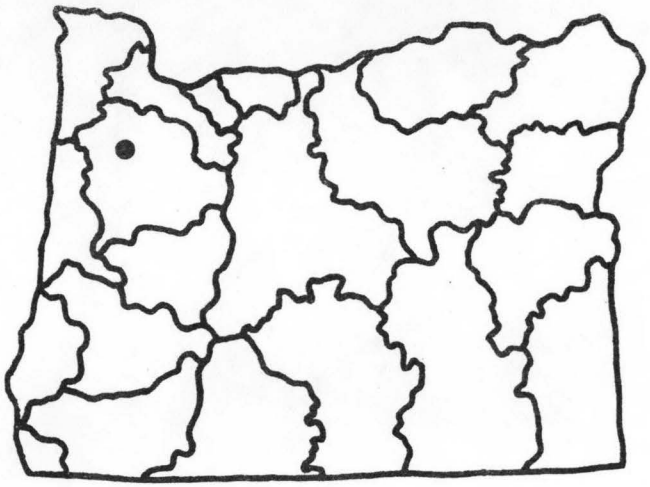
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.1	.01	.10	1.000
80	11.7	.03	.22	.930
50	77.1	.18	1.07	.693
30	205.4	.47	2.10	.510
10	555.5	1.27	3.50	.315

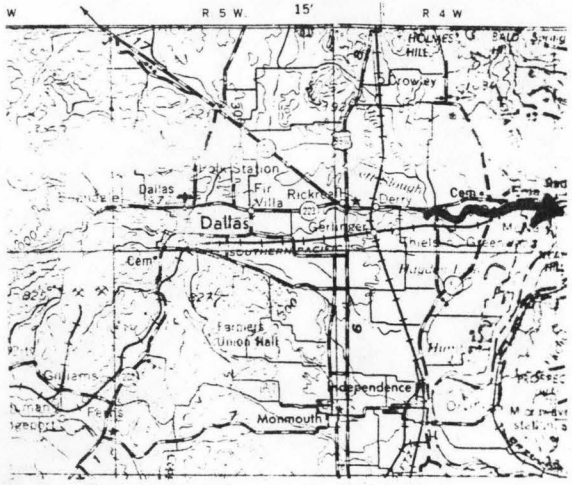
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 216 CFS





U.S.G.S. TOPO. SERIES
1:250,0-0 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-089-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T2S, R5W, Sec.35
D.	Latitude, Longitude	44°55'N,123°15'W
E.	Stream Name	Rickreall Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	5.5 to 15.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

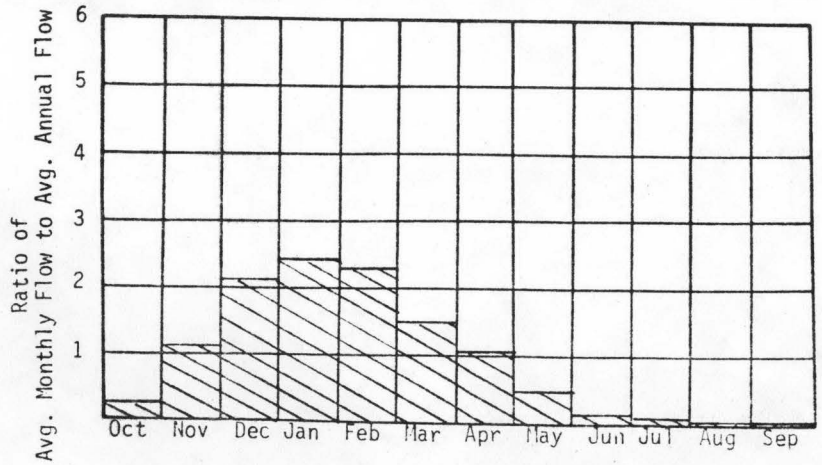
A.	Upstream Elevation of Reach	341	Ft. MSL
B.	Downstream Elevation of Reach	150	Ft. MSL
C.	Total Available Head in Reach	191	Ft.
D.	Average Slope in Reach	20	Ft./Mi.
E.	Drainage Area above Reach Mouth	49	Sq.Mi.
F.	Inflow Classification	Regulated	

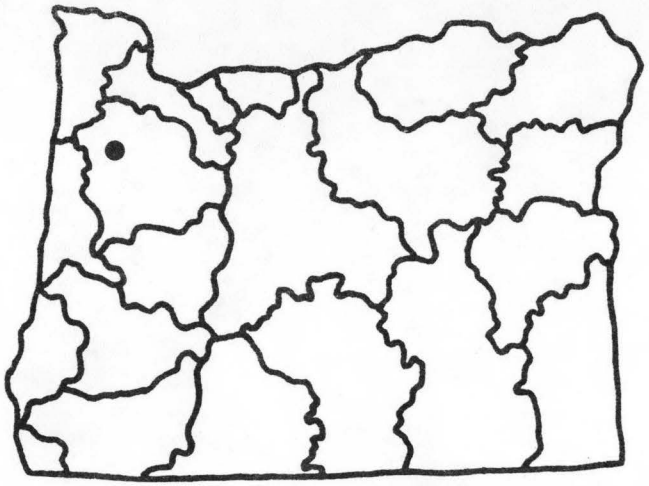
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.06	.53	1.000
80	8.6	.14	1.13	.929
50	57.2	.93	5.61	.692
30	154.2	2.50	11.12	.508
10	412.6	6.68	18.44	.315

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 160 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-089-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T7S, R6W, Sec.36
D.	Latitude, Longitude	44°55'N,123°22'W
E.	Stream Name	Rickreall Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	15.0 to 21.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

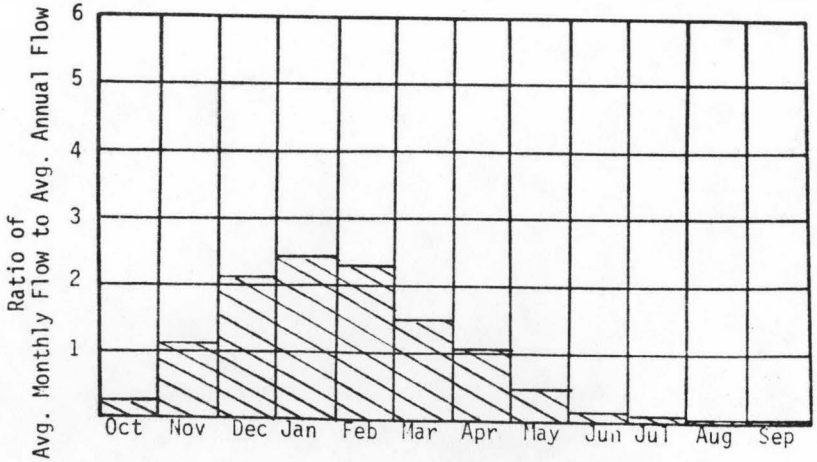
A.	Upstream Elevation of Reach	600	Ft. MSL
B.	Downstream Elevation of Reach	341	Ft. MSL
C.	Total Available Head in Reach	259	Ft.
D.	Average Slope in Reach	41.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	38	Sq.Mi.
F.	Inflow Classification	Regulated	

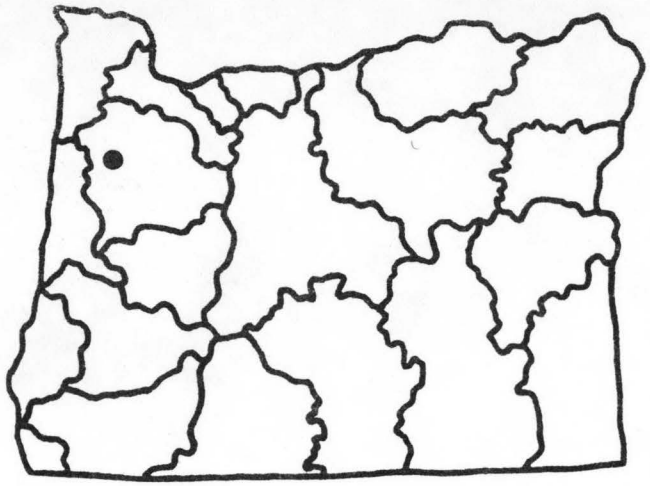
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.8	.06	.54	1.000
80	6.5	.14	1.16	.929
50	43.7	.96	5.80	.691
30	118.9	2.61	11.59	.507
10	314.9	6.91	19.13	.316

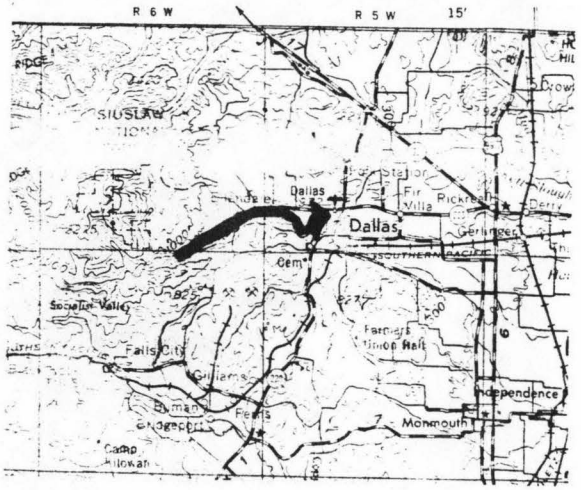
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 122 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-089-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T8S, R6W, Sec.4
D.	Latitude, Longitude	44°54'N,123°25'W
E.	Stream Name	Rickreall Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	21.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

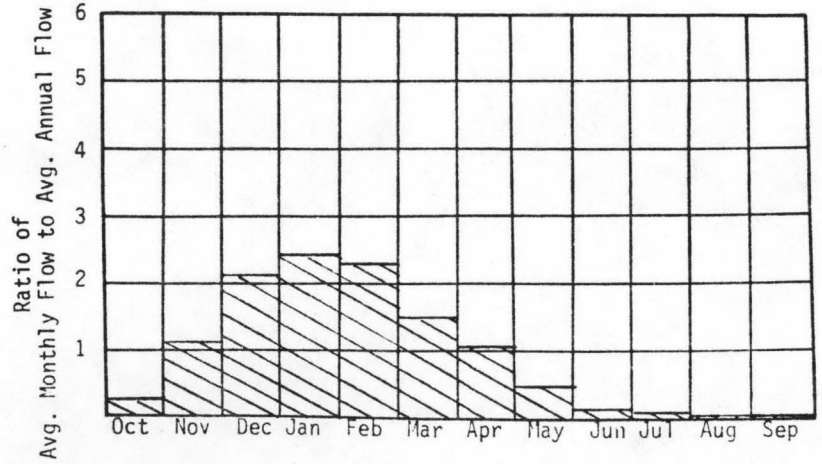
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural & Regulated	

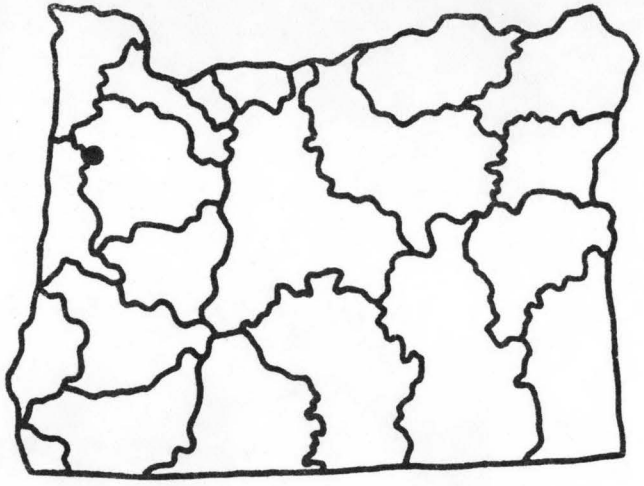
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.2	.01	.11	1.000
80	5.1	.03	.23	.929
50	34.5	.19	1.17	.691
30	95.0	.53	2.35	.506
10	249.3	1.39	3.87	.316

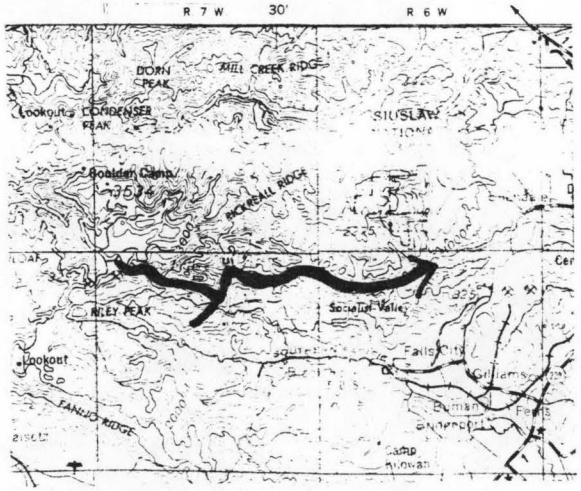
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 97 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0013

I. LOCATION

A. State	Oregon	
B. County	Marion-Polk	
C. Township, Range	T8S, R4W, Sec.14	
D. Latitude, Longitude	44°52'N,123°09'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Mid Willamette	
G. River Mile	88.1 to 96.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

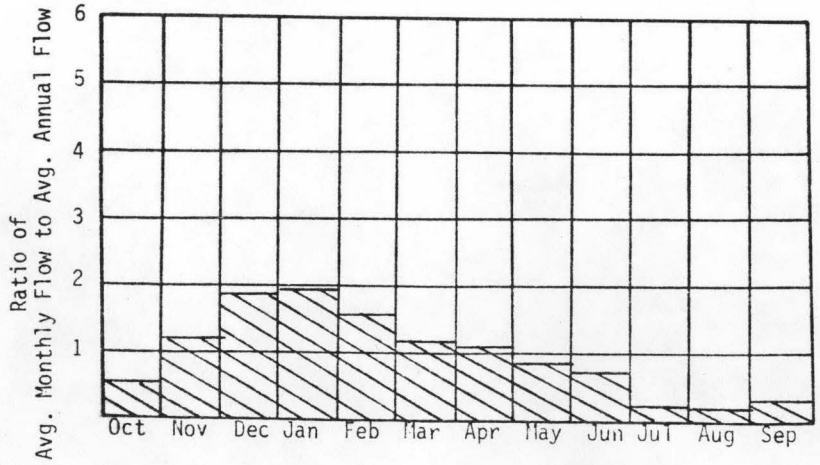
A. Upstream Elevation of Reach	133	Ft. MSL
B. Downstream Elevation of Reach	123	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	1.7	Ft./Mi.
E. Drainage Area above Reach Mouth	4982	Sq.Mi.
F. Inflow Classification	Regulated	

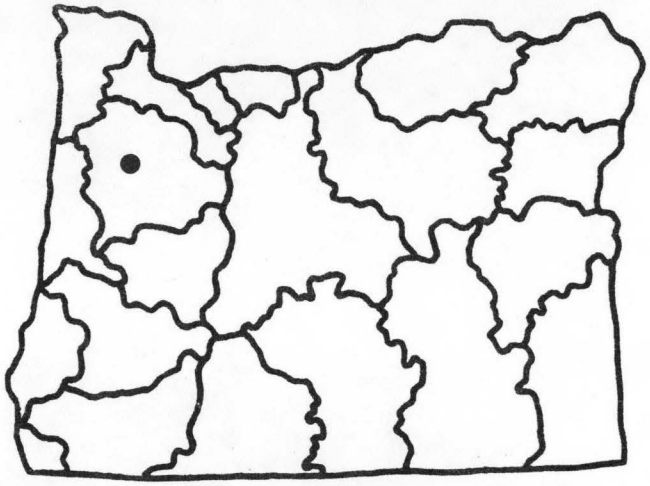
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4292.5	3.64	31.87	1.000
80	6474.0	5.49	46.04	.958
50	15042.1	12.75	87.38	.783
30	24057.2	20.39	114.15	.639
10	51804.9	43.90	155.35	.404

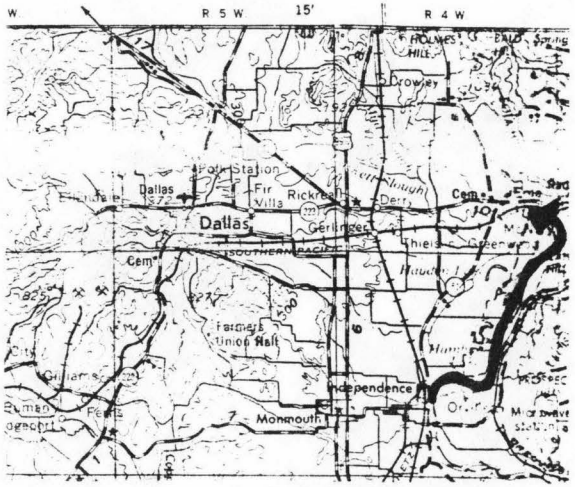
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 22494 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0014

I. LOCATION

A. State	Oregon	
B. County	Marion-Polk	
C. Township, Range	T4S, R4W, Sec.6	
D. Latitude, Longitude	44°49'N,123°06'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Mid Willamette	
G. River Mile	96.1 to 107.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

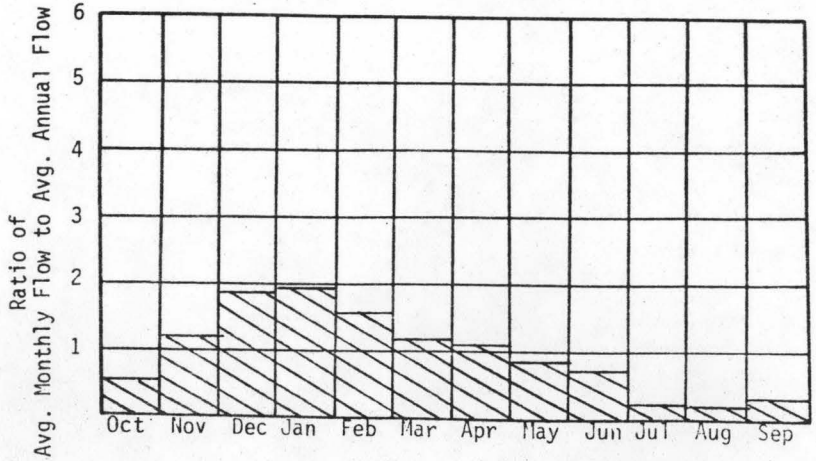
A. Upstream Elevation of Reach	150	Ft. MSL
B. Downstream Elevation of Reach	133	Ft. MSL
C. Total Available Head in Reach	17	Ft.
D. Average Slope in Reach	1.5	Ft./Mi.
E. Drainage Area above Reach Mouth	4930	Sq.Mi.
F. Inflow Classification	Regulated	

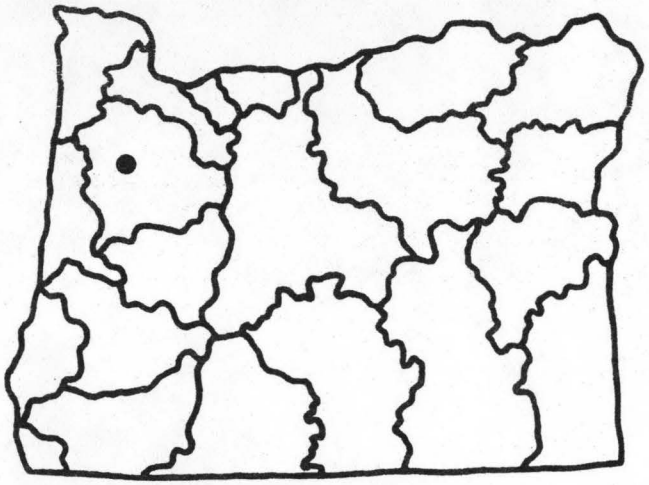
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4272.0	6.15	53.91	1.000
80	6444.4	9.28	77.90	.958
50	14977.7	21.58	147.90	.782
30	23959.5	34.52	193.25	.639
10	51575.7	74.30	262.95	.404

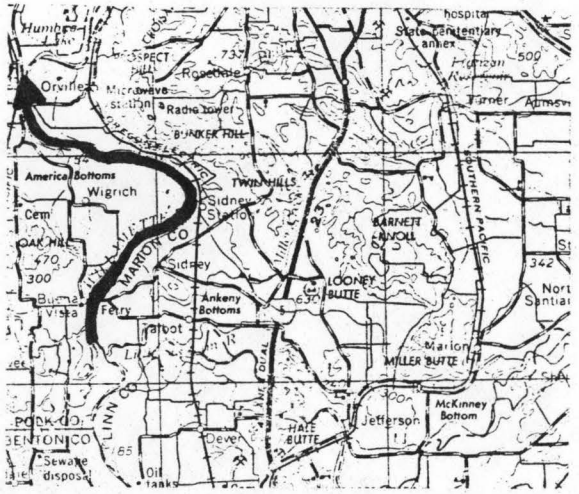
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 22396 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

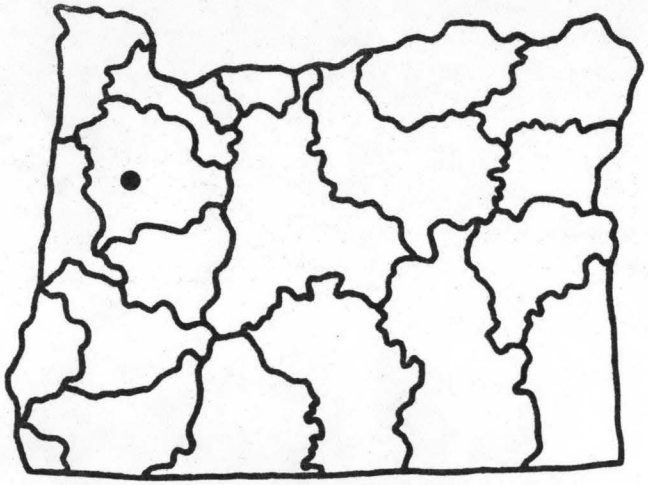


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T4S, R4W, Sec.26
D.	Latitude, Longitude	44°44'N,123°09'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 2.5



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	151	Ft. MSL
B.	Downstream Elevation of Reach	150	Ft. MSL
C.	Total Available Head in Reach	1	Ft.
D.	Average Slope in Reach	0.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	314	Sq.Mi.
F.	Inflow Classification	Natural	

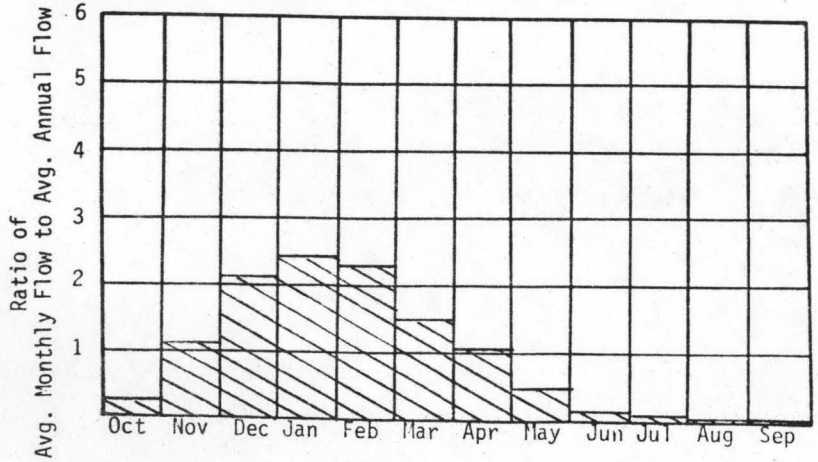
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

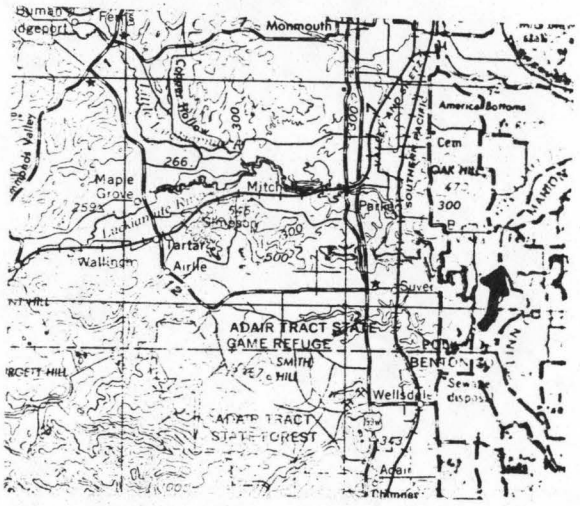
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	19.3	.00	.01	1.000
80	42.7	.00	.03	.932
50	265.3	.02	.14	.695
30	671.9	.06	.26	.517
10	1903.3	.16	.44	.312

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 744 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-002-R0001

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T9S, R4W, Sec.34
D.	Latitude, Longitude	44°44'N,123°10'W
E.	Stream Name	Soap Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

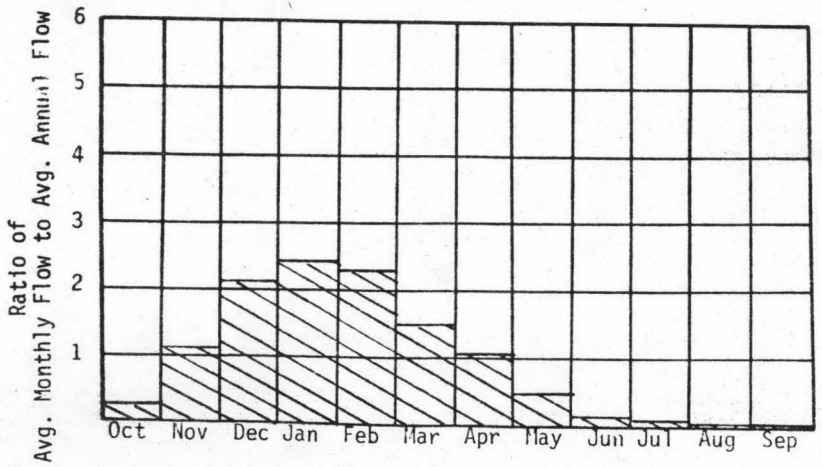
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	52	Sq.Mi.
F.	Inflow Classification	Natural	

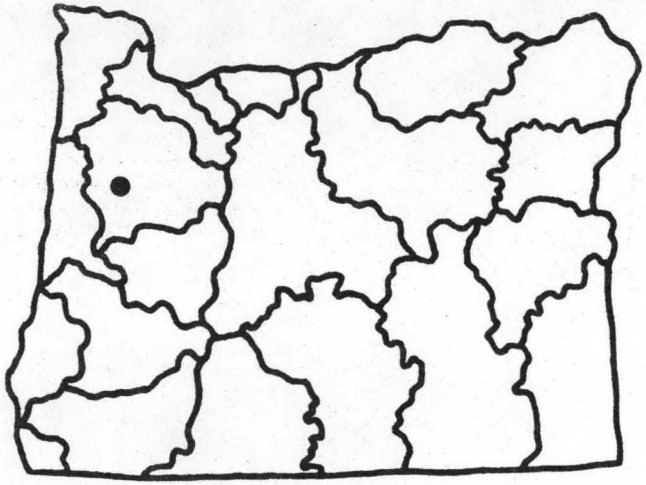
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.0	.02	.15	1.000
80	6.9	.04	.32	.929
50	46.7	.26	1.58	.691
30	126.9	.71	3.15	.507
10	337.0	1.88	5.21	.316

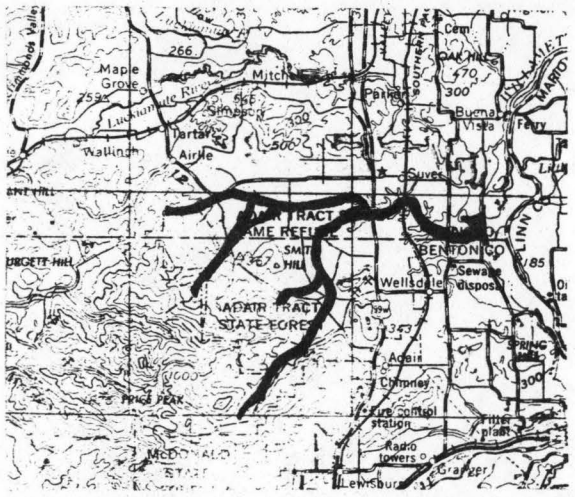
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 131 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T9S, R4W, Sec.28
D.	Latitude, Longitude	44°45'N,123°10'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	2.5 to 9.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

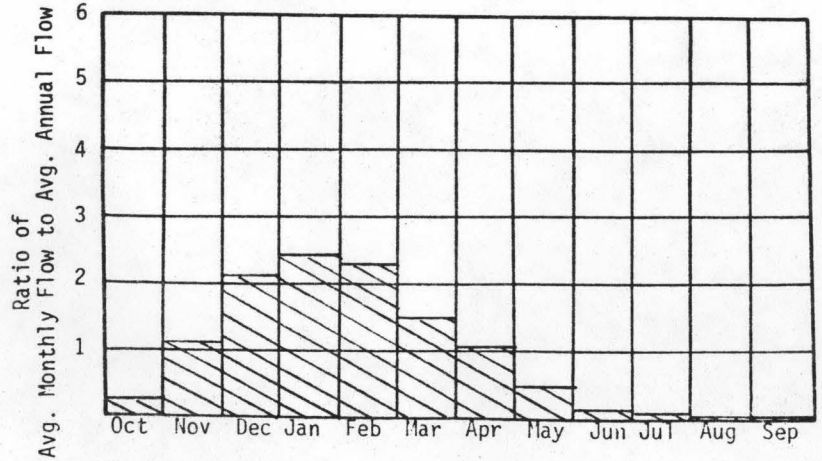
A.	Upstream Elevation of Reach	160	Ft. MSL
B.	Downstream Elevation of Reach	150	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	1.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	260	Sq.Mi.
F.	Inflow Classification	Natural	

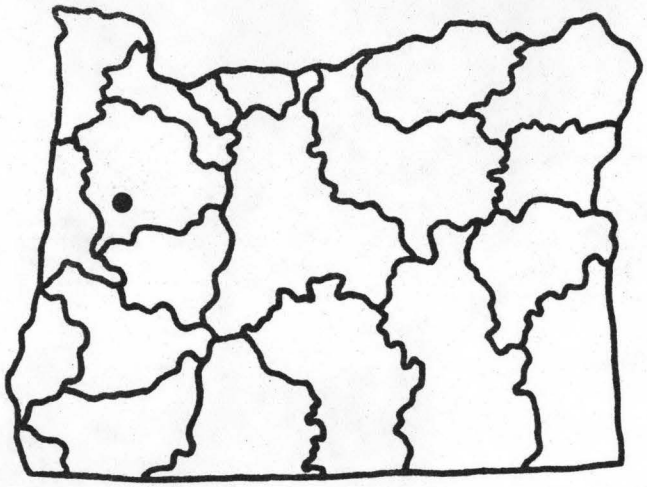
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.8	.01	.11	1.000
80	32.9	.03	.23	.931
50	206.7	.18	1.07	.695
30	528.8	.45	2.02	.515
10	1484.2	1.26	3.44	.312

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 580 CFS





U.S.G.S. TOPO. SERIES
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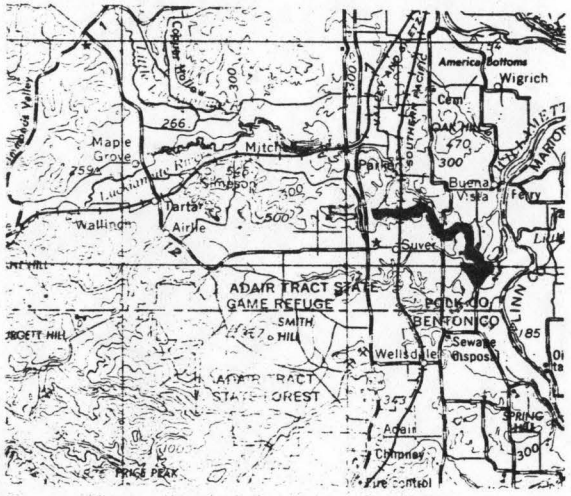
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T9S, R5W, Sec.13
D.	Latitude, Longitude	44°47'N,123°15'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	9.5 to 18.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

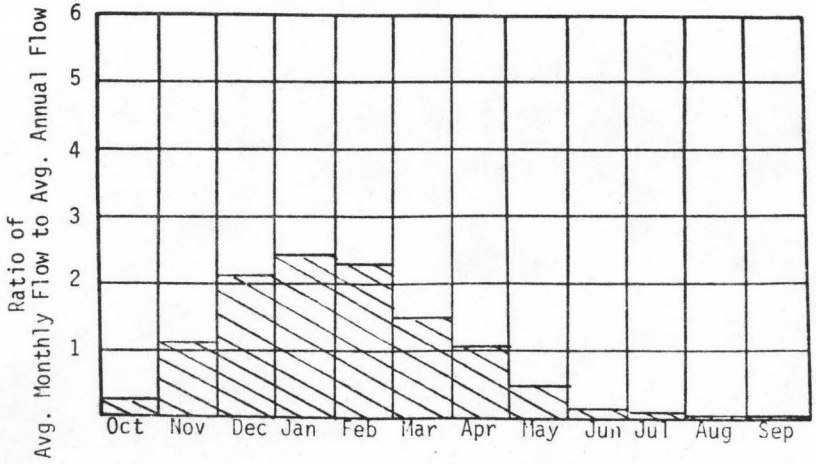
A.	Upstream Elevation of Reach	193	Ft. MSL
B.	Downstream Elevation of Reach	160	Ft. MSL
C.	Total Available Head in Reach	33	Ft.
D.	Average Slope in Reach	3.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	248	Sq.Mi.
F.	Inflow Classification	Natural	

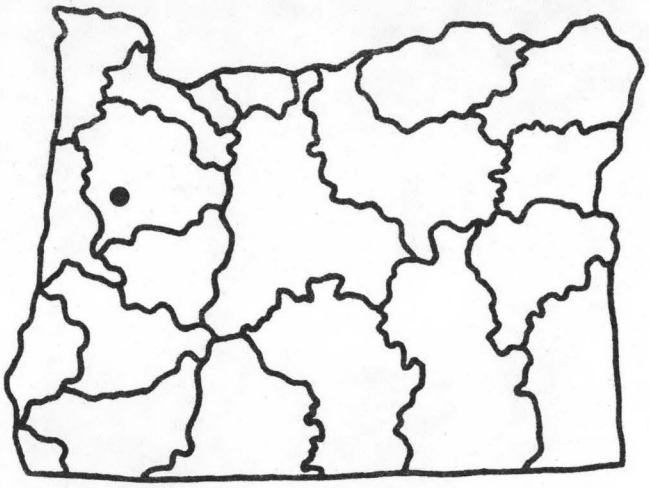
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.1	.04	.34	1.000
80	31.3	.09	.71	.931
50	197.5	.55	3.36	.695
30	506.2	1.42	6.39	.515
10	1418.2	3.97	10.85	.312

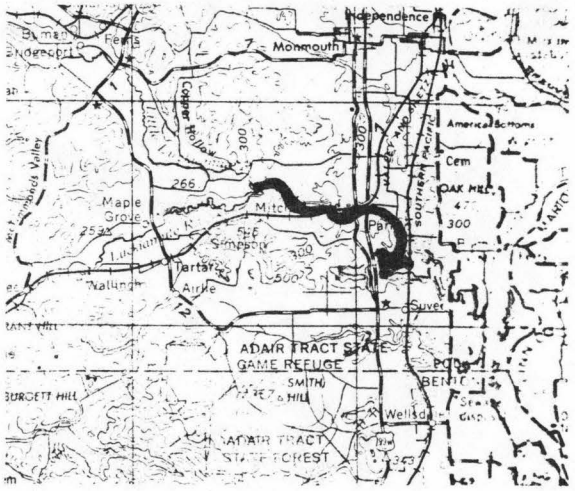
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 554 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-005-R0001

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T9S, R5W, Sec.29
D.	Latitude, Longitude	44°48'N,123°21'W
E.	Stream Name	Little Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 9.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

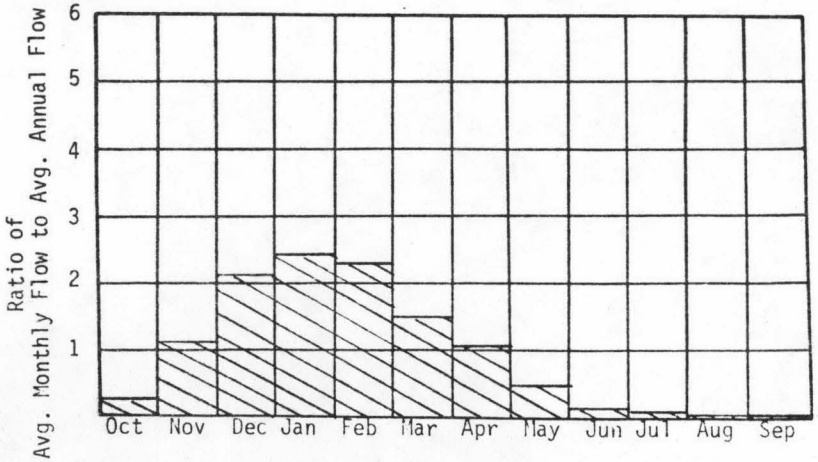
A.	Upstream Elevation of Reach	248	Ft. MSL
B.	Downstream Elevation of Reach	193	Ft. MSL
C.	Total Available Head in Reach	55	Ft.
D.	Average Slope in Reach	5.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	84	Sq.Mi.
F.	Inflow Classification	Natural	

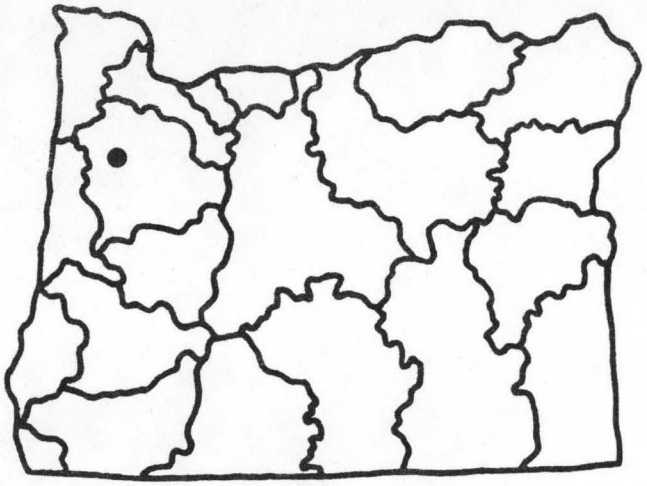
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.7	.03	.27	1.000
80	15.1	.07	.57	.930
50	98.4	.46	2.79	.693
30	259.5	1.21	5.42	.511
10	708.3	3.30	9.08	.314

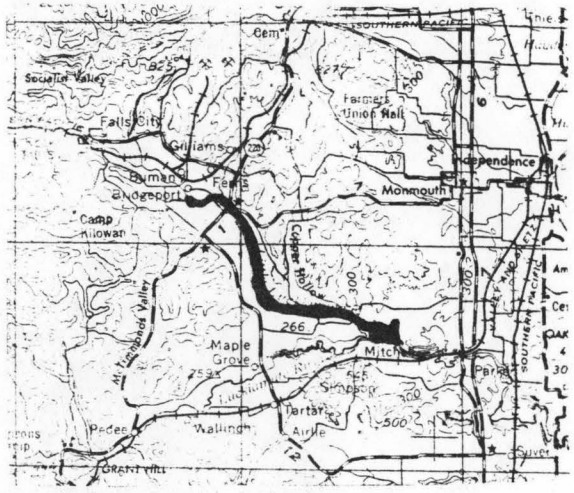
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 276 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-005-R0002

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T8S, R6W, Sec.21
D.	Latitude, Longitude	44°52'N,123°25'W
E.	Stream Name	Little Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	9.3 to 15.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

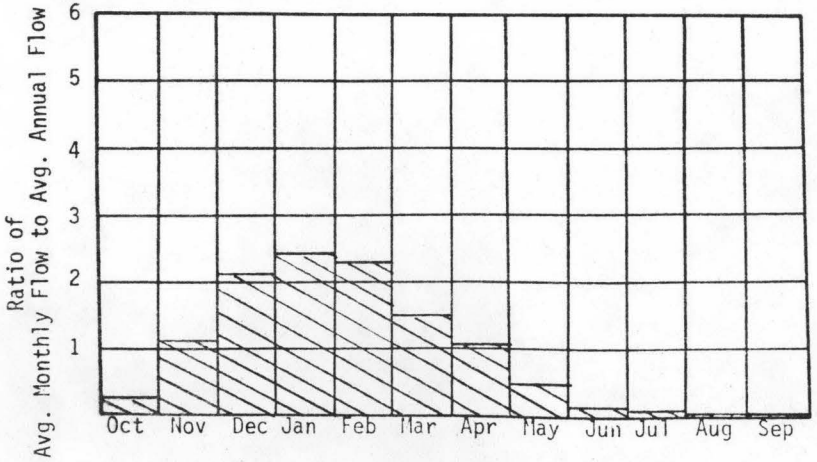
A.	Upstream Elevation of Reach	556	Ft. MSL
B.	Downstream Elevation of Reach	248	Ft. MSL
C.	Total Available Head in Reach	308	Ft.
D.	Average Slope in Reach	54	Ft./Mi.
E.	Drainage Area above Reach Mouth	40	Sq.Mi.
F.	Inflow Classification	Natural	

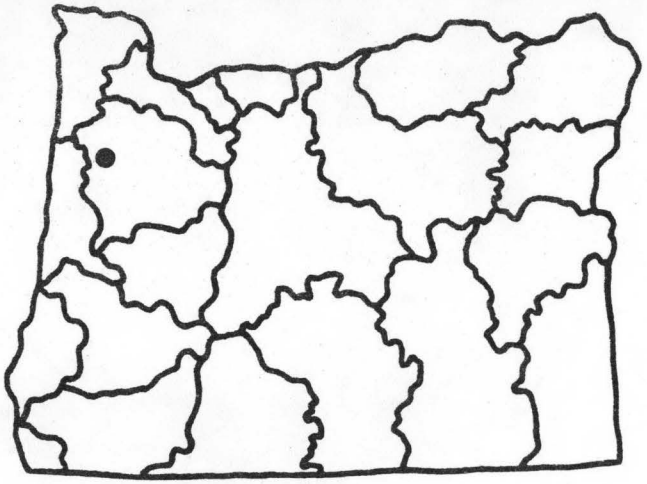
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.09	.76	1.000
80	7.7	.20	1.64	.929
50	51.6	1.35	8.16	.692
30	139.6	3.64	16.21	.508
10	372.0	9.71	26.83	.315

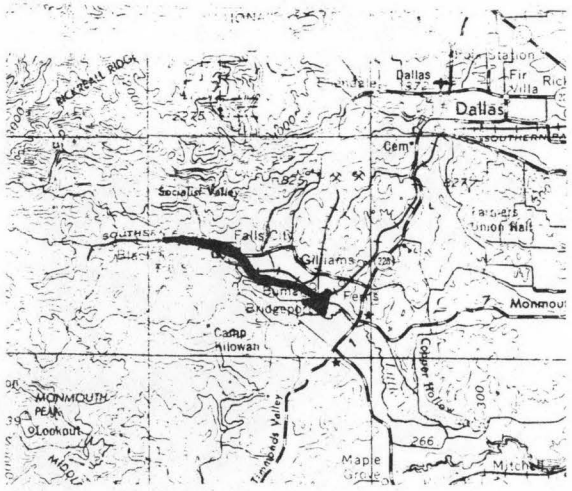
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 145 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-005-R0003

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T8S, R6W, Sec.18
D.	Latitude, Longitude	44°52'N,123°28'W
E.	Stream Name	Little Luckiamute River
F.	Major Basin Name	Middle Willamette
G.	River Mile	15.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

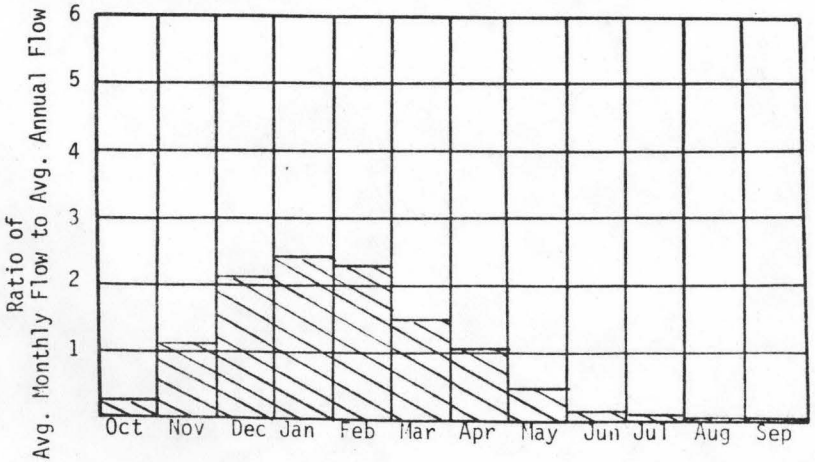
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural	

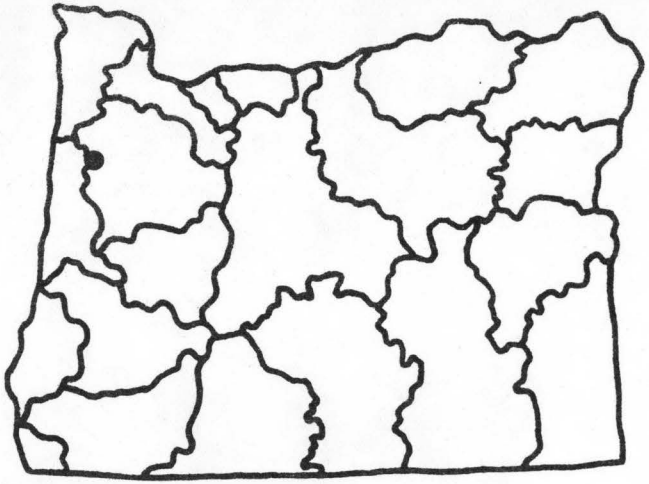
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.5	.01	.12	1.000
80	5.9	.03	.27	.929
50	40.1	.22	1.36	.691
30	109.5	.61	2.72	.506
10	289.1	1.62	4.48	.316

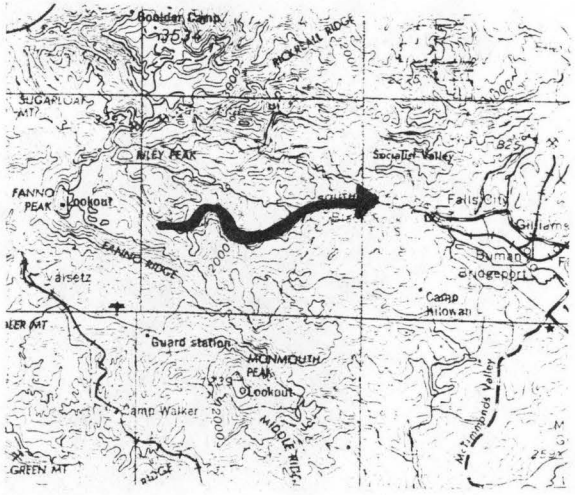
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 113 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T4S, R5W, Sec.15
D.	Latitude, Longitude	44°47'N,123°18'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	18.2 to 20.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

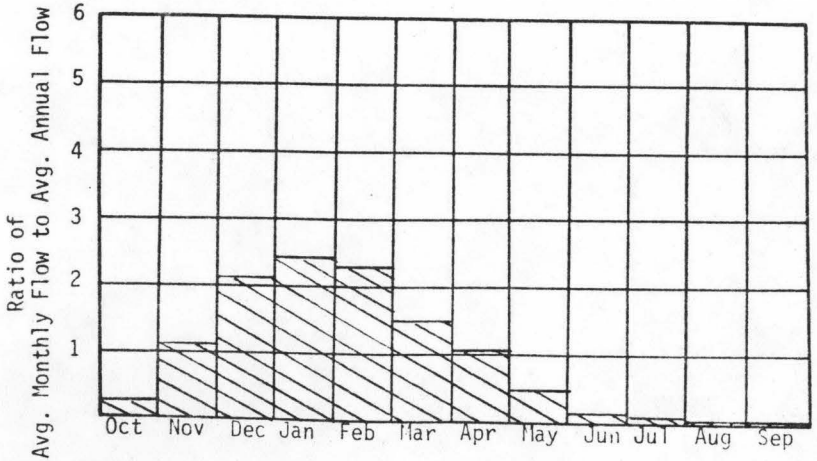
A.	Upstream Elevation of Reach	200	Ft. MSL
B.	Downstream Elevation of Reach	193	Ft. MSL
C.	Total Available Head in Reach	7	Ft.
D.	Average Slope in Reach	3.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	152	Sq.Mi.
F.	Inflow Classification	Natural	

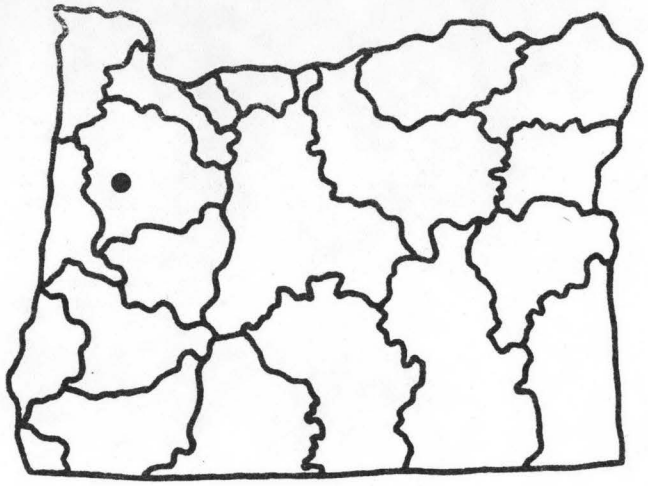
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.9	.00	.03	1.000
80	11.2	.01	.05	.930
50	73.6	.04	.26	.692
30	196.4	.12	.52	.510
10	530.4	.31	.87	.315

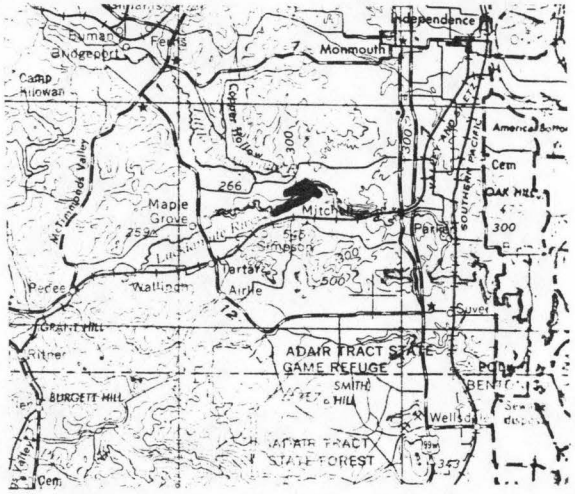
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 207 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T9S, R6W, Sec.34
D.	Latitude, Longitude	44°46'N,123°23'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	20.1 to 30.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

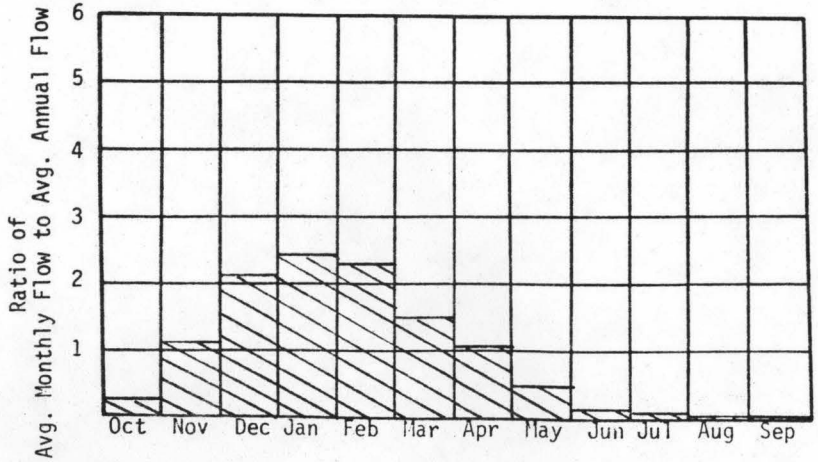
A.	Upstream Elevation of Reach	240	Ft. MSL
B.	Downstream Elevation of Reach	200	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	3.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	140	Sq.Mi.
F.	Inflow Classification	Natural	

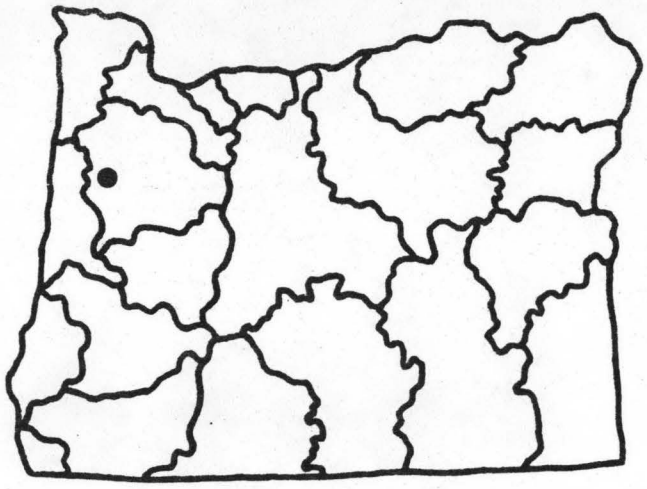
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.01	.10	1.000
80	7.6	.03	.21	.929
50	50.9	.17	1.04	.692
30	137.8	.47	2.08	.508
10	366.9	1.24	3.44	.316

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 143 CFS





U.S.G.S. TOPO. SERIES
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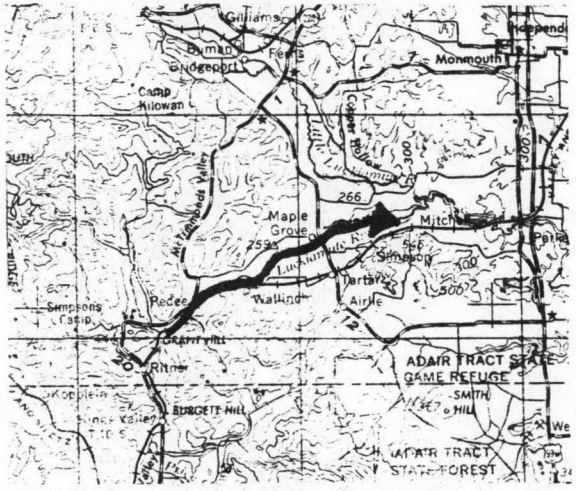
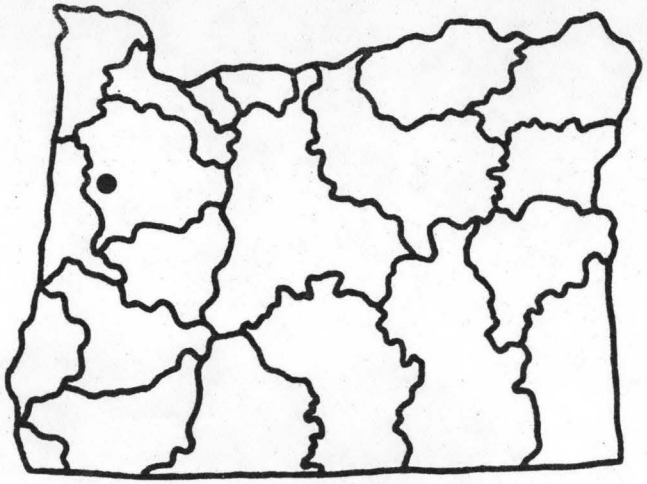


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T10S, R6W
D.	Latitude, Longitude	44°46'N,123°23'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	30.2 to 31.0



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	260	Ft. MSL
B.	Downstream Elevation of Reach	240	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	25	Ft./Mi.
E.	Drainage Area above Reach Mouth	104	Sq.Mi.
F.	Inflow Classification	Natural	

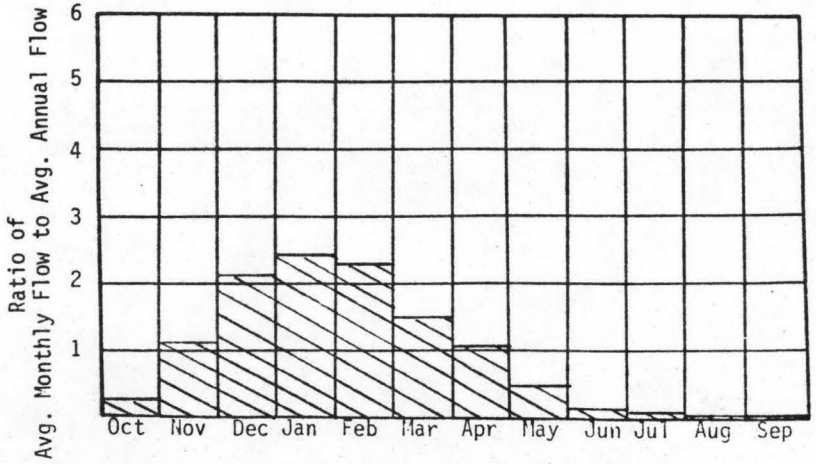
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

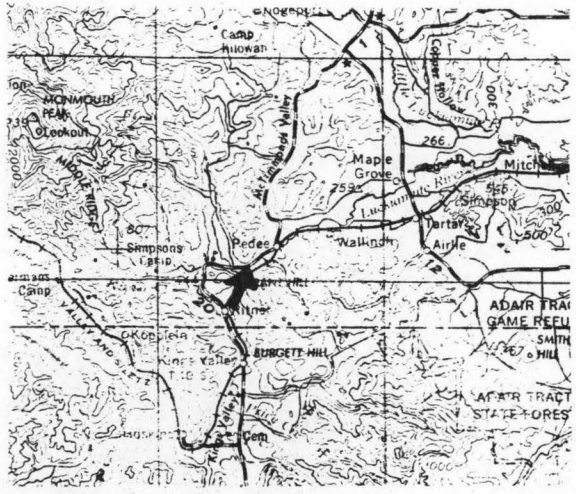
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1.1	.00	.02	1.000
80	2.6	.00	.04	.928
50	18.5	.03	.19	.690
30	52.1	.09	.39	.503
10	133.5	.23	.63	.318

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 52 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0007

I. LOCATION

A. State	Oregon	
B. County	Polk	
C. Township, Range	T10S, R6W, Sec.17	
D. Latitude, Longitude	44°41'N,123°26'W	
E. Stream Name	Luckiamute River	
F. Major Basin Name	Mid Willamette	
G. River Mile	31.0 to 37.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

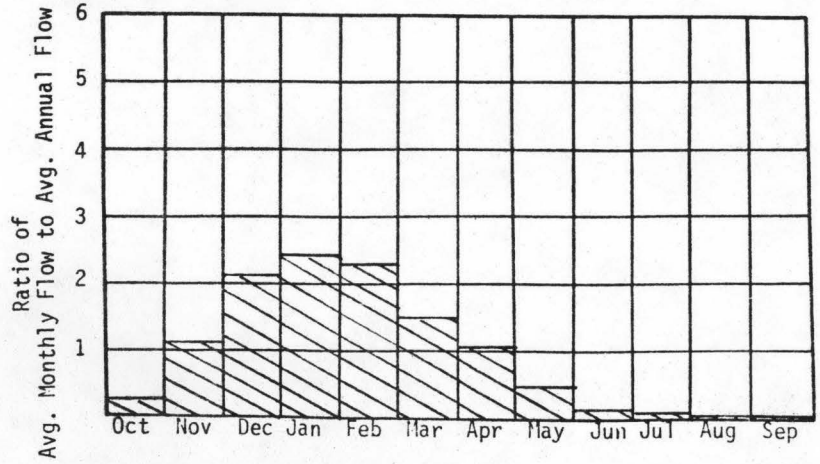
A. Upstream Elevation of Reach	320	Ft. MSL
B. Downstream Elevation of Reach	260	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	9.5	Ft./Mi.
E. Drainage Area above Reach Mouth	88	Sq.Mi.
F. Inflow Classification	Natural	

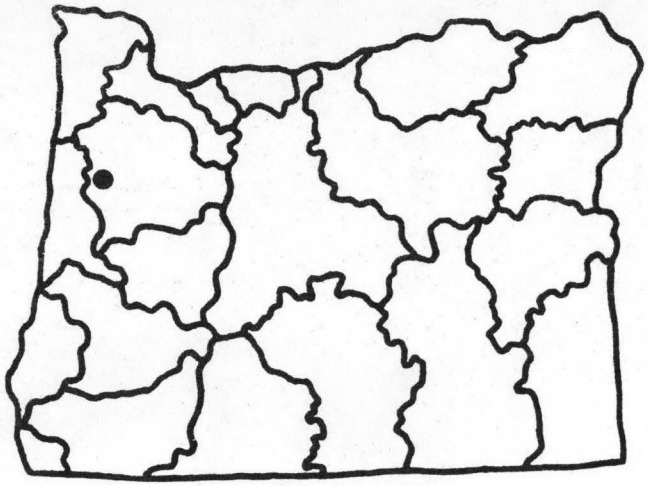
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.7	.03	.30	1.000
80	15.1	.08	.63	.930
50	98.4	.50	3.04	.693
30	259.4	1.32	5.91	.511
10	708.2	3.60	9.90	.314

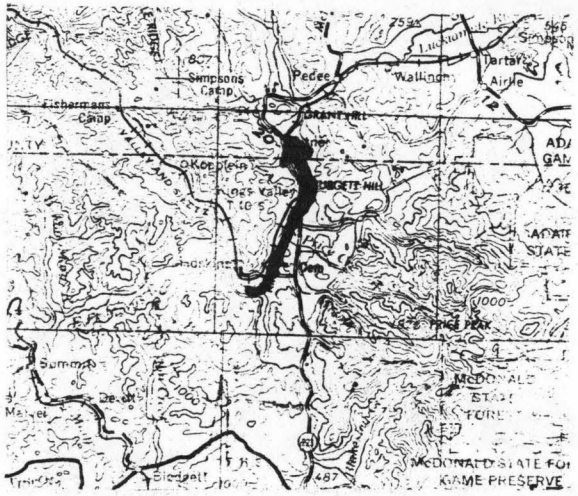
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 276 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

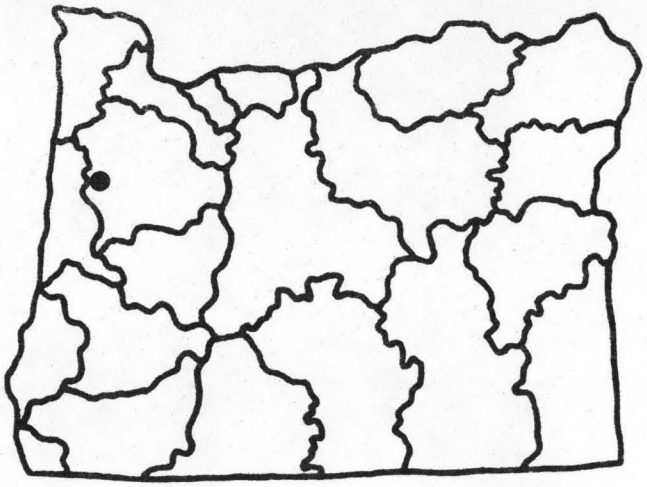


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0008

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T10S, R7W, Sec.12
D.	Latitude, Longitude	44°43'N,123°30'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	37.3 to 48.3



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	618	Ft. MSL
B.	Downstream Elevation of Reach	320	Ft. MSL
C.	Total Available Head in Reach	298	Ft.
D.	Average Slope in Reach	27.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	44	Sq.Mi.
F.	Inflow Classification	Natural	

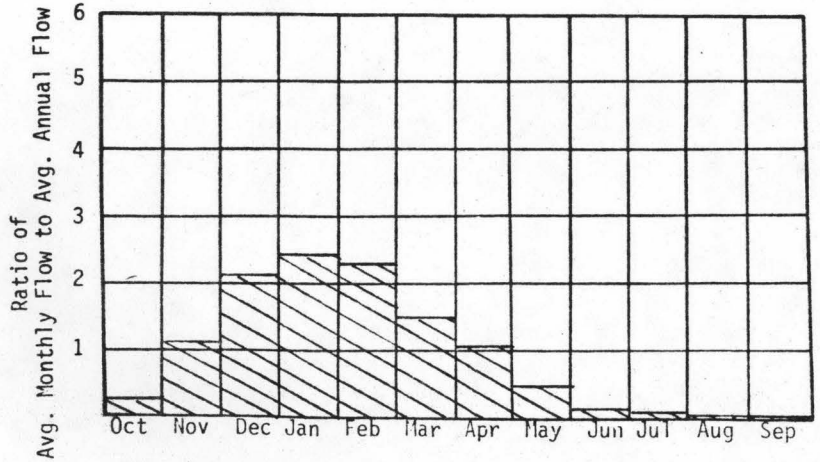
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

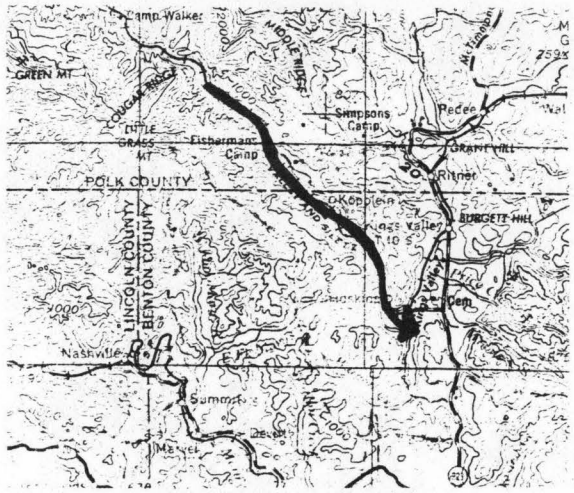
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.09	.82	1.000
80	8.5	.21	1.75	.929
50	56.8	1.43	8.69	.692
30	153.0	3.86	17.21	.508
10	409.2	10.33	28.54	.315

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 160 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-107-000-R0009

I. LOCATION

A.	State	Oregon
B.	County	Polk
C.	Township, Range	T9S. R7W. Sec.26
D.	Latitude, Longitude	44°46'N.123°35'W
E.	Stream Name	Luckiamute River
F.	Major Basin Name	Mid Willamette
G.	River Mile	48.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

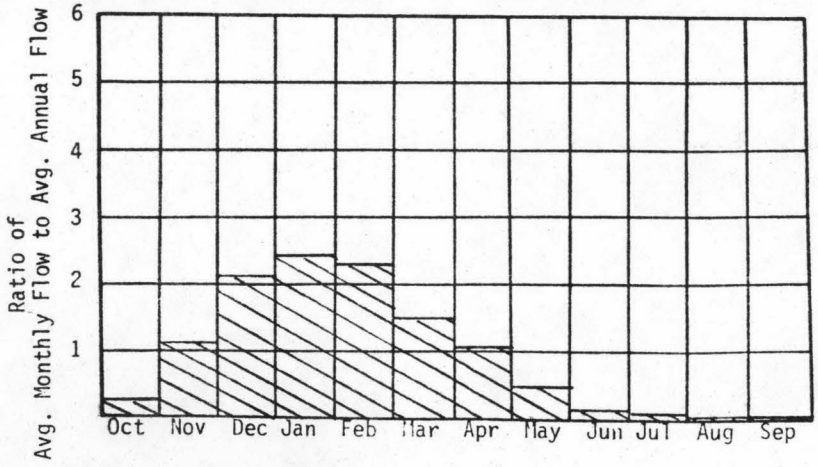
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	24	Sq.Mi.
F.	Inflow Classification	Natural	

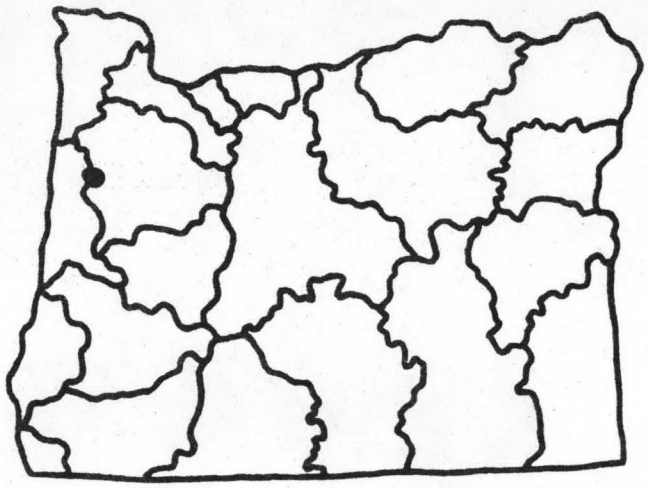
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.7	.02	.13	1.000
80	6.3	.04	.29	.929
50	42.4	.24	1.43	.691
30	115.6	.65	2.87	.507
10	305.7	1.71	4.73	.316

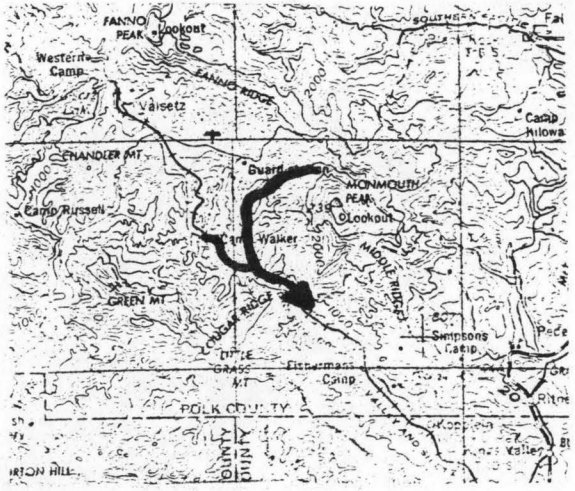
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 119 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0015

I. LOCATION

A. State	Oregon	
B. County	Marion-Polk	
C. Township, Range	T9S. R4W. Sec.35	
D. Latitude, Longitude	44°45'N.123°09'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Mid Willamette	
G. River Mile	107.5 to 109.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

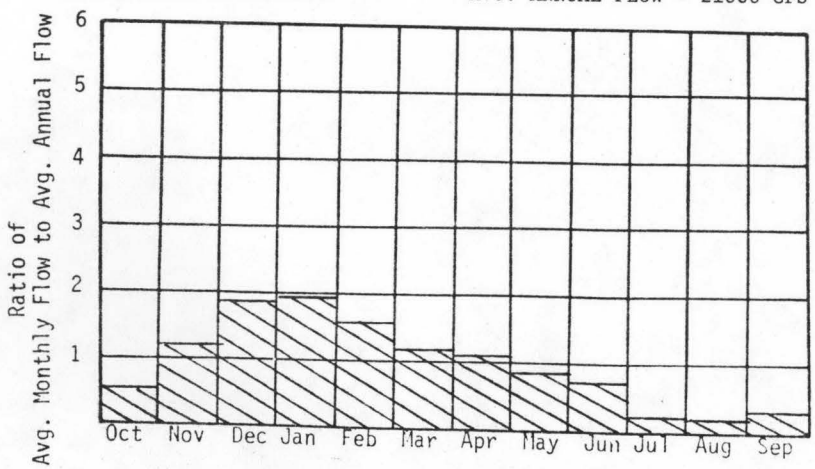
A. Upstream Elevation of Reach	156	Ft. MSL
B. Downstream Elevation of Reach	150	Ft. MSL
C. Total Available Head in Reach	6	Ft.
D. Average Slope in Reach	4	Ft./Mi.
E. Drainage Area above Reach Mouth	4578	Sq.Mi.
F. Inflow Classification	Regulated	

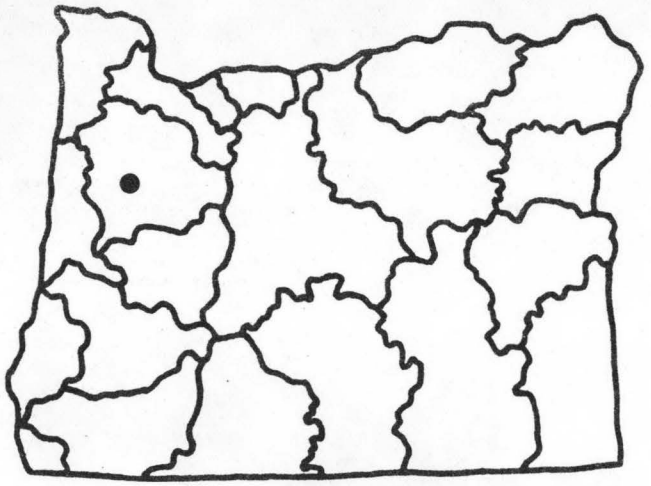
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4105.9	2.09	18.29	1.000
80	6205.2	3.16	26.47	.958
50	14456.1	7.35	50.36	.782
30	23166.1	11.78	65.88	.638
10	49718.4	25.28	89.53	.404

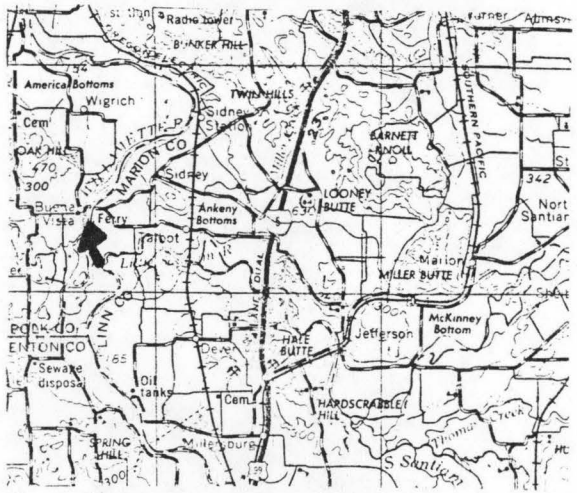
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 21606 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Marion-Linn	
C. Township, Range	T9S, R3W, Sec.33	
D. Latitude, Longitude	44°44'N,123°04'W	
E. Stream Name	Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 11.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

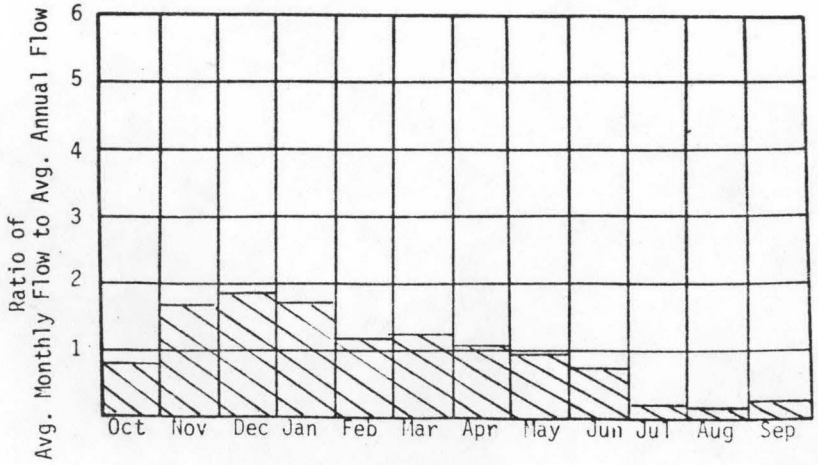
A. Upstream Elevation of Reach	210	Ft. MSL
B. Downstream Elevation of Reach	156	Ft. MSL
C. Total Available Head in Reach	54	Ft.
D. Average Slope in Reach	4.6	Ft./Mi.
E. Drainage Area above Reach Mouth	1820	Sq.Mi.
F. Inflow Classification	Regulated	

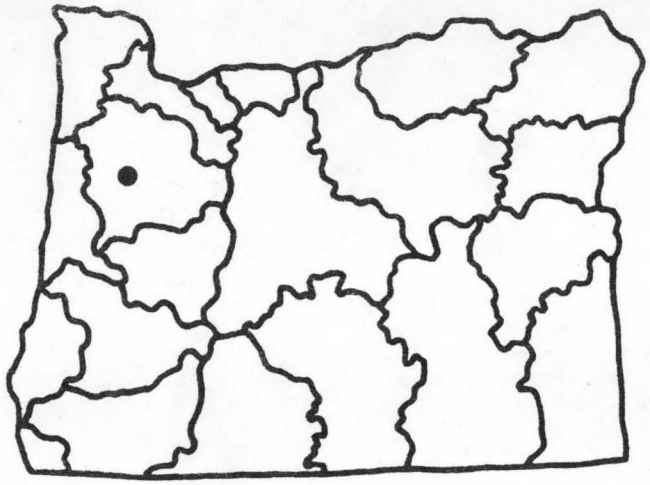
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	668.4	3.06	26.80	1.000
80	1306.7	5.98	49.18	.939
50	4570.0	20.91	134.22	.733
30	7822.3	35.80	186.37	.594
10	15396.0	70.46	247.09	.400

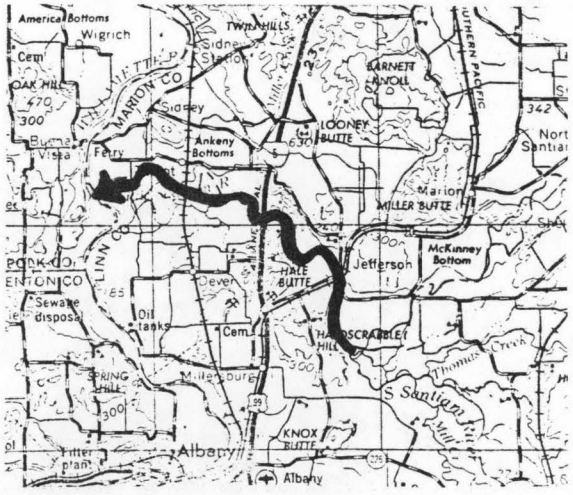
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 6972 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0001

I. LOCATION

A.	State	Oregon
B.	County	Marion-Linn
C.	Township, Range	T10S. R2W. Sec.10
D.	Latitude, Longitude	44°43'N.122°56'W
E.	Stream Name	North Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 11.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

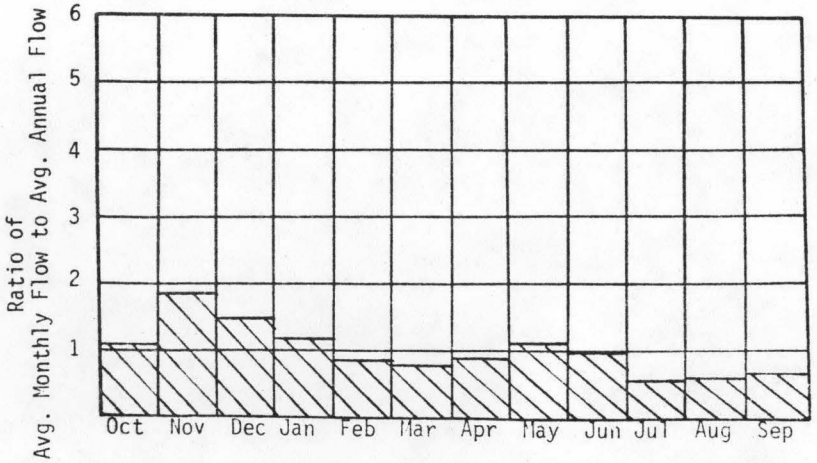
A.	Upstream Elevation of Reach	346	Ft. MSL
B.	Downstream Elevation of Reach	210	Ft. MSL
C.	Total Available Head in Reach	136	Ft.
D.	Average Slope in Reach	12	Ft./Mi.
E.	Drainage Area above Reach Mouth	734	Sq.Mi.
F.	Inflow Classification	Regulated	

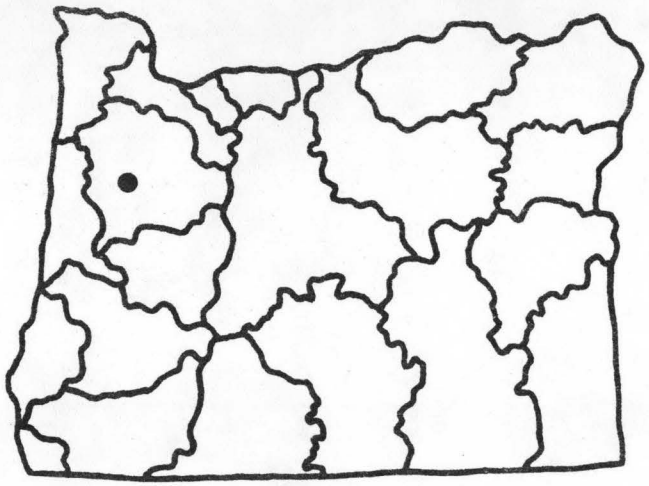
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	277.4	3.20	28.01	1.000
80	551.7	6.36	52.23	.938
50	2031.0	23.41	149.32	.728
30	3549.0	40.90	210.62	.588
10	7151.1	82.42	283.36	.392

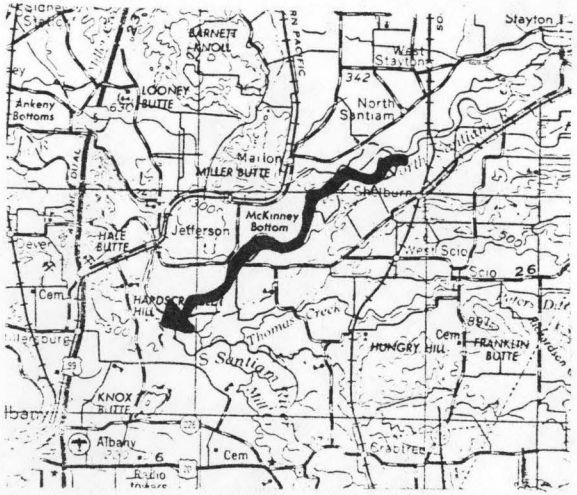
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3188 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

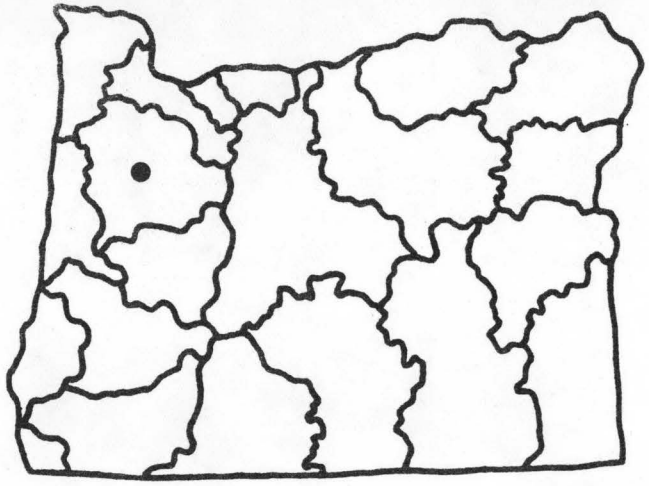


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0002

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T9S, R1W, Sec.16
D.	Latitude, Longitude	44°46'N,122°49'W
E.	Stream Name	North Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	11.2 to 19.71



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	470	Ft. MSL
B.	Downstream Elevation of Reach	346	Ft. MSL
C.	Total Available Head in Reach	124	Ft.
D.	Average Slope in Reach	16.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	706	Sq.Mi.
F.	Inflow Classification	Regulated	

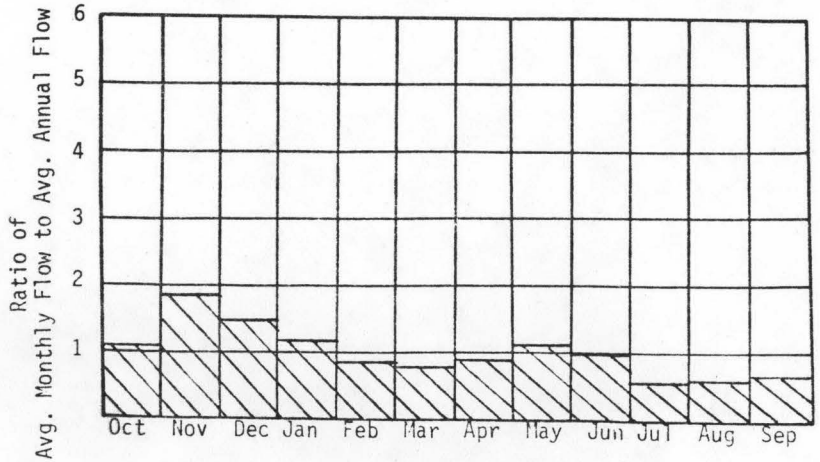
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

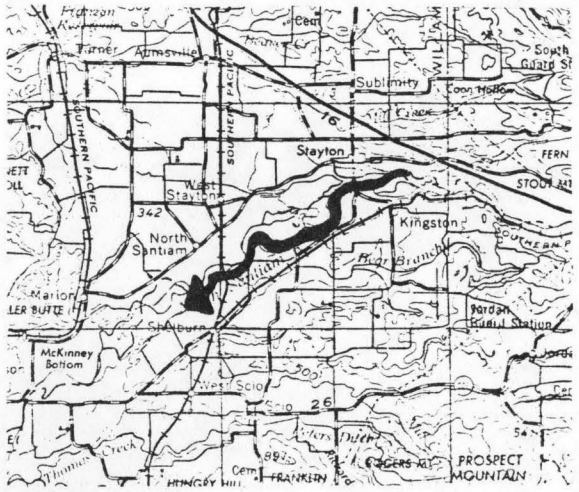
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	271.3	2.85	24.97	1.000
80	539.8	5.67	46.60	.938
50	1990.0	20.91	133.37	.728
30	3479.0	36.56	188.20	.588
10	7014.2	73.71	253.29	.392

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3126 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0003

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T9S. R1E. Sec.11	
D. Latitude, Longitude	44°46'N.122°41'W	
E. Stream Name	North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	19.7 to 27.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

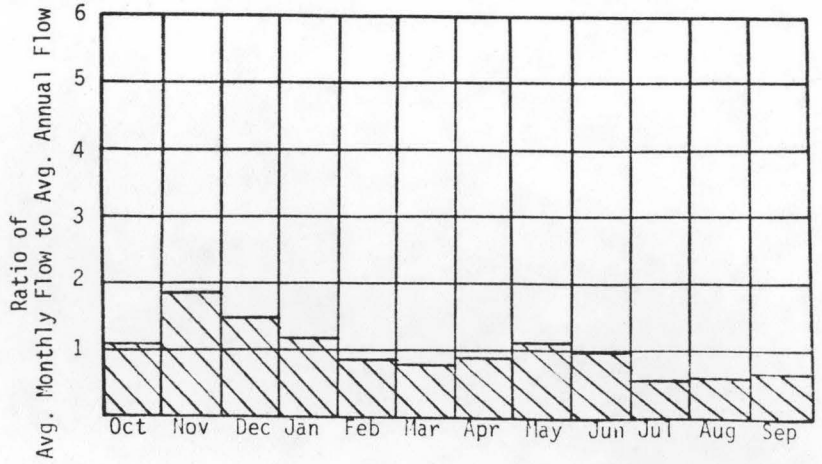
A. Upstream Elevation of Reach	612	Ft. MSL
B. Downstream Elevation of Reach	470	Ft. MSL
C. Total Available Head in Reach	142	Ft.
D. Average Slope in Reach	18.2	Ft./Mi.
E. Drainage Area above Reach Mouth	685	Sq.Mi.
F. Inflow Classification	Regulated	

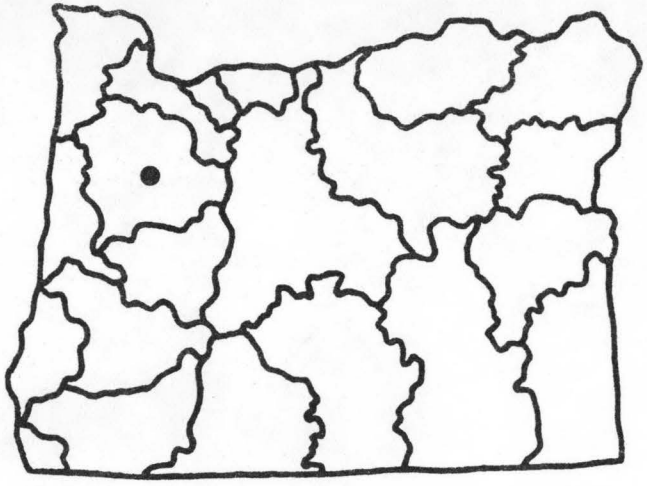
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	263.6	3.17	27.79	1.000
80	524.8	6.32	51.88	.938
50	1937.9	23.32	148.71	.728
30	3390.3	40.80	209.95	.587
10	6840.7	82.32	282.70	.392

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3046 CFS





U.S.G.S. TOPO. SERIES
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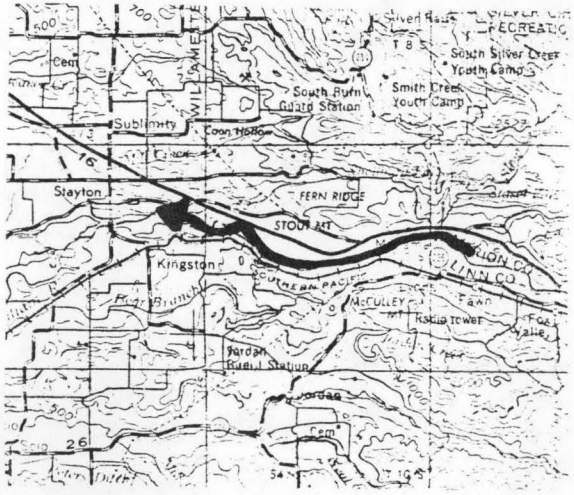
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0004

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T9S, R3E, Sec.7	
D. Latitude, Longitude	44°47'N.122°29'W	
E. Stream Name	Little North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 11.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

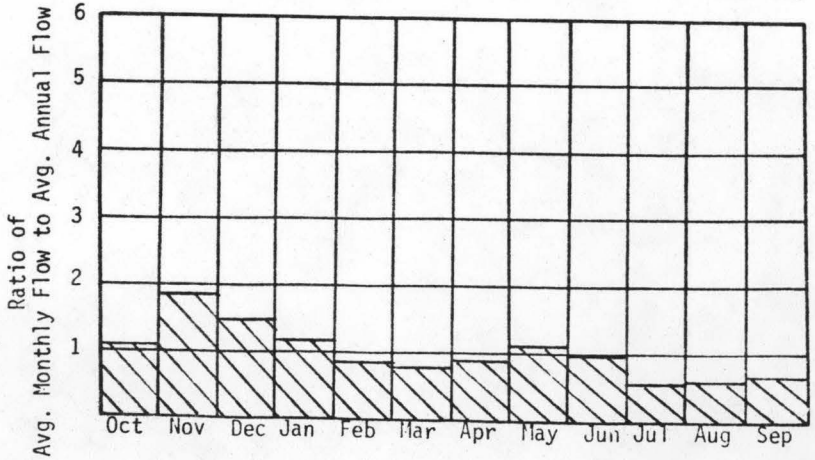
A. Upstream Elevation of Reach	1020	Ft. MSL
B. Downstream Elevation of Reach	612	Ft. MSL
C. Total Available Head in Reach	408	Ft.
D. Average Slope in Reach	34.9	Ft./Mi.
E. Drainage Area above Reach Mouth	114	Sq.Mi.
F. Inflow Classification	Natural	

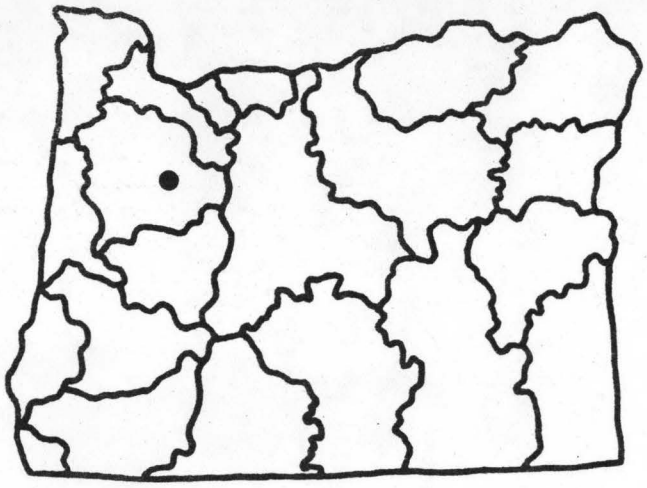
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	45.1	1.56	13.66	1.000
80	93.0	3.21	26.35	.936
50	380.5	13.16	82.96	.720
30	693.9	23.99	120.93	.575
10	1467.7	50.75	167.80	.377

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 634 CFS





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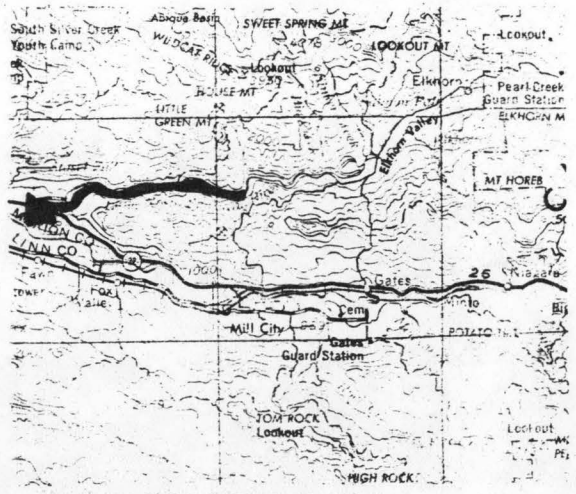
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0005

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T8S, R4E, Sec.32	
D. Latitude, Longitude	44°50'N,122°20'W	
E. Stream Name	Little North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	11.7 to 19.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

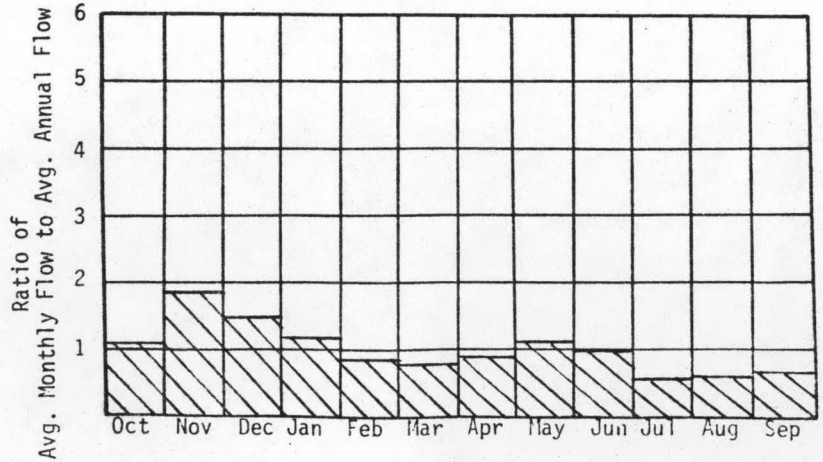
A. Upstream Elevation of Reach	1480	Ft. MSL
B. Downstream Elevation of Reach	1020	Ft. MSL
C. Total Available Head in Reach	460	Ft.
D. Average Slope in Reach	58.2	Ft./Mi.
E. Drainage Area above Reach Mouth	81	Sq.Mi.
F. Inflow Classification	Natural	

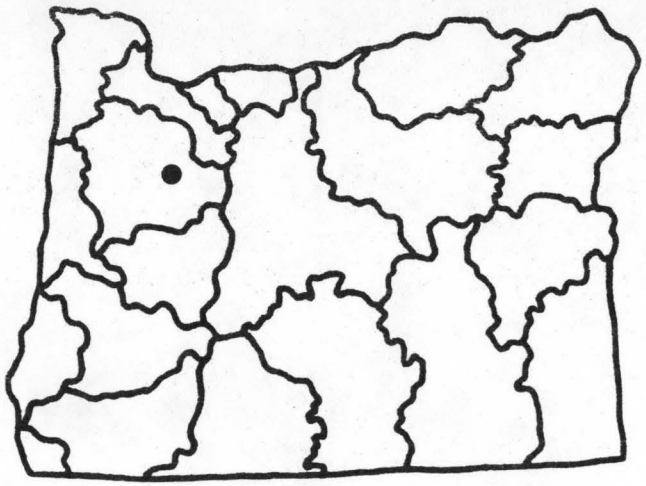
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	26.8	1.05	9.16	1.000
80	55.8	2.18	17.83	.935
50	235.6	9.18	57.73	.716
30	434.9	16.95	84.95	.572
10	932.6	36.36	118.94	.373

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 399 CFS





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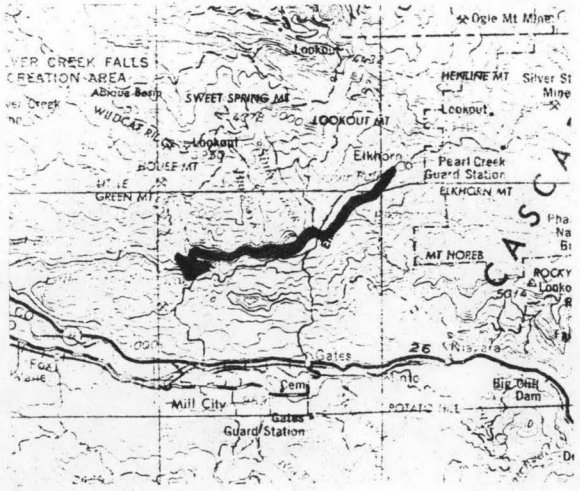
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0006

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T8S, R5E, Sec.30	
D. Latitude, Longitude	44°51'N,122°14'W	
E. Stream Name	Little North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	19.6 to 24.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

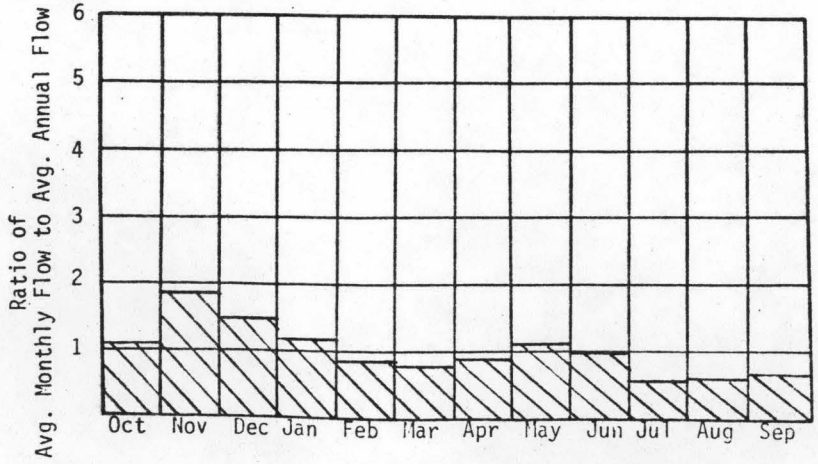
A. Upstream Elevation of Reach	2080	Ft. MSL
B. Downstream Elevation of Reach	1480	Ft. MSL
C. Total Available Head in Reach	600	Ft.
D. Average Slope in Reach	122	Ft./Mi.
E. Drainage Area above Reach Mouth	34	Sq.Mi.
F. Inflow Classification	Natural	

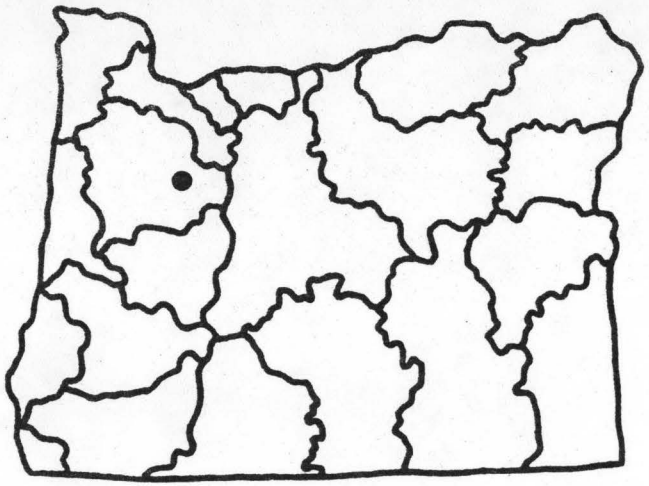
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.3	.47	4.15	1.000
80	19.8	1.01	8.23	.934
50	88.8	4.51	28.20	.713
30	168.0	8.54	42.32	.566
10	370.6	18.85	60.37	.366

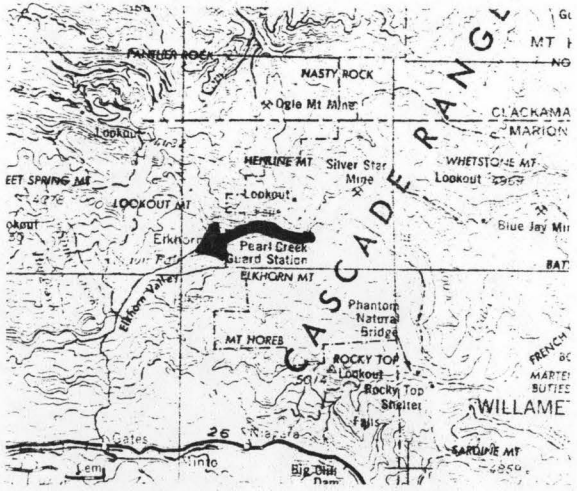
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 156 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0007

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T8S, R6E, Sec.16	
D. Latitude, Longitude	44°51'N,122°11'W	
E. Stream Name	Little North Santiam	River
F. Major Basin Name	Mid Willamette	
G. River Mile	24.5 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

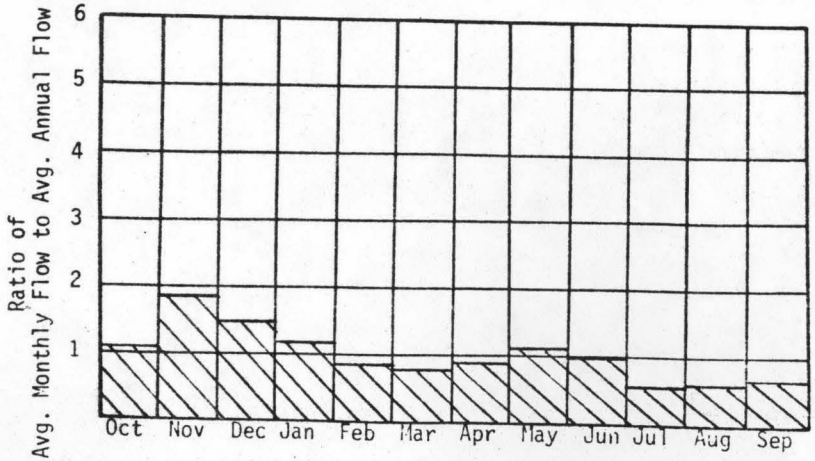
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	10	Sq.Mi.
F. Inflow Classification	Natural	

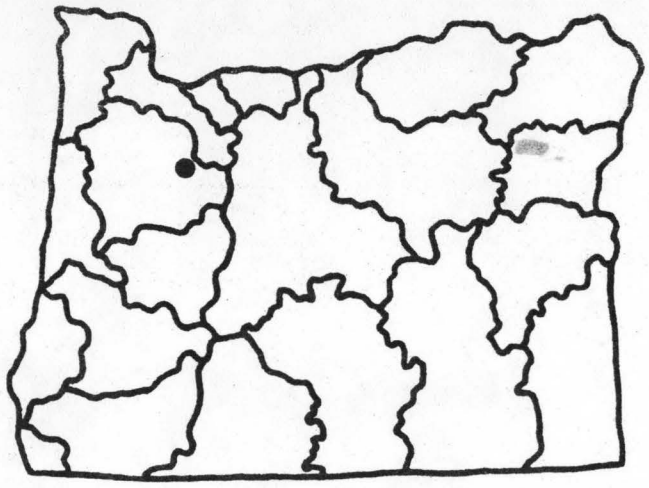
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.8	.02	.19	1.000
80	8.2	.05	.38	.933
50	38.8	.22	1.35	.710
30	75.0	.42	2.06	.560
10	169.5	.95	2.99	.359

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 70 CFS





U.S.G.S. TOPO. SERIES
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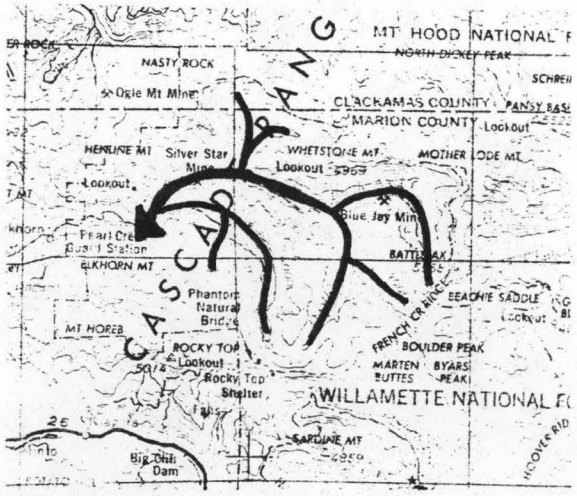
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0008

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T9S, R2E, Sec.26	
D. Latitude, Longitude	44°45'N,122°31'W	
E. Stream Name	North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	27.5 to 37.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

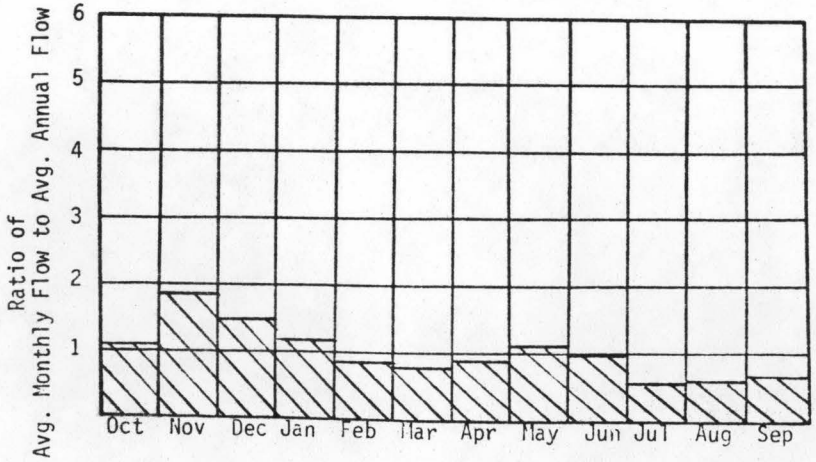
A. Upstream Elevation of Reach	846	Ft. MSL
B. Downstream Elevation of Reach	612	Ft. MSL
C. Total Available Head in Reach	234	Ft.
D. Average Slope in Reach	23	Ft./Mi.
E. Drainage Area above Reach Mouth	543	Sq.Mi.
F. Inflow Classification	Regulated	

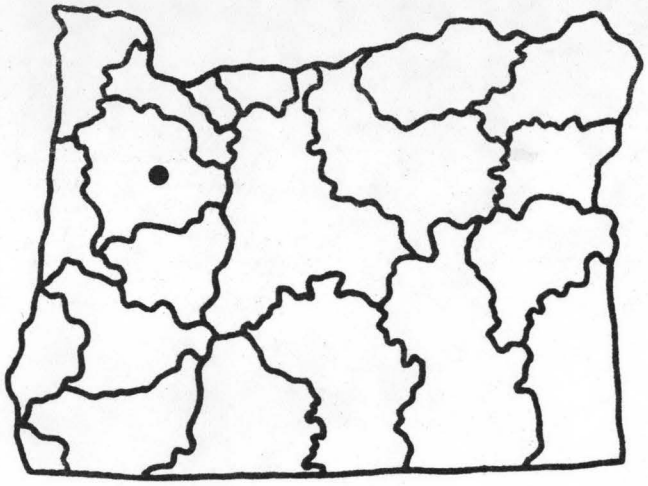
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	189.1	3.75	32.85	1.000
80	379.0	7.52	61.71	.937
50	1426.8	28.29	180.02	.726
30	2515.6	49.89	255.68	.585
10	5121.0	101.55	346.20	.389

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2268 CFS





U.S.G.S. TOPO. SERIES
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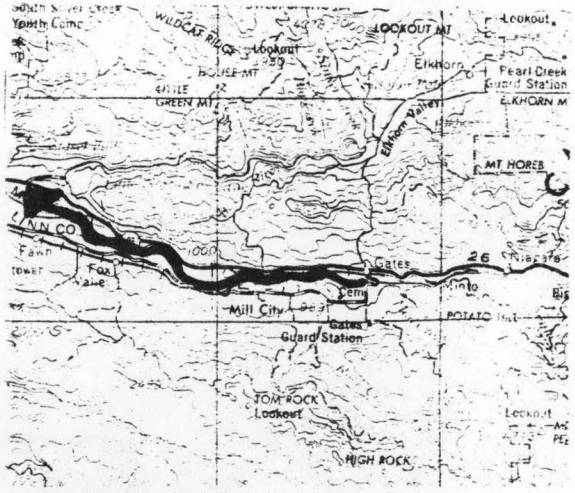
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0009

I. LOCATION

A. State	Oregon	
B. County	Marion-Linn	
C. Township, Range	T9S, R4E, Sec.30	
D. Latitude, Longitude	44°45'N,122°21'W	
E. Stream Name	North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	37.6 to 46.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

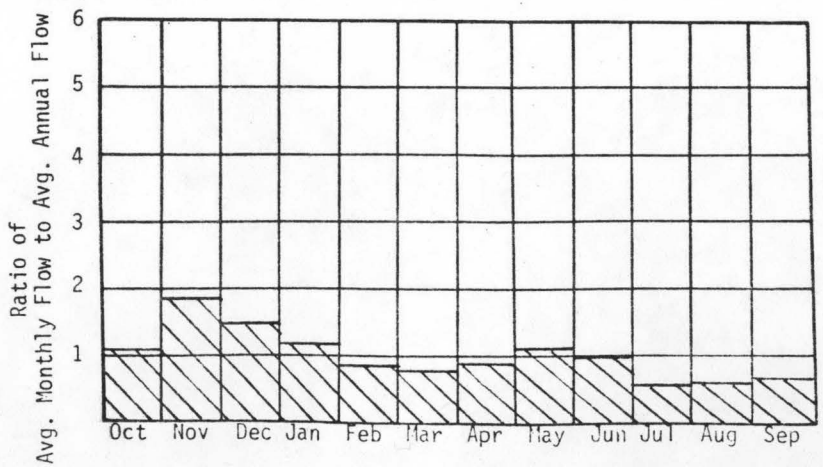
A. Upstream Elevation of Reach	1109	Ft. MSL
B. Downstream Elevation of Reach	846	Ft. MSL
C. Total Available Head in Reach	263	Ft.
D. Average Slope in Reach	29.9	Ft./Mi.
E. Drainage Area above Reach Mouth	493	Sq.Mi.
F. Inflow Classification	Regulated	

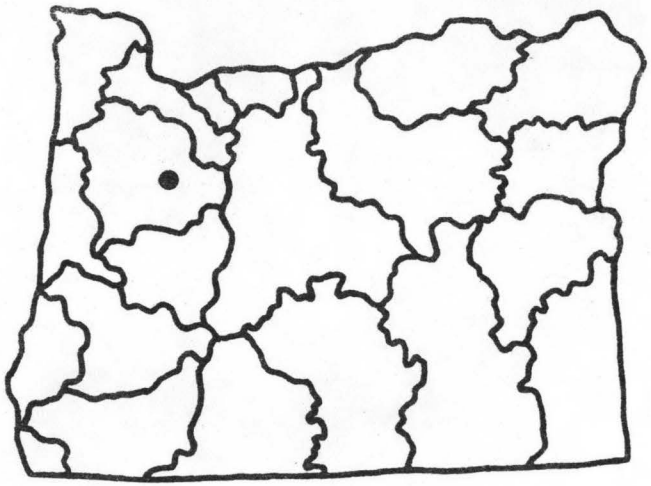
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	169.3	3.77	33.05	1.000
80	340.0	7.58	62.21	.937
50	1288.2	28.71	182.55	.726
30	2277.2	50.76	259.79	.584
10	4649.5	103.63	352.42	.388

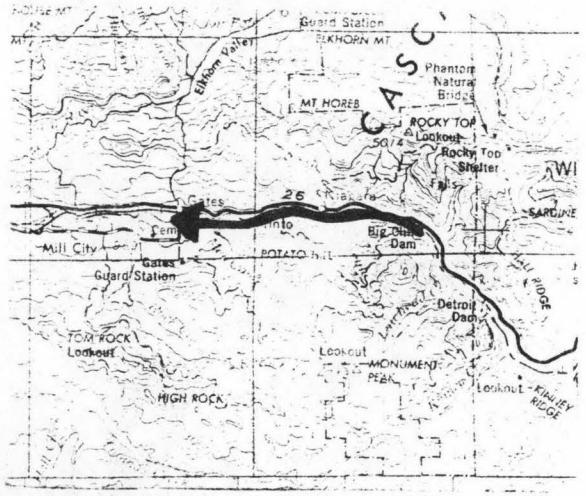
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2054 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0012

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T10S. R5E. Sec.36	
D. Latitude, Longitude	44°39'N,122°08'W	
E. Stream Name	Blowout Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 7.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

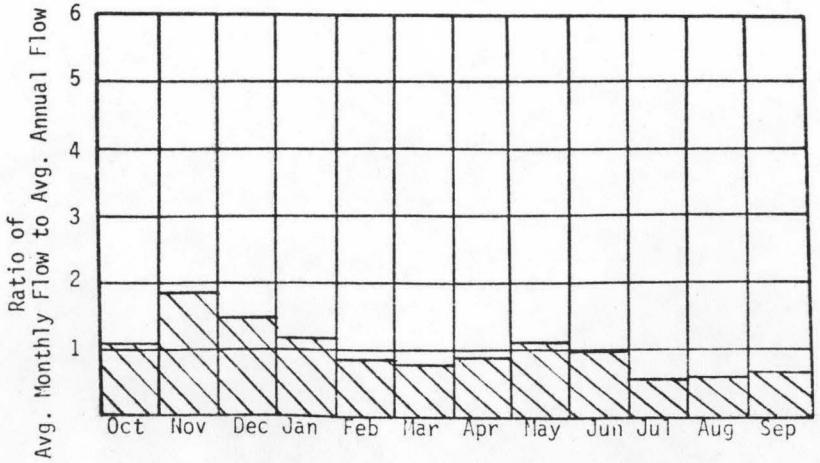
A. Upstream Elevation of Reach	2030	Ft. MSL
B. Downstream Elevation of Reach	1569	Ft. MSL
C. Total Available Head in Reach	461	Ft.
D. Average Slope in Reach	64	Ft./Mi.
E. Drainage Area above Reach Mouth	54	Sq.Mi.
F. Inflow Classification	Natural	

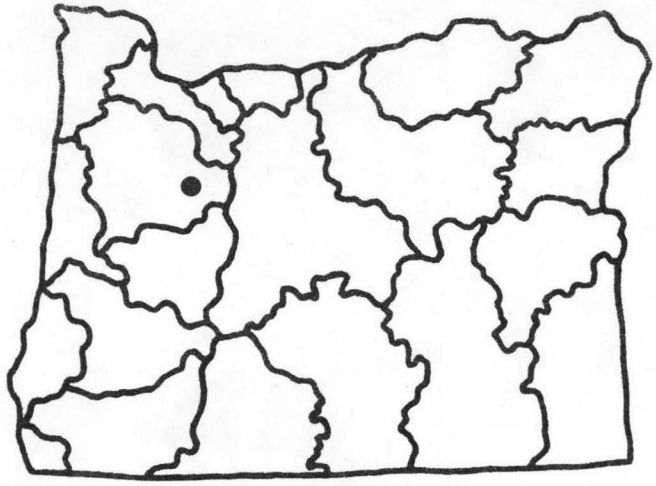
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.5	.26	2.23	1.000
80	14.0	.55	4.46	.933
50	64.0	2.50	15.60	.712
30	122.2	4.77	23.55	.563
10	272.1	10.63	33.81	.363

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 114 CFS





U.S.G.S. TOPO. SERIES
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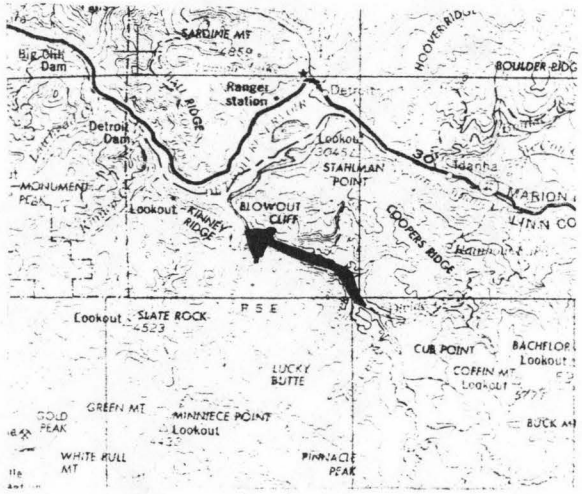
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0013

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R6E, Sec.8
D.	Latitude, Longitude	44°37'N,122°06'W
E.	Stream Name	Blowout Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	7.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

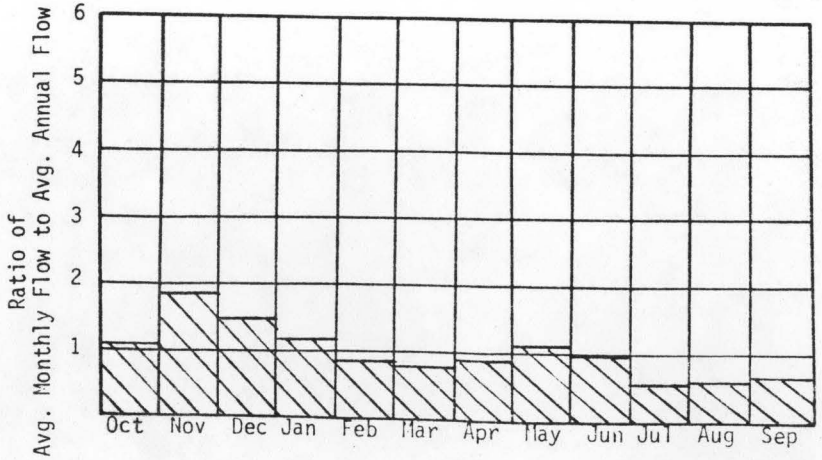
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14	Sq.Mi.
F.	Inflow Classification	Natural	

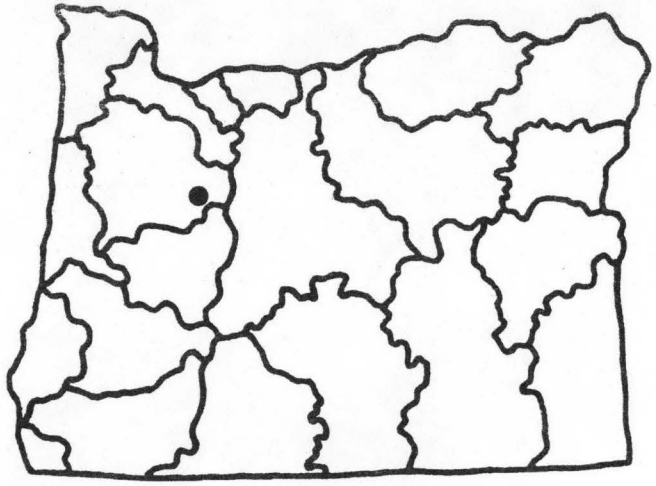
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.02	.18	1.000
80	7.9	.04	.36	.933
50	37.6	.21	1.31	.710
30	72.8	.41	2.00	.560
10	164.6	.92	2.90	.359

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 68 CFS





U.S.G.S. TOPO. SERIES
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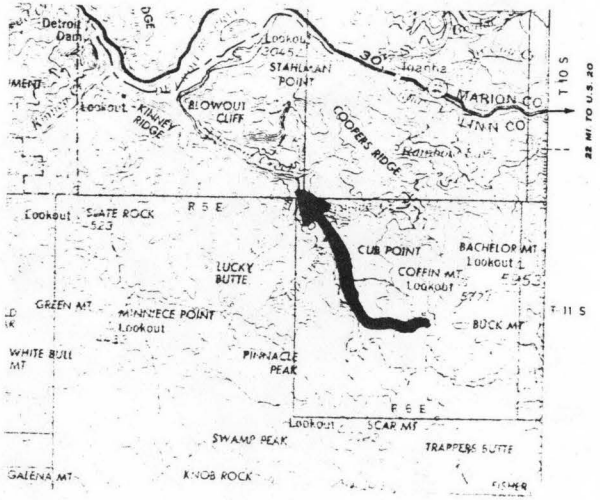
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0015

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T9S. R6E. Sec.30	
D. Latitude, Longitude	44°46'N.122°06'W	
E. Stream Name	Breitenbush Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 5.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

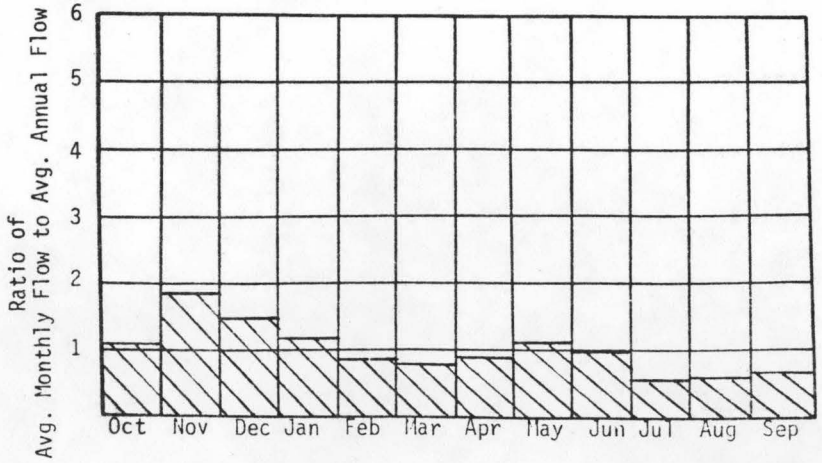
A. Upstream Elevation of Reach	1810	Ft. MSL
B. Downstream Elevation of Reach	1569	Ft. MSL
C. Total Available Head in Reach	241	Ft.
D. Average Slope in Reach	45.5	Ft./Mi.
E. Drainage Area above Reach Mouth	110	Sq.Mi.
F. Inflow Classification	Natural	

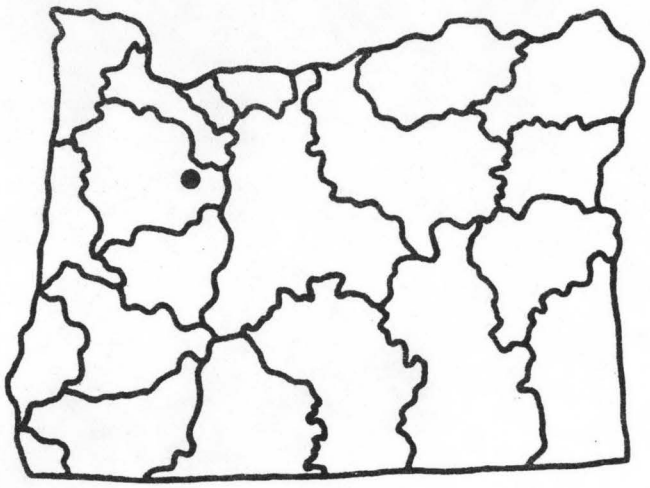
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	32.8	.67	5.87	1.000
80	68.0	1.39	11.38	.935
50	283.6	5.79	36.45	.718
30	521.1	10.64	53.45	.573
10	1111.5	22.70	74.58	.375

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 477 CFS





U.S.G.S. TOPO. SERIES
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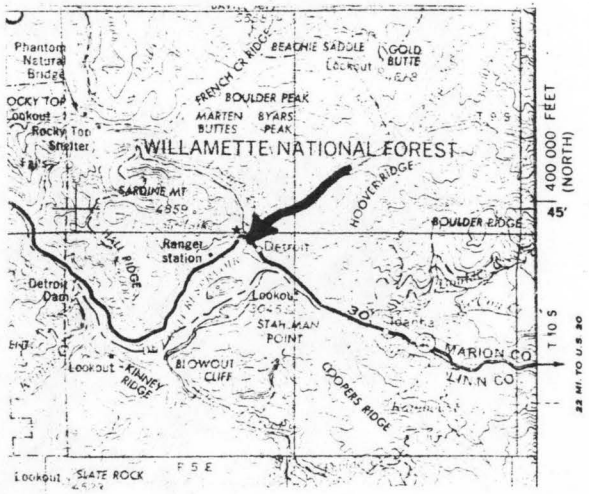
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0016

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T9S, R6E, Sec.24	
D. Latitude, Longitude	44°47'N,122°00'W	
E. Stream Name	Breitenbush Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	5.3 to 11.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

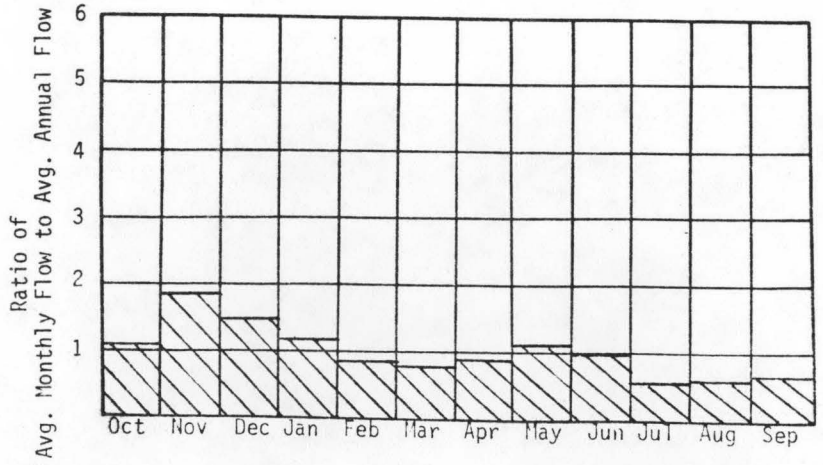
A. Upstream Elevation of Reach	2250	Ft. MSL
B. Downstream Elevation of Reach	1810	Ft. MSL
C. Total Available Head in Reach	440	Ft.
D. Average Slope in Reach	74	Ft./Mi.
E. Drainage Area above Reach Mouth	80	Sq.Mi.
F. Inflow Classification	Natural	

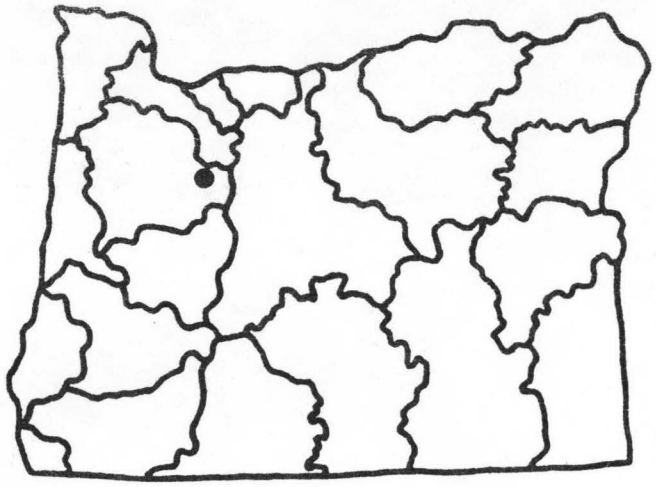
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	22.0	.82	7.20	1.000
80	46.1	1.72	14.06	.935
50	196.6	7.33	46.03	.717
30	364.6	13.59	67.97	.571
10	786.0	29.31	95.50	.372

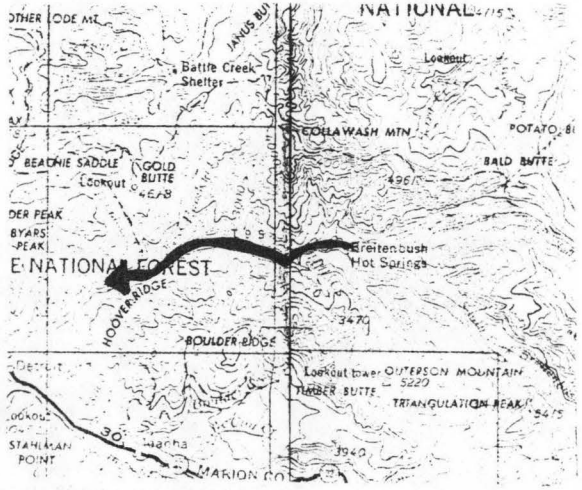
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 335 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0017

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T9S, R7E	
D. Latitude, Longitude	44°48'N,121°54'W	
E. Stream Name	North Fork Breitenbush Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 6.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

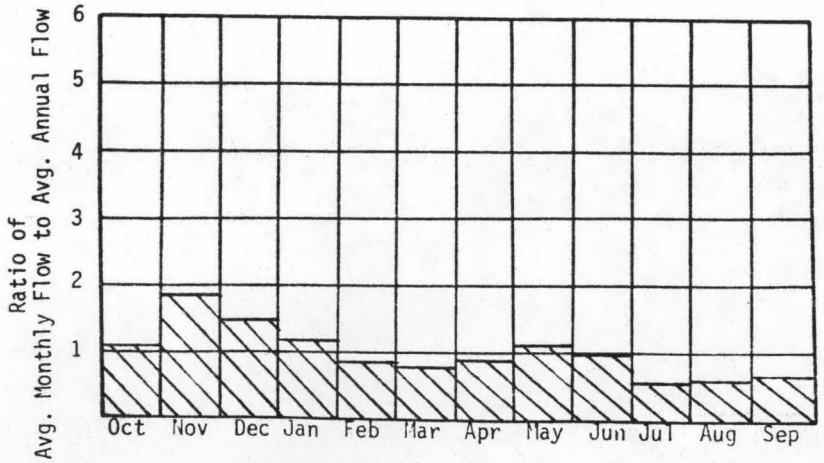
A. Upstream Elevation of Reach	2880	Ft. MSL
B. Downstream Elevation of Reach	2250	Ft. MSL
C. Total Available Head in Reach	630	Ft.
D. Average Slope in Reach	105	Ft./Mi.
E. Drainage Area above Reach Mouth	25	Sq.Mi.
F. Inflow Classification	Natural	

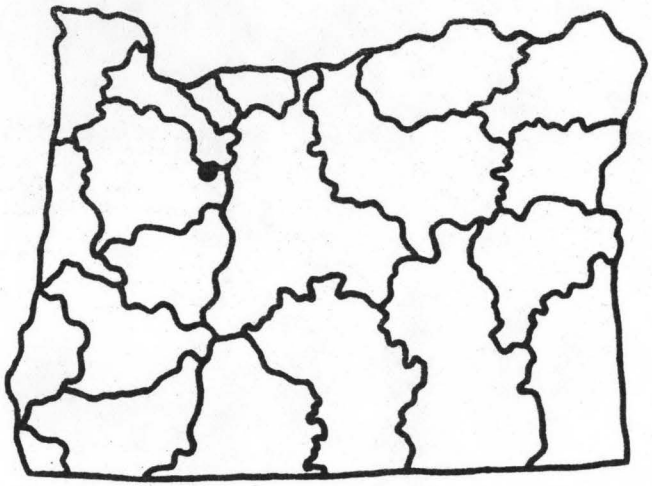
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.30	2.62	1.000
80	12.0	.64	5.25	.933
50	55.6	2.97	18.51	.711
30	106.5	5.69	28.03	.563
10	238.2	12.72	40.35	.362

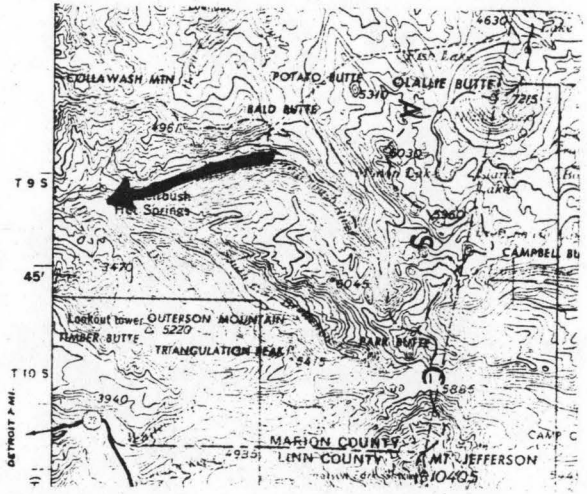
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 99 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0018

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T9S, R7E
D.	Latitude, Longitude	44°48'N,121°51'W
E.	Stream Name	North Fork Breitenbush Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	6.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

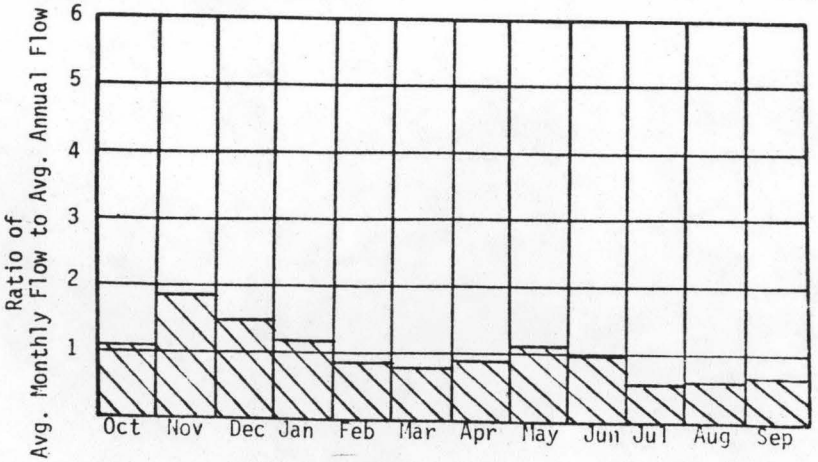
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10	Sq.Mi.
F.	Inflow Classification	Natural	

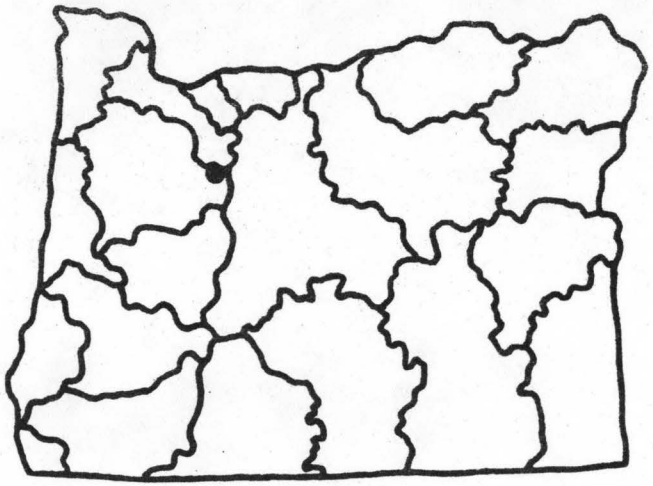
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.02	.16	1.000
80	7.1	.04	.32	.933
50	33.9	.19	1.18	.709
30	65.7	.37	1.80	.559
10	149.1	.83	2.62	.358

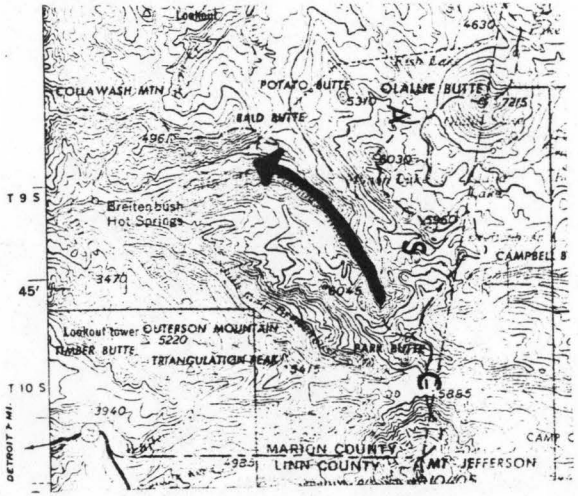
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 61 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0019

I. LOCATION

A. State	Oregon	
B. County	Marion	
C. Township, Range	T9S, R7E	
D. Latitude, Longitude	44°46'N,124°53'W	
E. Stream Name	South Fork Breitenbush Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 5.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

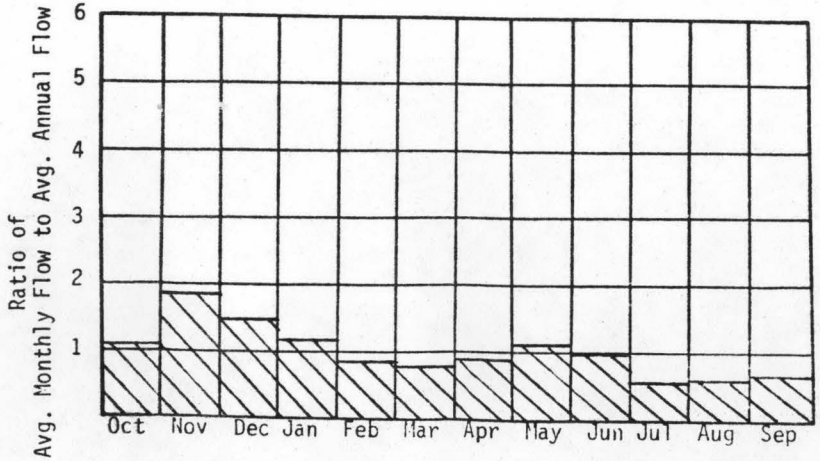
A. Upstream Elevation of Reach	2920	Ft. MSL
B. Downstream Elevation of Reach	2250	Ft. MSL
C. Total Available Head in Reach	670	Ft.
D. Average Slope in Reach	121.8	Ft./Mi.
E. Drainage Area above Reach Mouth	23	Sq.Mi.
F. Inflow Classification	Natural	

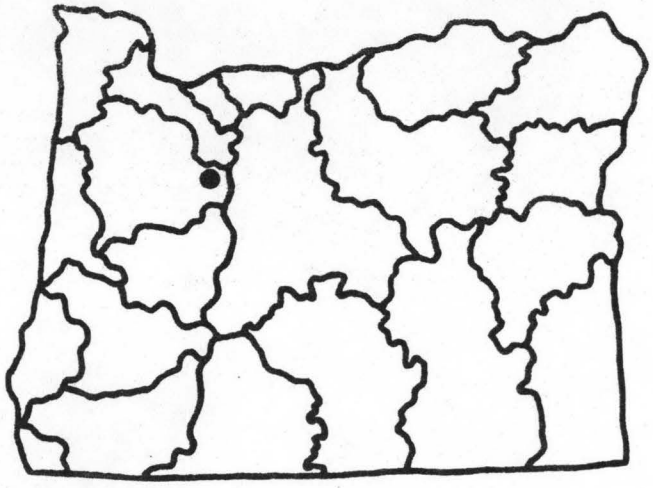
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.32	2.80	1.000
80	12.1	.69	5.62	.933
50	55.9	3.17	19.78	.711
30	107.1	6.08	29.96	.563
10	239.4	13.59	43.12	.362

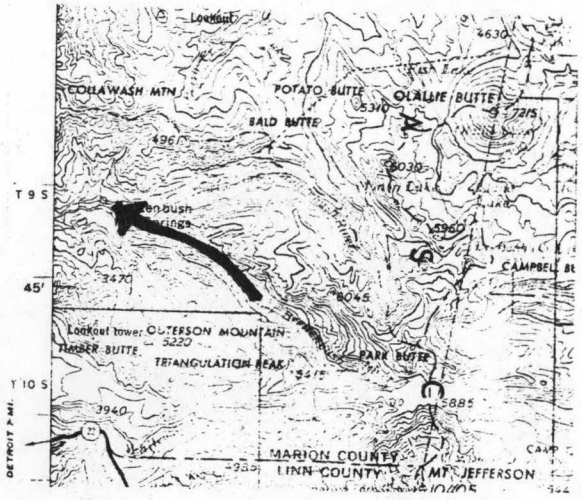
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 100 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0020

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T10S, R7E
D.	Latitude, Longitude	44°44'N,121°52'W
E.	Stream Name	South Fork Breitenbush Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	5.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

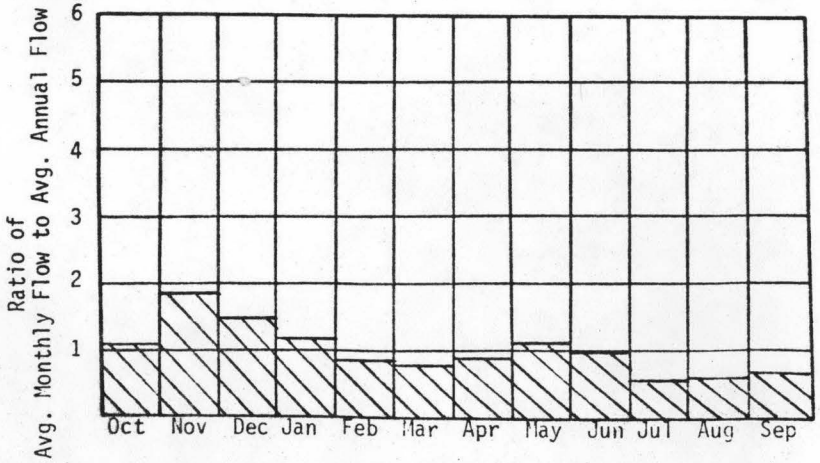
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10	Sq.Mi.
F.	Inflow Classification	Natural	

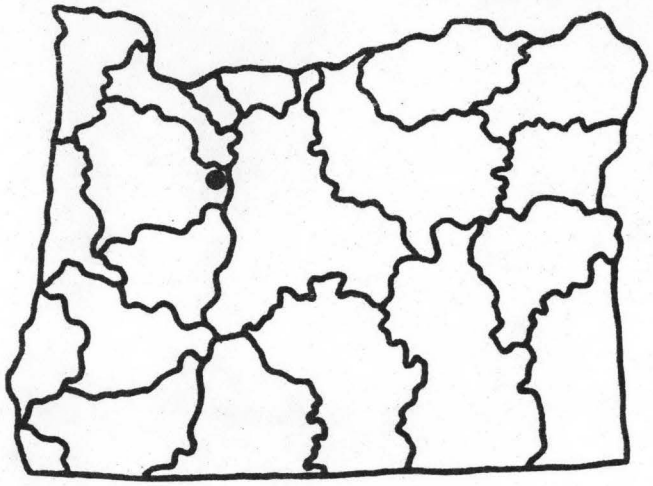
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.5	.02	.17	1.000
80	7.6	.04	.35	.933
50	36.1	.20	1.25	.709
30	69.9	.39	1.92	.560
10	158.2	.88	2.78	.359

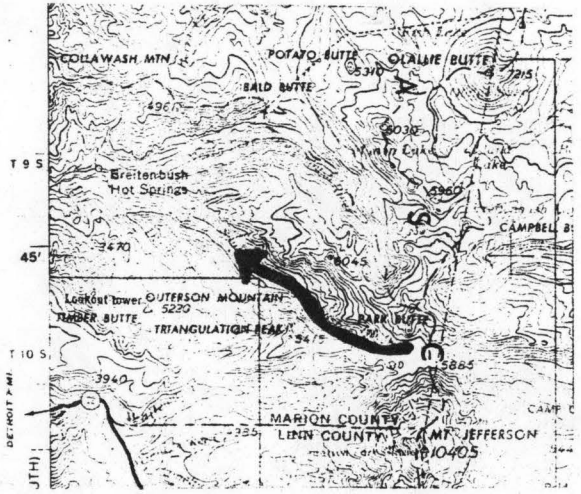
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 65 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0021

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T10S, R6E, Sec.8	
D. Latitude, Longitude	44°43'N,122°06'W	
E. Stream Name	North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	56.2 to 59.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

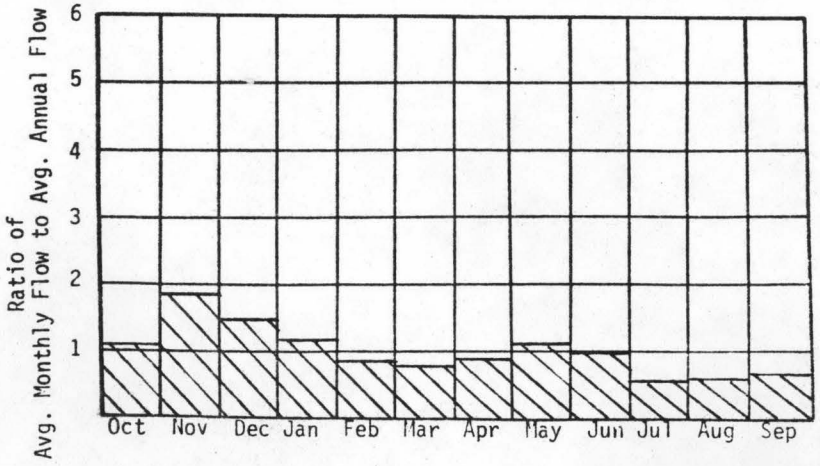
A. Upstream Elevation of Reach	1637	Ft. MSL
B. Downstream Elevation of Reach	1569	Ft. MSL
C. Total Available Head in Reach	68	Ft.
D. Average Slope in Reach	21	Ft./Mi.
E. Drainage Area above Reach Mouth	228	Sq.Mi.
F. Inflow Classification	Natural	

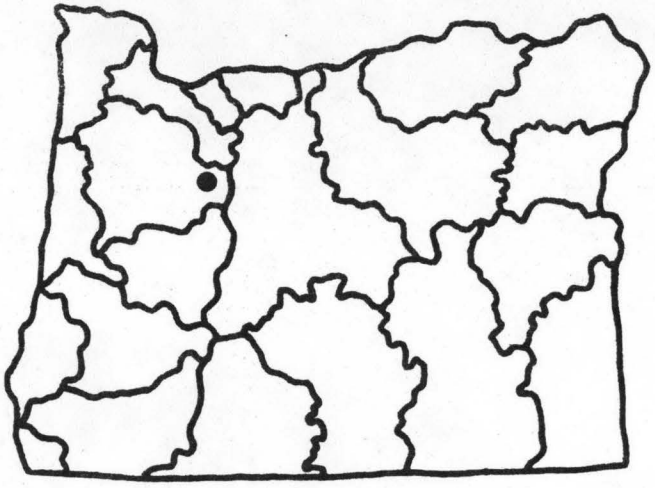
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	76.1	.44	3.84	1.000
80	155.1	.89	7.33	.936
50	616.0	3.55	22.45	.722
30	1109.5	6.39	32.42	.579
10	2314.3	13.34	44.58	.382

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1008 CFS





U.S.G.S. TOPO. SERIES
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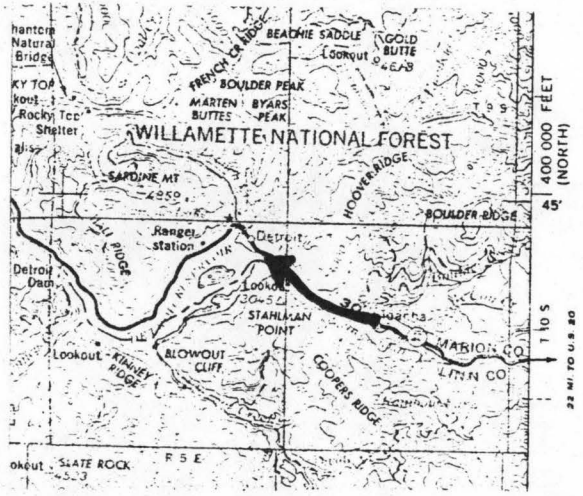
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0022

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S, R7E, Sec.19
D.	Latitude, Longitude	44°40'N,122°00'W
E.	Stream Name	North Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	59.5 to 66.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

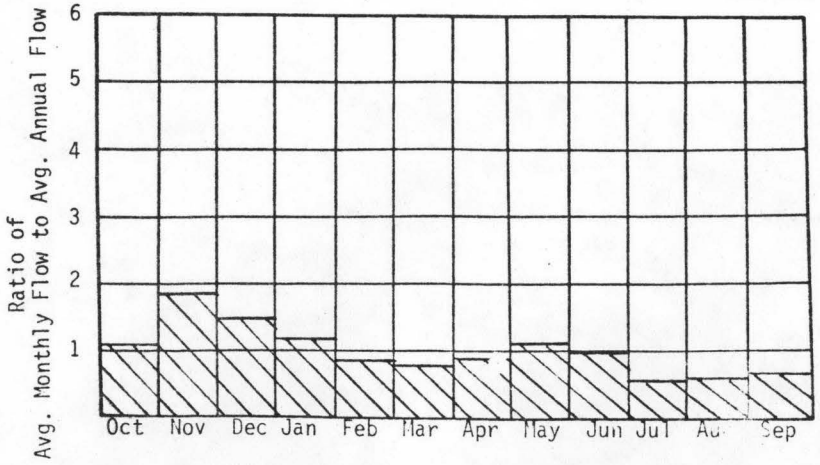
A.	Upstream Elevation of Reach	2000	Ft. MSL
B.	Downstream Elevation of Reach	1637	Ft. MSL
C.	Total Available Head in Reach	363	Ft.
D.	Average Slope in Reach	50.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	204	Sq.Mi.
F.	Inflow Classification	Natural	

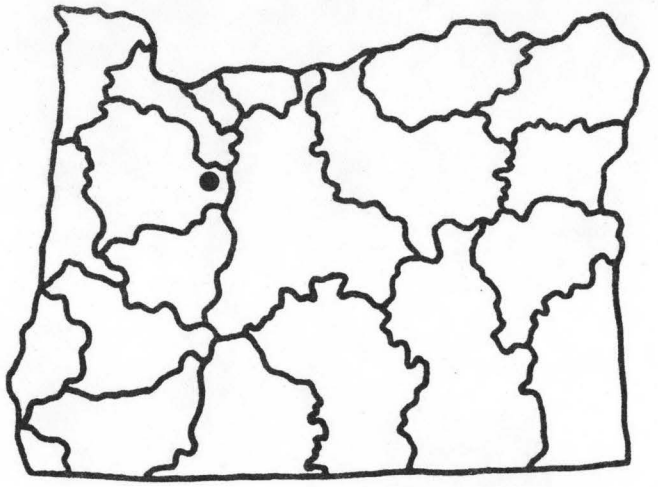
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	68.0	2.09	18.33	1.000
80	139.0	4.28	35.07	.936
50	555.6	17.09	108.05	.722
30	1003.5	30.87	156.32	.578
10	2099.3	64.58	215.38	.381

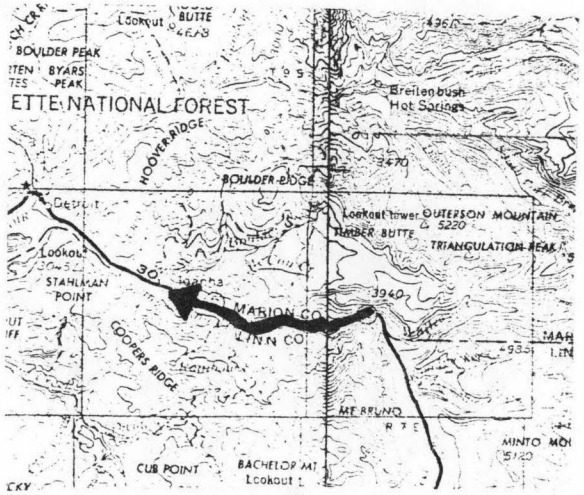
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 913 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM-BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0023

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T10S, R7E
D.	Latitude, Longitude	44°42'N,121°57'W
E.	Stream Name	Whitewater Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 4.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

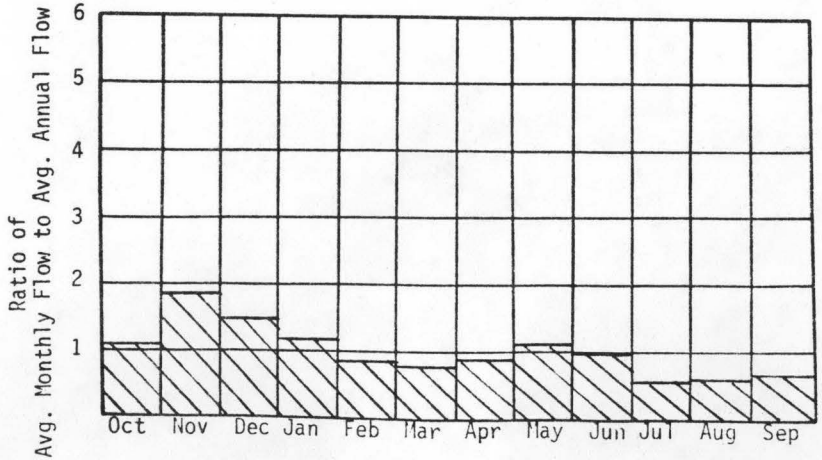
A.	Upstream Elevation of Reach	4160	Ft. MSL
B.	Downstream Elevation of Reach	2000	Ft. MSL
C.	Total Available Head in Reach	2160	Ft.
D.	Average Slope in Reach	502.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	18	Sq.Mi.
F.	Inflow Classification	Natural	

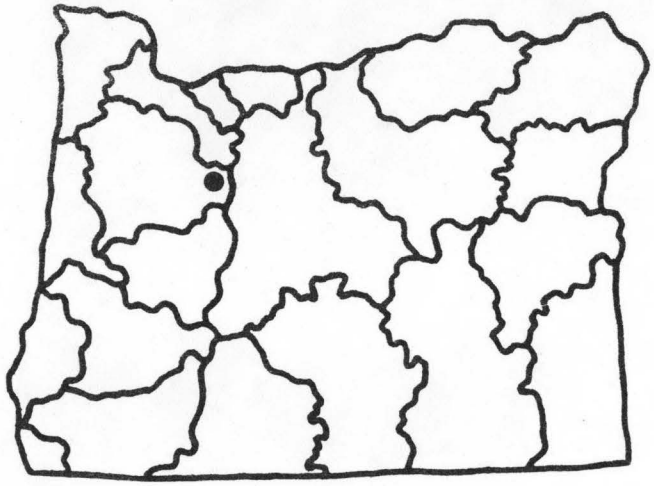
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.6	.84	7.35	1.000
80	9.9	1.81	14.77	.933
50	46.2	8.46	52.63	.710
30	88.9	16.27	80.02	.561
10	199.8	36.58	115.60	.361

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 83 CFS





U.S.G.S. TOPO. SERIES
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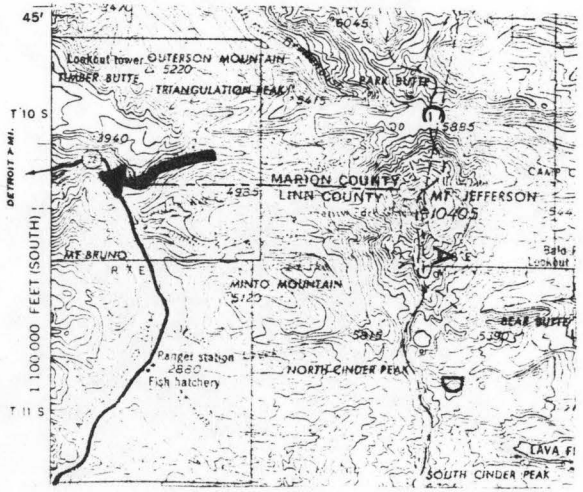
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0024

I. LOCATION

A.	State	Oregon
B.	County	Marion
C.	Township, Range	T10S, R7E
D.	Latitude, Longitude	44°42'N,121°52'W
E.	Stream Name	Whitewater Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	4.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

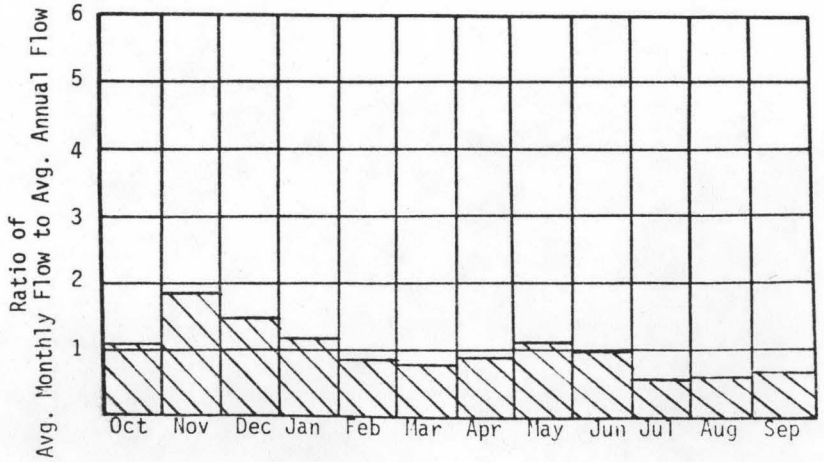
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	10	Sq.Mi.
F.	Inflow Classification	Natural	

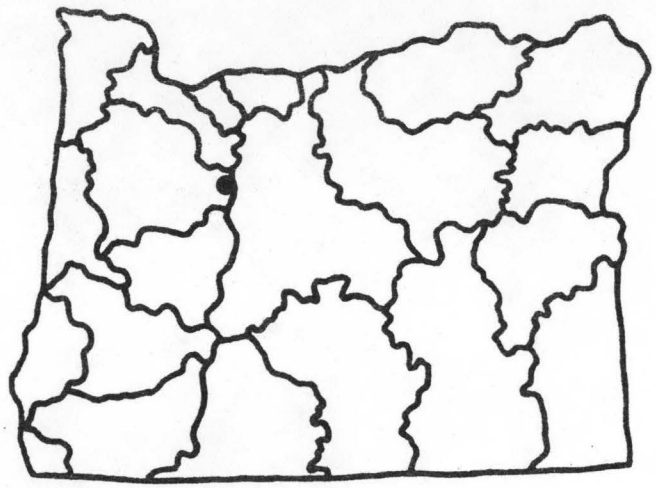
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.4	.02	.17	1.000
80	7.3	.04	.33	.933
50	34.8	.19	1.21	.709
30	67.4	.38	1.85	.560
10	152.8	.85	2.68	.359

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 63 CFS





U.S.G.S. TOPO. SERIES
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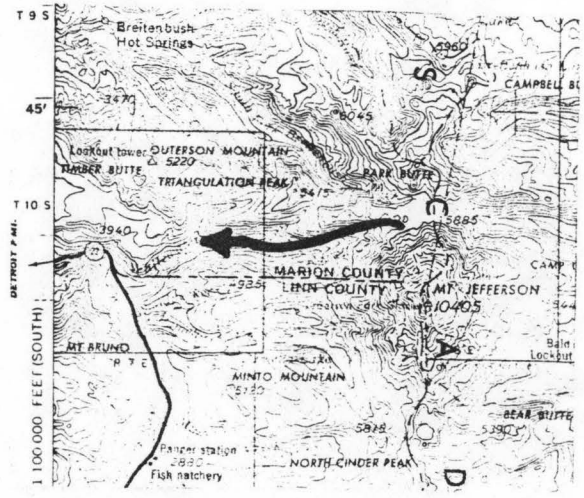


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0025

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S, R7E
D.	Latitude, Longitude	44°38'N,121°58'W
E.	Stream Name	North Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	66.7 to 69.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

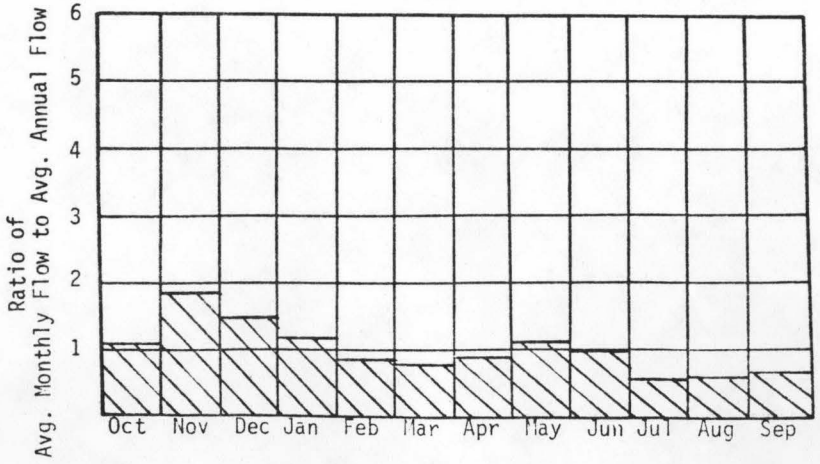
A.	Upstream Elevation of Reach	2260	Ft. MSL
B.	Downstream Elevation of Reach	2000	Ft. MSL
C.	Total Available Head in Reach	260	Ft.
D.	Average Slope in Reach	83.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	160	Sq.Mi.
F.	Inflow Classification	Natural	

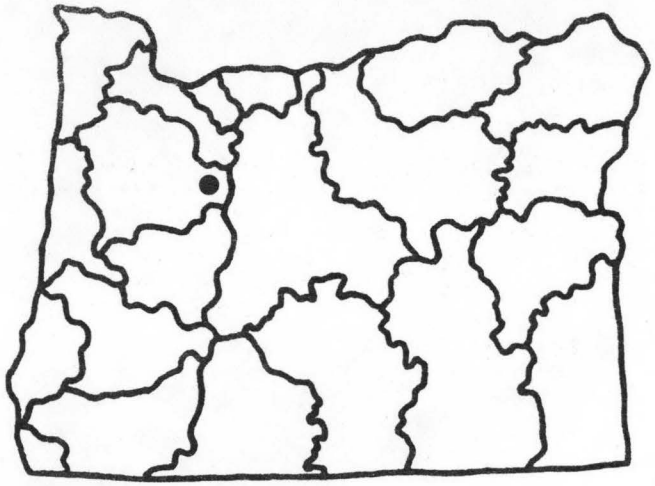
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	56.1	1.24	10.82	1.000
80	115.0	2.53	20.78	.936
50	464.9	10.24	64.68	.721
30	843.5	18.59	93.91	.577
10	1773.8	39.08	129.82	.379

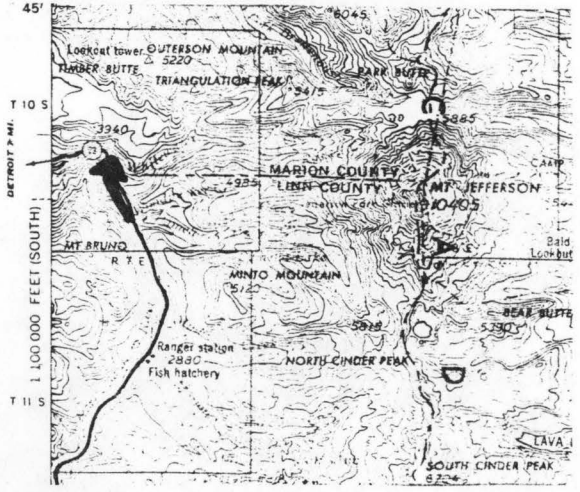
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 769 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0026

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S, R7E
D.	Latitude, Longitude	44°38'N,121°55'W
E.	Stream Name	Pamelia Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 3.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

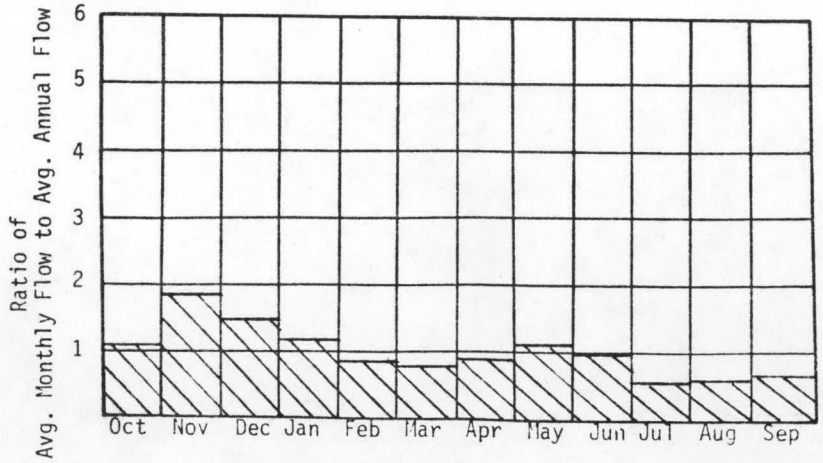
A.	Upstream Elevation of Reach	2800	Ft. MSL
B.	Downstream Elevation of Reach	2260	Ft. MSL
C.	Total Available Head in Reach	540	Ft.
D.	Average Slope in Reach	138.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	25	Sq.Mi.
F.	Inflow Classification	Natural	

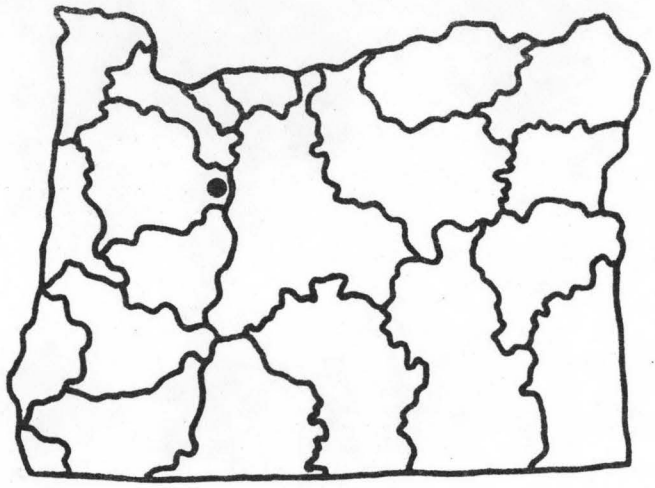
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.27	2.38	1.000
80	12.7	.58	4.76	.933
50	58.6	2.68	16.71	.711
30	112.0	5.13	25.28	.563
10	250.1	11.45	36.35	.363

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 104 CFS





U.S.G.S. TOPO. SERIES
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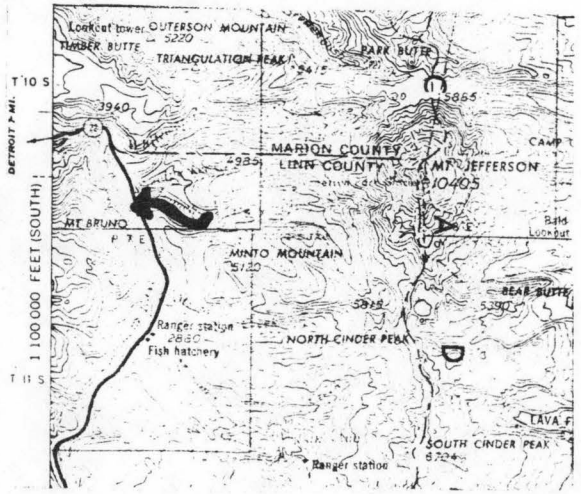
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0027

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S. R7E
D.	Latitude, Longitude	44°38'N,121°55'W
E.	Stream Name	Pamelia Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	3.9 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

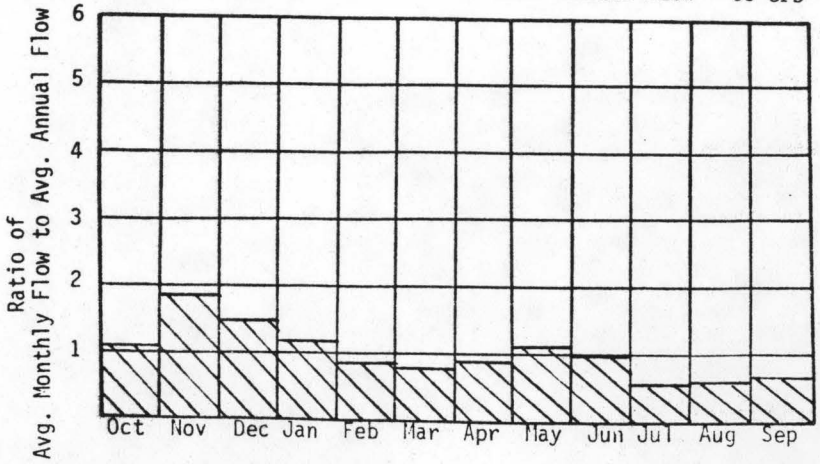
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	11	Sq.Mi.
F.	Inflow Classification	Natural	

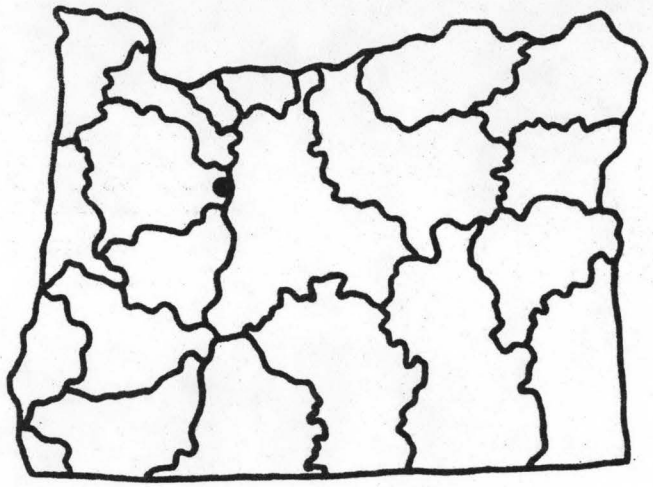
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.02	.18	1.000
80	8.0	.04	.36	.933
50	37.7	.21	1.31	.710
30	73.0	.41	2.00	.560
10	165.0	.92	2.90	.359

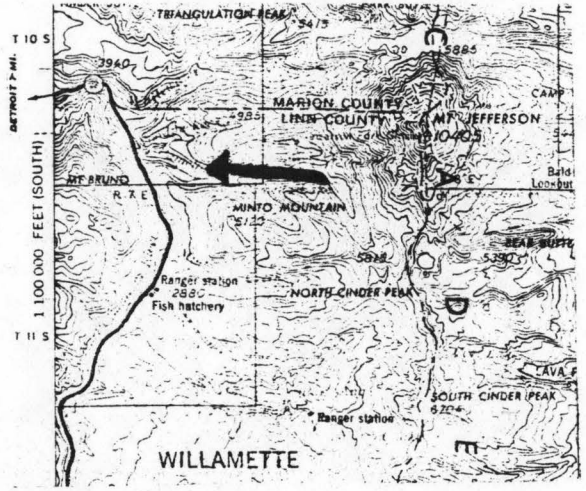
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 68 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0028

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R7E, Sec.3
D.	Latitude, Longitude	44°38'N,121°55'W
E.	Stream Name	North Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	69.8 to 73.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

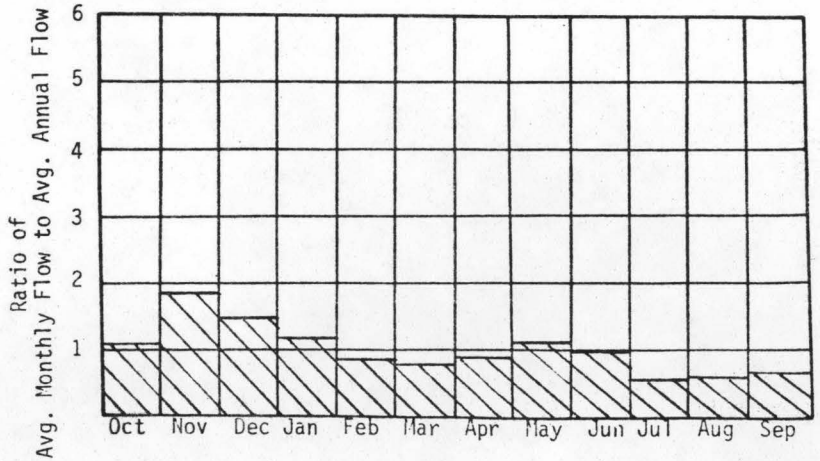
A.	Upstream Elevation of Reach	2410	Ft. MSL
B.	Downstream Elevation of Reach	2260	Ft. MSL
C.	Total Available Head in Reach	150	Ft.
D.	Average Slope in Reach	40.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	131	Sq.Mi.
F.	Inflow Classification	Natural	

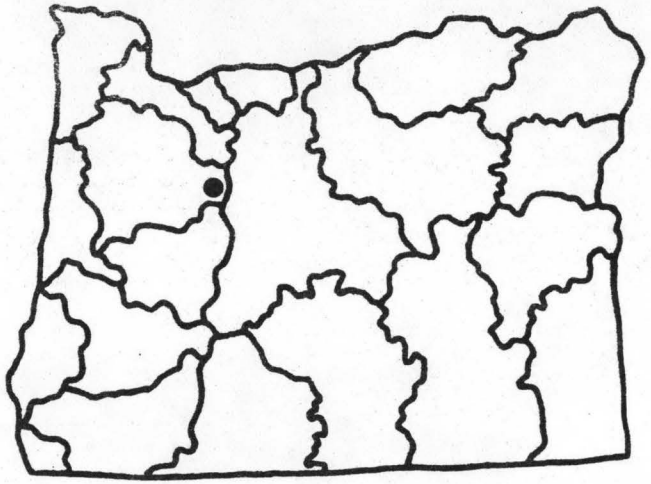
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	42.8	.54	4.76	1.000
80	88.2	1.12	9.19	.936
50	362.3	4.61	29.03	.720
30	661.5	8.41	42.36	.575
10	1401.1	17.81	58.83	.377

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 604 CFS





U.S.G.S. TOPO. SERIES
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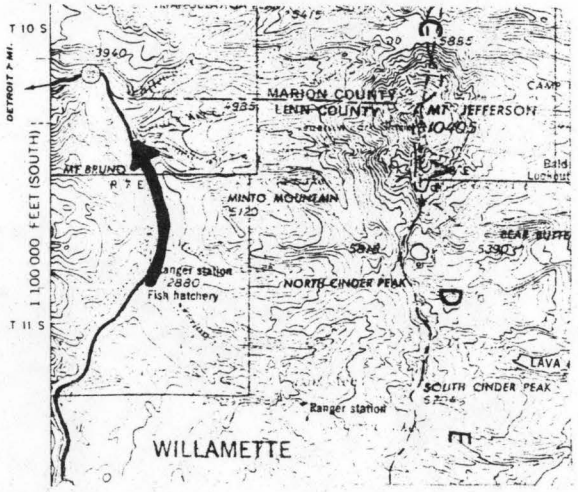
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0029

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T11S, R7E, Sec.26	
D. Latitude, Longitude	44°35'N,121°54'W	
E. Stream Name	Marion Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 6.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

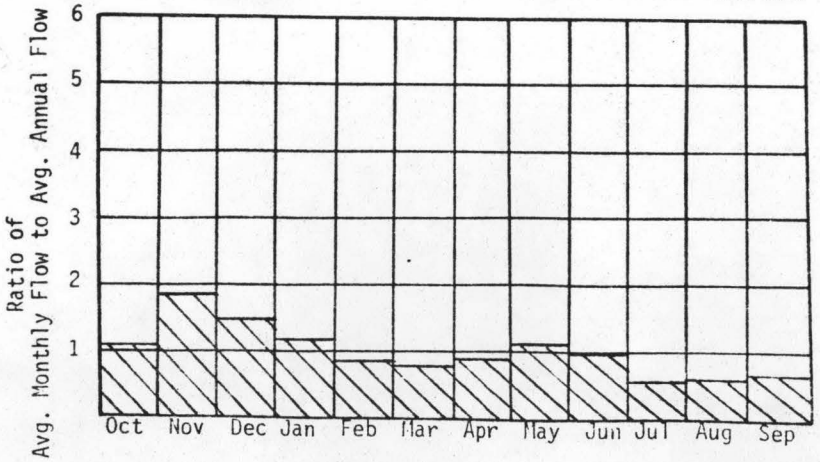
A. Upstream Elevation of Reach	3500	Ft. MSL
B. Downstream Elevation of Reach	2410	Ft. MSL
C. Total Available Head in Reach	1090	Ft.
D. Average Slope in Reach	181.7	Ft./Mi.
E. Drainage Area above Reach Mouth	43	Sq.Mi.
F. Inflow Classification	Natural	

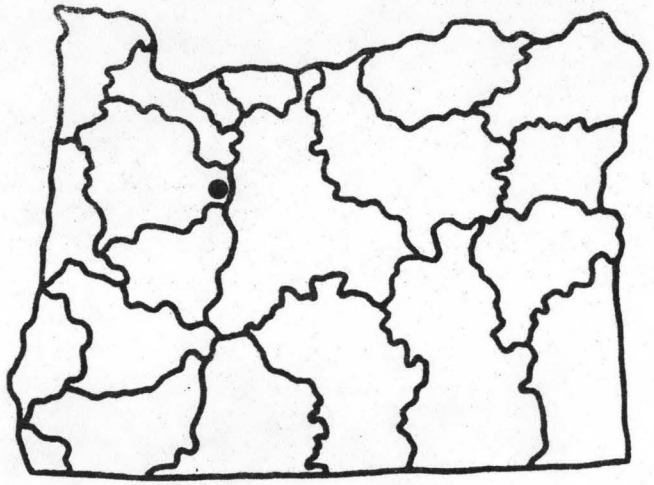
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.0	.84	7.32	1.000
80	19.2	1.78	14.54	.934
50	86.5	7.99	49.92	.713
30	163.8	15.13	74.95	.565
10	361.7	33.41	106.97	.365

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 152 CFS





U.S.G.S. TOPO. SERIES
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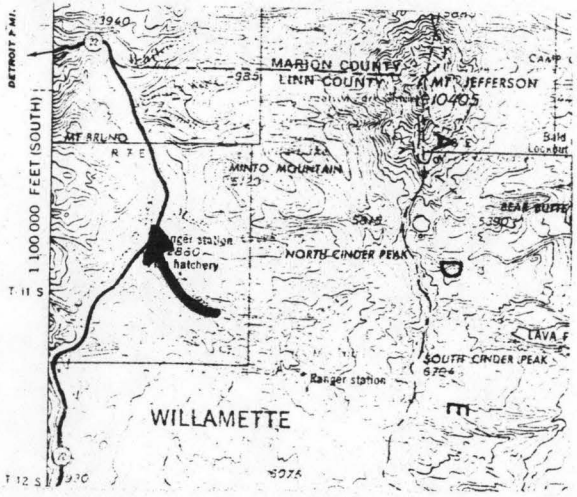
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0030

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R7E
D.	Latitude, Longitude	44°34'N,121°52'W
E.	Stream Name	Marion Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	6.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

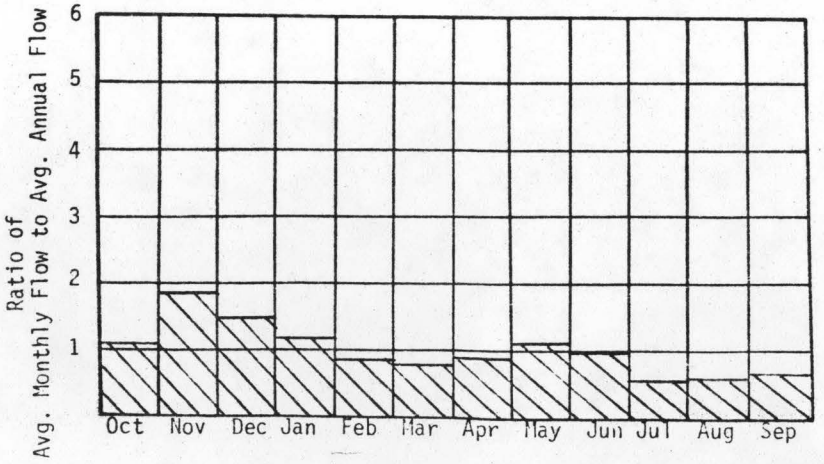
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	15	Sq.Mi.
F.	Inflow Classification	Natural	

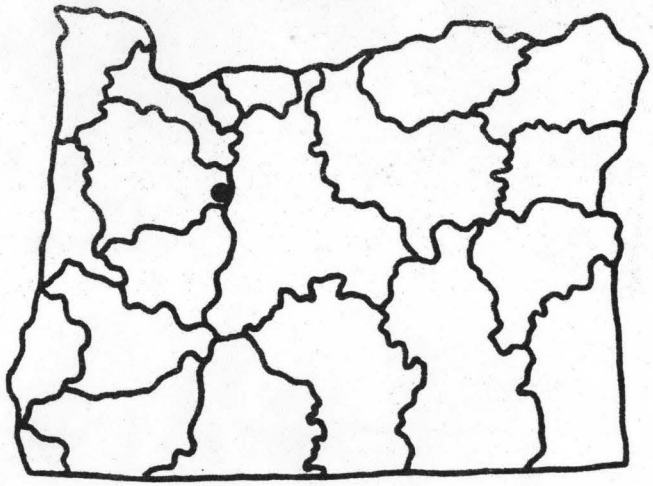
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.3	.02	.21	1.000
80	9.3	.05	.43	.933
50	43.8	.25	1.53	.710
30	84.4	.47	2.32	.561
10	190.1	1.06	3.36	.360

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 79 CFS





U.S.G.S. TOPO. SERIES
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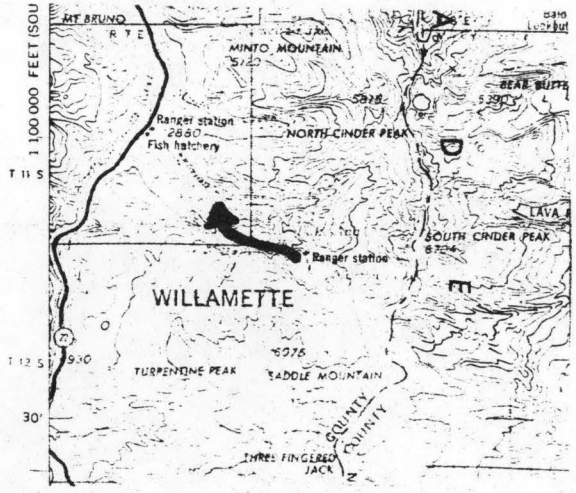
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0031

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T11S, R7E, Sec.29	
D. Latitude, Longitude	44°35'N,121°58'W	
E. Stream Name	North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	73.6 to 80.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

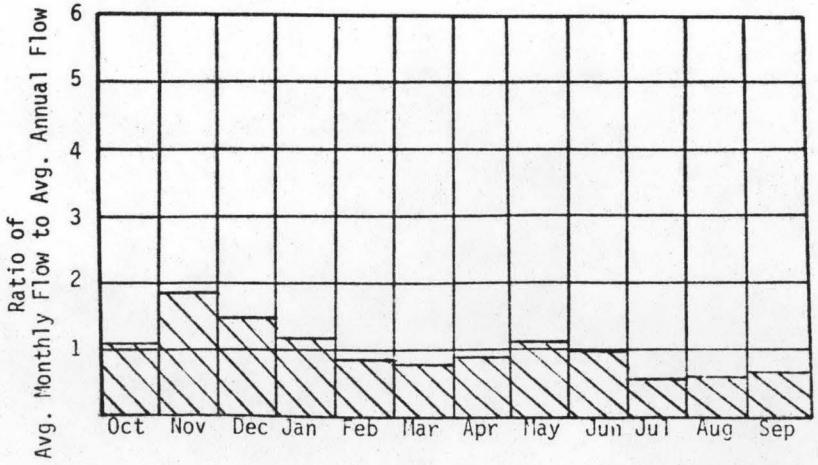
A. Upstream Elevation of Reach	2920	Ft. MSL
B. Downstream Elevation of Reach	2410	Ft. MSL
C. Total Available Head in Reach	510	Ft.
D. Average Slope in Reach	79.7	Ft./Mi.
E. Drainage Area above Reach Mouth	72	Sq.Mi.
F. Inflow Classification	Natural	

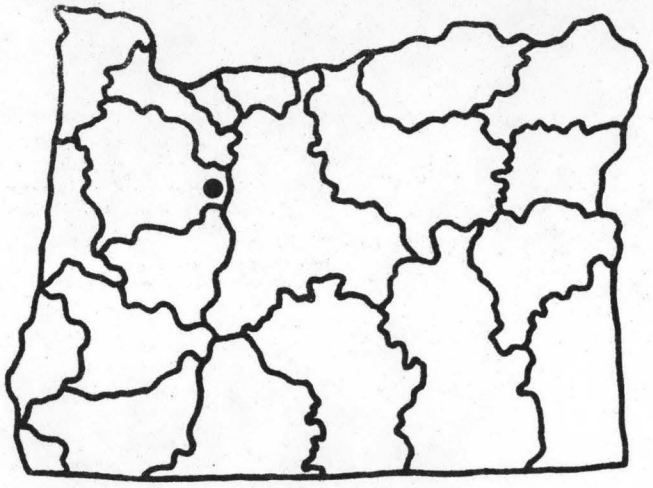
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.0	.78	6.82	1.000
80	37.8	1.63	13.38	.935
50	163.2	7.06	44.25	.716
30	304.2	13.15	65.59	.570
10	659.3	28.49	92.48	.370

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 280 CFS





U.S.G.S. TOPO. SERIES
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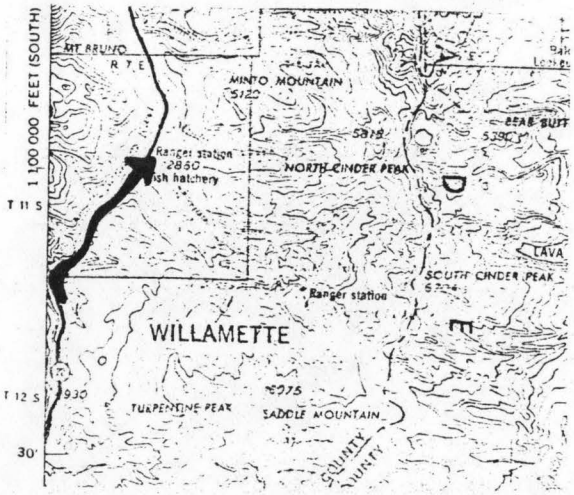
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0032

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T12S. R7E	
D. Latitude, Longitude	44°30'N.122°00'W	
E. Stream Name	North Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	80.0 to 87.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

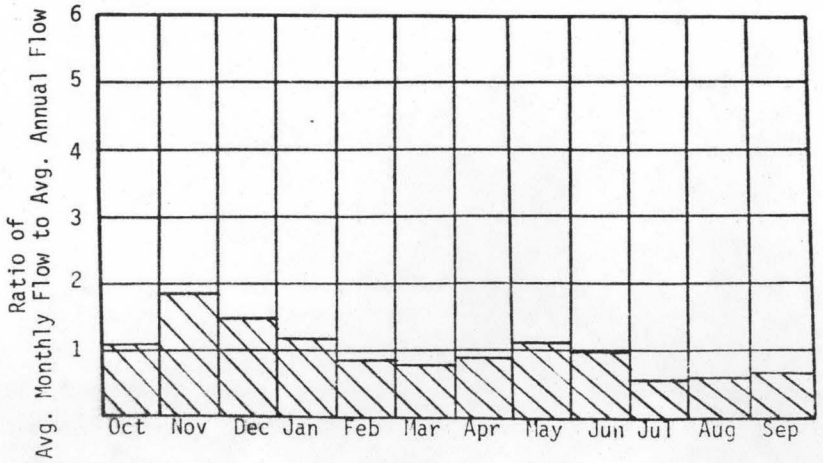
A. Upstream Elevation of Reach	3637	Ft. MSL
B. Downstream Elevation of Reach	2920	Ft. MSL
C. Total Available Head in Reach	717	Ft.
D. Average Slope in Reach	102.4	Ft./Mi.
E. Drainage Area above Reach Mouth	38	Sq.Mi.
F. Inflow Classification	Natural	

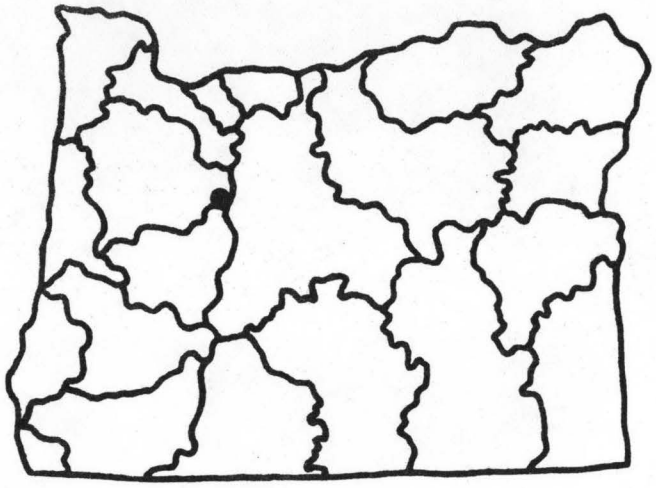
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.1	.49	4.33	1.000
80	17.4	1.05	8.62	.934
50	78.5	4.77	29.77	.713
30	149.0	9.05	44.79	.565
10	329.9	20.04	64.04	.365

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 138 CFS





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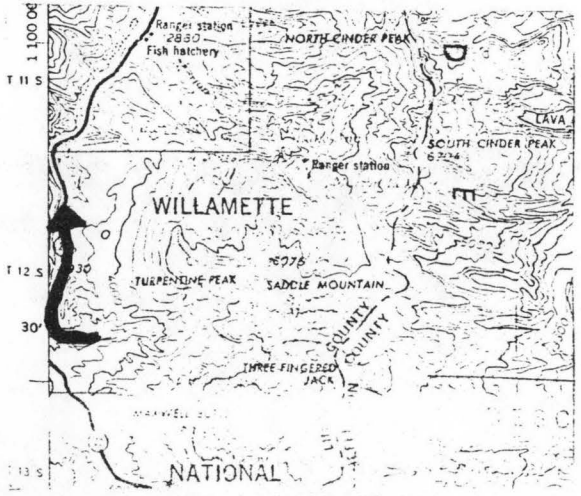


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-010-R0033

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R7E
D.	Latitude, Longitude	44°30'N.121°57'W
E.	Stream Name	North Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	87.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

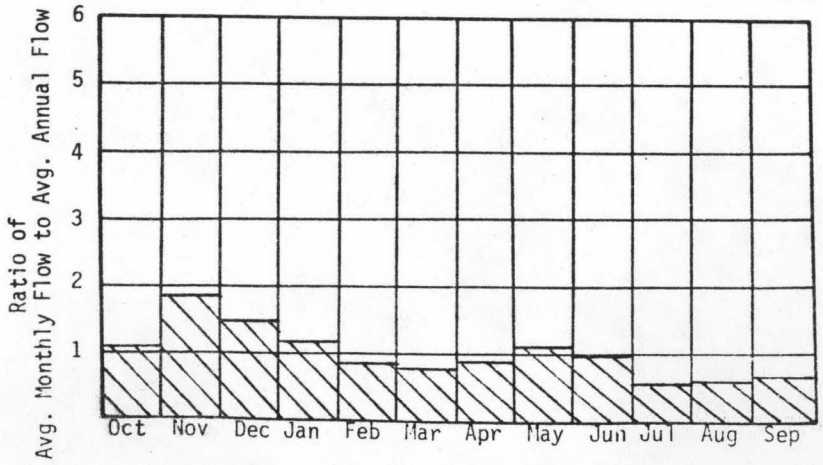
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14	Sq.Mi.
F.	Inflow Classification	Natural	

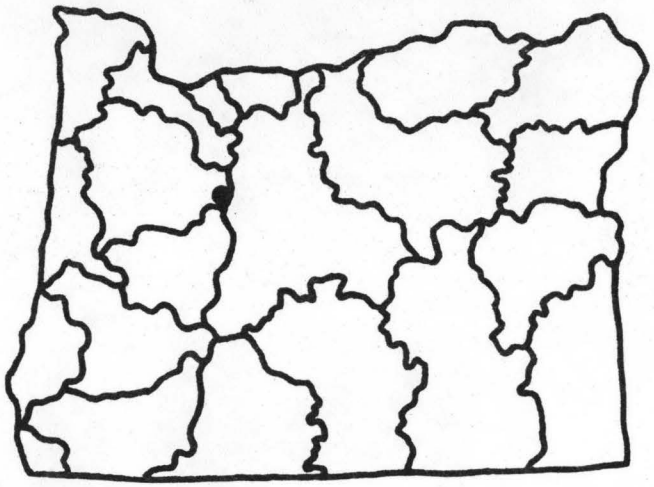
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.5	.03	.22	1.000
80	9.6	.05	.44	.933
50	45.2	.25	1.57	.710
30	87.0	.49	2.39	.561
10	195.6	1.09	3.46	.361

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 81 CFS





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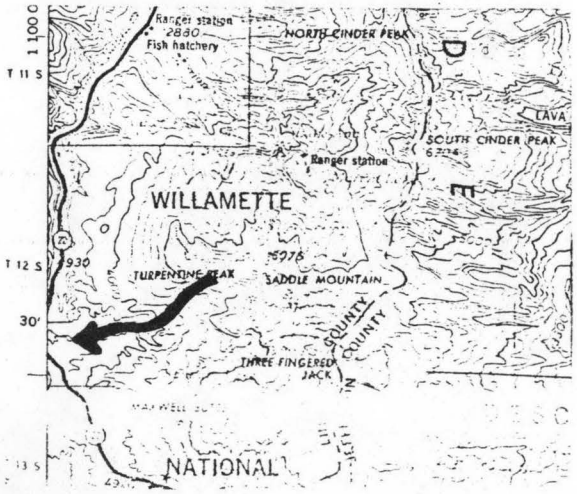


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0001

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S, R3W, Sec.25
D.	Latitude, Longitude	44°40'N.123°00'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 3.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

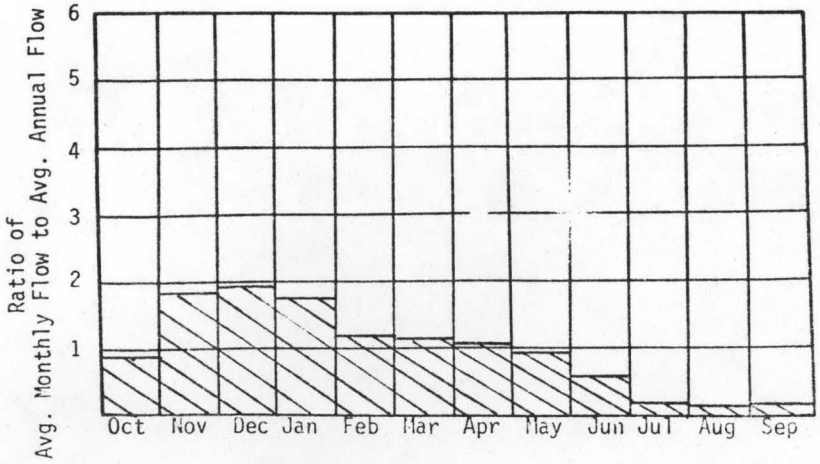
A.	Upstream Elevation of Reach	227	Ft. MSL
B.	Downstream Elevation of Reach	210	Ft. MSL
C.	Total Available Head in Reach	17	Ft.
D.	Average Slope in Reach	5.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	1044	Sq.Mi.
F.	Inflow Classification	Regulated	

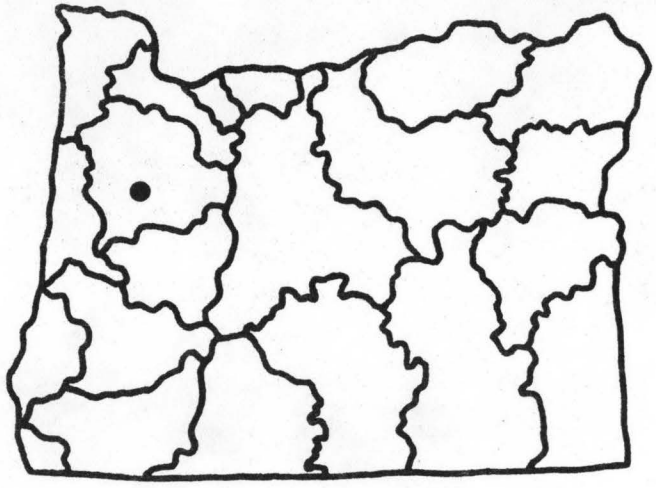
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	354.7	.51	4.48	1.000
80	702.1	1.01	8.31	.938
50	2548.2	3.67	23.46	.729
30	4427.0	6.38	32.94	.590
10	8861.9	12.77	44.14	.395

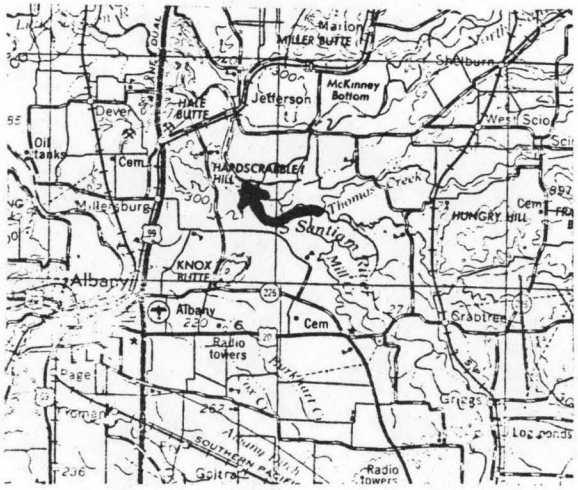
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3968 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0002

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T10S, R2W, Sec.23	
D. Latitude, Longitude	44°41'N,122°54'W	
E. Stream Name	Thomas Creek	
F. Major Basin Name	Mid-Willamette	
G. River Mile	0.0 to 10.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

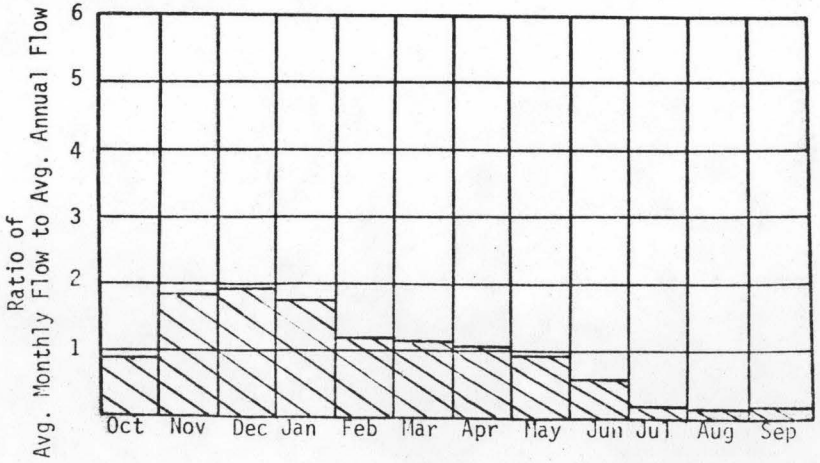
A. Upstream Elevation of Reach	317	Ft. MSL
B. Downstream Elevation of Reach	227	Ft. MSL
C. Total Available Head in Reach	90	Ft.
D. Average Slope in Reach	9	Ft./Mi.
E. Drainage Area above Reach Mouth	146	Sq.Mi.
F. Inflow Classification	Natural	

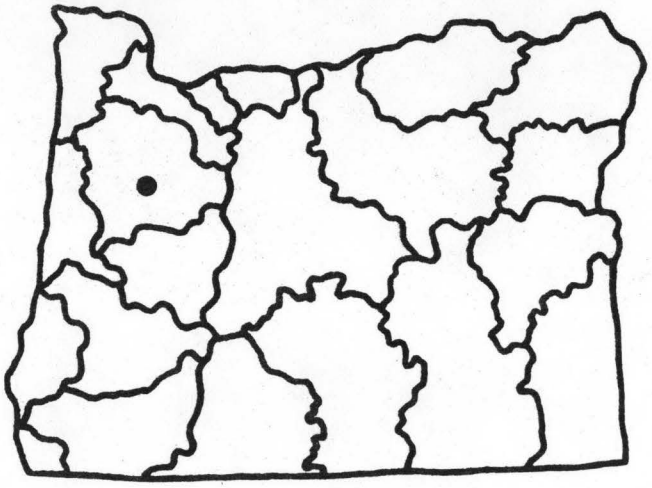
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	39.1	.30	2.61	1.000
80	80.8	.62	5.05	.935
50	333.4	2.54	16.02	.719
30	609.9	4.65	23.41	.574
10	1295.0	9.88	32.56	.376

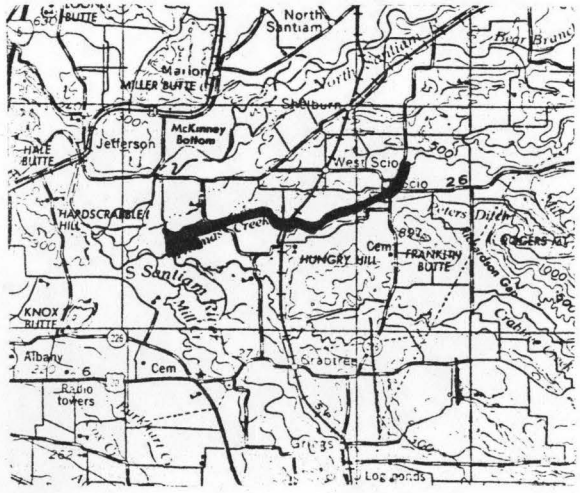
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 558 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0003

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T10S, R1W, Sec.10	
D. Latitude, Longitude	44°42'N,122°47'W	
E. Stream Name	Thomas Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	10.0 to 17.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

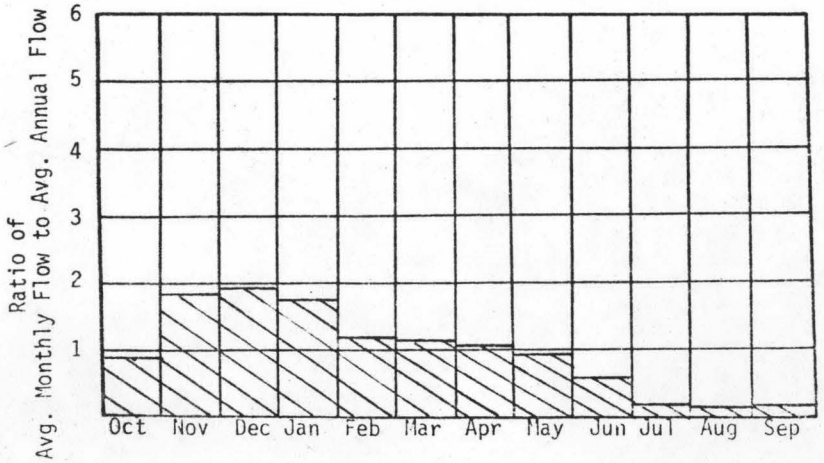
A. Upstream Elevation of Reach	455	Ft. MSL
B. Downstream Elevation of Reach	317	Ft. MSL
C. Total Available Head in Reach	138	Ft.
D. Average Slope in Reach	19	Ft./Mi.
E. Drainage Area above Reach Mouth	118	Sq.Mi.
F. Inflow Classification	Natural	

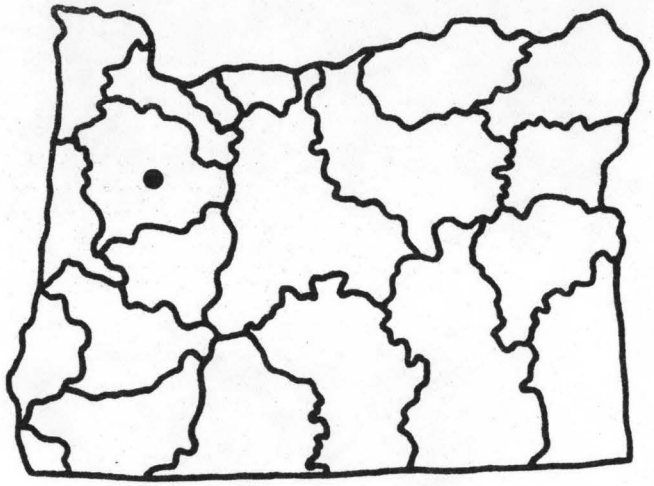
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	34.0	.40	3.49	1.000
80	70.5	.82	6.75	.935
50	293.4	3.43	21.60	.719
30	538.5	6.30	31.64	.574
10	1147.6	13.42	44.12	.375

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 492 CFS





U.S.G.S. TOPO. SERIES
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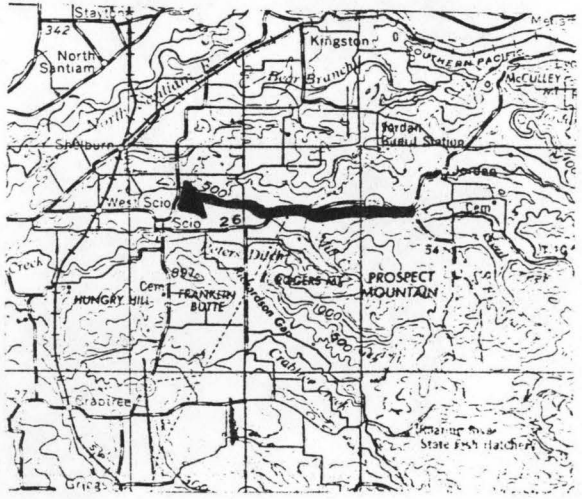
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0004

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S, R1E
D.	Latitude, Longitude	44°41'N,122°40'W
E.	Stream Name	Neal Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

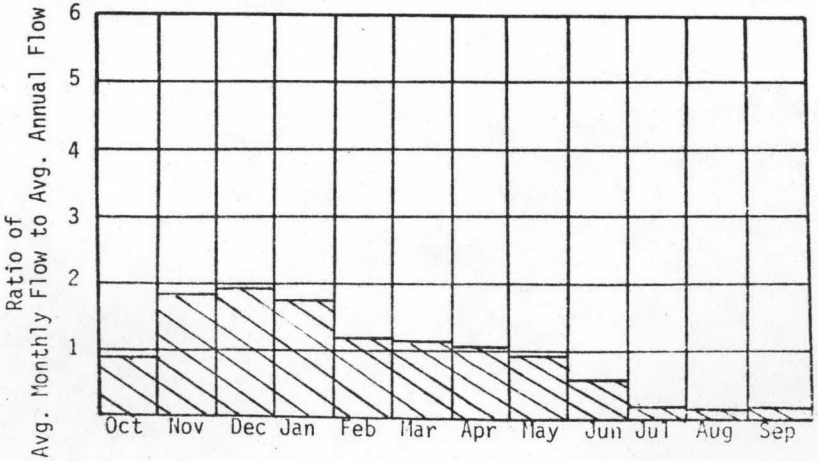
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	23	Sq.Mi.
F.	Inflow Classification	Natural	

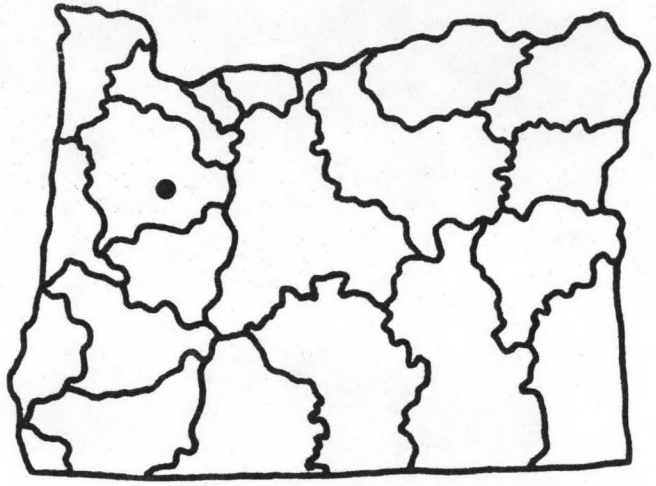
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.03	.27	1.000
80	11.9	.07	.55	.933
50	55.3	.31	1.93	.711
30	105.9	.59	2.92	.562
10	236.7	1.32	4.20	.362

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 98 CFS





U.S.G.S. TOPO. SERIES
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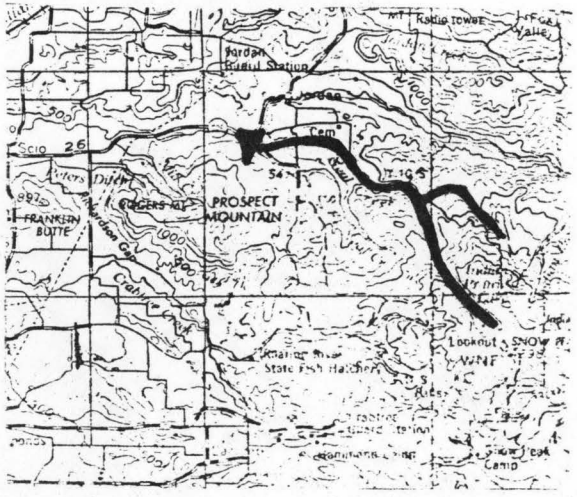
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0005

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S. R1E. Sec.12
D.	Latitude, Longitude	44°43'N.122°38'W
E.	Stream Name	Thomas Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	17.2 to 29.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

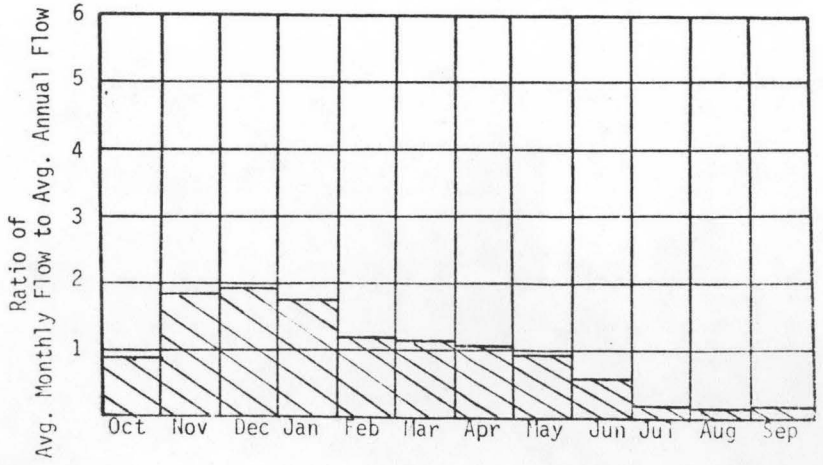
A.	Upstream Elevation of Reach	995	Ft. MSL
B.	Downstream Elevation of Reach	455	Ft. MSL
C.	Total Available Head in Reach	540	Ft.
D.	Average Slope in Reach	45	Ft./Mi.
E.	Drainage Area above Reach Mouth	77	Sq.Mi.
F.	Inflow Classification	Natural	

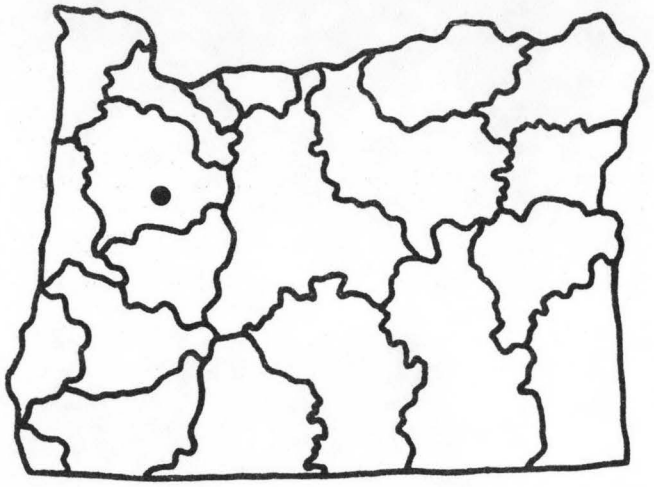
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.8	.86	7.55	1.000
80	39.5	1.81	14.79	.935
50	170.0	7.78	48.80	.716
30	316.5	14.48	72.29	.570
10	685.1	31.35	101.85	.371

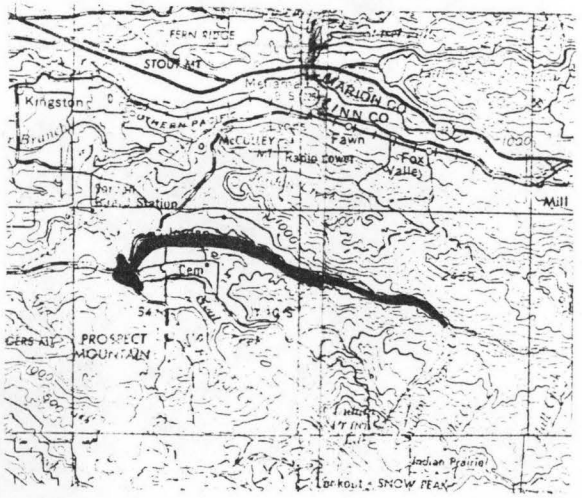
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 291 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0006

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T10S, R3E, Sec.29	
D. Latitude, Longitude	44°40'N.122°27'W	
E. Stream Name	Thomas Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	29.1 to 35.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

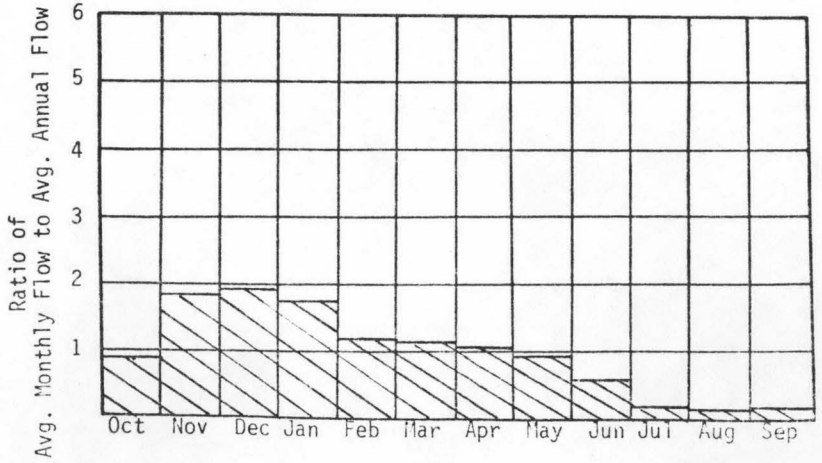
A. Upstream Elevation of Reach	1866	Ft. MSL
B. Downstream Elevation of Reach	995	Ft. MSL
C. Total Available Head in Reach	871	Ft.
D. Average Slope in Reach	132	Ft./Mi.
E. Drainage Area above Reach Mouth	34	Sq.Mi.
F. Inflow Classification	Natural	

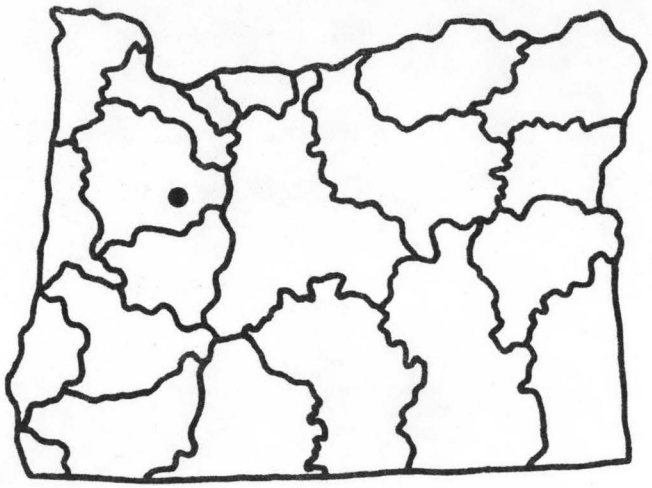
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.0	.59	5.18	1.000
80	17.1	1.26	10.30	.934
50	77.3	5.70	35.61	.713
30	146.7	10.83	53.57	.565
10	325.0	23.99	76.63	.365

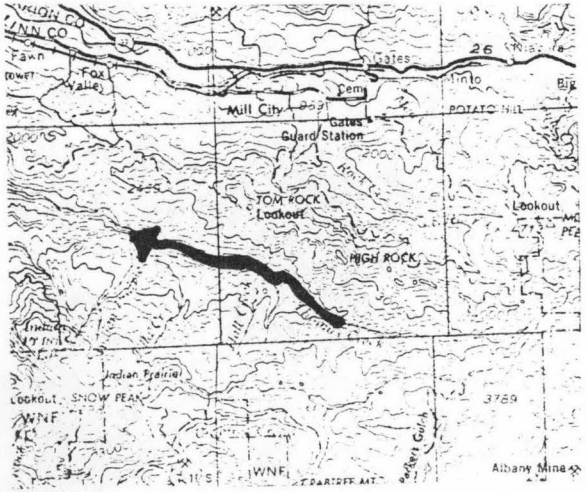
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 136 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0007

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T10S, R3E, Sec.35	
D. Latitude, Longitude	44°39'N,122°23'W	
E. Stream Name	Thomas Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	35.7 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

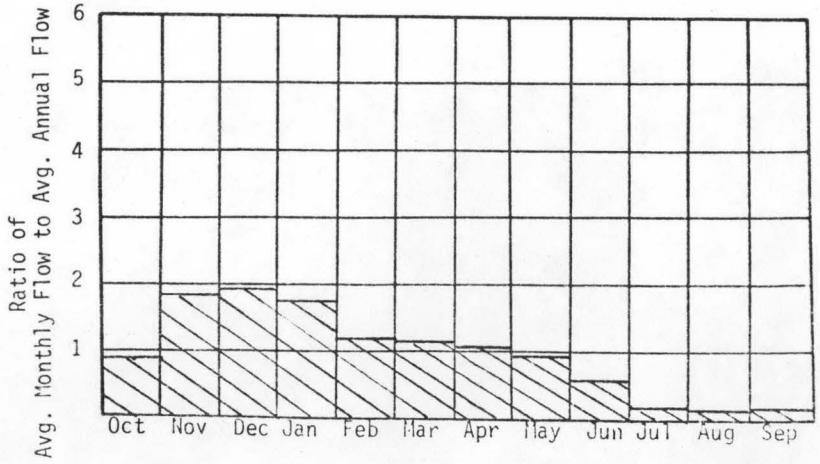
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	10	Sq.Mi.
F. Inflow Classification	Natural	

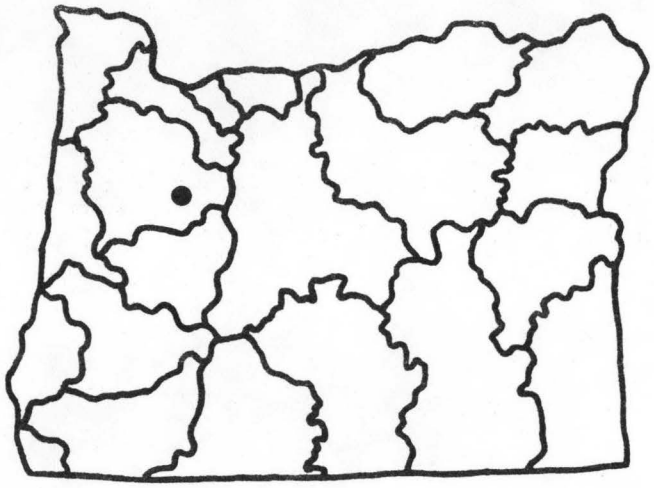
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.8	.02	.18	1.000
80	8.2	.05	.37	.933
50	38.6	.22	1.34	.710
30	74.6	.42	2.05	.560
10	168.6	.94	2.97	.359

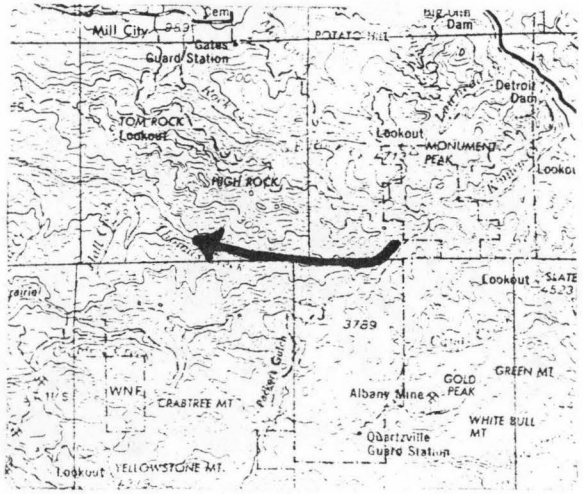
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 70 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0008

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S, R2W, Sec.30
D.	Latitude, Longitude	44°40'N,122°58'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	3.0 to 4.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

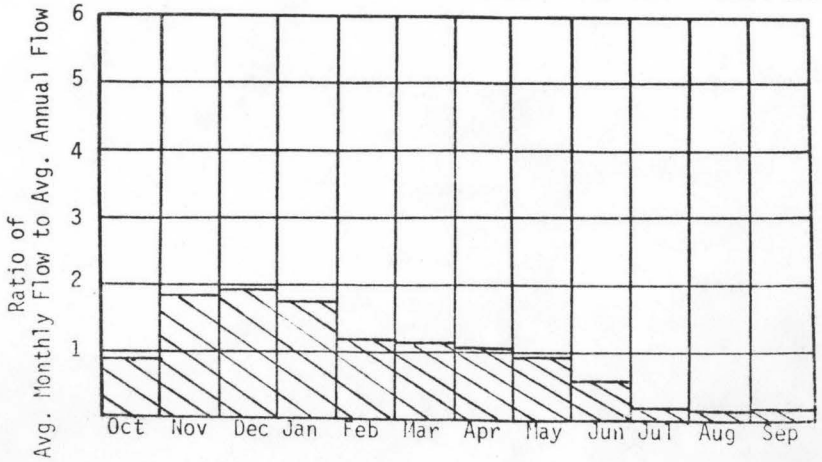
A.	Upstream Elevation of Reach	235	Ft. MSL
B.	Downstream Elevation of Reach	227	Ft. MSL
C.	Total Available Head in Reach	8	Ft.
D.	Average Slope in Reach	6	Ft./Mi.
E.	Drainage Area above Reach Mouth	892	Sq.Mi.
F.	Inflow Classification	Regulated	

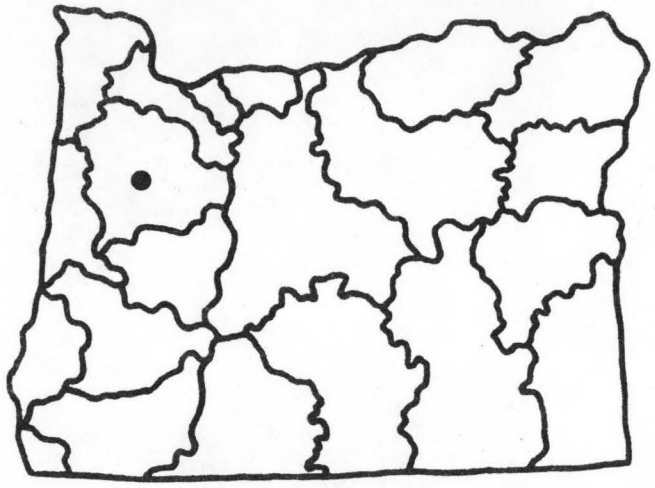
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	303.6	.21	1.80	1.000
80	602.7	.41	3.36	.938
50	2207.2	1.50	9.55	.729
30	3848.6	2.61	13.45	.588
10	7736.1	5.24	18.07	.393

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3454 CFS





U.S.G.S. TOPO. SERIES
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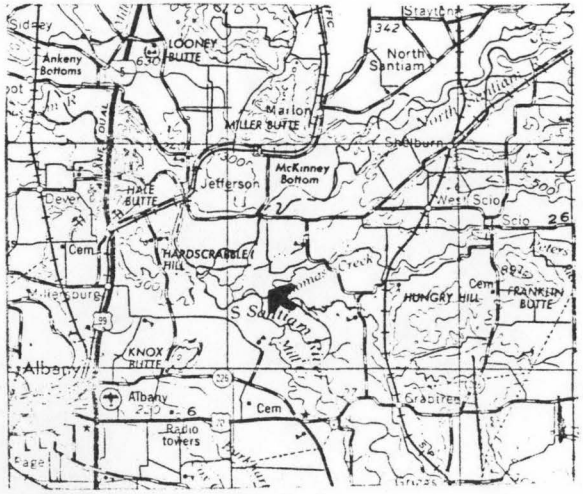
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0009

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S, R2W, Sec.27
D.	Latitude, Longitude	44°30'N,122°55'W
E.	Stream Name	Crabtree Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 5.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

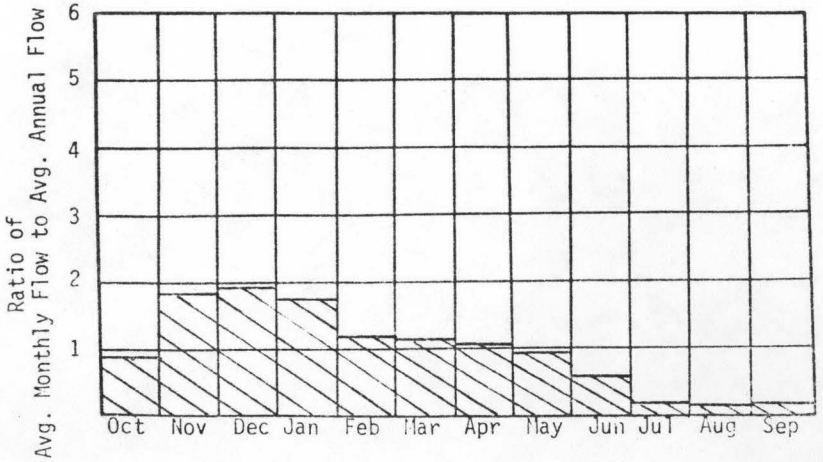
A.	Upstream Elevation of Reach	267	Ft. MSL
B.	Downstream Elevation of Reach	235	Ft. MSL
C.	Total Available Head in Reach	32	Ft.
D.	Average Slope in Reach	5.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	149	Sq.Mi.
F.	Inflow Classification	Natural	

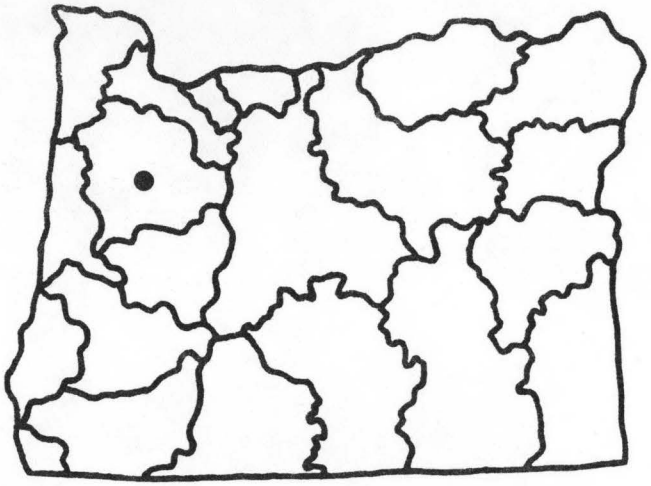
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	39.4	.11	.94	1.000
80	81.4	.22	1.81	.935
50	335.8	.91	5.74	.719
30	614.3	1.67	8.38	.574
10	1304.0	3.54	11.66	.376

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 562 CFS





U.S.G.S. TOPO. SERIES
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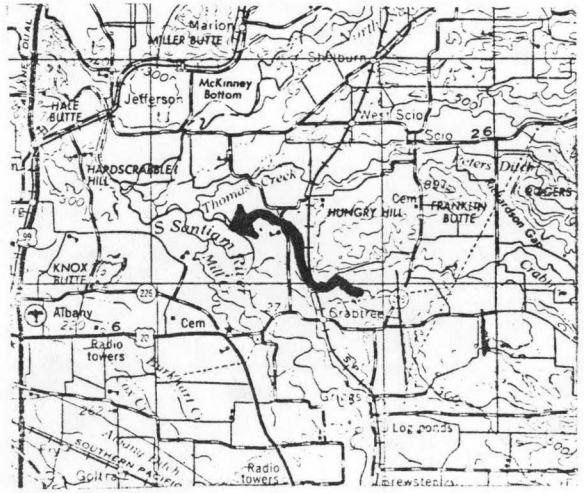


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0010

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T11S, R1W, Sec.7	
D. Latitude, Longitude	44°37'N.122°51'W	
E. Stream Name	Beaver Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 5.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

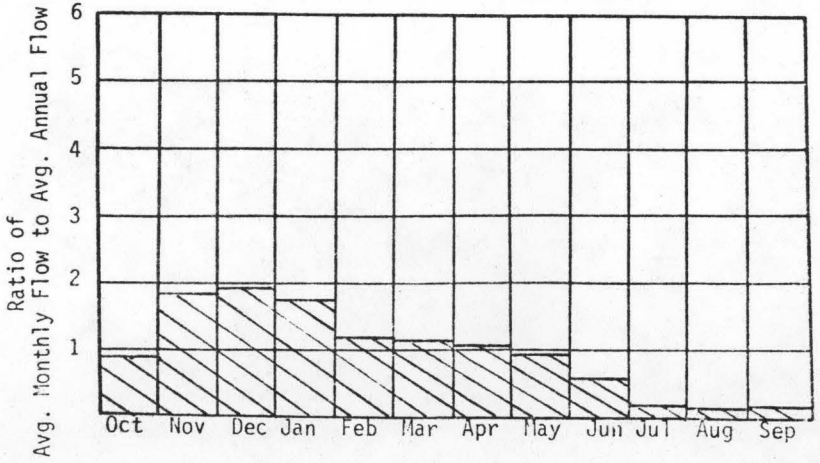
A. Upstream Elevation of Reach	309	Ft. MSL
B. Downstream Elevation of Reach	267	Ft. MSL
C. Total Available Head in Reach	42	Ft.
D. Average Slope in Reach	7.6	Ft./Mi.
E. Drainage Area above Reach Mouth	32	Sq.Mi.
F. Inflow Classification	Natural	

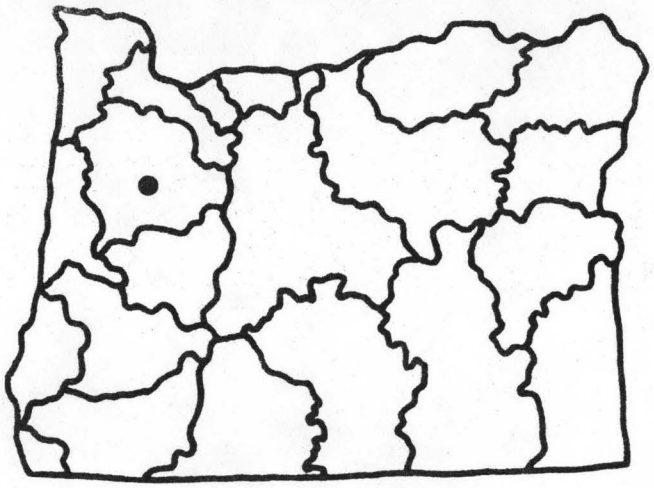
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.0	.02	.16	1.000
80	10.7	.04	.31	.933
50	49.9	.18	1.11	.711
30	95.8	.34	1.68	.562
10	214.9	.76	2.42	.361

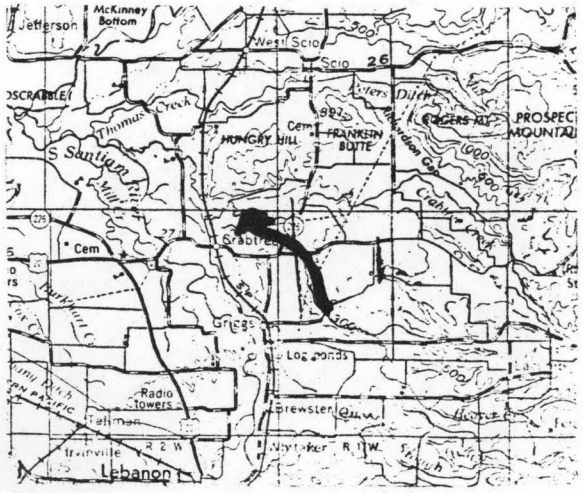
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 89 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0011

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R1W, Sec.21
D.	Latitude, Longitude	44°35'N,122°49'W
E.	Stream Name	Beaver Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	5.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

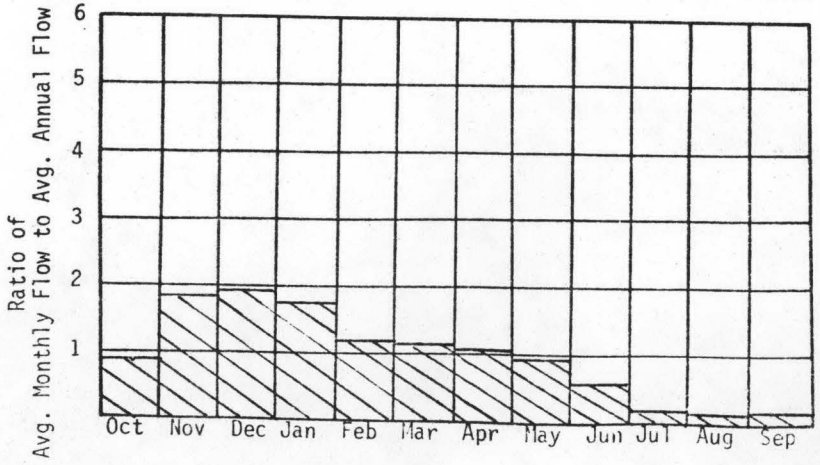
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

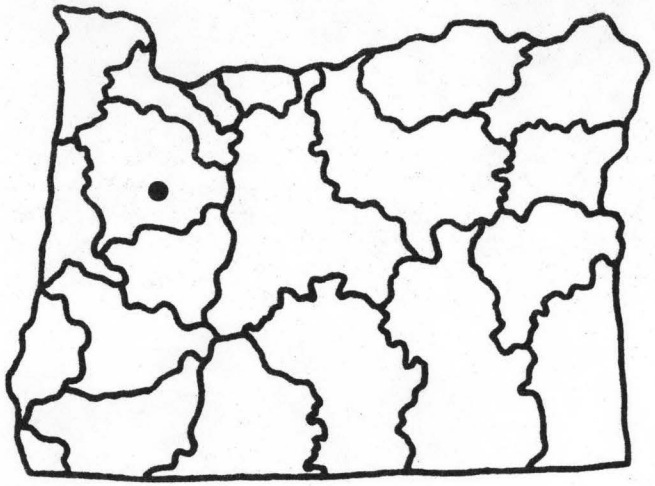
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.9	.02	.19	1.000
80	8.4	.05	.38	.933
50	39.6	.22	1.38	.710
30	76.5	.43	2.10	.560
10	172.8	.97	3.04	.360

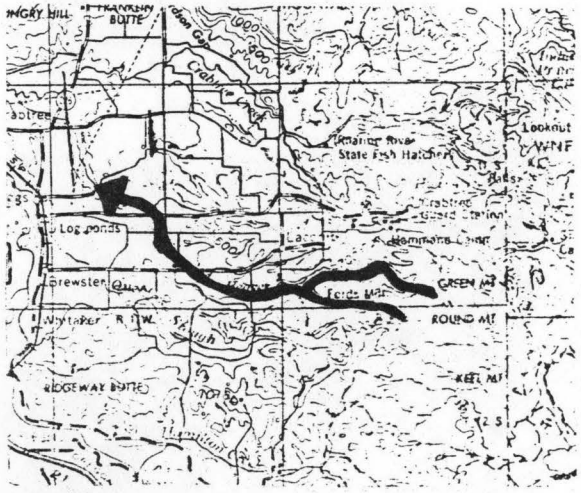
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 71 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0012

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S. R1W. Sec.34
D.	Latitude, Longitude	44°39'N.122°48'W
E.	Stream Name	Crabtree Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	5.7 to 16.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

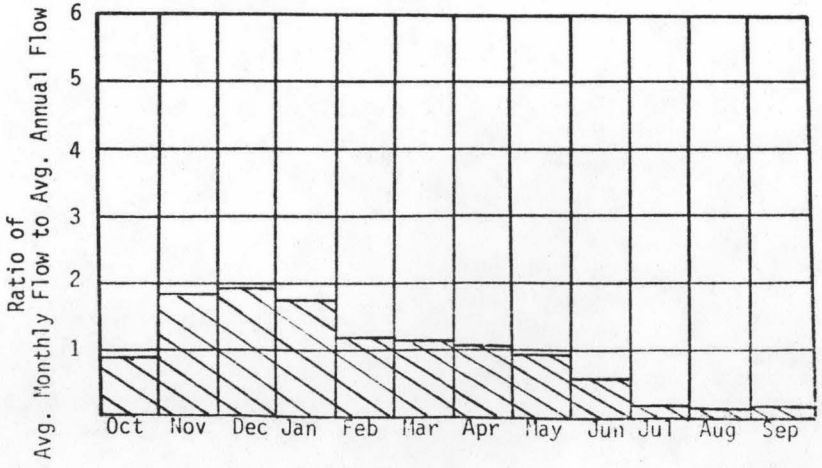
A.	Upstream Elevation of Reach	430	Ft. MSL
B.	Downstream Elevation of Reach	267	Ft. MSL
C.	Total Available Head in Reach	163	Ft.
D.	Average Slope in Reach	16	Ft./Mi.
E.	Drainage Area above Reach Mouth	113	Sq.Mi.
F.	Inflow Classification	Natural	

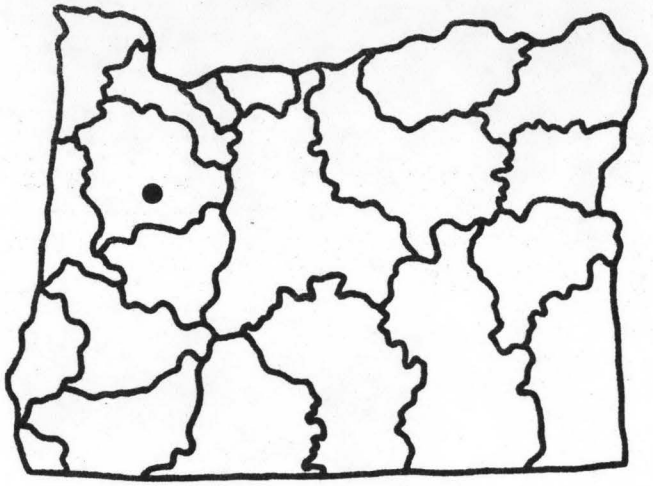
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	26.5	.37	3.20	1.000
80	55.1	.76	6.23	.935
50	232.7	3.21	20.20	.717
30	429.6	5.93	29.73	.572
10	921.7	12.73	41.64	.373

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 394 CFS





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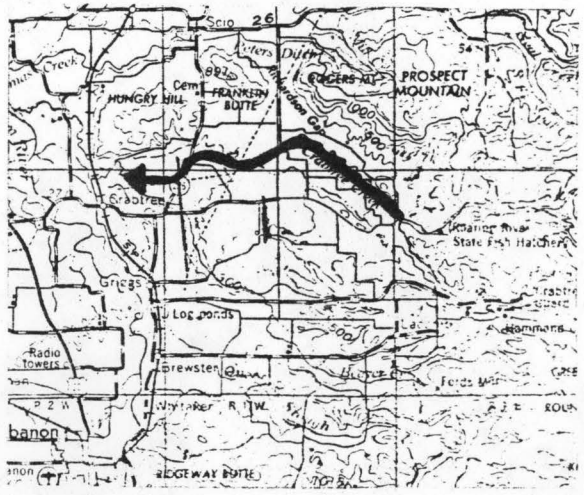
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0013

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R1E, Sec.22
D.	Latitude, Longitude	44°35'N,122°40'W
E.	Stream Name	Crabtree Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	16.1 to 25.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

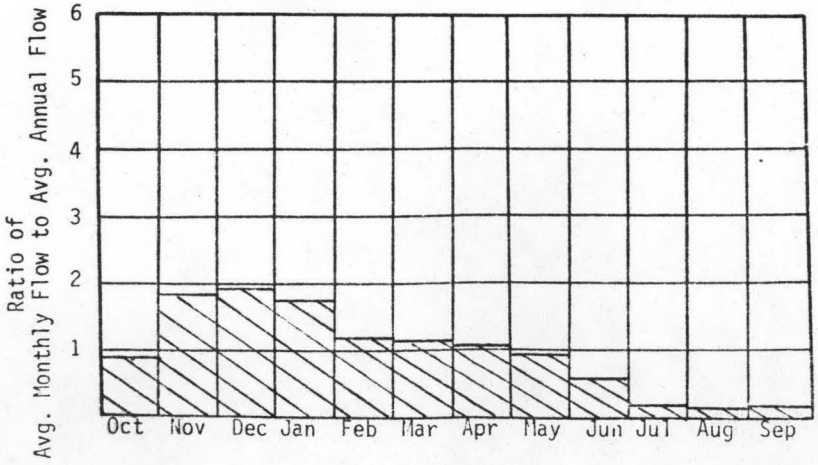
A.	Upstream Elevation of Reach	1180	Ft. MSL
B.	Downstream Elevation of Reach	430	Ft. MSL
C.	Total Available Head in Reach	750	Ft.
D.	Average Slope in Reach	77	Ft./Mi.
E.	Drainage Area above Reach Mouth	69	Sq.Mi.
F.	Inflow Classification	Natural	

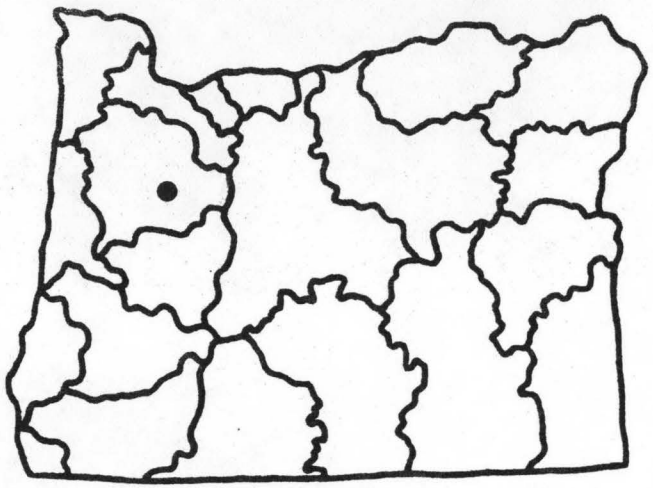
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	17.5	1.11	9.74	1.000
80	36.7	2.33	19.11	.935
50	158.9	10.10	63.33	.716
30	296.3	18.83	93.93	.569
10	642.7	40.85	132.51	.370

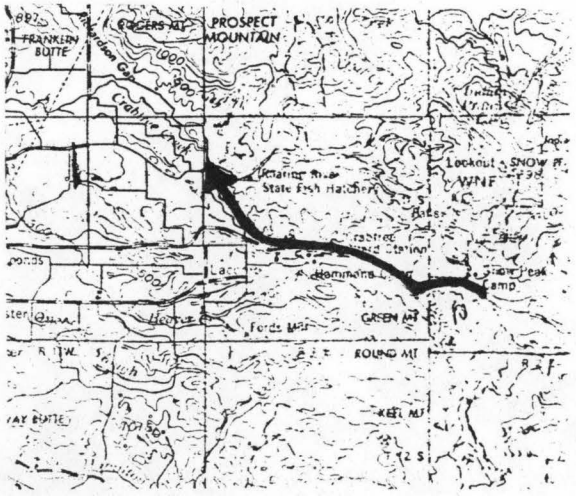
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 273 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0014

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R2E
D.	Latitude, Longitude	44°30'N,122°35'W
E.	Stream Name	Bald Peter Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

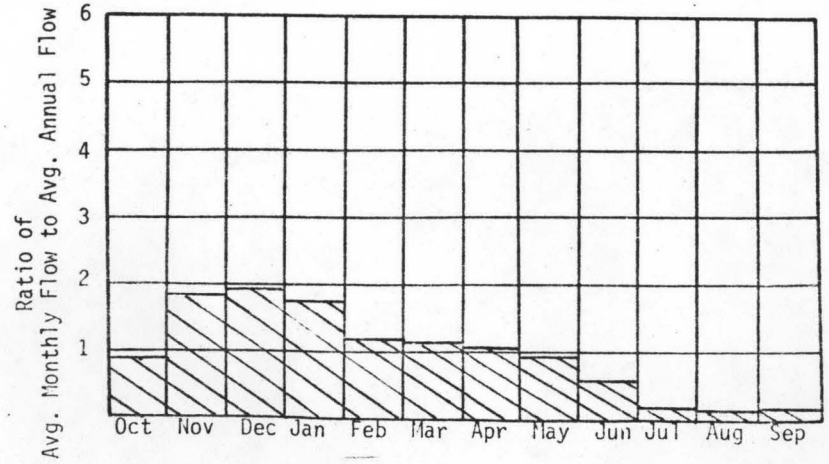
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	17	Sq.Mi.
F.	Inflow Classification	Natural	

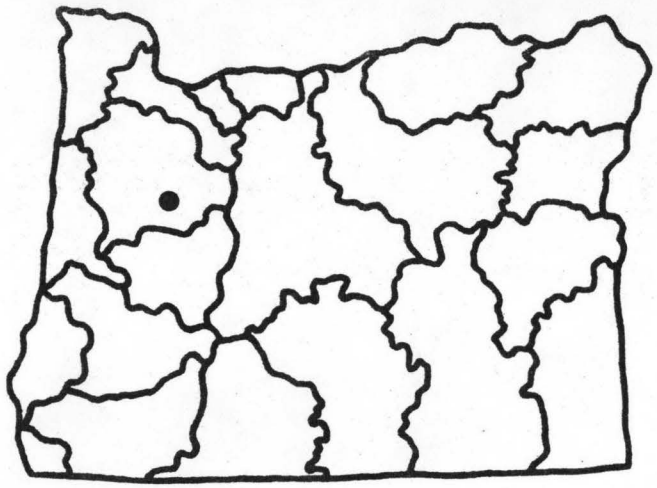
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.9	.03	.24	1.000
80	10.5	.06	.48	.933
50	49.1	.27	1.71	.711
30	94.4	.53	2.60	.562
10	211.8	1.18	3.75	.361

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 88 CFS





U.S.G.S. TOPO. SERIES
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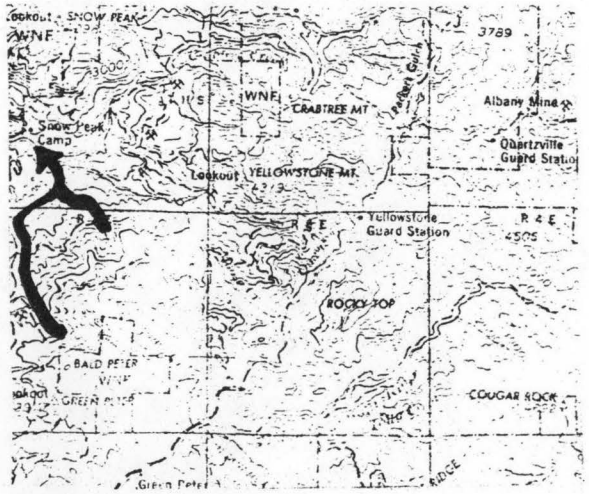
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0015

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R2E, Sec.22
D.	Latitude, Longitude	44°35'N,122°35'W
E.	Stream Name	Crabtree Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	25.8 to 30.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

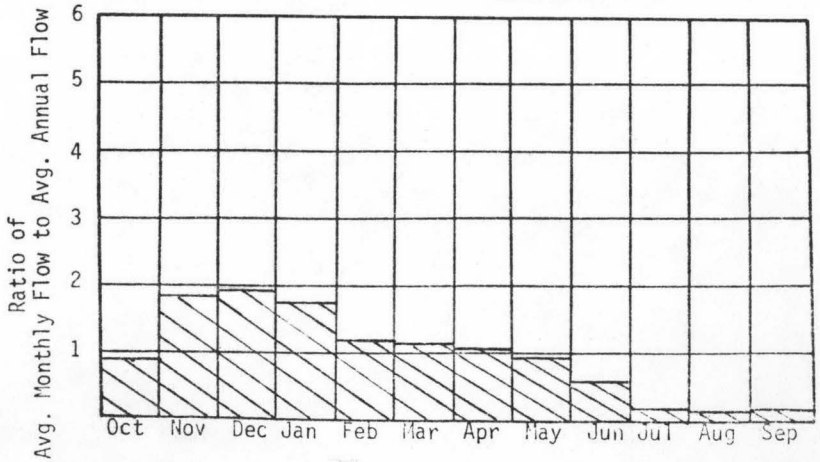
A.	Upstream Elevation of Reach	2020	Ft. MSL
B.	Downstream Elevation of Reach	1180	Ft. MSL
C.	Total Available Head in Reach	840	Ft.
D.	Average Slope in Reach	191	Ft./Mi.
E.	Drainage Area above Reach Mouth	25	Sq.Mi.
F.	Inflow Classification	Natural	

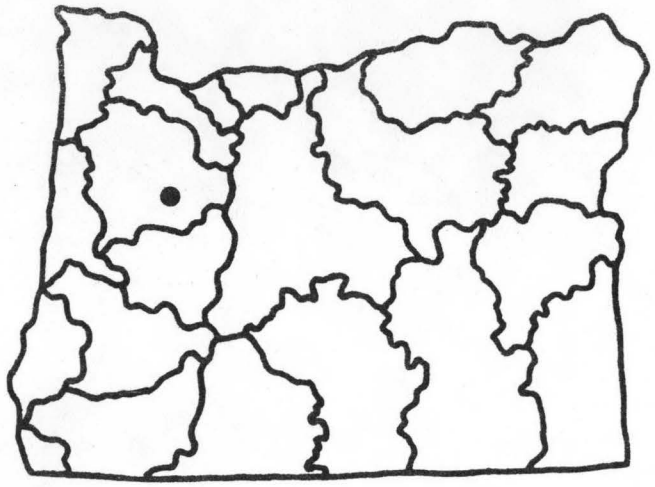
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.2	.44	3.87	1.000
80	13.3	.95	7.74	.933
50	61.1	4.35	27.12	.712
30	116.8	8.31	41.01	.563
10	260.4	18.54	58.92	.363

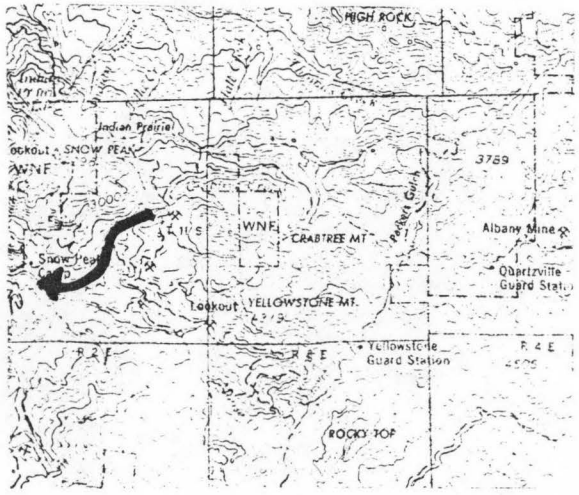
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 108 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0016

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S. R2E. Sec.14
D.	Latitude, Longitude	44°36'N.122°32'W
E.	Stream Name	Crabtree Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	30.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

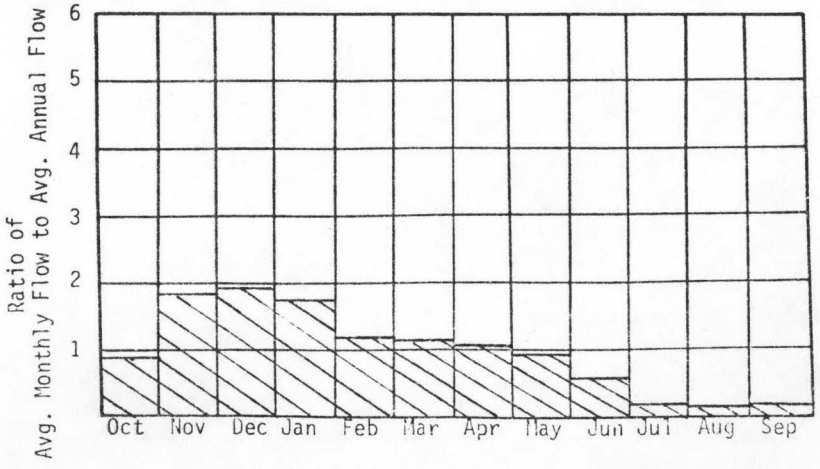
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

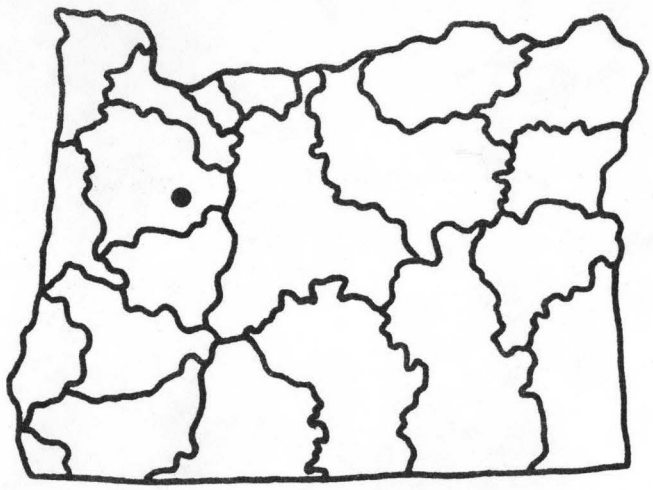
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	9.0	.05	.41	.933
50	42.2	.24	1.47	.710
30	81.3	.45	2.23	.561
10	183.3	1.03	3.23	.360

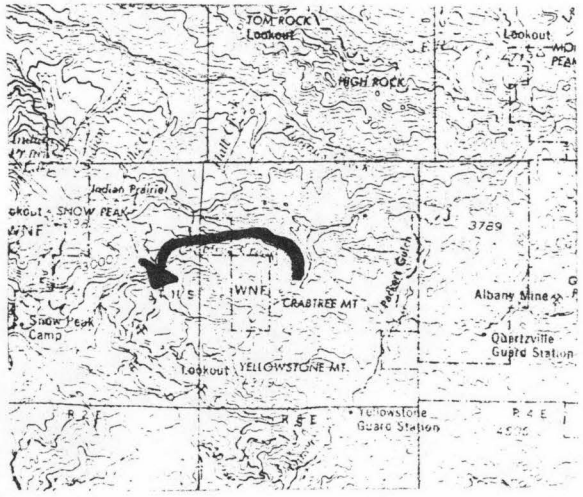
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 76 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0017

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R2W, Sec.10
D.	Latitude, Longitude	44°37'N,122°55'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	4.3 to 15.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

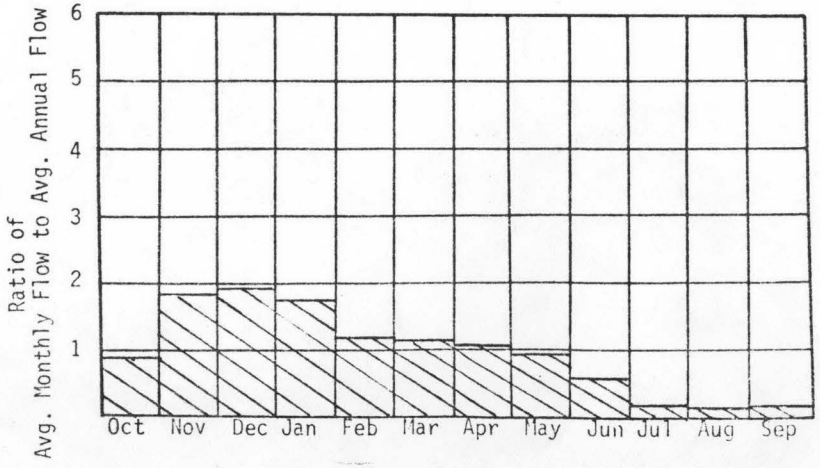
A.	Upstream Elevation of Reach	310	Ft. MSL
B.	Downstream Elevation of Reach	235	Ft. MSL
C.	Total Available Head in Reach	75	Ft.
D.	Average Slope in Reach	7	Ft./Mi.
E.	Drainage Area above Reach Mouth	742	Sq.Mi.
F.	Inflow Classification	Regulated	

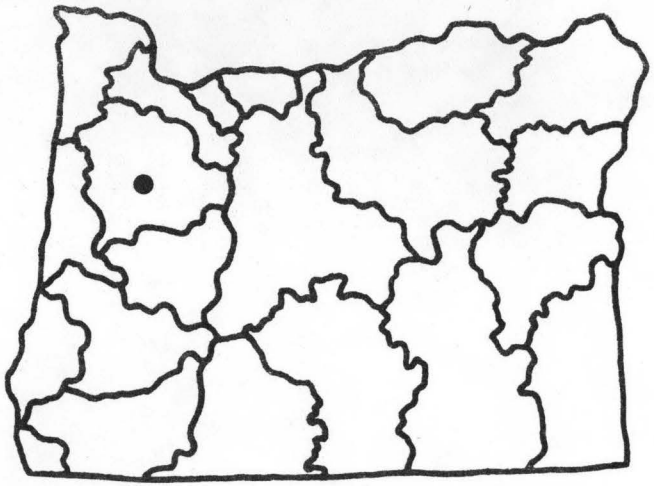
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	253.9	1.61	14.14	1.000
80	505.8	3.21	26.41	.938
50	1871.9	11.90	75.85	.728
30	3277.7	20.83	107.16	.587
10	6620.0	42.08	144.38	.392

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2946 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0018

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R2W, Sec.11
D.	Latitude, Longitude	44°32'N,122°54'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	15.0 to 21.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

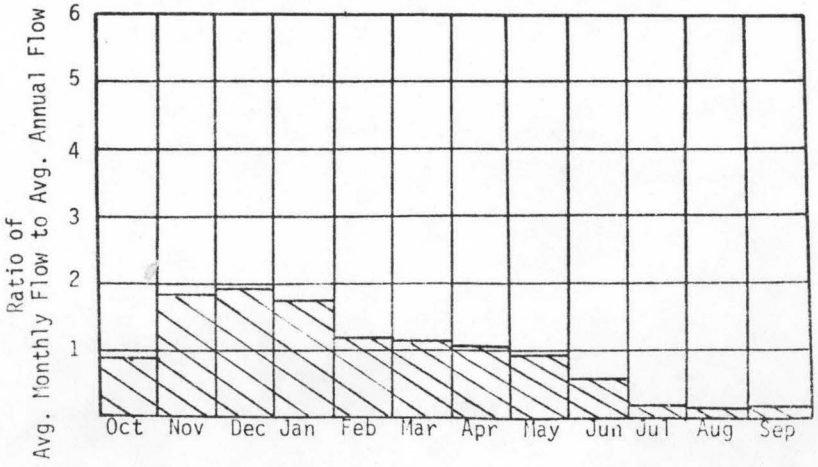
A.	Upstream Elevation of Reach	375	Ft. MSL
B.	Downstream Elevation of Reach	310	Ft. MSL
C.	Total Available Head in Reach	65	Ft.
D.	Average Slope in Reach	10.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	722	Sq.Mi.
F.	Inflow Classification	Regulated	

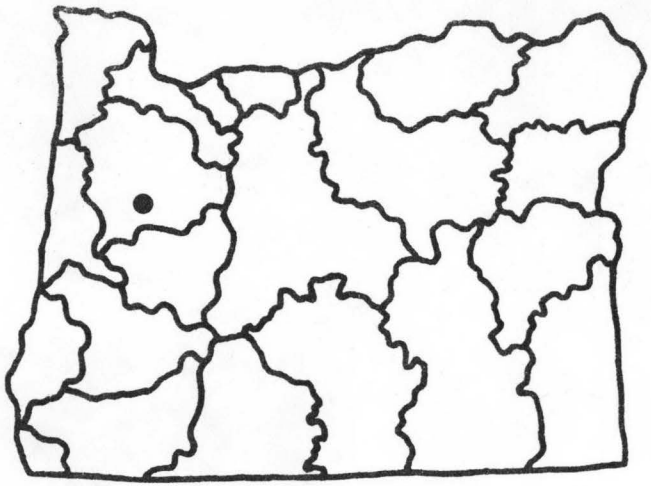
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	248.7	1.37	12.00	1.000
80	495.7	2.73	22.43	.938
50	1836.6	10.12	64.49	.728
30	3217.4	17.72	91.14	.587
10	6502.0	35.82	122.84	.392

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2893 CFS





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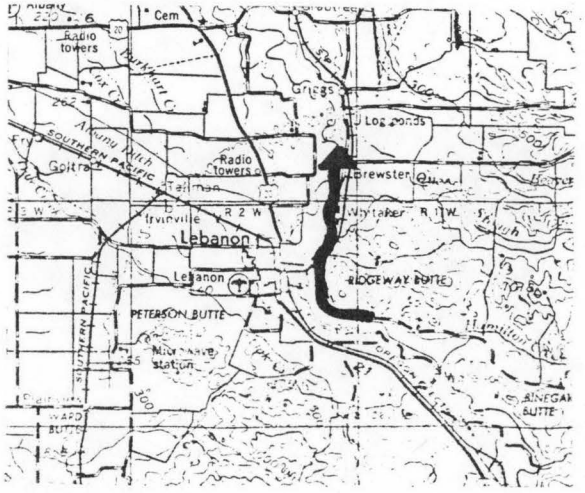


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0019

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T12S, R1W, Sec.23	
D. Latitude, Longitude	44°30'N,122°46'W	
E. Stream Name	Hamilton Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 9.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

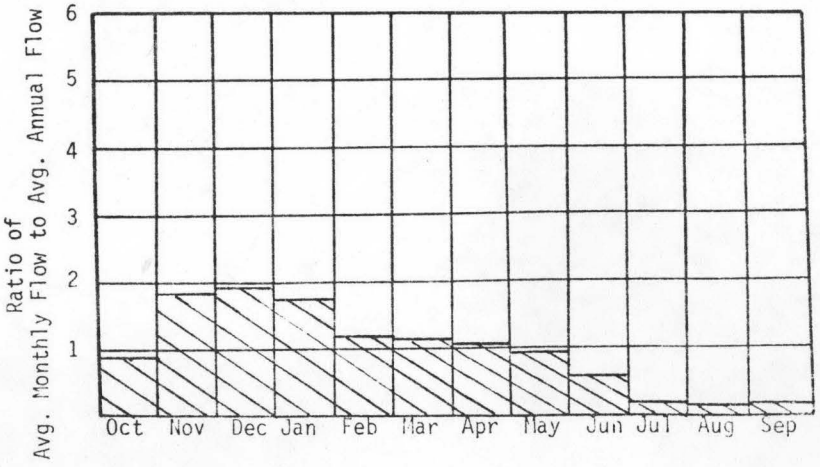
A. Upstream Elevation of Reach	533	Ft. MSL
B. Downstream Elevation of Reach	375	Ft. MSL
C. Total Available Head in Reach	158	Ft.
D. Average Slope in Reach	17.5	Ft./Mi.
E. Drainage Area above Reach Mouth	40	Sq.Mi.
F. Inflow Classification	Natural	

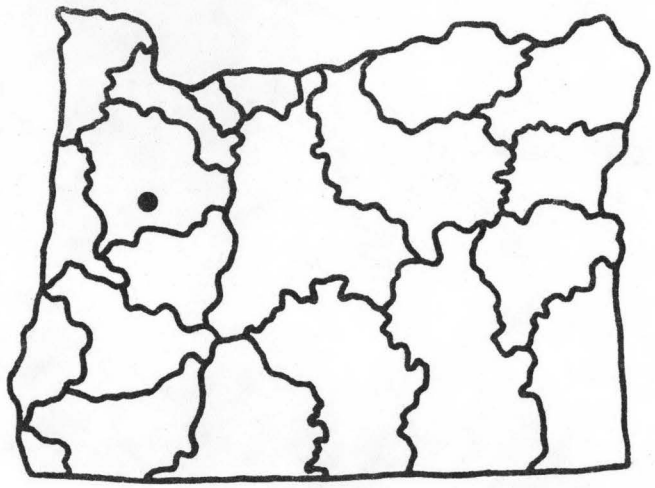
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.08	.69	1.000
80	12.7	.17	1.39	.933
50	58.5	.78	4.88	.711
30	111.9	1.50	7.39	.563
10	249.9	3.35	10.63	.363

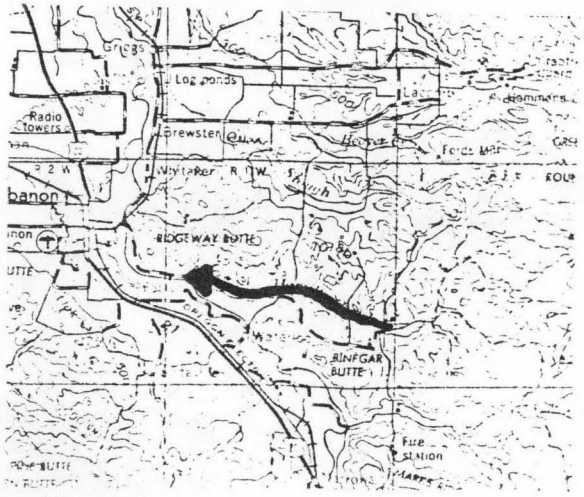
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 104 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0020

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R1E, Sec.19
D.	Latitude, Longitude	44°31'N,122°46'W
E.	Stream Name	Hamilton Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	9.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

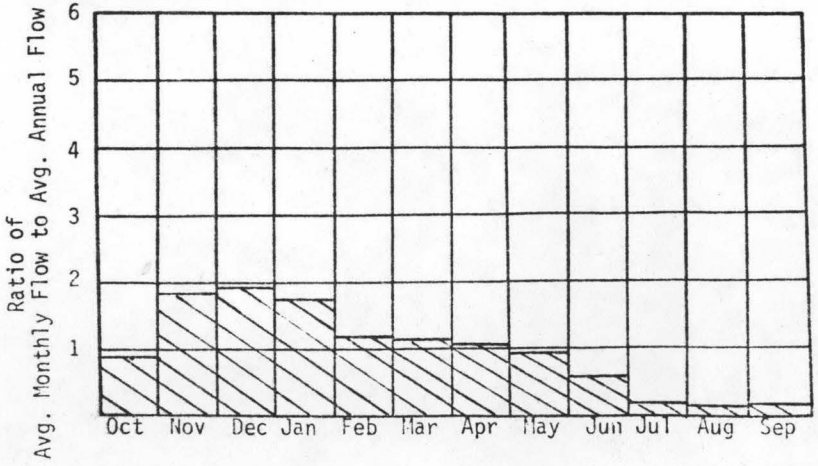
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	16	Sq.Mi.
F.	Inflow Classification	Natural	

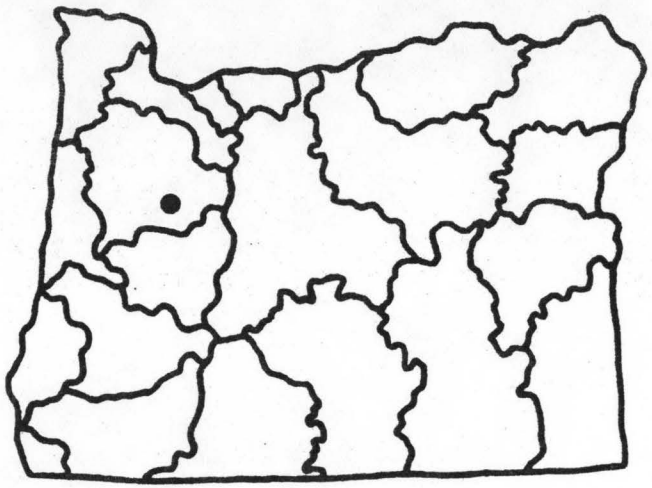
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.02	.18	1.000
80	7.9	.04	.36	.933
50	37.3	.21	1.30	.710
30	72.2	.40	1.98	.560
10	163.3	.91	2.87	.359

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 67 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0021

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R1W, Sec.29
D.	Latitude, Longitude	44°30'N.122°54'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	21.2 to 25.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

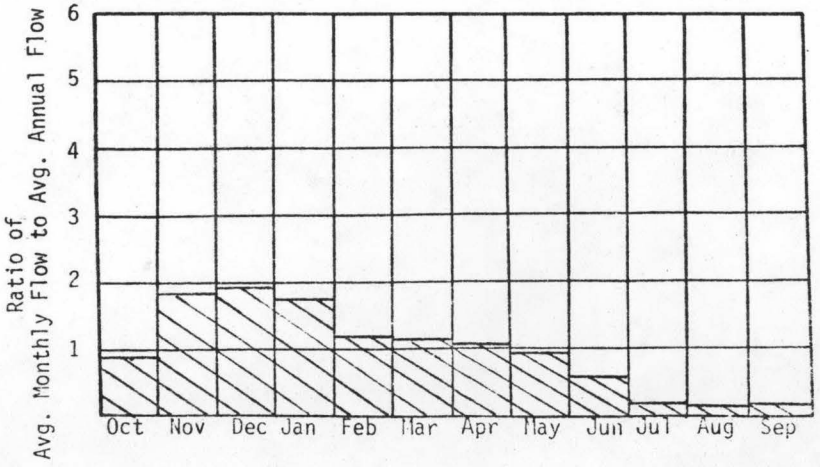
A.	Upstream Elevation of Reach	405	Ft. MSL
B.	Downstream Elevation of Reach	375	Ft. MSL
C.	Total Available Head in Reach	30	Ft.
D.	Average Slope in Reach	7.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	653	Sq.Mi.
F.	Inflow Classification	Regulated	

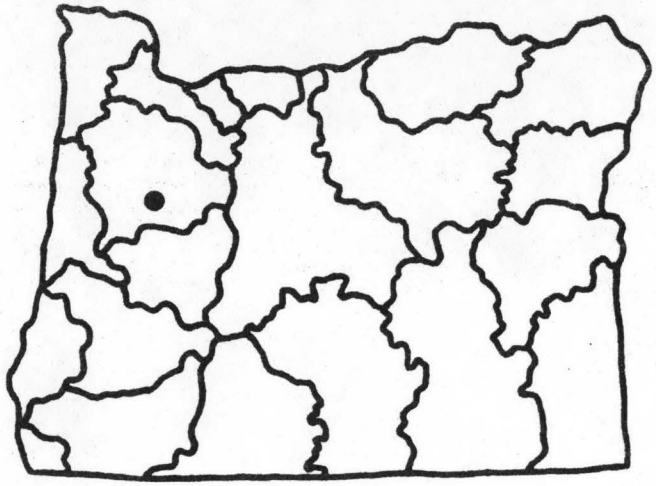
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	233.8	.59	5.21	1.000
80	466.5	1.19	9.74	.938
50	1734.8	4.41	28.10	.727
30	3043.6	7.74	39.76	.587
10	6160.8	15.66	53.65	.391

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2738 CFS





U.S.G.S. TOPO. SERIES
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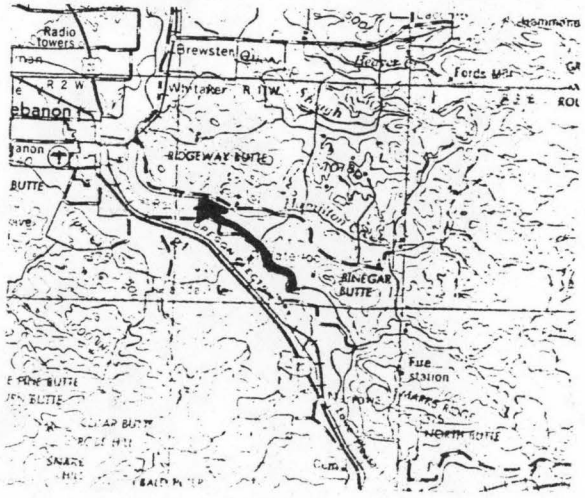
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0022

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R1W, Sec.35
D.	Latitude, Longitude	44°28'N,122°47'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	25.2 to 27.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

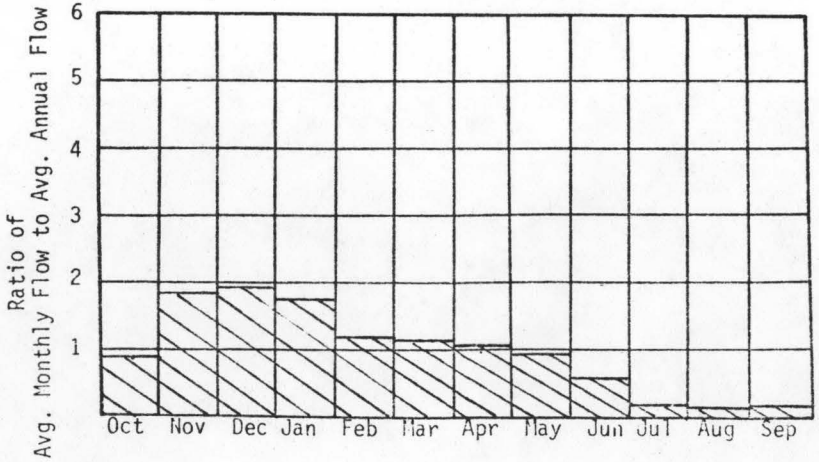
A.	Upstream Elevation of Reach	418	Ft. MSL
B.	Downstream Elevation of Reach	405	Ft. MSL
C.	Total Available Head in Reach	13	Ft.
D.	Average Slope in Reach	5.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	626	Sq.Mi.
F.	Inflow Classification	Regulated	

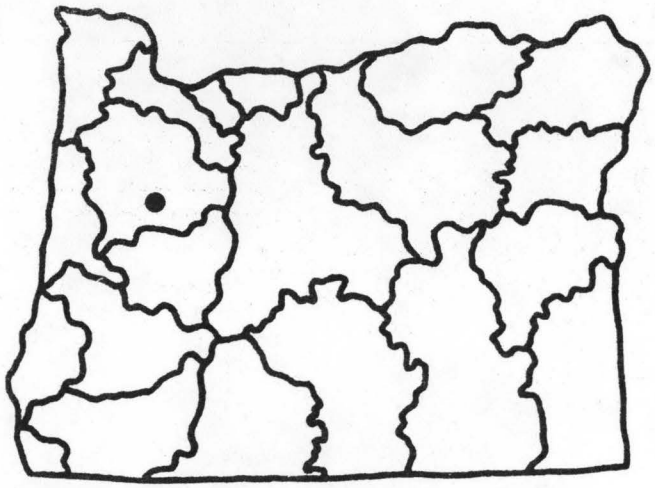
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	228.7	.25	2.21	1.000
80	456.6	.50	4.13	.938
50	1700.2	1.87	11.93	.727
30	2984.3	3.29	16.89	.586
10	6044.4	6.66	22.80	.391

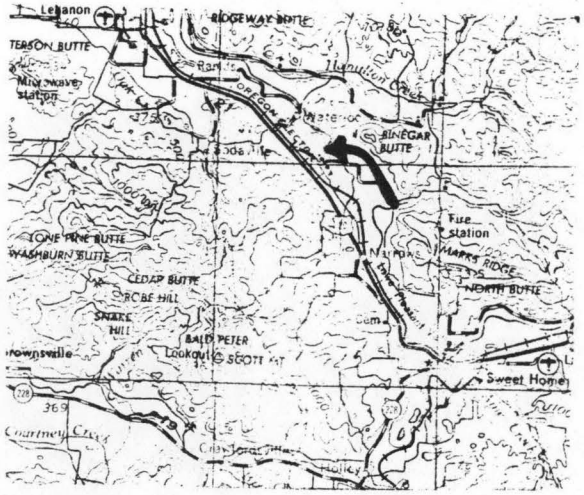
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2685 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-[illegible]50-110-020-R0023

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S. R1W. Sec.1
D.	Latitude, Longitude	44°28'N.122°46'W
E.	Stream Name	McDowell Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 3.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

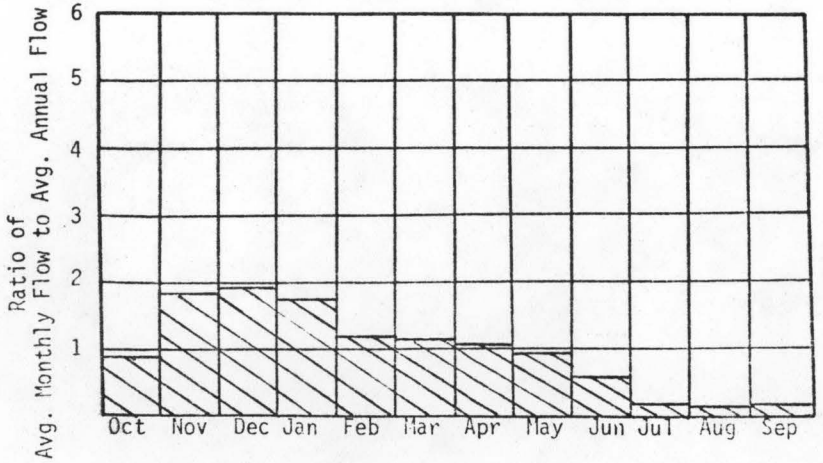
A.	Upstream Elevation of Reach	647	Ft. MSL
B.	Downstream Elevation of Reach	418	Ft. MSL
C.	Total Available Head in Reach	229	Ft.
D.	Average Slope in Reach	66.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	24	Sq.Mi.
F.	Inflow Classification	Natural	

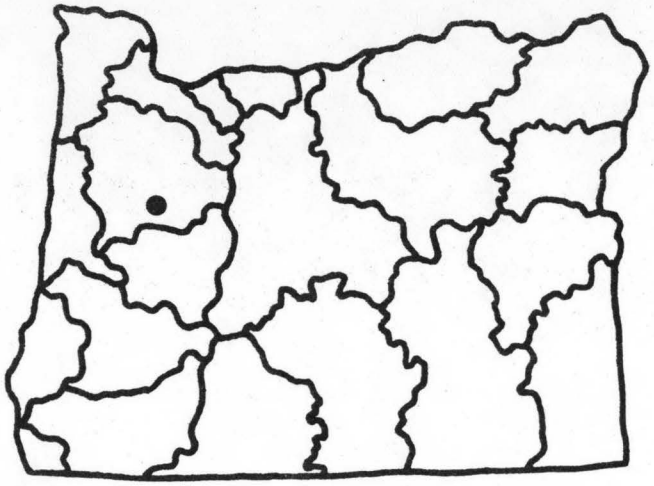
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.4	.09	.75	1.000
80	9.6	.19	1.52	.933
50	44.8	.87	5.41	.710
30	86.2	1.67	8.23	.561
10	194.1	3.77	11.89	.361

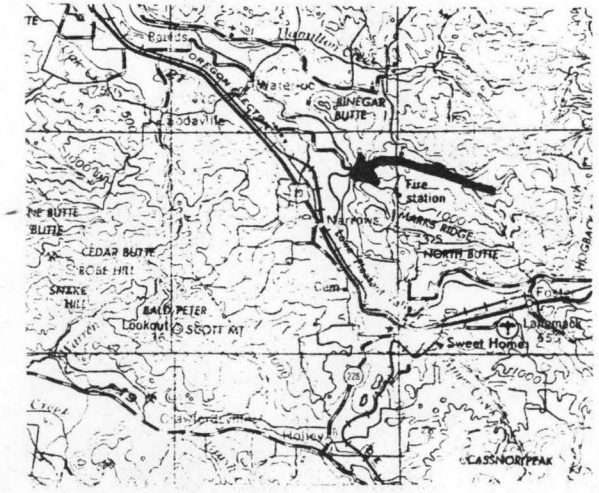
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 80 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0024

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R1W, Sec.8
D.	Latitude, Longitude	44°28'N,122°44'W
E.	Stream Name	McDowell Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	3.6 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

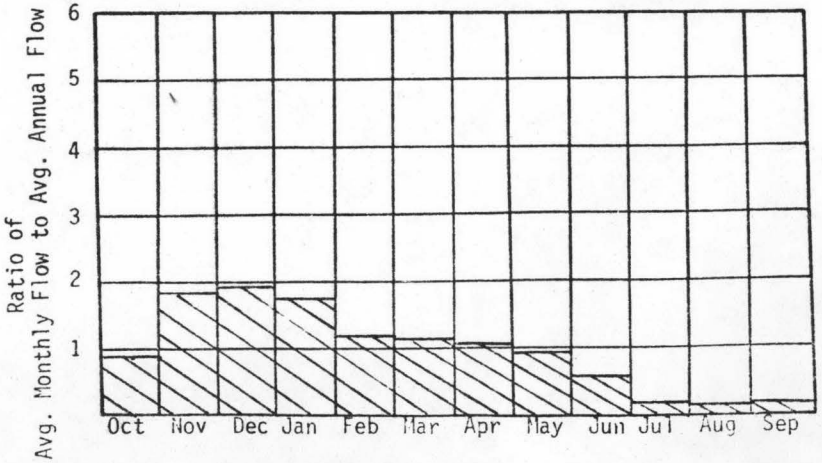
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	17	Sq.Mi.
F.	Inflow Classification	Natural	

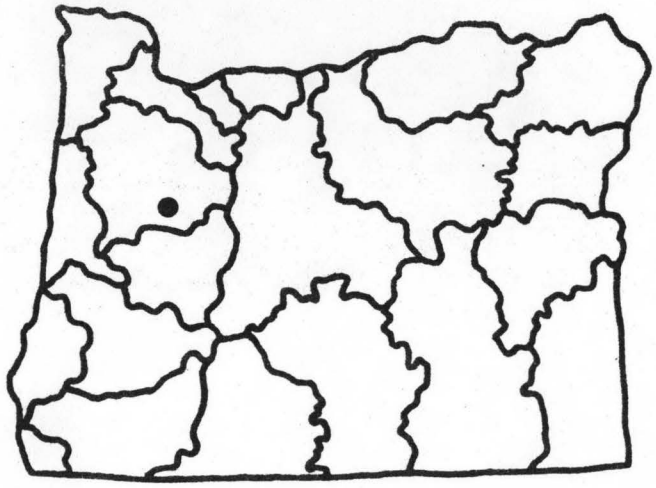
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.8	.02	.19	1.000
80	8.2	.05	.37	.933
50	38.7	.22	1.34	.710
30	74.7	.42	2.05	.560
10	168.9	.94	2.97	.359

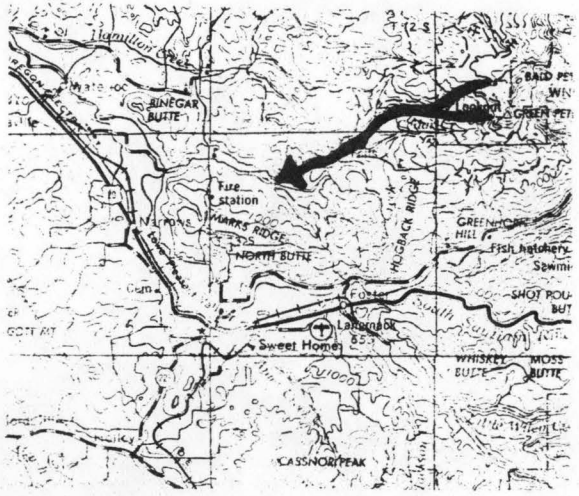
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 70 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0025

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T13S, R1W, Sec.23	
D. Latitude, Longitude	44°25'N,122°46'W	
E. Stream Name	South Santiam River	
F. Major Basin Name	Mid Willamette	
G. River Mile	27.7 to 33.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

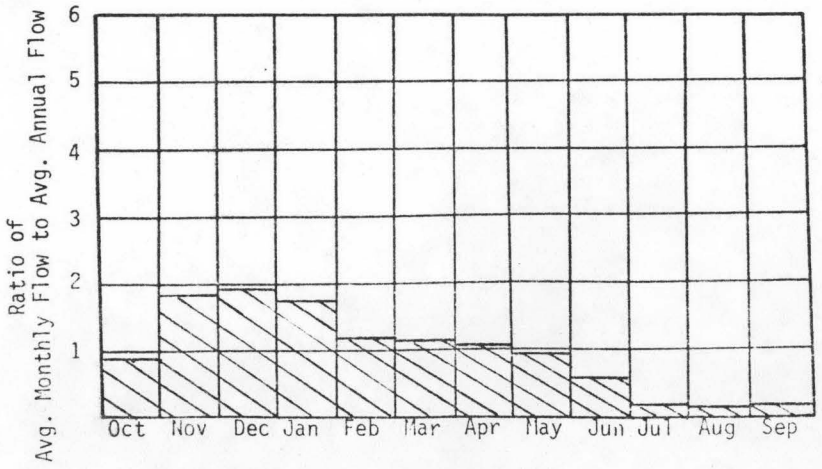
A. Upstream Elevation of Reach	500	Ft. MSL
B. Downstream Elevation of Reach	418	Ft. MSL
C. Total Available Head in Reach	82	Ft.
D. Average Slope in Reach	13.9	Ft./Mi.
E. Drainage Area above Reach Mouth	599	Sq.Mi.
F. Inflow Classification	Regulated	

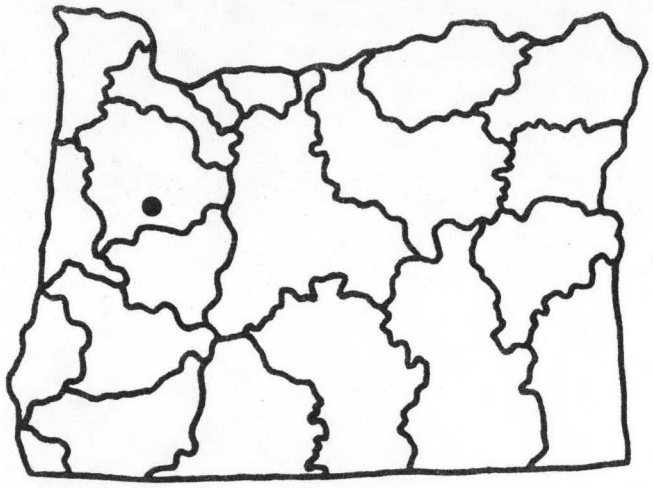
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	219.3	1.52	13.35	1.000
80	438.1	3.04	25.00	.938
50	1635.1	11.36	72.37	.727
30	2873.0	19.97	102.51	.586
10	5825.5	40.48	138.46	.390

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2586 CFS





U.S.G.S. TOPO. SERIES
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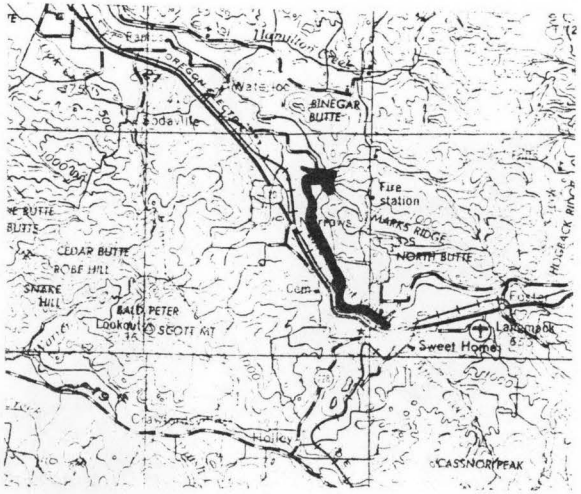
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0026

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R1E, Sec.28
D.	Latitude, Longitude	44°05'N,122°41'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	33.6 to 37.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

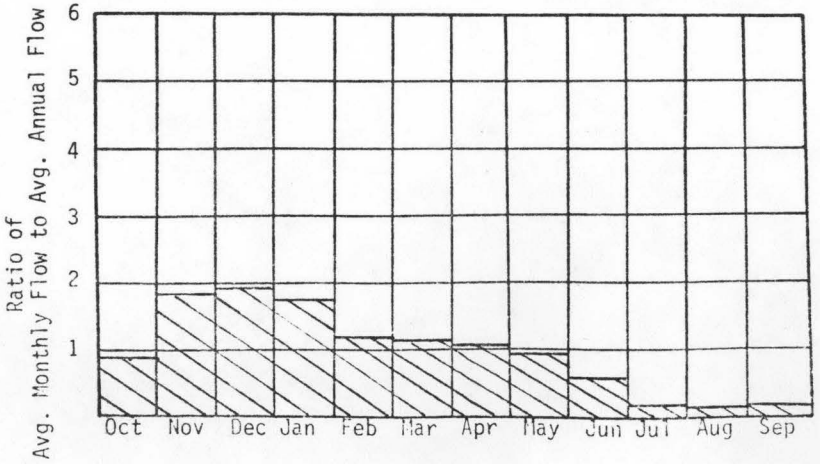
A.	Upstream Elevation of Reach	570	Ft. MSL
B.	Downstream Elevation of Reach	500	Ft. MSL
C.	Total Available Head in Reach	70	Ft.
D.	Average Slope in Reach	16.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	569	Sq.Mi.
F.	Inflow Classification	Regulated	

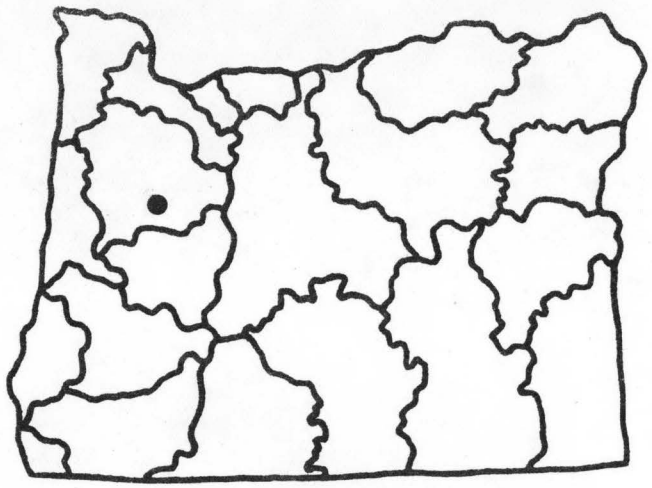
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	211.8	1.26	11.00	1.000
80	423.4	2.51	20.63	.938
50	1583.6	9.39	59.82	.727
30	2784.6	16.52	84.78	.586
10	5651.6	33.53	114.58	.390

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2508 CFS





U.S.G.S. TOPO. SERIES
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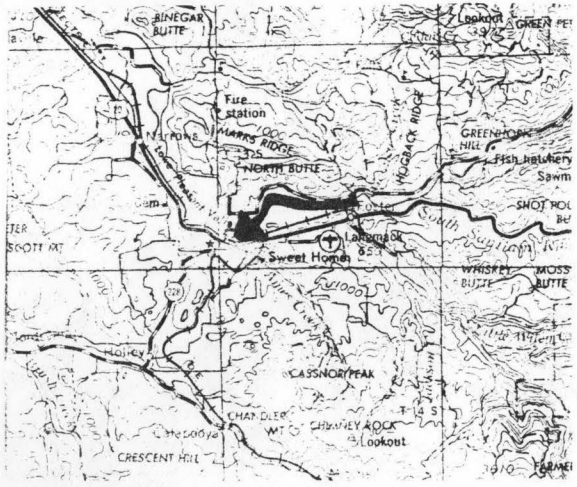
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0027

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T14S, R2E, Sec.17	
D. Latitude, Longitude	44°20'N,122°34'W	
E. Stream Name	Wiley Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 13.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

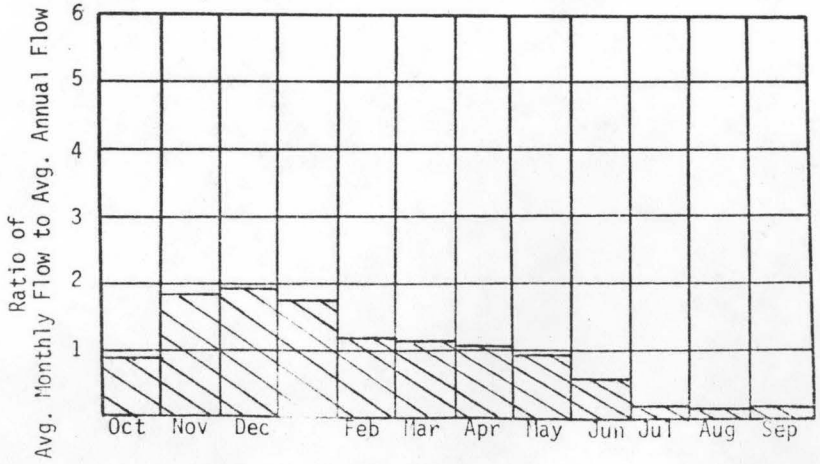
A. Upstream Elevation of Reach	2480	Ft. MSL
B. Downstream Elevation of Reach	570	Ft. MSL
C. Total Available Head in Reach	1910	Ft.
D. Average Slope in Reach	144.7	Ft./Mi.
E. Drainage Area above Reach Mouth	66	Sq.Mi.
F. Inflow Classification	Natural	

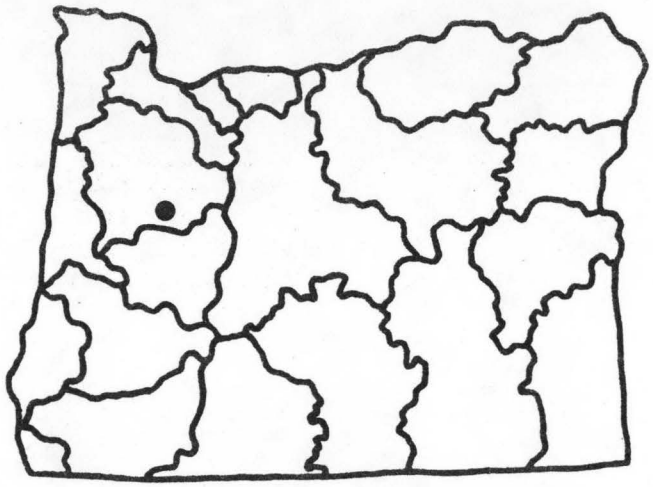
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.6	1.72	15.03	1.000
80	22.5	3.64	29.76	.934
50	100.1	16.20	101.31	.714
30	188.9	30.57	151.65	.566
10	415.2	67.20	215.83	.367

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 175 CFS





U.S.G.S. TOPO. SERIES
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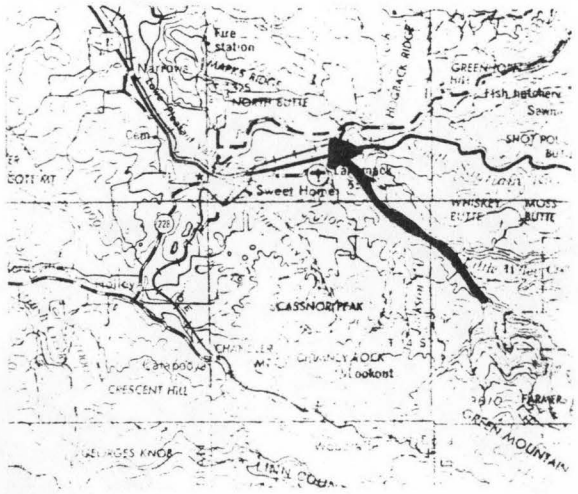
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0028

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T15S, R3E
D.	Latitude, Longitude	44°16'N,122°28'W
E.	Stream Name	Wiley Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	13.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

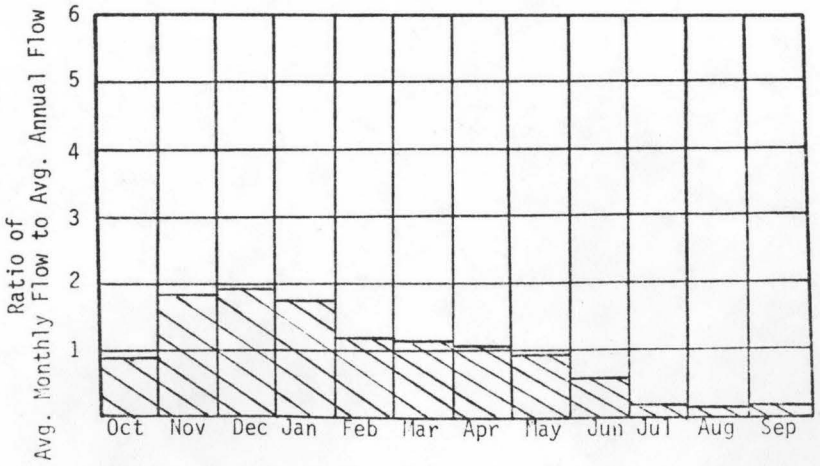
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	28	Sq.Mi.
F.	Inflow Classification	Natural	

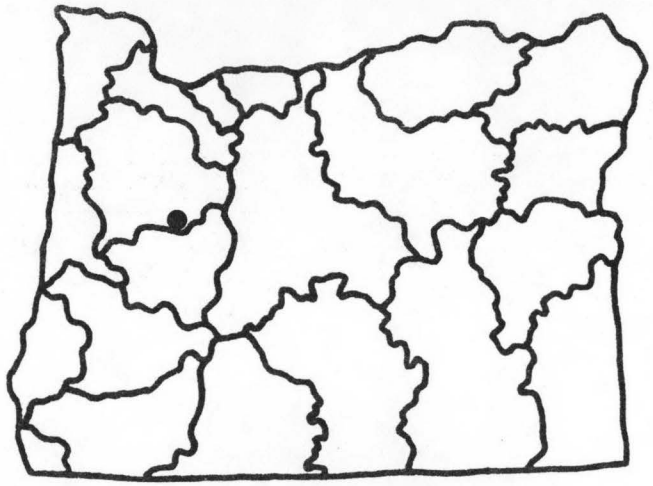
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.02	.18	1.000
80	8.0	.04	.37	.933
50	38.0	.21	1.32	.710
30	73.5	.41	2.02	.560
10	166.2	.93	2.93	.359

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 69 CFS





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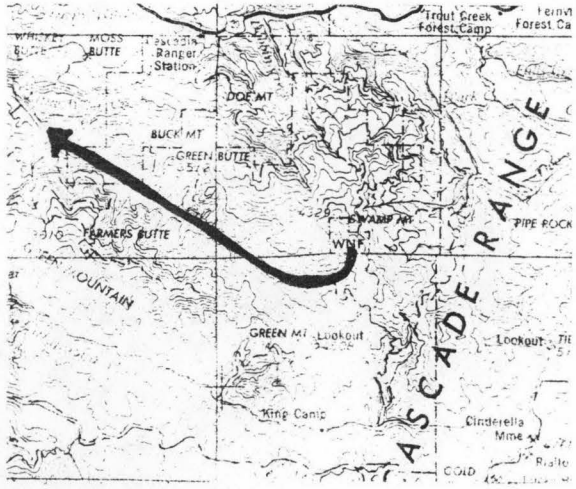
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0029

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R2E, Sec.17
D.	Latitude, Longitude	44°26'N,122°35'W
E.	Stream Name	Middle Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 5.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

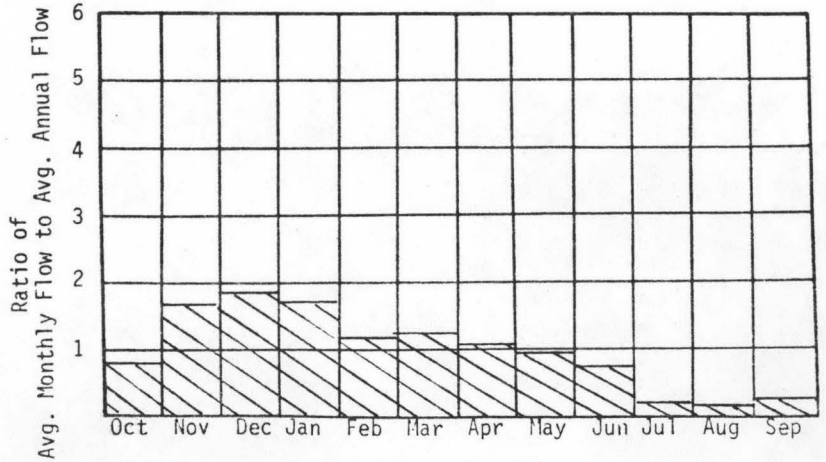
A.	Upstream Elevation of Reach	700	Ft. MSL
B.	Downstream Elevation of Reach	641	Ft. MSL
C.	Total Available Head in Reach	59	Ft.
D.	Average Slope in Reach	10.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	287	Sq.Mi.
F.	Inflow Classification	Regulated	

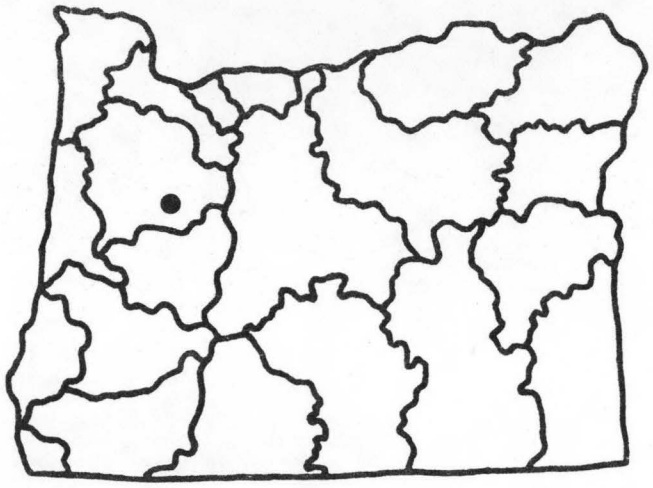
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	111.5	.56	4.88	1.000
80	225.7	1.13	9.26	.937
50	876.3	4.38	27.78	.724
30	1564.4	7.82	39.84	.581
10	3229.9	16.15	54.43	.385

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1416 CFS





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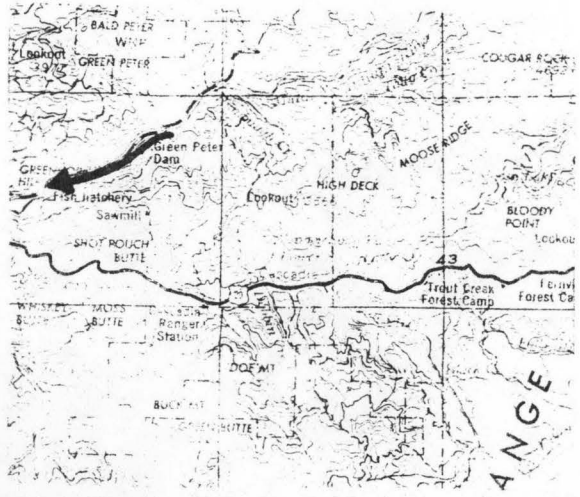
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0030

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R4E, Sec.24
D.	Latitude, Longitude	44°31'N,122°16'W
E.	Stream Name	Middle Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	16.0 to 30.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

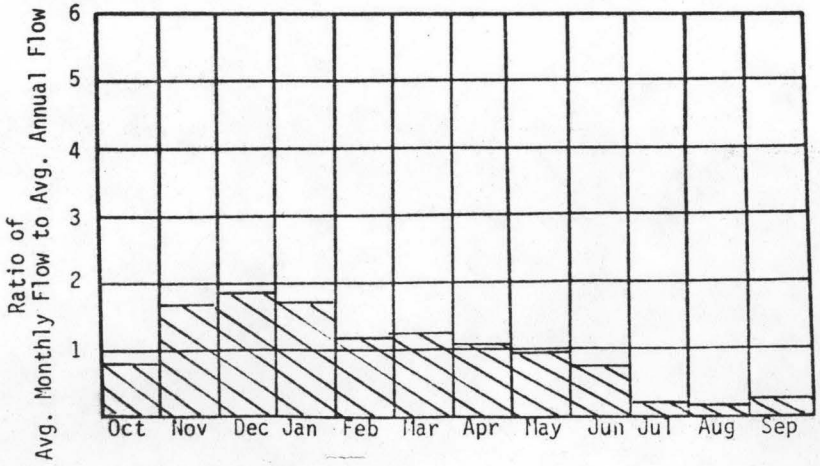
A.	Upstream Elevation of Reach	1837	Ft. MSL
B.	Downstream Elevation of Reach	1020	Ft. MSL
C.	Total Available Head in Reach	817	Ft.
D.	Average Slope in Reach	58.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	107	Sq.Mi.
F.	Inflow Classification	Natural	

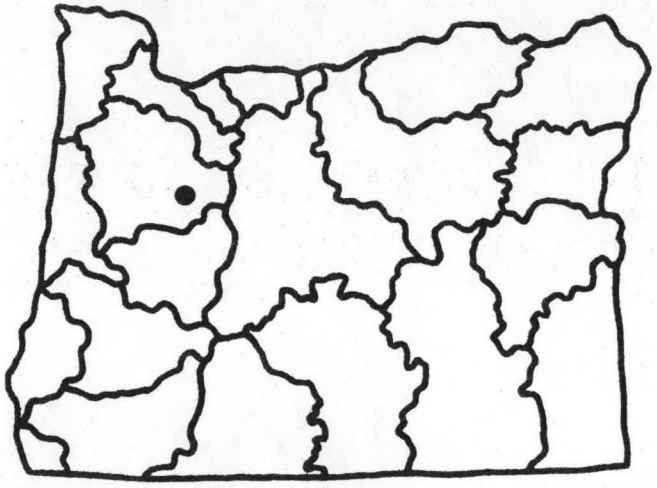
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	29.8	2.06	18.08	1.000
80	61.9	4.29	35.12	.935
50	259.7	17.98	113.08	.718
30	478.1	33.11	166.09	.573
10	1022.6	70.80	232.13	.374

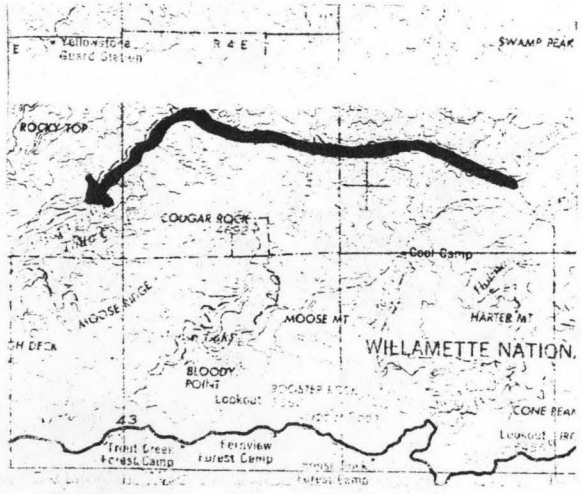
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 438 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0031

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T12S, R6E	
D. Latitude, Longitude	45°31'N,122°09'W	
E. Stream Name	Pyramid Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 4.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

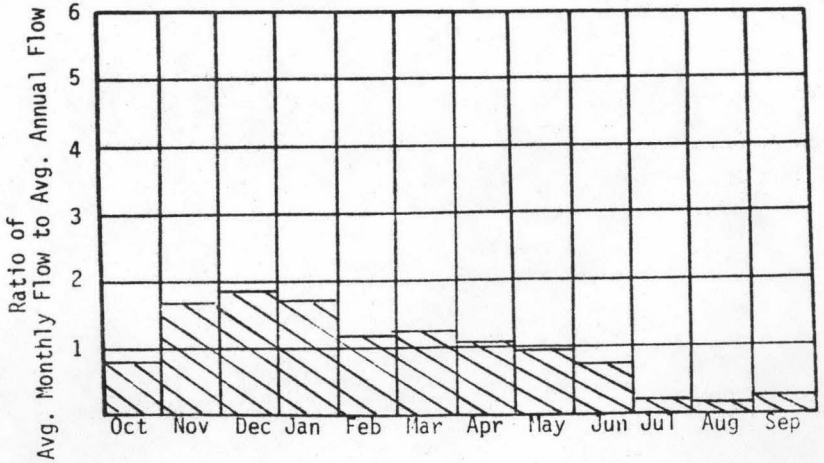
A. Upstream Elevation of Reach	2460	Ft. MSL
B. Downstream Elevation of Reach	1837	Ft. MSL
C. Total Available Head in Reach	623	Ft.
D. Average Slope in Reach	156	Ft./Mi.
E. Drainage Area above Reach Mouth	23	Sq.Mi.
F. Inflow Classification	Natural	

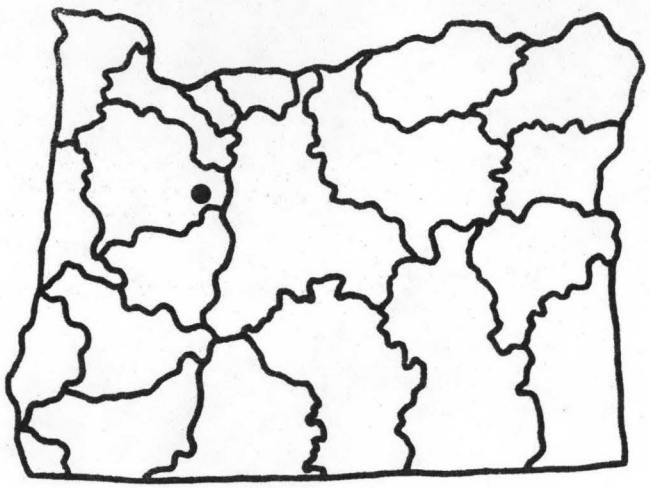
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.30	2.61	1.000
80	12.1	.64	5.22	.933
50	55.9	2.95	18.39	.711
30	107.0	5.65	27.85	.563
10	239.3	12.64	40.09	.362

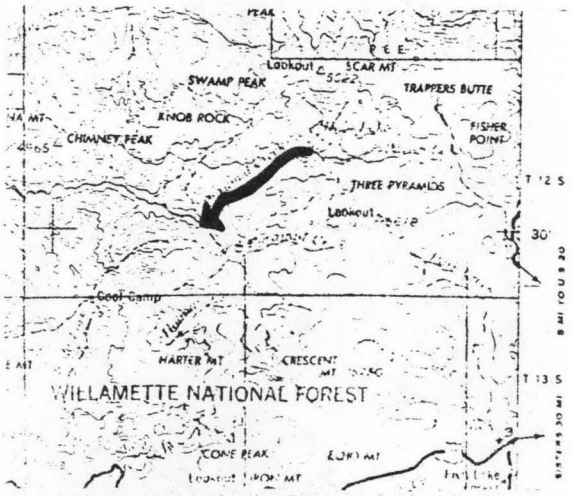
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 100 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0032

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R6E
D.	Latitude, Longitude	44°32'N,122°06'W
E.	Stream Name	Pyramid Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	4.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

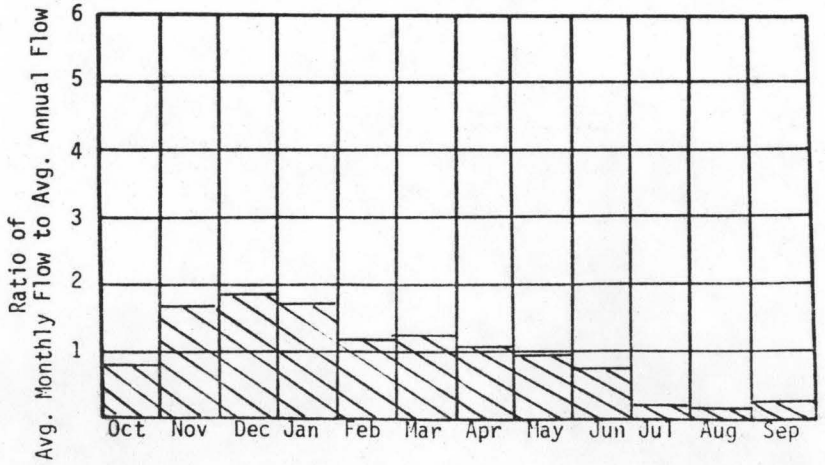
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14	Sq.Mi.
F.	Inflow Classification	Natural	

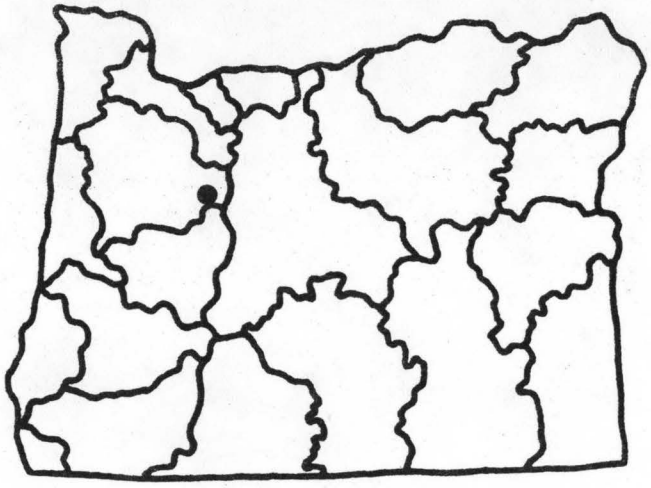
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	8.8	.05	.40	.933
50	41.5	.23	1.44	.710
30	80.1	.45	2.20	.561
10	180.6	1.01	3.19	.360

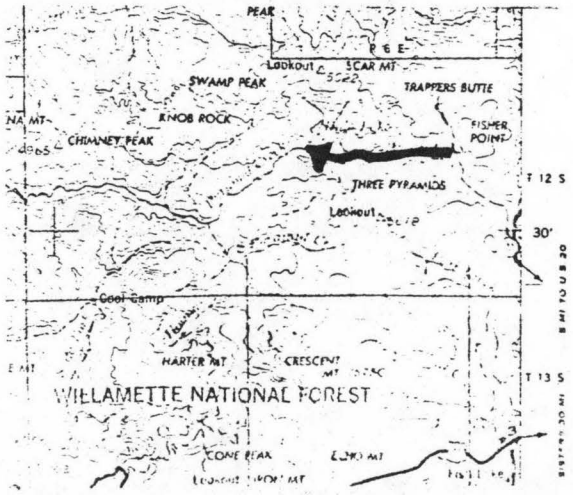
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 75 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0033

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R5E, Sec.36
D.	Latitude, Longitude	44°29'N,122°09'W
E.	Stream Name	Middle Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	30.0 to 35.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

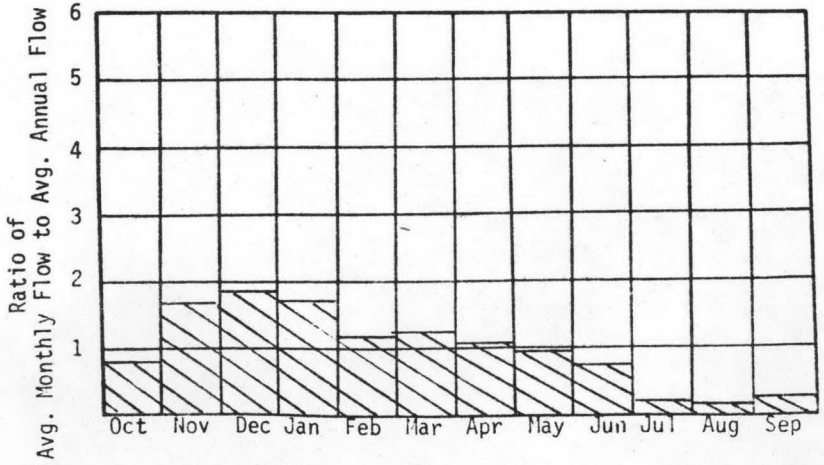
A.	Upstream Elevation of Reach	2602	Ft. MSL
B.	Downstream Elevation of Reach	1837	Ft. MSL
C.	Total Available Head in Reach	765	Ft.
D.	Average Slope in Reach	153	Ft./Mi.
E.	Drainage Area above Reach Mouth	33	Sq.Mi.
F.	Inflow Classification	Natural	

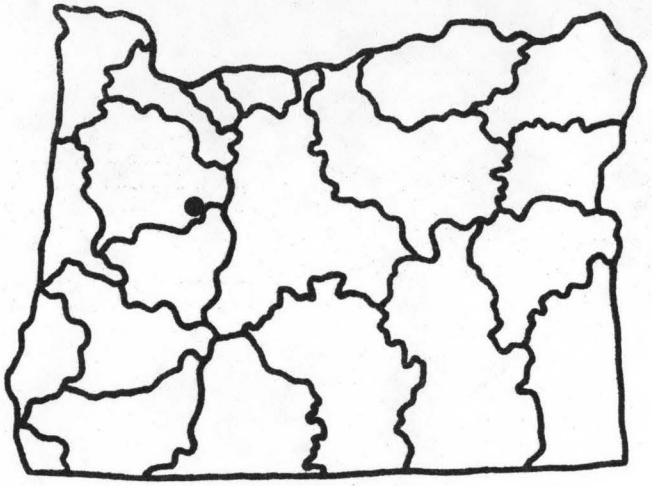
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.9	.51	4.47	1.000
80	16.8	1.09	8.90	.934
50	76.1	4.93	30.78	.713
30	144.5	9.37	46.32	.565
10	320.2	20.76	66.28	.364

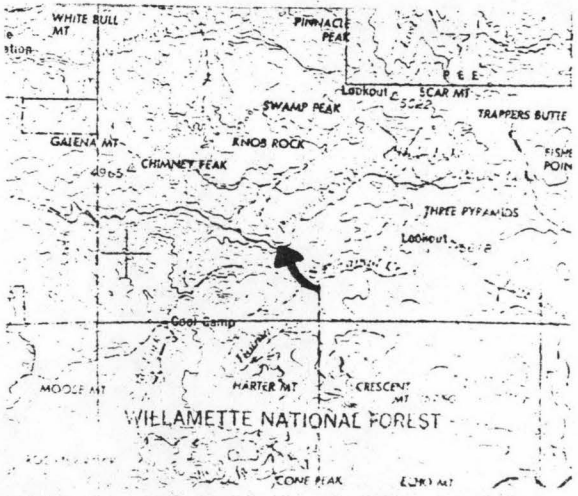
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 134 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0034

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R5E, Sec.13
D.	Latitude, Longitude	44°27'N,122°09'W
E.	Stream Name	Middle Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	35 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

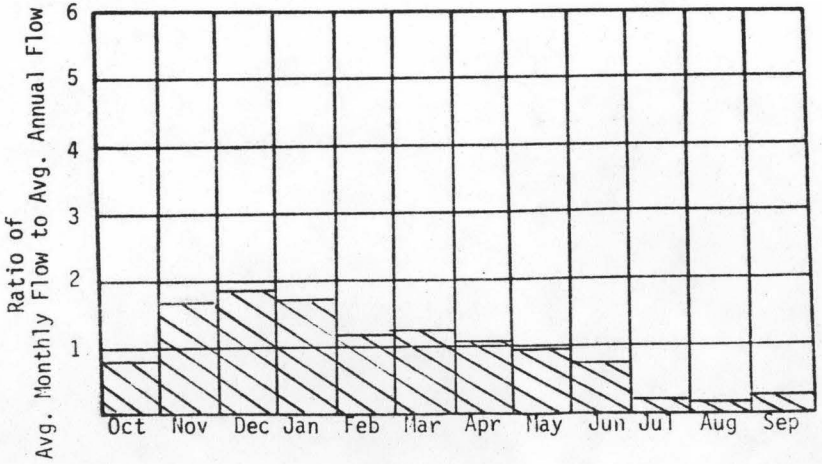
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	14	Sq.Mi.
F.	Inflow Classification	Natural	

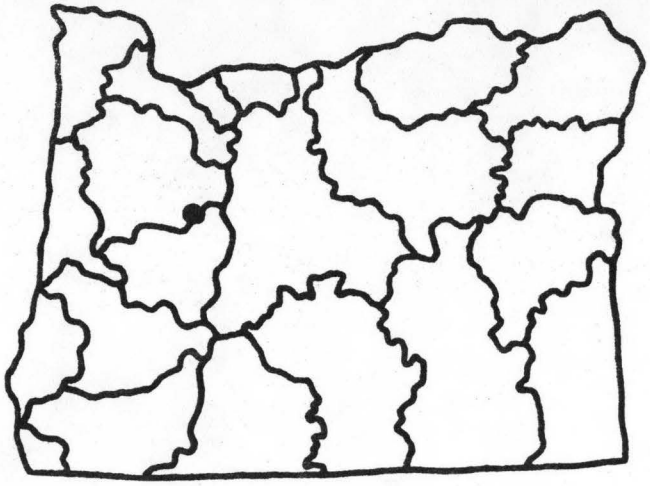
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.4	.02	.22	1.000
80	9.6	.05	.44	.933
50	45.0	.25	1.56	.710
30	86.6	.48	2.38	.561
10	194.8	1.09	3.44	.361

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 81 CFS





U.S.G.S. TOPO. SERIES
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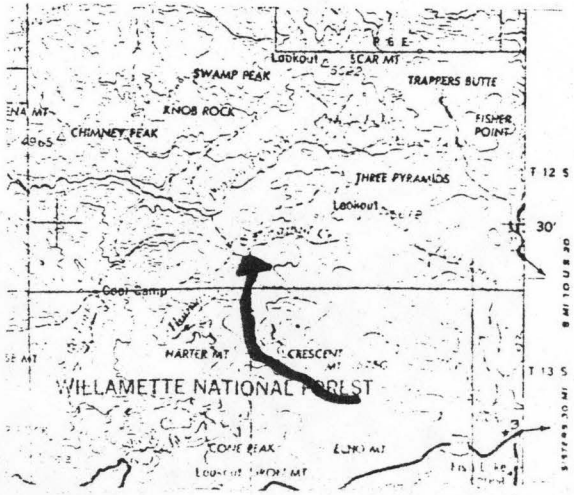
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0035

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T11S, R3E, Sec.25	
D. Latitude, Longitude	44°35'N,122°24'W	
E. Stream Name	Quartzville Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	6.4 to 14.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

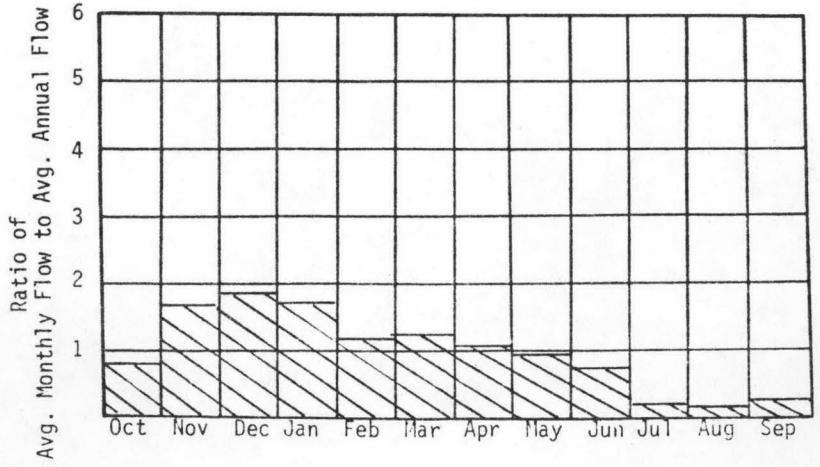
A. Upstream Elevation of Reach	1410	Ft. MSL
B. Downstream Elevation of Reach	1020	Ft. MSL
C. Total Available Head in Reach	390	Ft.
D. Average Slope in Reach	48.2	Ft./Mi.
E. Drainage Area above Reach Mouth	100	Sq.Mi.
F. Inflow Classification	Natural	

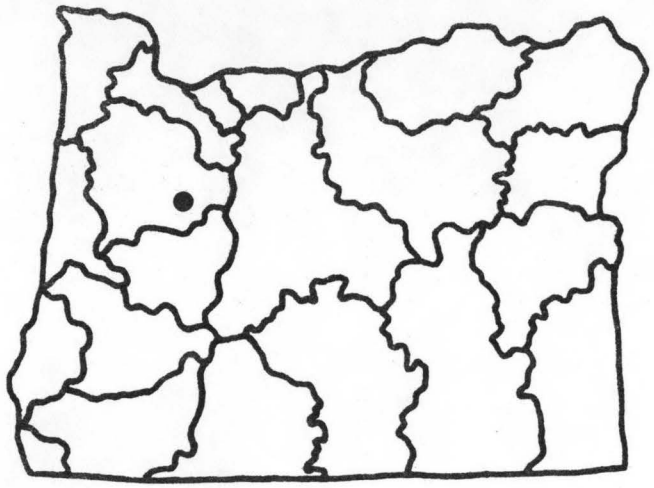
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	31.9	1.05	9.23	1.000
80	66.1	2.19	17.91	.935
50	276.2	9.13	57.44	.718
30	507.8	16.78	84.27	.573
10	1084.1	35.83	117.63	.375

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 465 CFS





U.S.G.S. TOPO. SERIES
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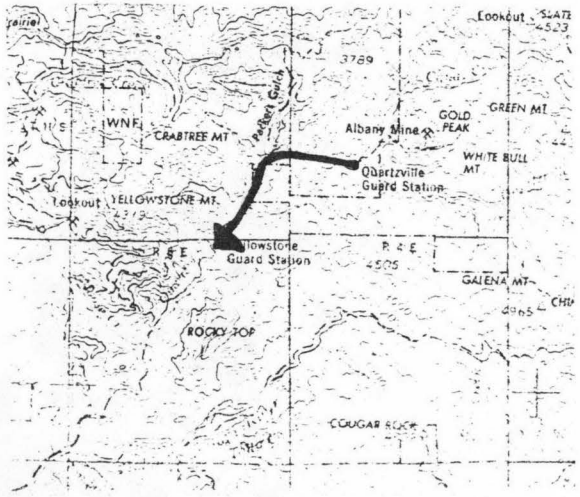
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0036

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T11S, R4E, Sec.16	
D. Latitude, Longitude	44°35'N,122°20'W	
E. Stream Name	Canal Elk Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 2.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

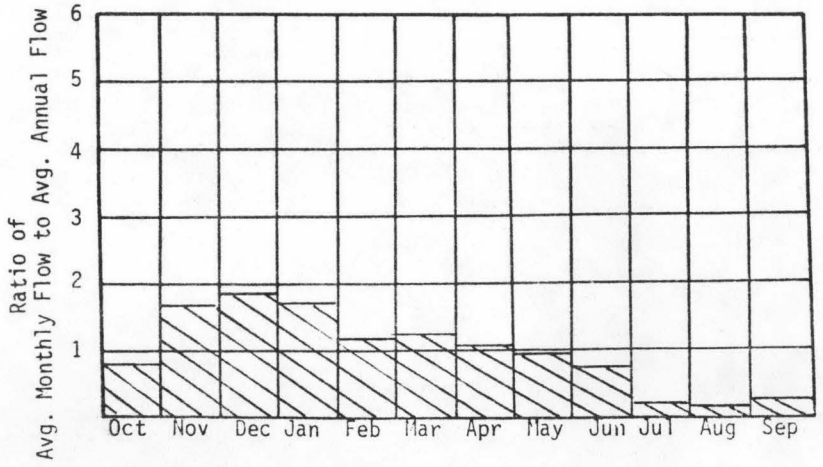
A. Upstream Elevation of Reach	1600	Ft. MSL
B. Downstream Elevation of Reach	1410	Ft. MSL
C. Total Available Head in Reach	190	Ft.
D. Average Slope in Reach	73.1	Ft./Mi.
E. Drainage Area above Reach Mouth	21	Sq.Mi.
F. Inflow Classification	Natural	

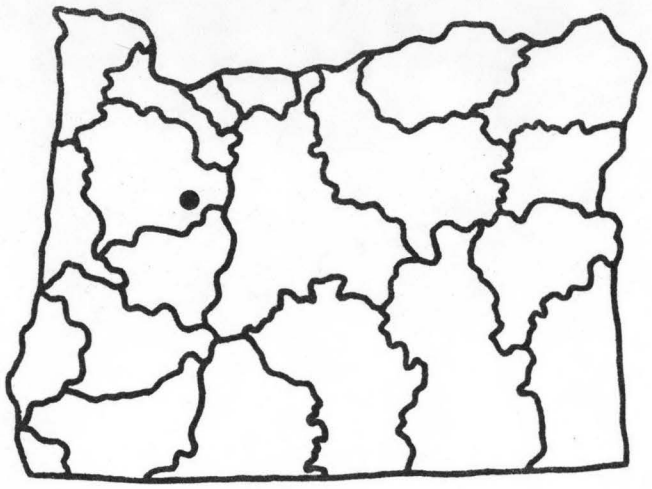
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.9	.11	.97	1.000
80	14.7	.24	1.93	.933
50	67.1	1.08	6.74	.712
30	127.9	2.06	10.17	.564
10	284.4	4.58	14.59	.364

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 119 CFS





U.S.G.S. TOPO. SERIES
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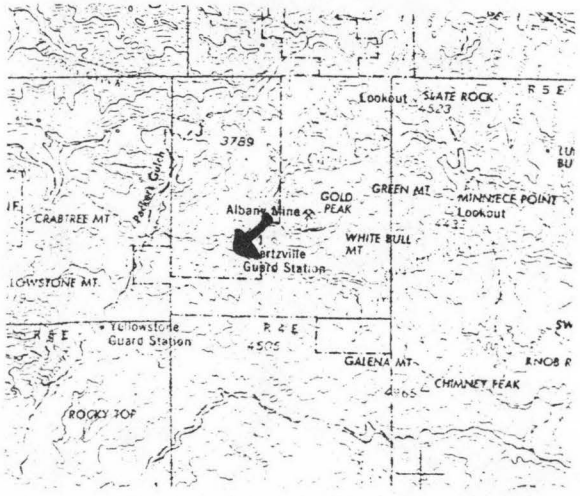
MAP NAME: SALEM

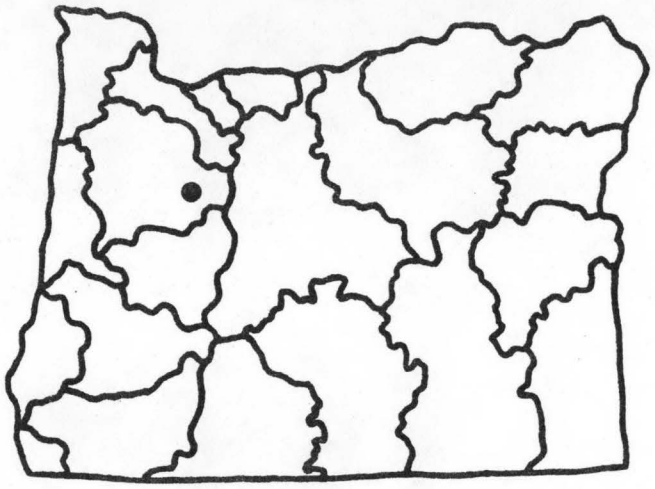


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0037

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R4E, Sec.10
D.	Latitude, Longitude	44°38'N,122°18'W
E.	Stream Name	Canal Elk Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	2.6 to H.W.



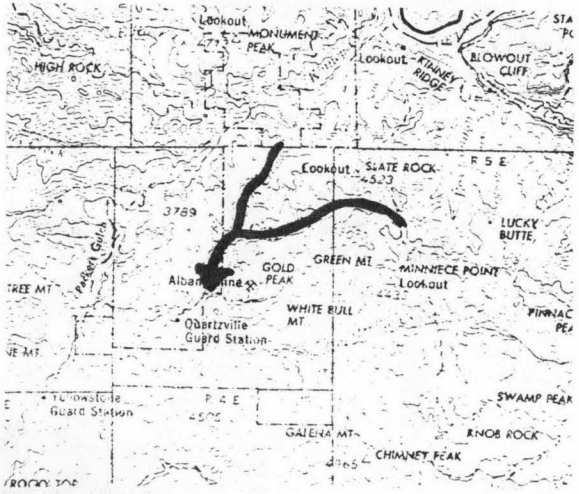
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	15	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

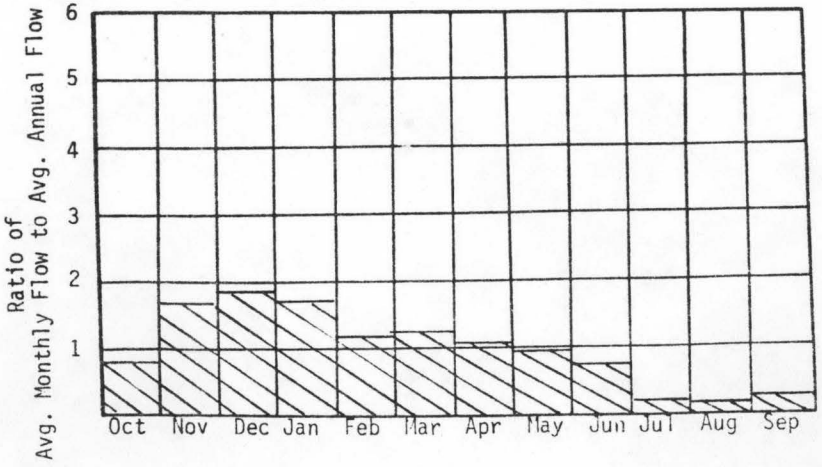
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.6	.03	.28	1.000
80	12.1	.07	.55	.933
50	56.0	.31	1.95	.711
30	107.2	.60	2.95	.563
10	239.7	1.34	4.25	.362

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 100 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0038

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T11S, R4E, Sec.26	
D. Latitude, Longitude	44°35'N,122°17'W	
E. Stream Name	Quartzville Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	14.5 to 23.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

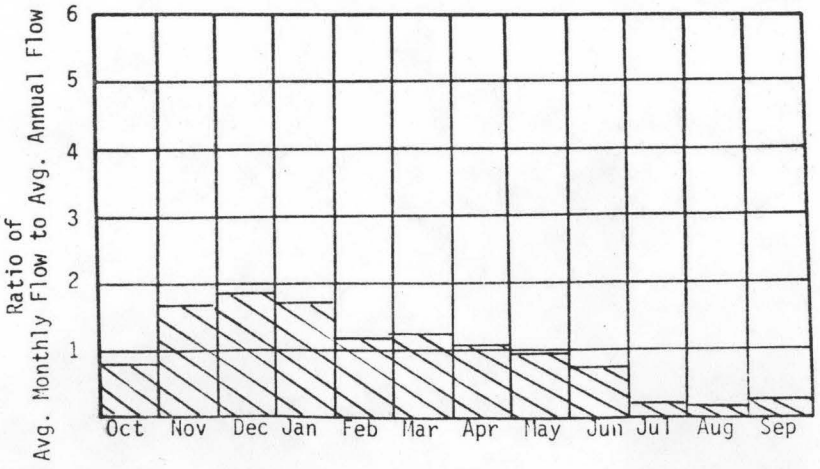
A. Upstream Elevation of Reach	2533	Ft. MSL
B. Downstream Elevation of Reach	1410	Ft. MSL
C. Total Available Head in Reach	1123	Ft.
D. Average Slope in Reach	132.1	Ft./Mi.
E. Drainage Area above Reach Mouth	41	Sq.Mi.
F. Inflow Classification	Natural	

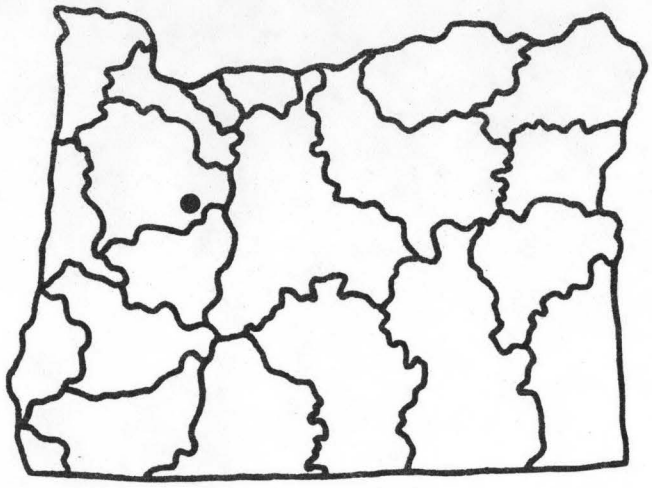
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.3	.89	7.76	1.000
80	19.8	1.88	15.40	.934
50	88.8	8.45	52.80	.713
30	168.0	15.99	79.23	.566
10	370.7	35.28	113.02	.366

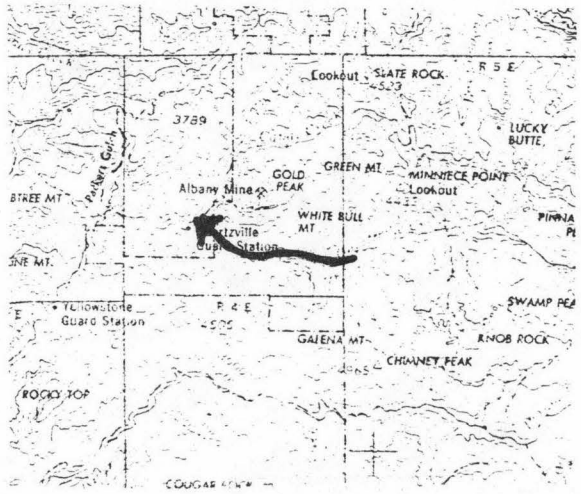
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 156 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0039

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R5E, Sec.28
D.	Latitude, Longitude	44°35'N,122°14'W
E.	Stream Name	Quartzville Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	23.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

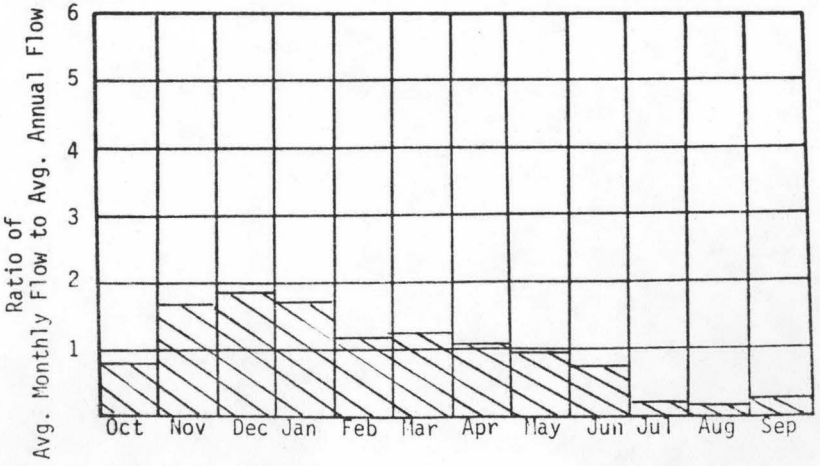
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	11	Sq.Mi.
F.	Inflow Classification	Natural	

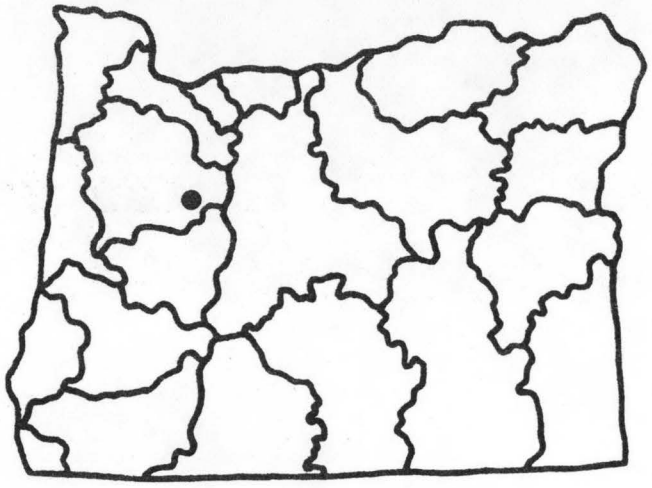
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.5	.02	.17	1.000
80	7.6	.04	.35	.933
50	36.2	.20	1.26	.710
30	70.0	.39	1.92	.560
10	158.5	.89	2.79	.359

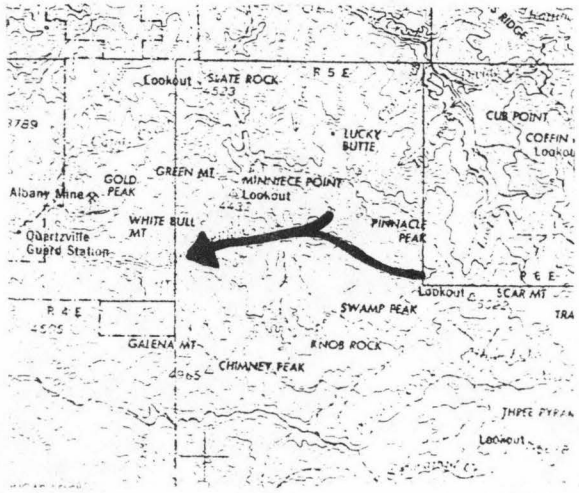
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 56 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0040

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R2E, Sec.27
D.	Latitude, Longitude	44°24'N,122°34'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	40.0 to 51.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

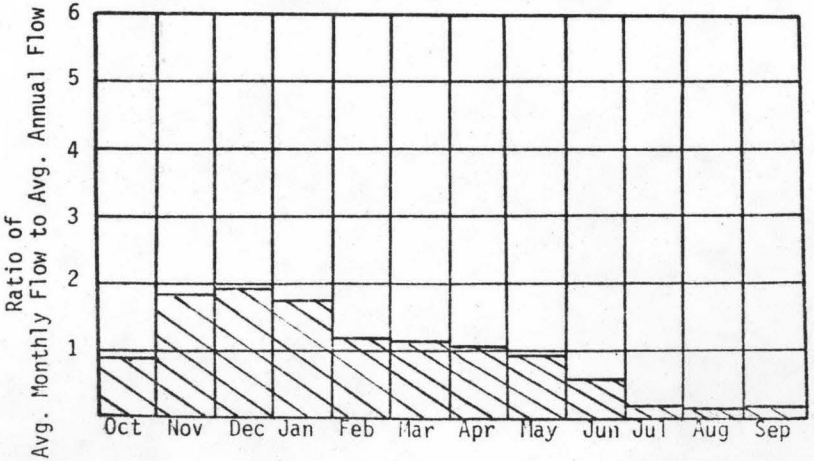
A.	Upstream Elevation of Reach	855	Ft. MSL
B.	Downstream Elevation of Reach	641	Ft. MSL
C.	Total Available Head in Reach	214	Ft.
D.	Average Slope in Reach	18.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	194	Sq.Mi.
F.	Inflow Classification	Natural	

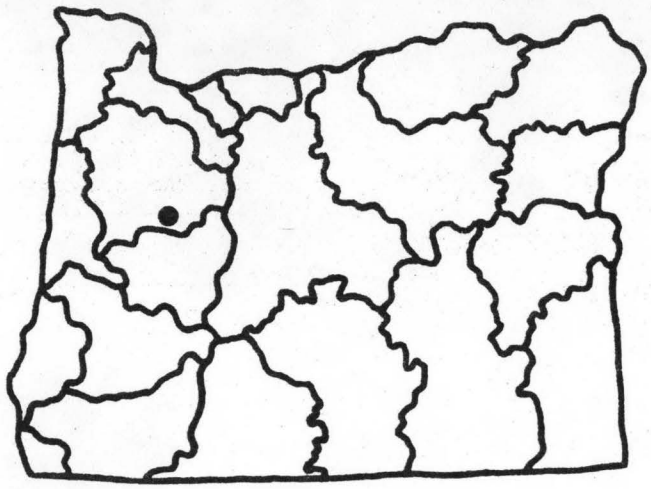
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	59.0	1.07	9.37	1.000
80	121.0	2.19	17.99	.936
50	487.4	8.84	55.83	.721
30	883.3	16.02	80.98	.577
10	1854.8	33.64	111.86	.380

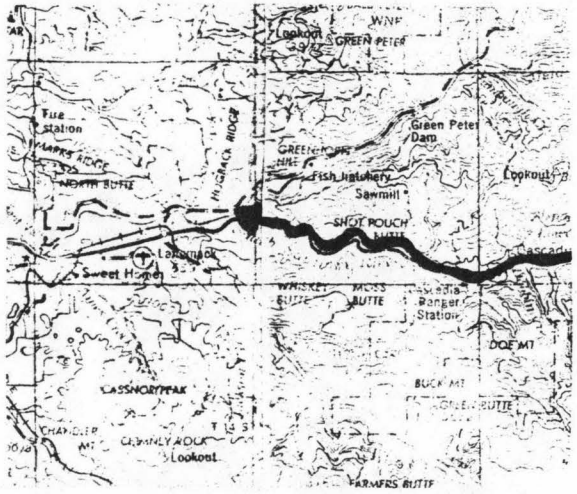
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 804 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0041

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T14S, R4E, Sec.18	
D. Latitude, Longitude	44°24'N,122°21'W	
E. Stream Name	Canyon Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 8.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

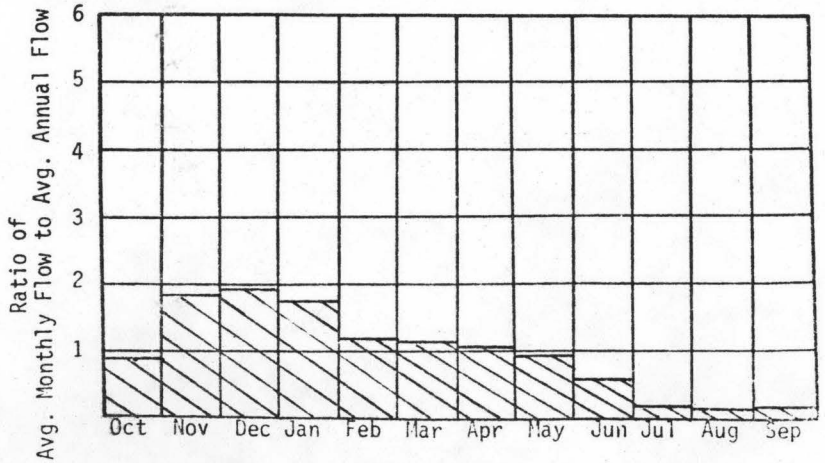
A. Upstream Elevation of Reach	1840	Ft. MSL
B. Downstream Elevation of Reach	855	Ft. MSL
C. Total Available Head in Reach	985	Ft.
D. Average Slope in Reach	118.7	Ft./Mi.
E. Drainage Area above Reach Mouth	52	Sq.Mi.
F. Inflow Classification	Natural	

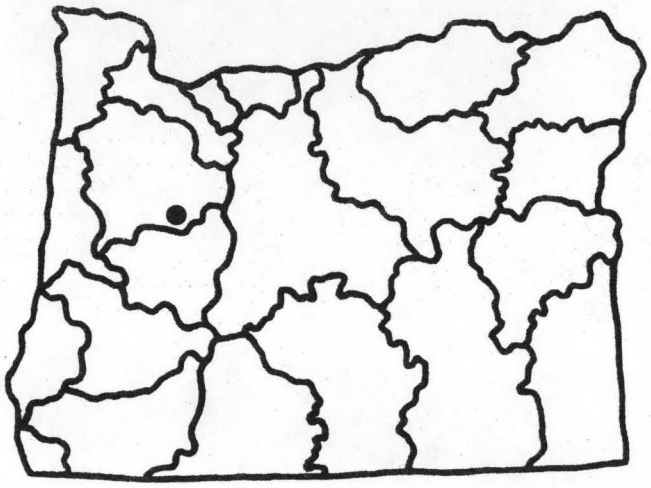
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.4	1.03	9.04	1.000
80	26.1	2.18	17.85	.934
50	115.4	9.63	60.27	.714
30	216.9	18.11	89.97	.567
10	474.9	39.64	127.70	.368

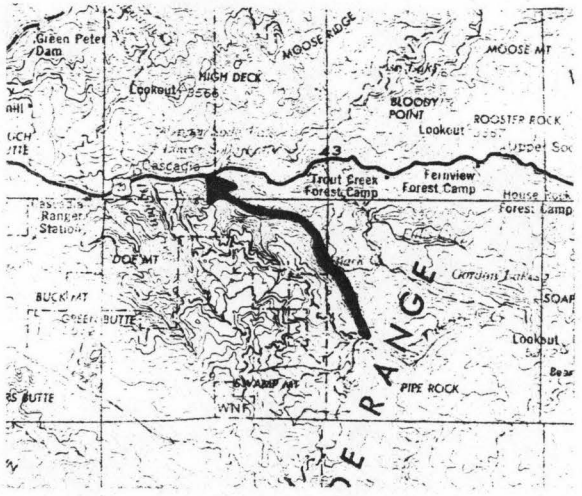
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 200 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0042

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T14S, R4E, Sec.28
D.	Latitude, Longitude	44°18'N,122°20'W
E.	Stream Name	Canyon Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	8.3 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

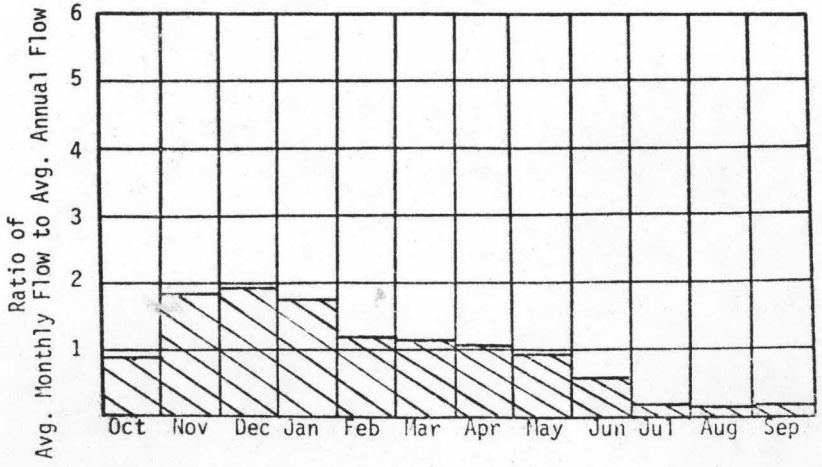
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	18	Sq.Mi.
F.	Inflow Classification	Natural	

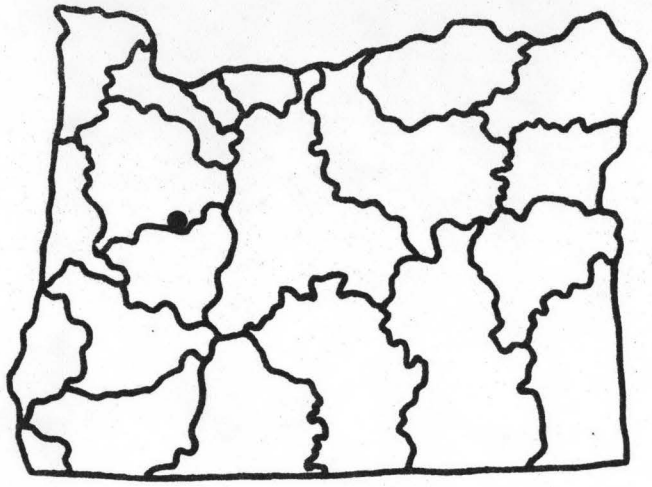
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.7	.04	.33	1.000
80	14.2	.08	.65	.933
50	65.2	.36	2.27	.712
30	124.3	.70	3.43	.564
10	276.7	1.55	4.93	.363

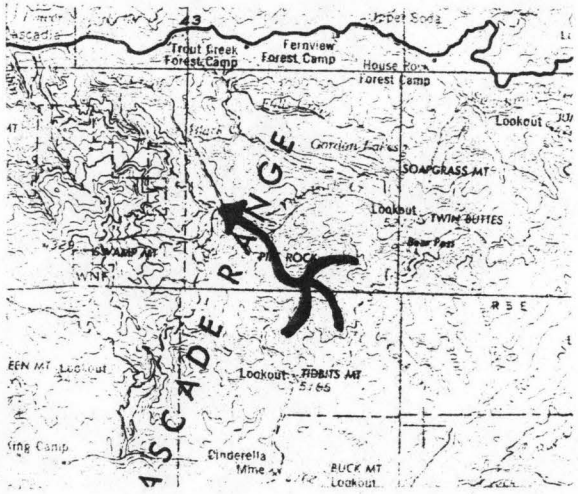
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 115 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

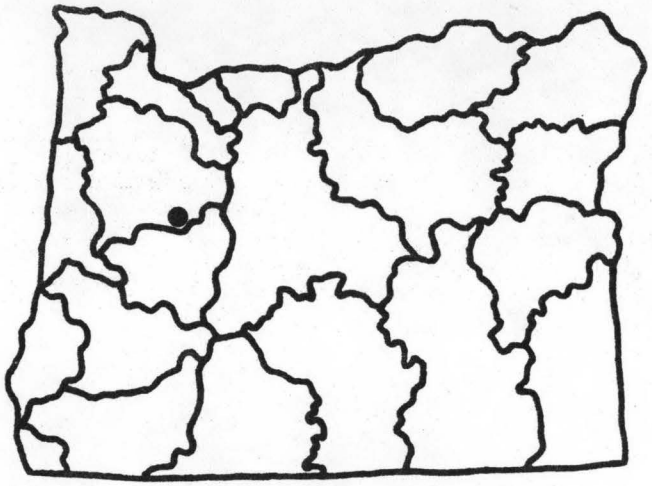


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0043

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R4E, Sec.30
D.	Latitude, Longitude	44°24'N,122°23'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	51.7 to 62.1



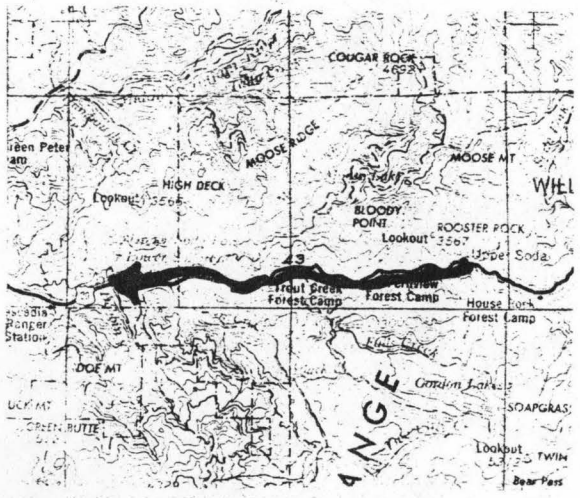
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1367	Ft. MSL
B.	Downstream Elevation of Reach	855	Ft. MSL
C.	Total Available Head in Reach	512	Ft.
D.	Average Slope in Reach	49.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	105	Sq.Mi.
F.	Inflow Classification	Natural	

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

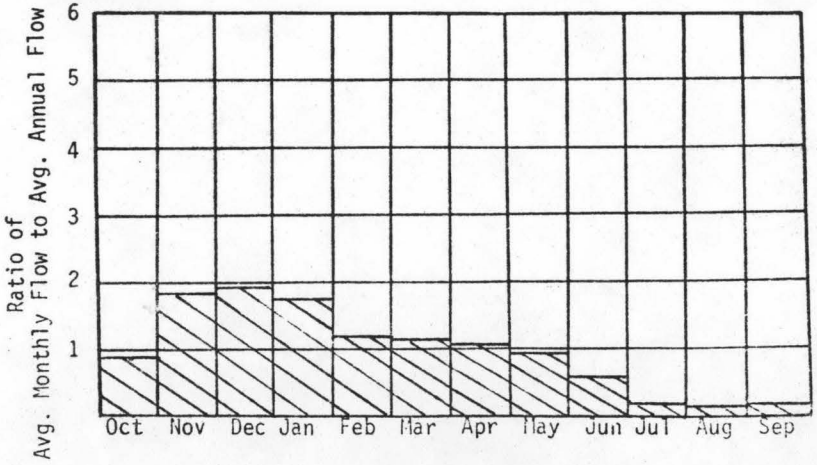
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	21.9	.95	8.31	1.000
80	45.7	1.98	16.24	.935
50	195.2	8.47	53.18	.717
30	362.1	15.71	78.55	.571
10	780.8	33.88	110.38	.372



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 332 CFS

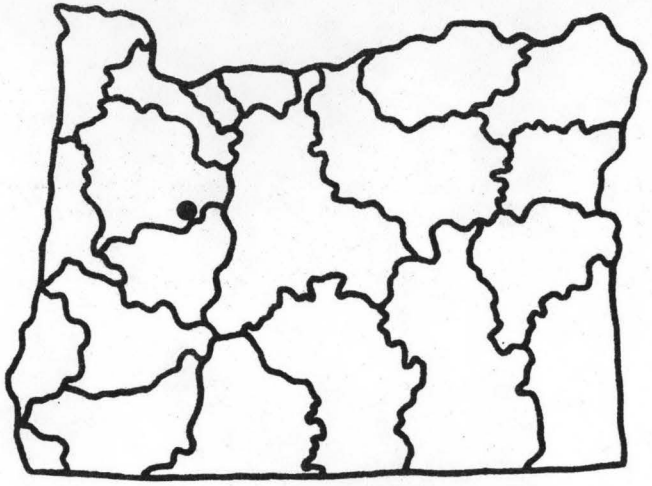


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0044

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R5E, Sec.32
D.	Latitude, Longitude	44°23'N,122°15'W
E.	Stream Name	South Santiam River
F.	Major Basin Name	Mid Willamette
G.	River Mile	62.1 to 66.7



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1815	Ft. MSL
B.	Downstream Elevation of Reach	1367	Ft. MSL
C.	Total Available Head in Reach	448	Ft.
D.	Average Slope in Reach	97.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	42	Sq.Mi.
F.	Inflow Classification	Natural	

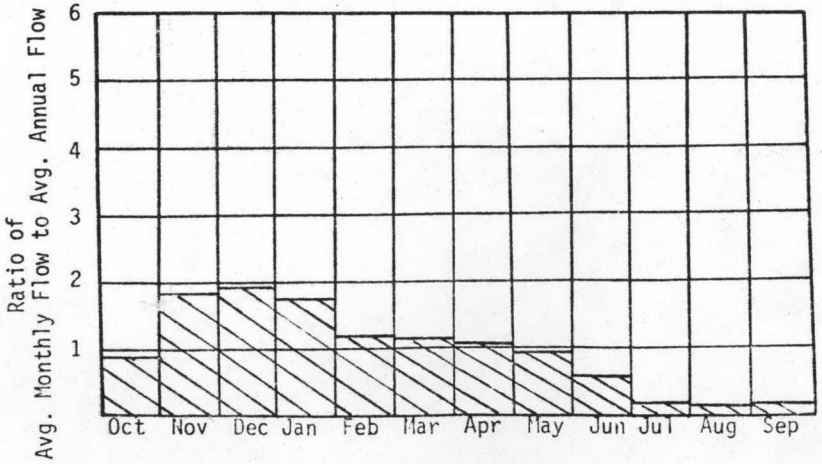
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

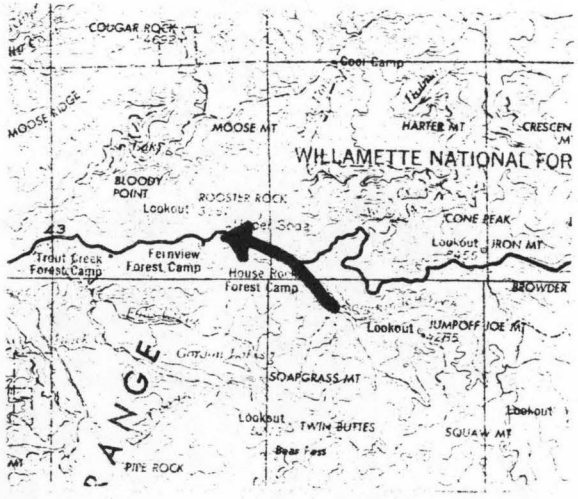
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.7	.29	2.55	1.000
80	16.3	.62	5.07	.934
50	74.2	2.82	17.58	.712
30	141.0	5.35	26.47	.564
10	312.7	11.87	37.89	.364

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 131 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-110-020-R0045

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T14S, R5E, Sec.4
D.	Latitude, Longitude	44°22'N,122°13'W
E.	Stream Name	Sevenmile Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

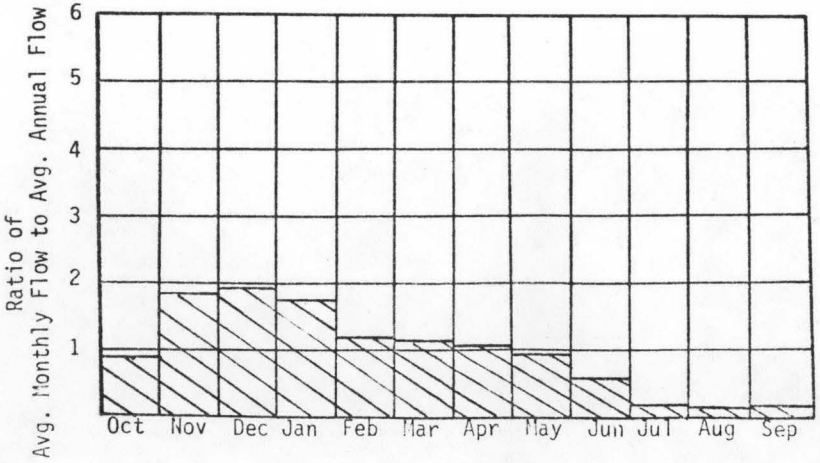
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

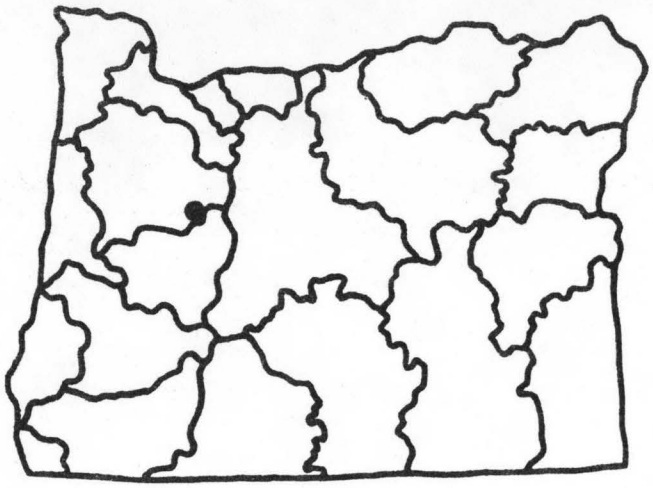
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	8.8	.05	.40	.933
50	41.4	.23	1.44	.710
30	79.9	.45	2.20	.561
10	180.3	1.01	3.18	.360

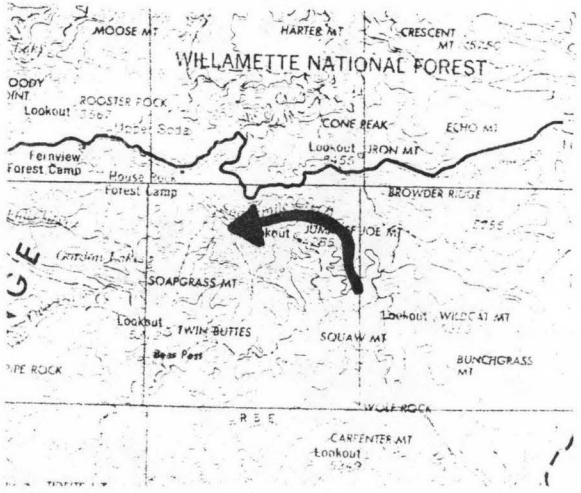
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 75 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0016

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T10S. R4W. Sec.25
D.	Latitude, Longitude	44°40'N.123°07'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	109.0 to 119.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

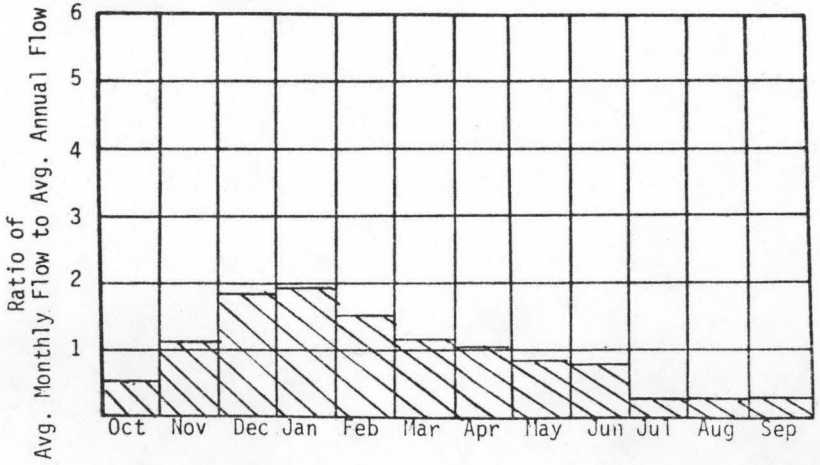
A.	Upstream Elevation of Reach	176	Ft. MSL
B.	Downstream Elevation of Reach	156	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	1.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	2756	Sq.Mi.
F.	Inflow Classification	Regulated	

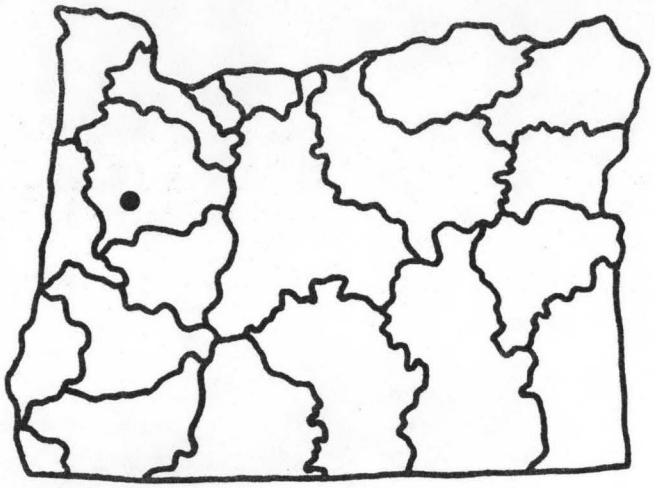
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2626.6	4.45	39.00	1.000
80	4051.8	6.87	57.51	.956
50	9696.2	16.43	111.99	.778
30	15851.8	26.87	148.55	.631
10	32888.6	55.74	199.14	.408

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 14421 CFS





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1:250,000 SCALE
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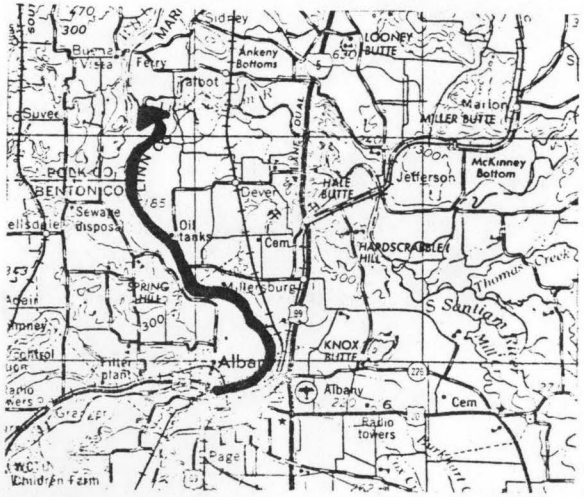


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R4W, Sec.11
D.	Latitude, Longitude	44°37'N,123°08'W
E.	Stream Name	Calapooia River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 3.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

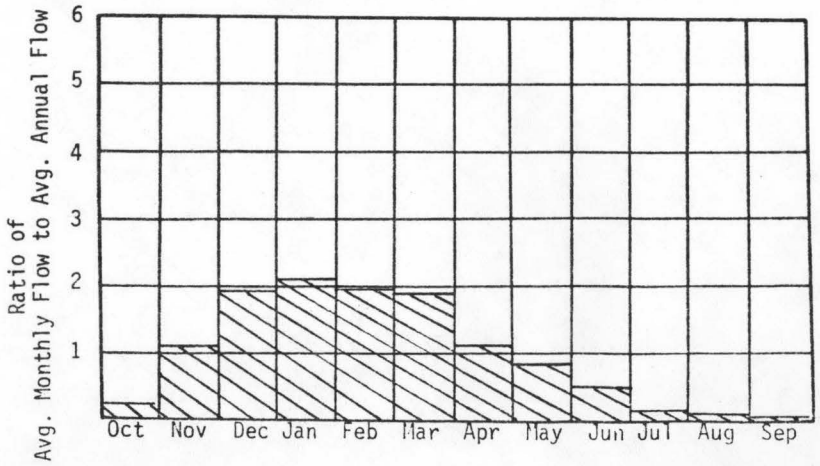
A.	Upstream Elevation of Reach	184	Ft. MSL
B.	Downstream Elevation of Reach	176	Ft. MSL
C.	Total Available Head in Reach	8	Ft.
D.	Average Slope in Reach	2.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	368	Sq.Mi.
F.	Inflow Classification	Natural	

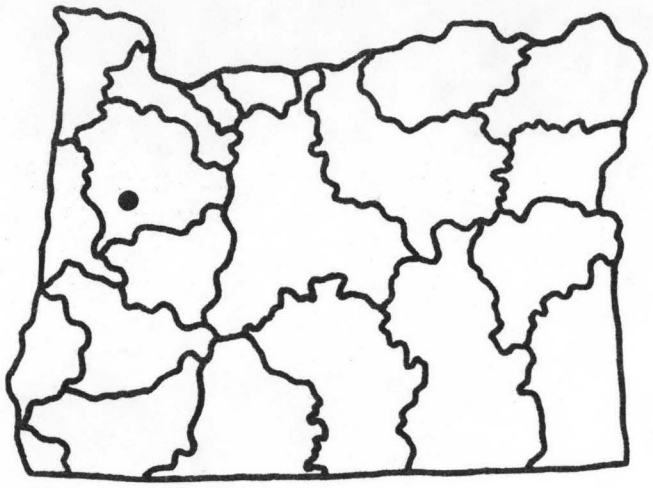
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	79.3	.05	.47	1.000
80	161.6	.11	.90	.936
50	640.1	.43	2.75	.722
30	1152.0	.78	3.96	.579
10	2400.1	1.63	5.44	.382

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1046 CFS





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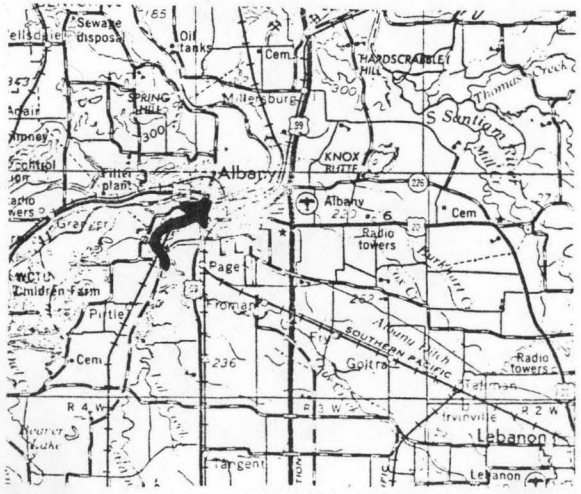
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R4W, Sec.26
D.	Latitude, Longitude	44°35'N,123°08'W
E.	Stream Name	Calapooia River
F.	Major Basin Name	Mid Willamette
G.	River Mile	3.6to 8.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

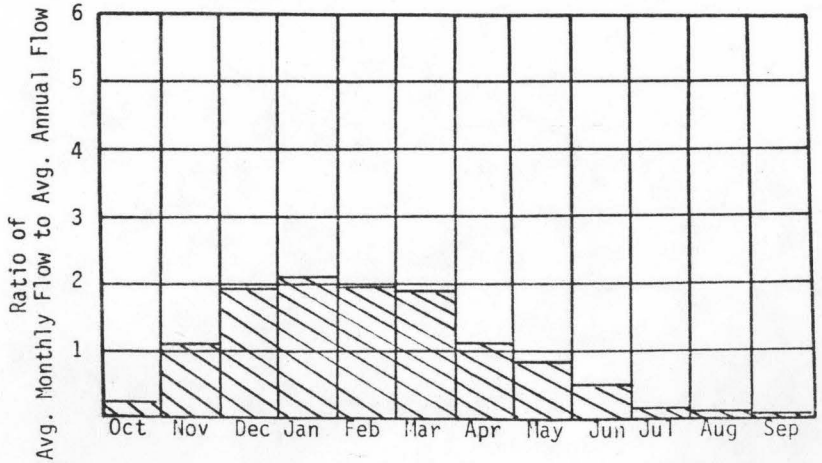
A.	Upstream Elevation of Reach	203	Ft. MSL
B.	Downstream Elevation of Reach	184	Ft. MSL
C.	Total Available Head in Reach	19	Ft.
D.	Average Slope in Reach	3.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	333	Sq.Mi.
F.	Inflow Classification	Natural	

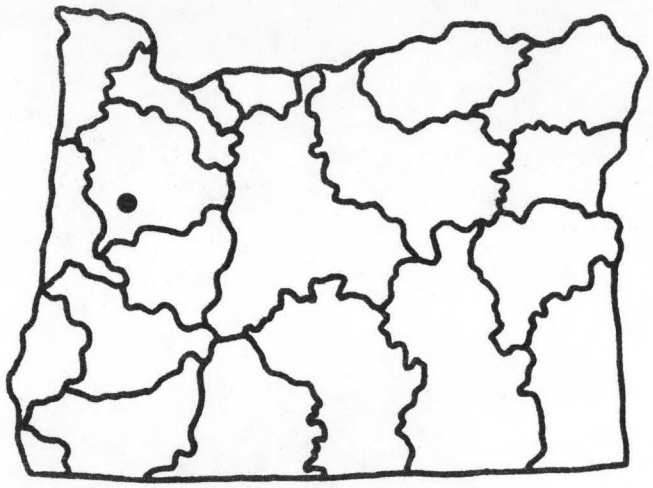
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	72.8	.12	1.03	1.000
80	148.6	.24	1.96	.936
50	591.7	.95	6.03	.722
30	1066.9	1.72	8.71	.579
10	2228.0	3.59	11.98	.381

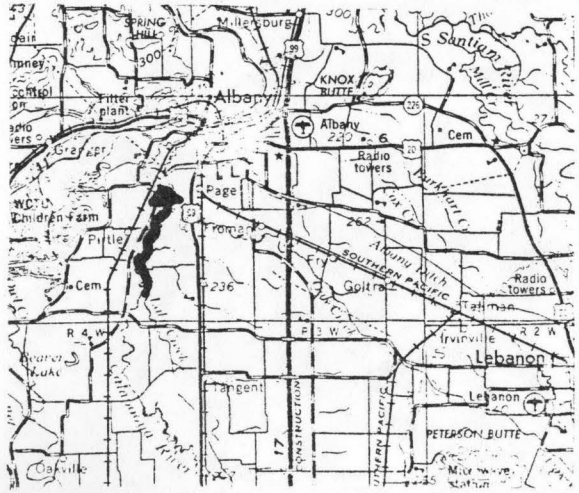
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 970 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R4W, Sec.14
D.	Latitude, Longitude	44°31'N,123°07'W
E.	Stream Name	Calapooia River
F.	Major Basin Name	Mid Willamette
G.	River Mile	8.8 to 19.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

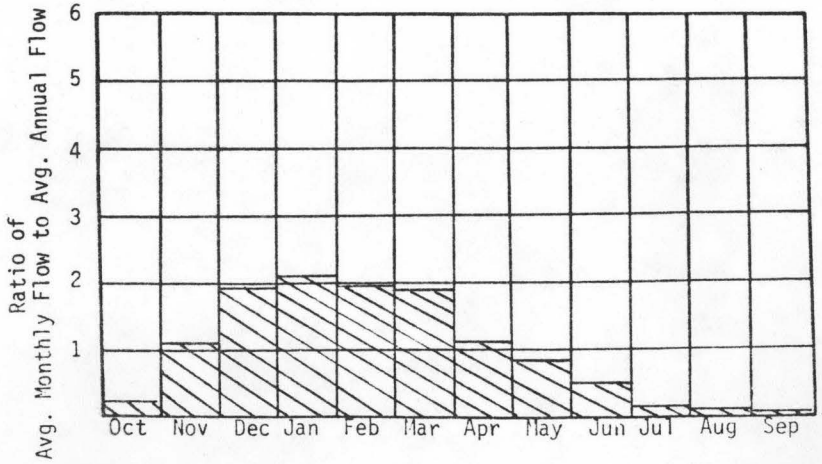
A.	Upstream Elevation of Reach	237	Ft. MSL
B.	Downstream Elevation of Reach	203	Ft. MSL
C.	Total Available Head in Reach	34	Ft.
D.	Average Slope in Reach	2.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	306	Sq.Mi.
F.	Inflow Classification	Natural	

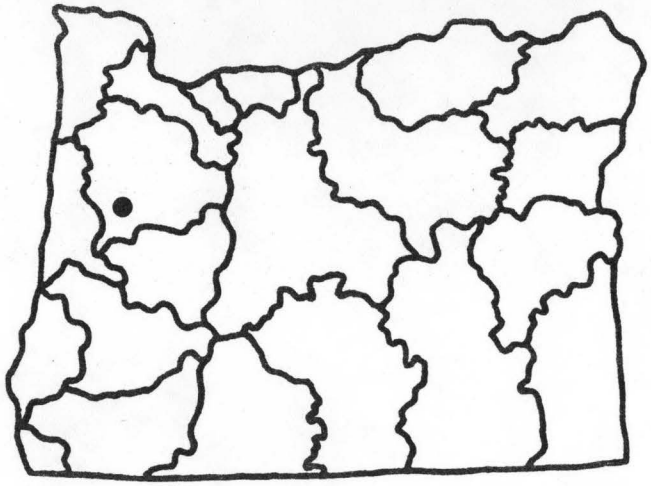
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	66.5	.19	1.68	1.000
80	136.1	.39	3.22	.936
50	544.6	1.57	9.92	.722
30	984.0	2.84	14.35	.578
10	2059.8	5.93	19.78	.381

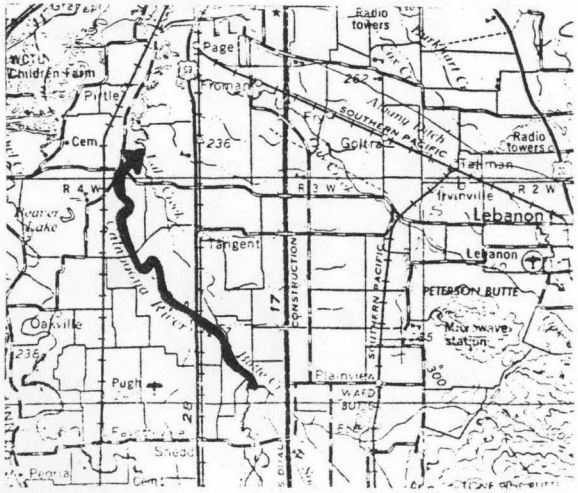
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 896 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

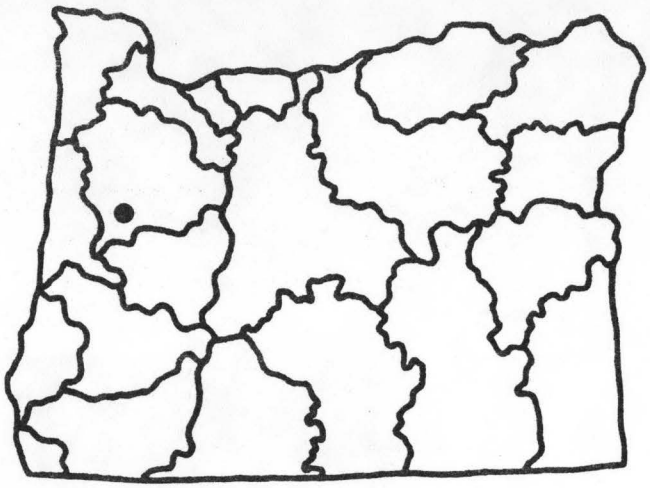


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T13S, R3W, Sec.17
D.	Latitude, Longitude	44°26'N,123°04'W
E.	Stream Name	Calapooia River
F.	Major Basin Name	Mid Willamette
G.	River Mile	19.8 to 30.0



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	293	Ft. MSL
B.	Downstream Elevation of Reach	237	Ft. MSL
C.	Total Available Head in Reach	56	Ft.
D.	Average Slope in Reach	5.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	229	Sq.Mi.
F.	Inflow Classification	Natural	

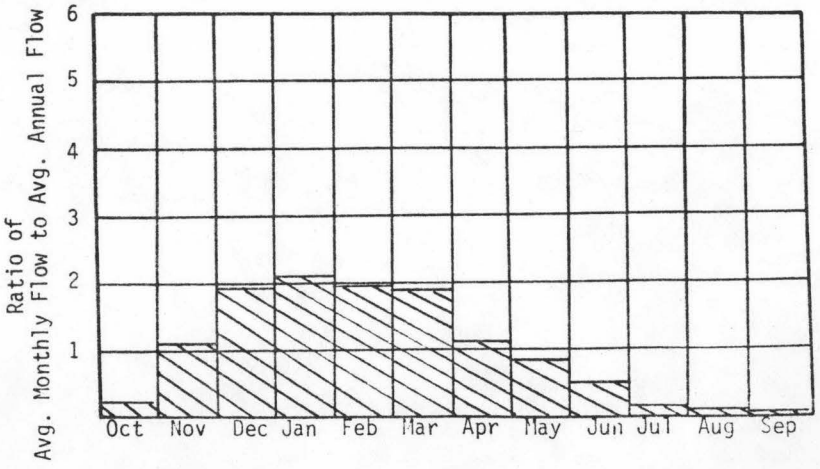
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

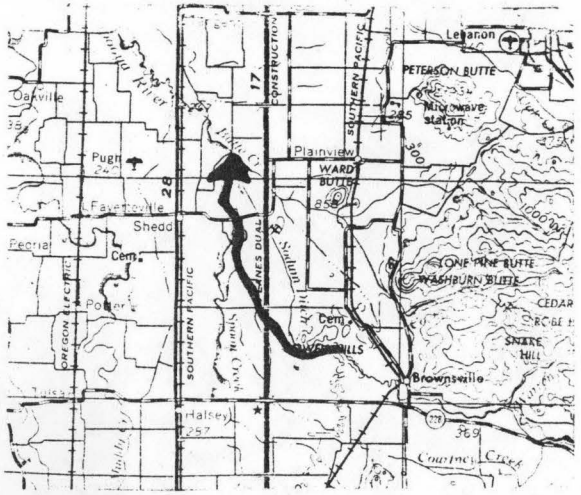
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	51.5	.24	2.14	1.000
80	105.8	.50	4.12	.936
50	429.7	2.04	12.87	.720
30	781.2	3.71	18.71	.576
10	1646.4	7.81	25.91	.379

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 712 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0005

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T14S. R2W. Sec.5	
D. Latitude, Longitude	44°23'N,122°56'W	
E. Stream Name	Calapooia River	
F. Major Basin Name	Mid Willamette	
G. River Mile	30.0 to 40.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

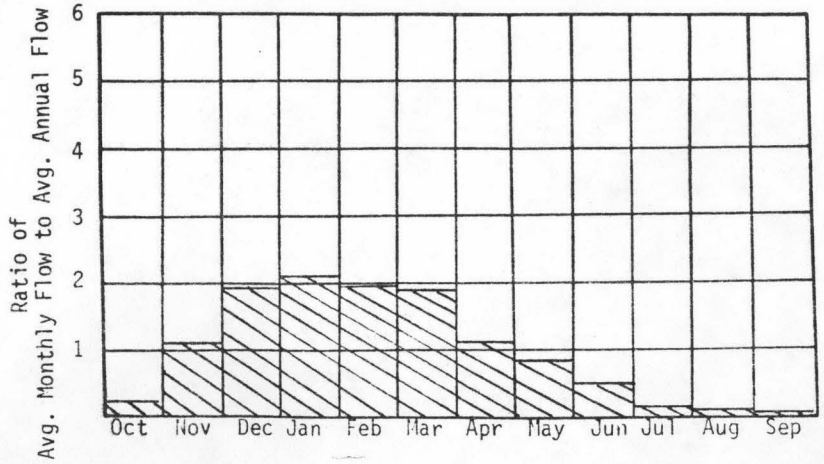
A. Upstream Elevation of Reach	446	Ft. MSL
B. Downstream Elevation of Reach	293	Ft. MSL
C. Total Available Head in Reach	153	Ft.
D. Average Slope in Reach	14.7	Ft./Mi.
E. Drainage Area above Reach Mouth	164	Sq.Mi.
F. Inflow Classification	Natural	

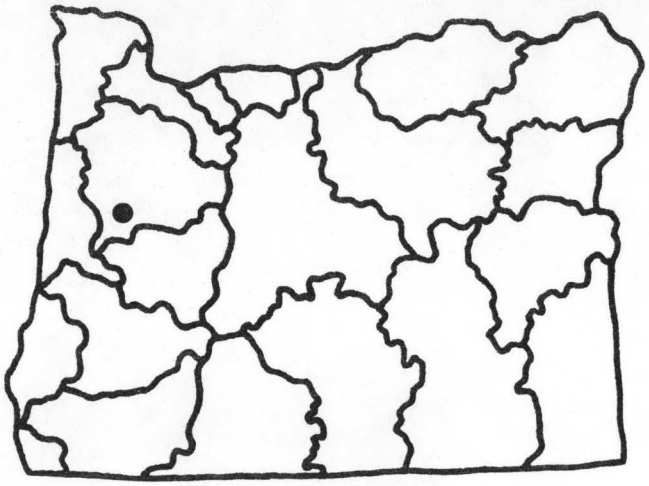
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	43.7	.57	4.96	1.000
80	90.1	1.17	9.57	.936
50	369.4	4.79	30.20	.720
30	674.2	8.74	44.04	.575
10	1427.2	18.50	61.15	.377

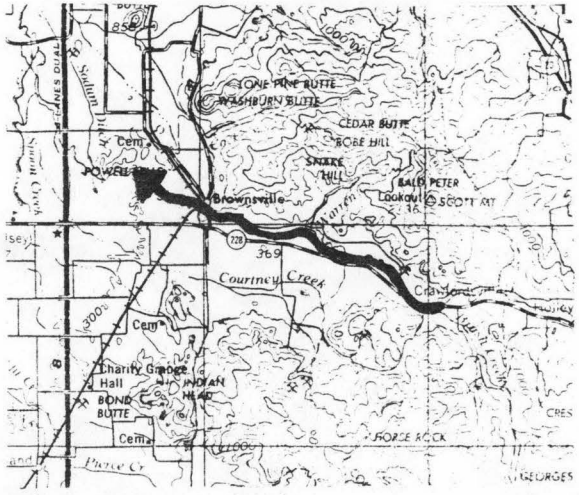
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 616 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T14S, R1W, Sec.15
D.	Latitude, Longitude	45°21'N,122°48'W
E.	Stream Name	Calapooia River
F.	Major Basin Name	Mid Willamette
G.	River Mile	40.4 to 50.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

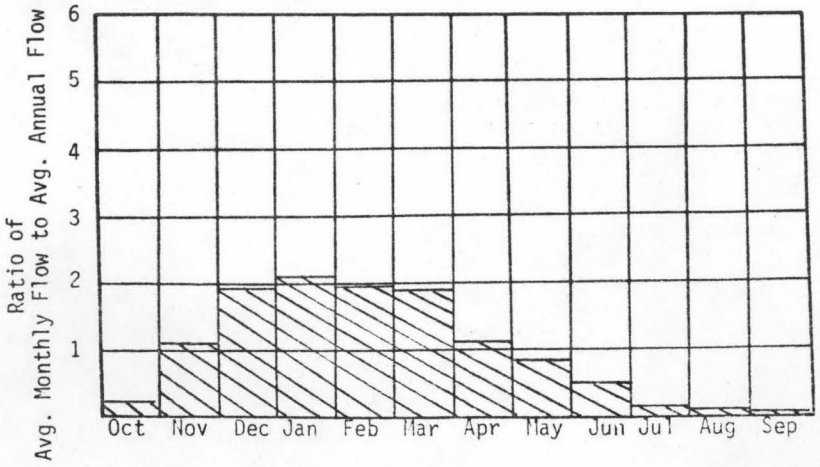
A.	Upstream Elevation of Reach	790	Ft. MSL
B.	Downstream Elevation of Reach	446	Ft. MSL
C.	Total Available Head in Reach	344	Ft.
D.	Average Slope in Reach	36	Ft./Mi.
E.	Drainage Area above Reach Mouth	116	Sq.Mi.
F.	Inflow Classification	Natural	

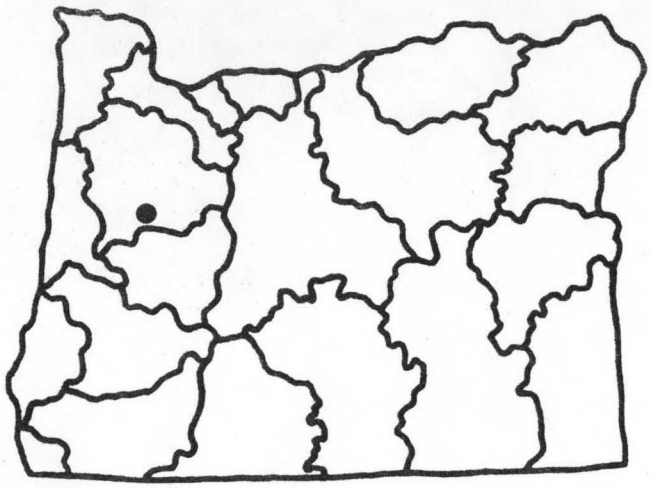
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	32.5	.95	8.30	1.000
80	67.4	1.97	16.11	.935
50	281.4	8.20	51.62	.718
30	517.0	15.07	75.69	.573
10	1103.2	32.16	105.63	.375

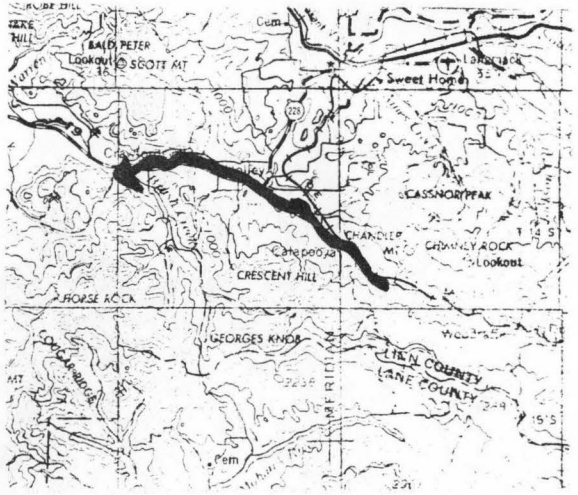
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 473 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T15S, R1E, Sec.2
D.	Latitude, Longitude	44°17'N,122°39'W
E.	Stream Name	Calapooia River
F.	Major Basin Name	Mid Willamette
G.	River Mile	50.0 to 60.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

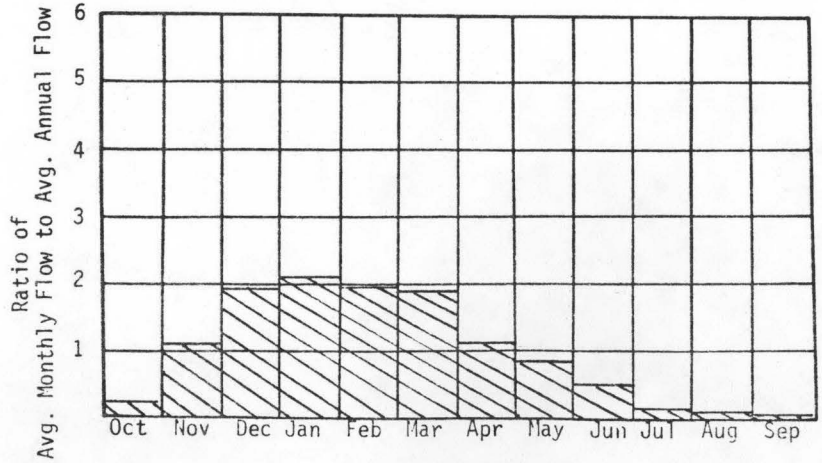
A.	Upstream Elevation of Reach	1072	Ft. MSL
B.	Downstream Elevation of Reach	790	Ft. MSL
C.	Total Available Head in Reach	282	Ft.
D.	Average Slope in Reach	27.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	84	Sq.Mi.
F.	Inflow Classification	Natural	

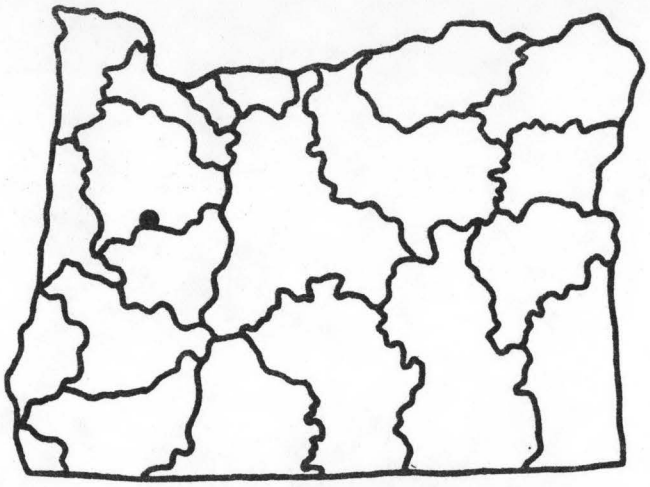
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	23.8	.57	4.99	1.000
80	49.7	1.19	9.73	.935
50	211.3	5.05	31.71	.717
30	391.0	9.35	46.77	.571
10	841.3	20.11	65.62	.373

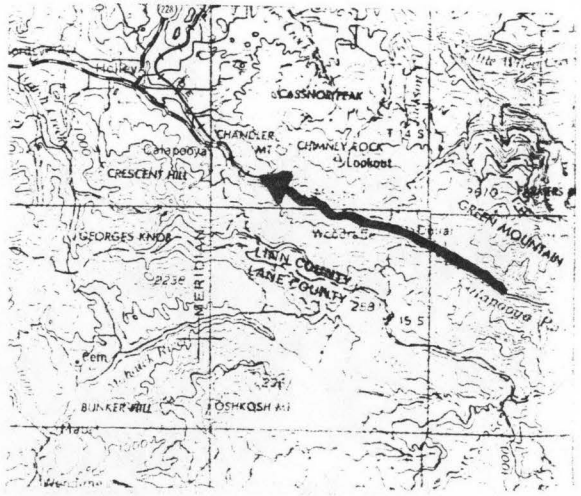
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 359 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0008

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T15S, R3E, Sec.20
D.	Latitude, Longitude	44°14'N,122°29'W
E.	Stream Name	Calapooya River
F.	Major Basin Name	Mid Willamette
G.	River Mile	60.4 to 71.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

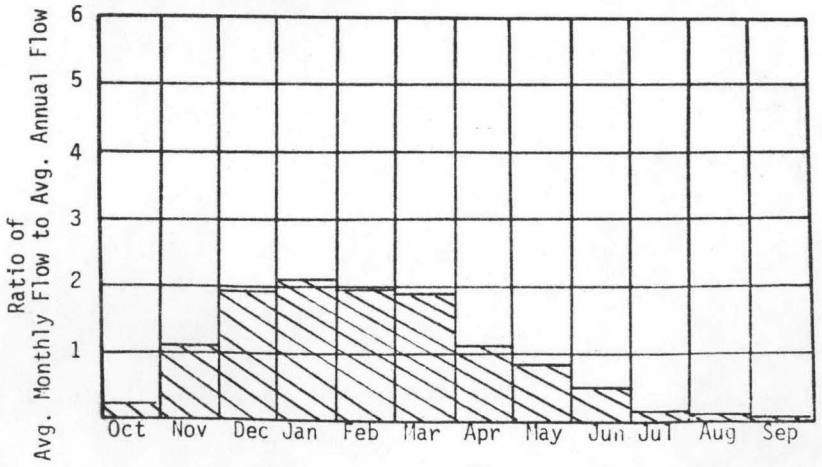
A.	Upstream Elevation of Reach	1865	Ft. MSL
B.	Downstream Elevation of Reach	1072	Ft. MSL
C.	Total Available Head in Reach	793	Ft.
D.	Average Slope in Reach	74	Ft./Mi.
E.	Drainage Area above Reach Mouth	52	Sq.Mi.
F.	Inflow Classification	Natural	

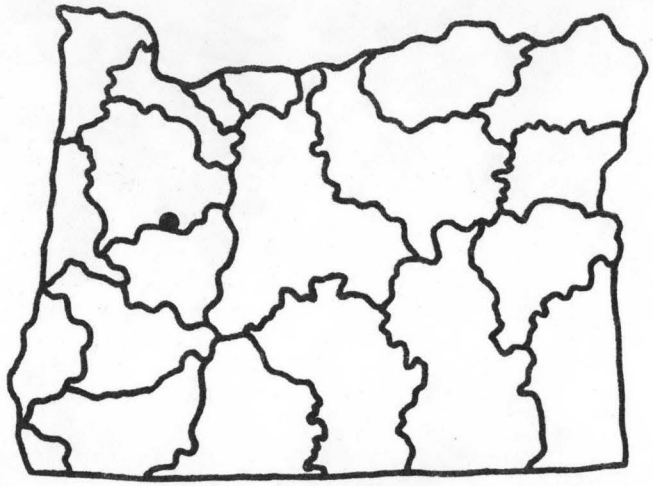
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	11.4	.77	6.71	1.000
80	24.1	1.62	13.27	.934
50	107.0	7.19	44.98	.714
30	201.5	13.54	67.24	.567
10	442.2	29.72	95.58	.367

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 186 CFS





U.S.G.S. TOPO. SERIES
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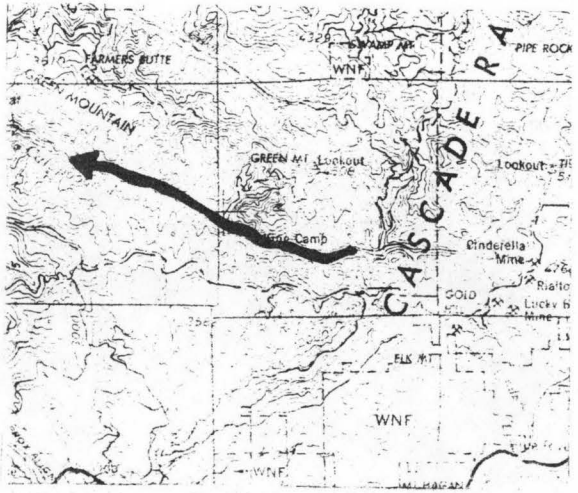
MAP NAME: SALEM



FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
036-005-R0012	-	-	-	-	6.0	500-B	-	26.0
036-005-R0013	-	-	-	X	0.2	57-P	-	17.2
036-005-R0014	-	-	-	X	1.3	230-P	-	14.0
036-005-R0015	-	-	-	-	1.8	230-P	-	10.2
036-005-R0016	-	-	-	-	0.4	57-P	1,2	7.2
036-005-R0017	-	-	-	X	0.2	230-P	-	14.0
036-005-R0018	-	X	-	X	1.5	57-P	-	10.0
036-005-R0019	-	-	X	X	3.6	500-B	-	19.0
036-005-R0020	-	-	X	X	7.0	500-B	-	22.5
036-005-R0021	-	-	-	X	3.5	500-B	-	26.5
036-005-R0022	-	-	-	-	1.1	230-P	-	11.0
036-005-R0023	-	X	X	-	1.0	500-B	-	14.3
036-005-R0024	-	X	X	-	1.4	500-B	-	17.5

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-120-000-R0009

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T15S, R3E, Sec.25
D.	Latitude, Longitude	44°14'N.122°23'W
E.	Stream Name	Calapooia River
F.	Major Basin Name	Mid Willamette
G.	River Mile	71.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

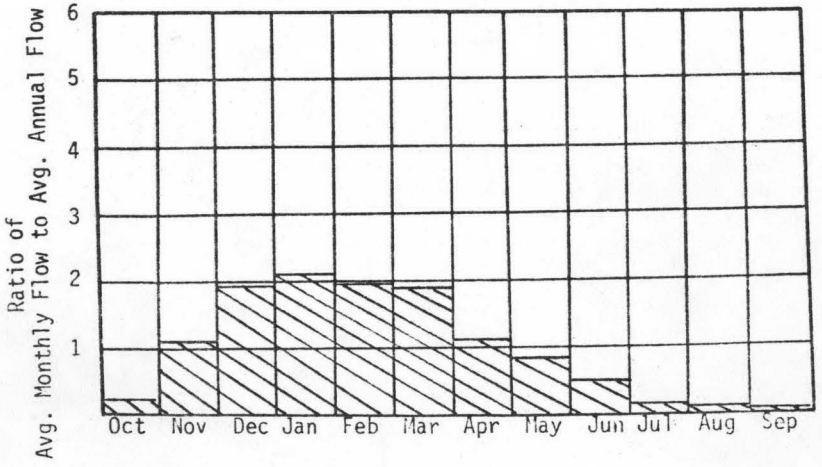
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

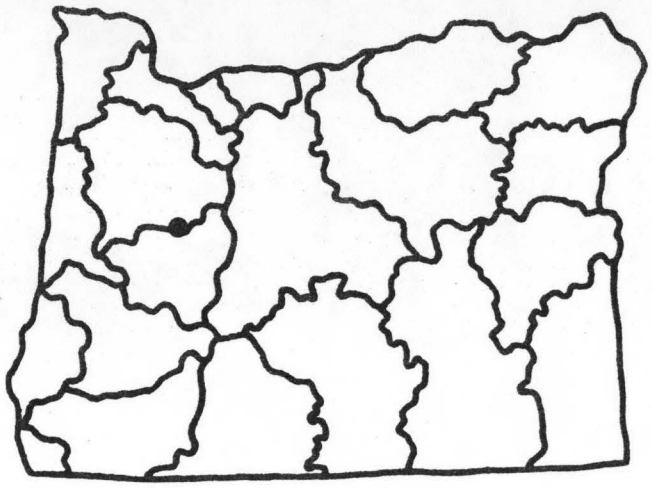
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.3	.02	.21	1.000
80	9.2	.05	.42	.933
50	43.3	.24	1.51	.710
30	83.4	.47	2.29	.561
10	187.9	1.05	3.32	.360

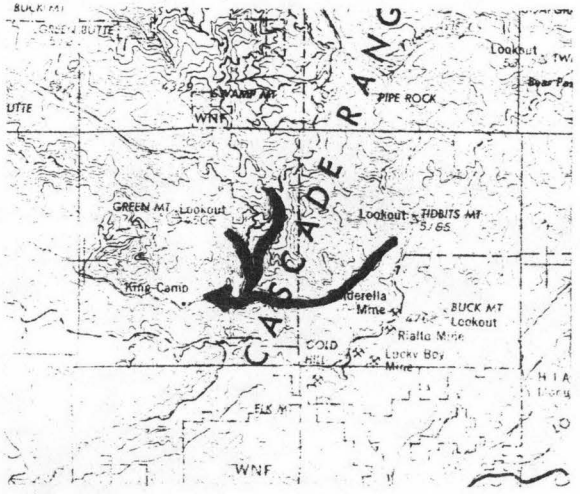
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 78 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0017

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T11S, R4W, Sec.16
D.	Latitude, Longitude	44°36'N,123°11'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	119.5 to 129.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

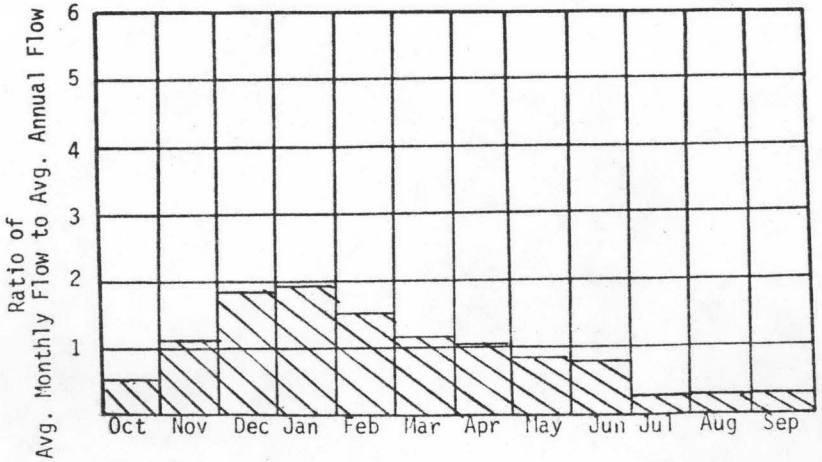
A.	Upstream Elevation of Reach	196	Ft. MSL
B.	Downstream Elevation of Reach	176	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	2	Ft./Mi.
E.	Drainage Area above Reach Mouth	2325	Sq.Mi.
F.	Inflow Classification	Regulated	

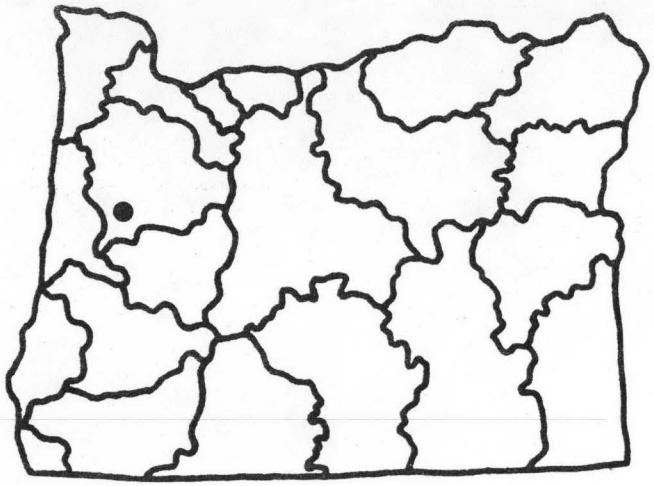
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTACE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2410.8	4.09	35.79	1.000
80	3733.5	6.33	52.98	.956
50	8980.7	15.22	103.62	.777
30	14738.4	24.98	137.81	.630
10	30380.5	51.49	184.26	.408

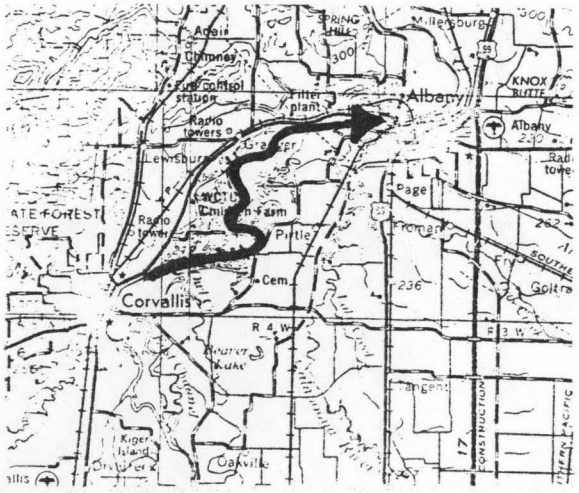
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 13344 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0018

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T11S, R5W, Sec.35	
D. Latitude, Longitude	44°34'N,123°15'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Mid Willamette	
G. River Mile	129.3 to 132.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

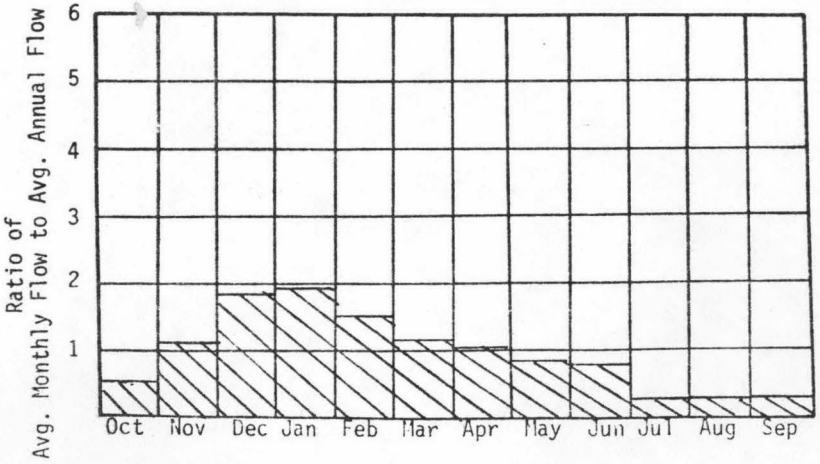
A. Upstream Elevation of Reach	200	Ft. MSL
B. Downstream Elevation of Reach	196	Ft. MSL
C. Total Available Head in Reach	4	Ft.
D. Average Slope in Reach	1.4	Ft./Mi.
E. Drainage Area above Reach Mouth	2274	Sq.Mi.
F. Inflow Classification	Regulated	

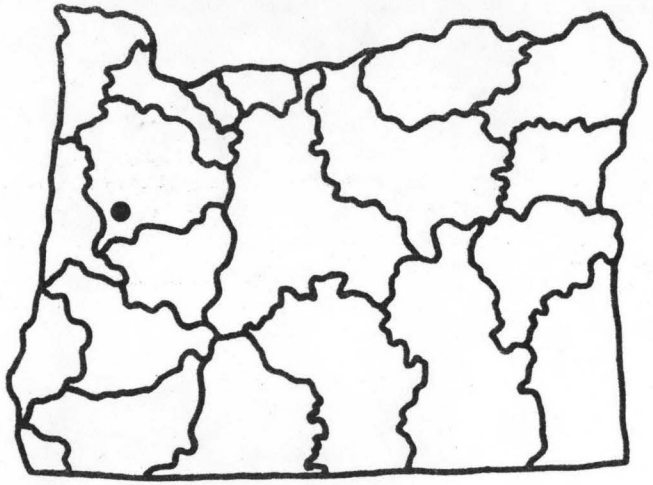
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2396.4	.81	7.12	1.000
80	3712.3	1.26	10.54	.956
50	8932.9	3.03	20.61	.777
30	14663.9	4.97	27.42	.630
10	30213.3	10.24	36.65	.409

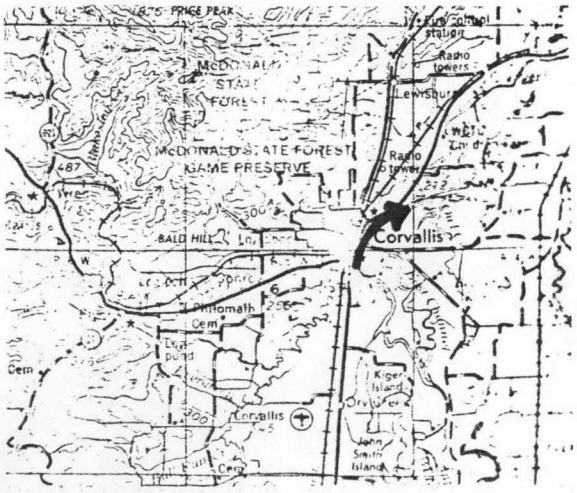
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 13272 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

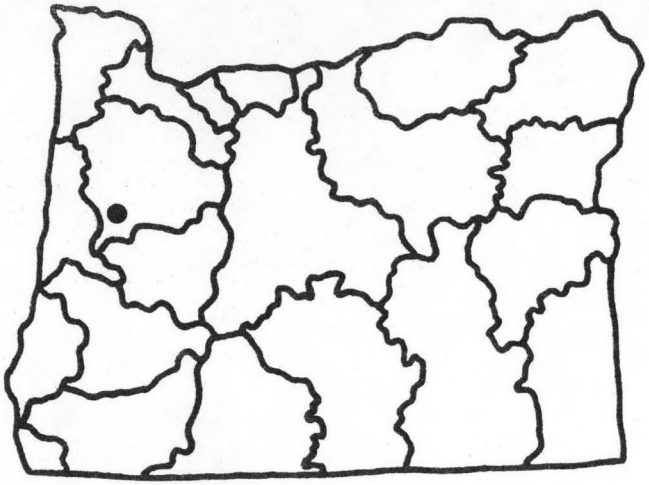


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Linn-Benton
C.	Township, Range	T12S, R5W, Sec.10
D.	Latitude, Longitude	44°32'N,123°16'W
E.	Stream Name	Marys River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 5.6



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	217	Ft. MSL
B.	Downstream Elevation of Reach	200	Ft. MSL
C.	Total Available Head in Reach	17	Ft.
D.	Average Slope in Reach	3	Ft./Mi.
E.	Drainage Area above Reach Mouth	291	Sq.Mi.
F.	Inflow Classification	Natural	

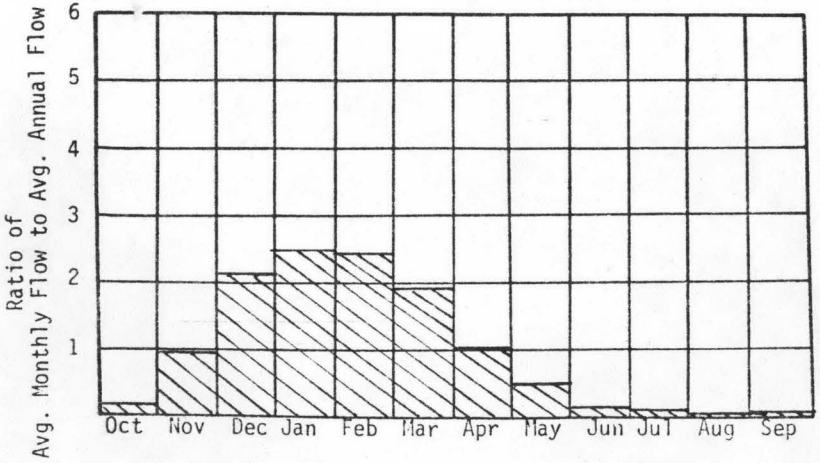
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

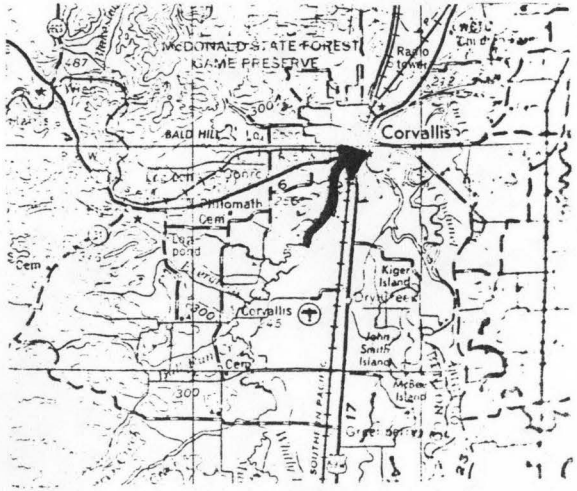
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	25.7	.04	.32	1.000
80	56.3	.08	.66	.932
50	346.1	.50	3.04	.696
30	867.3	1.25	5.67	.518
10	2481.5	3.58	9.75	.311

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 971 CFS



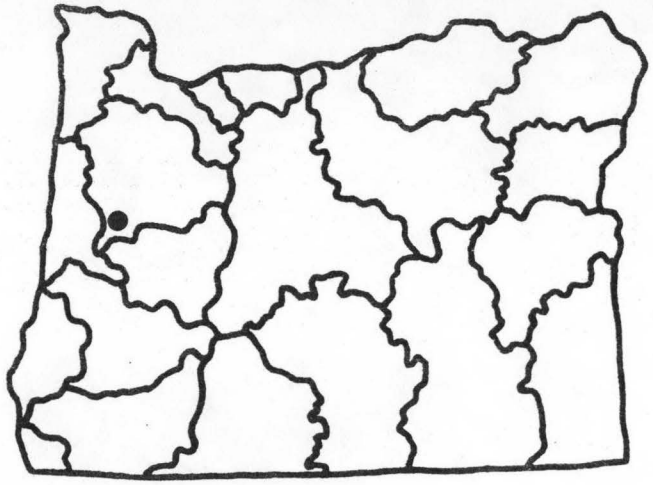


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-010-R0001

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T12S, R5W, Sec.10
D.	Latitude, Longitude	44°29'N,123°19'W
E.	Stream Name	(West) Muddy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 9.5



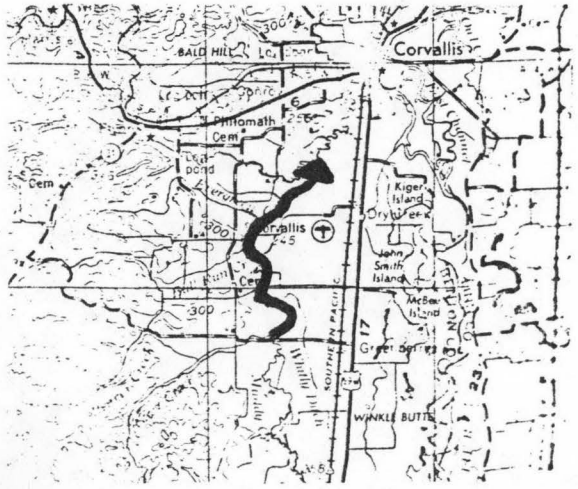
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	238	Ft. MSL
B.	Downstream Elevation of Reach	217	Ft. MSL
C.	Total Available Head in Reach	21	Ft.
D.	Average Slope in Reach	2.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	122	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

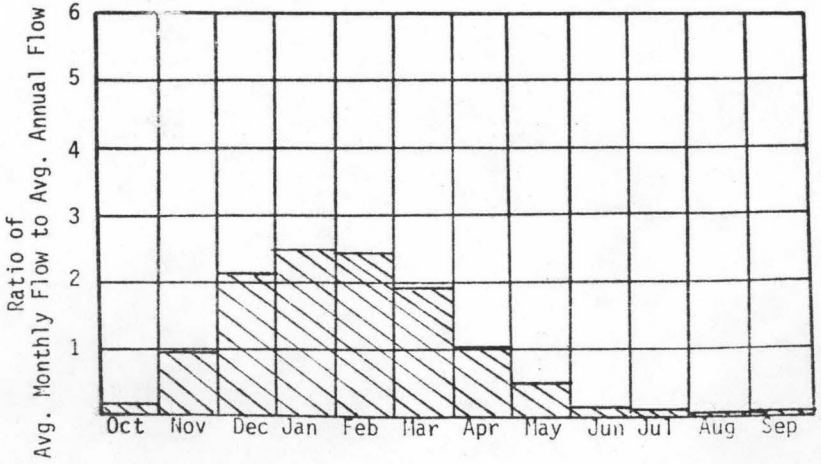
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.0	.01	.12	1.000
80	18.0	.03	.26	.930
50	116.1	.21	1.25	.693
30	304.0	.54	2.43	.512
10	835.0	1.49	4.08	.314

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 326 CFS

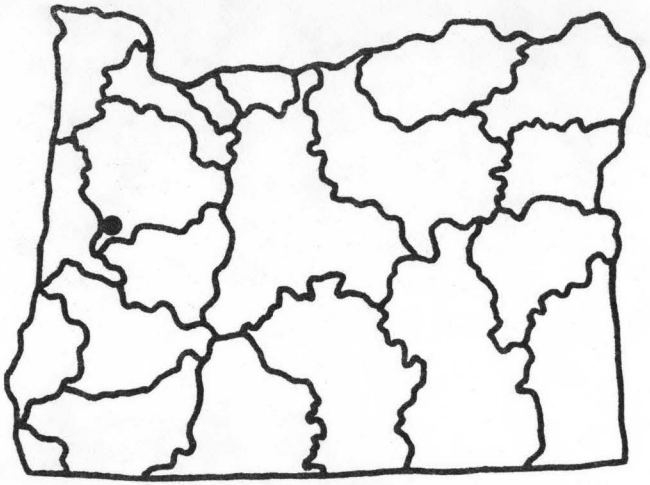


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-010-R0002

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T13S, R5W, Sec.29
D.	Latitude, Longitude	44°25'N,123°19'W
E.	Stream Name	(West) Muddy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	9.5 to 24.0



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	268	Ft. MSL
B.	Downstream Elevation of Reach	238	Ft. MSL
C.	Total Available Head in Reach	30	Ft.
D.	Average Slope in Reach	2.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	78	Sq.Mi.
F.	Inflow Classification	Natural	

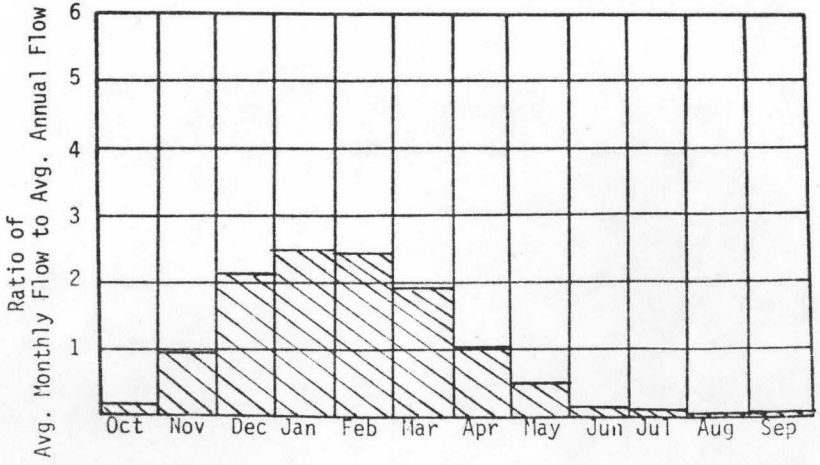
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

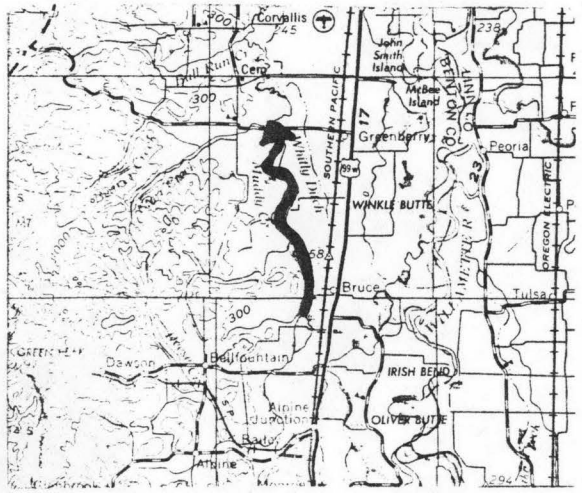
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.3	.01	.10	1.000
80	9.8	.02	.20	.930
50	65.1	.17	1.00	.692
30	174.6	.44	1.98	.509
10	469.2	1.19	3.29	.315

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 183 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-010-R0003

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T14S, R5W, Sec.9
D.	Latitude, Longitude	44°22'N,123°18'W
E.	Stream Name	(West) Muddy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	24 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

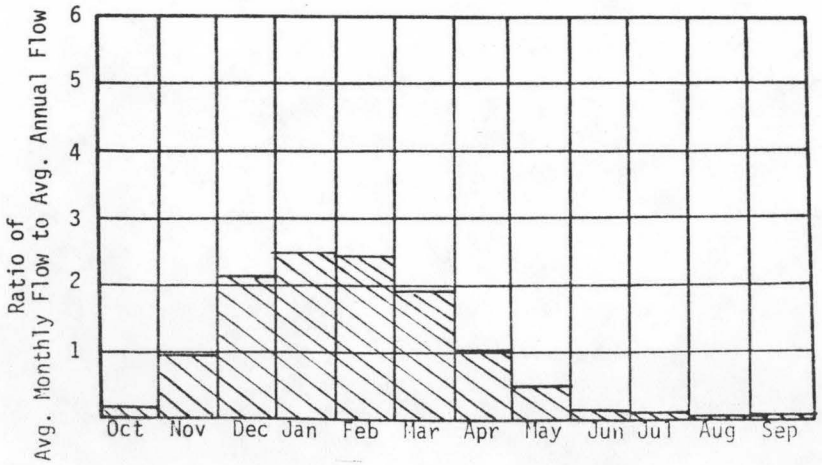
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	49	Sq.Mi.
F.	Inflow Classification	Natural	

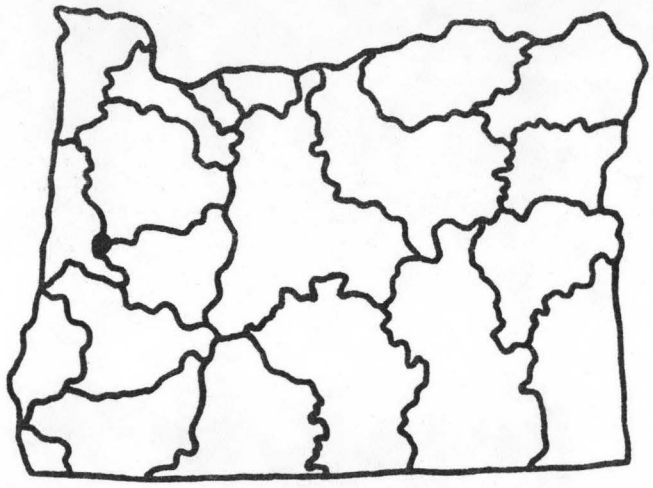
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.4	.02	.17	1.000
80	7.8	.04	.36	.929
50	52.2	.29	1.77	.692
30	141.2	.79	3.51	.508
10	376.5	2.11	5.82	.315

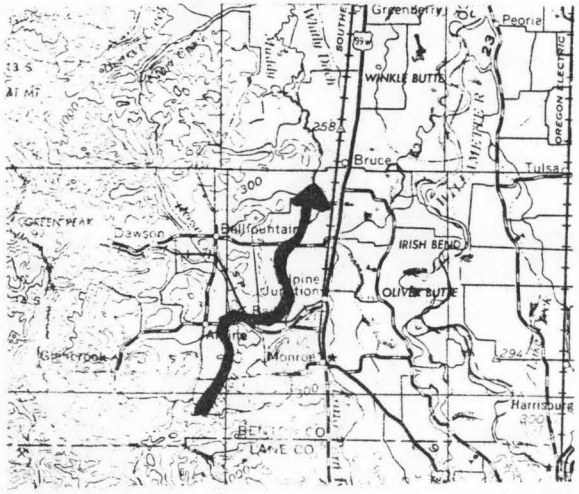
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 147 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T12S, R5W, Sec.18
D.	Latitude, Longitude	44°31'N,123°20'W
E.	Stream Name	Marys River
F.	Major Basin Name	Mid Willamette
G.	River Mile	5.6 to 13.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

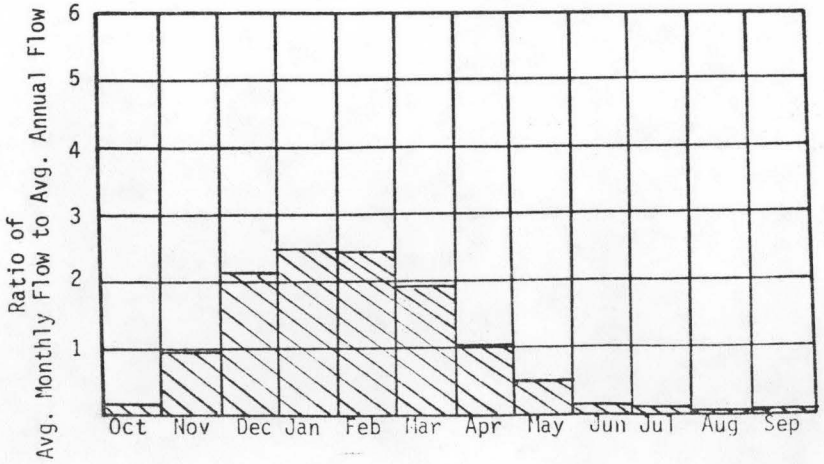
A.	Upstream Elevation of Reach	260	Ft. MSL
B.	Downstream Elevation of Reach	217	Ft. MSL
C.	Total Available Head in Reach	43	Ft.
D.	Average Slope in Reach	5.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	145	Sq.Mi.
F.	Inflow Classification	Natural	

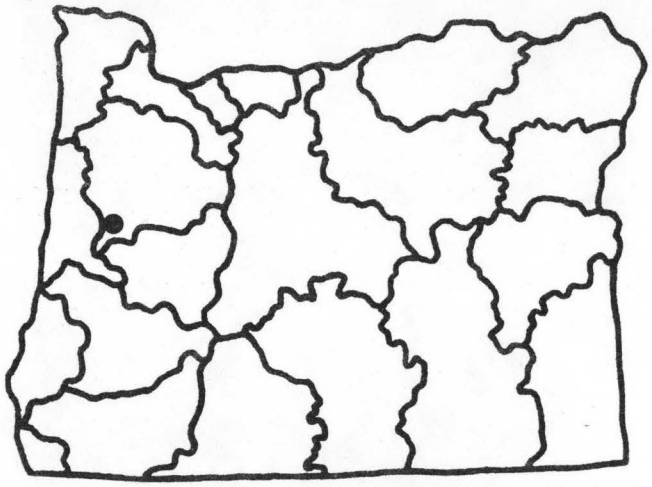
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.8	.05	.44	1.000
80	30.7	.11	.91	.931
50	193.6	.71	4.29	.695
30	496.7	1.81	8.16	.515
10	1390.7	5.07	13.87	.312

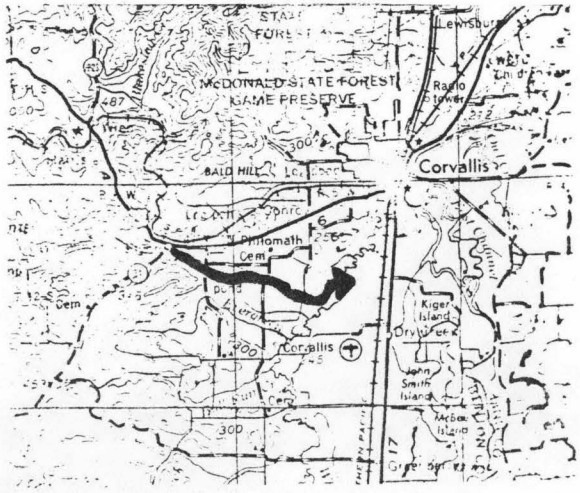
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 544 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-020-R0001

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T12S, R6W, Sec.11
D.	Latitude, Longitude	44°32'N,123°23'W
E.	Stream Name	Greasy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

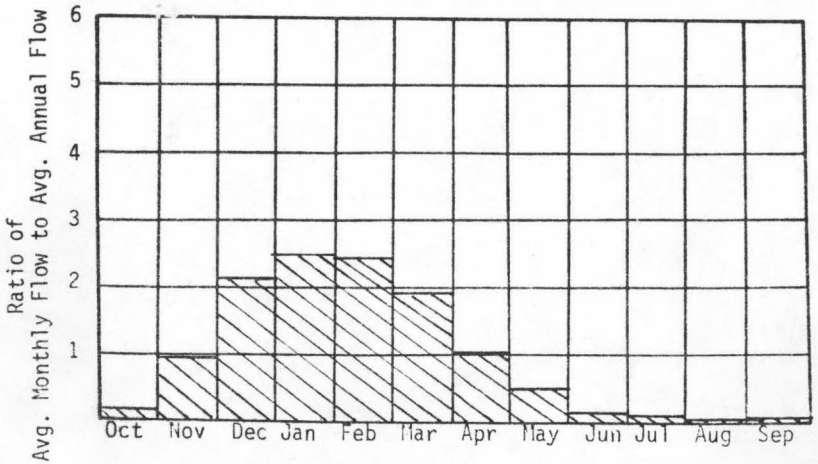
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	37	Sq.Mi.
F.	Inflow Classification	Natural	

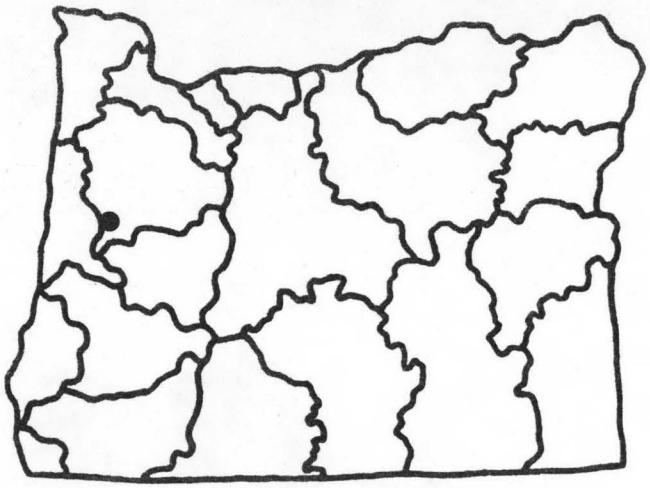
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.0	.02	.15	1.000
80	7.0	.04	.32	.929
50	47.3	.26	1.60	.692
30	128.4	.72	3.19	.507
10	341.1	1.91	5.28	.316

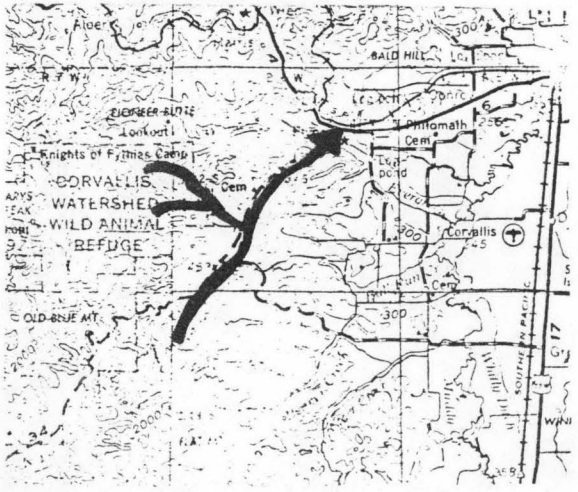
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 133 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T11S, R6W, Sec.26
D.	Latitude, Longitude	44°35'N,123°21'W
E.	Stream Name	Marys River
F.	Major Basin Name	Mid Willamette
G.	River Mile	13.4 to 25.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

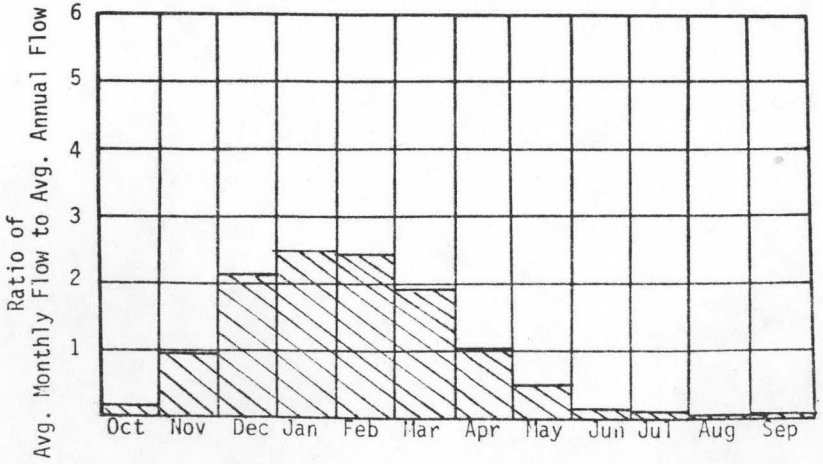
A.	Upstream Elevation of Reach	480	Ft. MSL
B.	Downstream Elevation of Reach	260	Ft. MSL
C.	Total Available Head in Reach	220	Ft.
D.	Average Slope in Reach	20	Ft./Mi.
E.	Drainage Area above Reach Mouth	99	Sq.Mi.
F.	Inflow Classification	Natural	

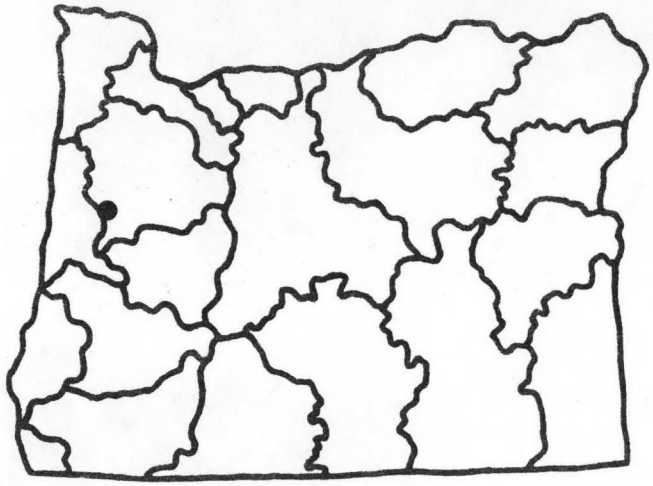
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.2	.15	1.33	1.000
80	18.4	.34	2.80	.930
50	118.8	2.22	13.46	.693
30	311.0	5.80	26.01	.512
10	854.9	15.94	43.78	.314

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 334 CFS





U.S.G.S. TOPO. SERIES
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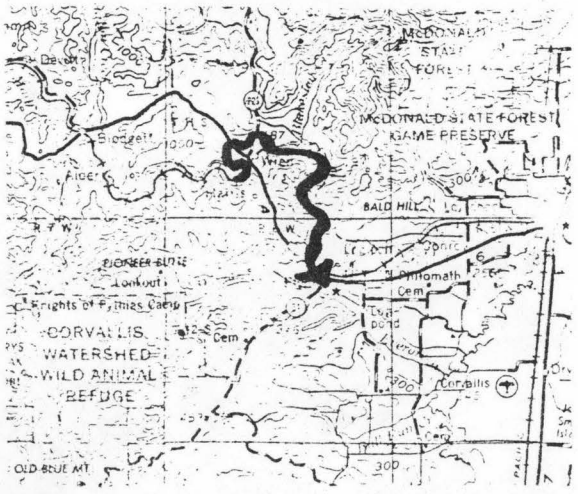
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T11S, R7W, Sec.36
D.	Latitude, Longitude	44°34'N,123°37'W
E.	Stream Name	Marys River
F.	Major Basin Name	Mid Willamette
G.	River Mile	25.0 to 31.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

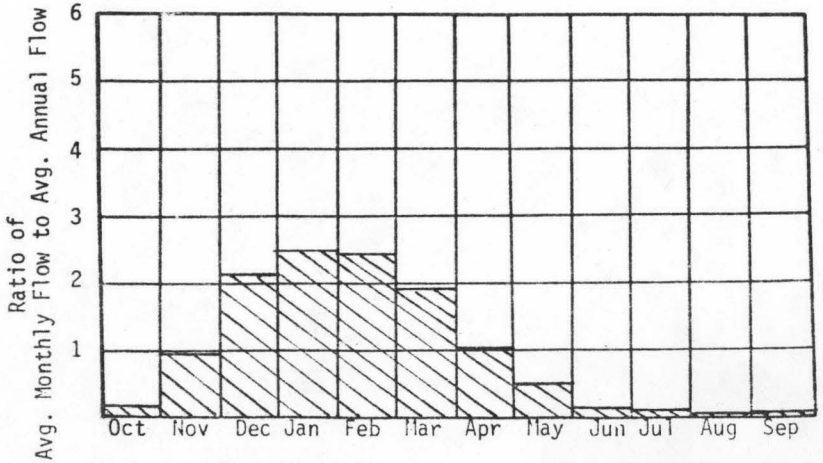
A.	Upstream Elevation of Reach	585	Ft. MSL
B.	Downstream Elevation of Reach	480	Ft. MSL
C.	Total Available Head in Reach	105	Ft.
D.	Average Slope in Reach	15.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	69	Sq.Mi.
F.	Inflow Classification	Natural	

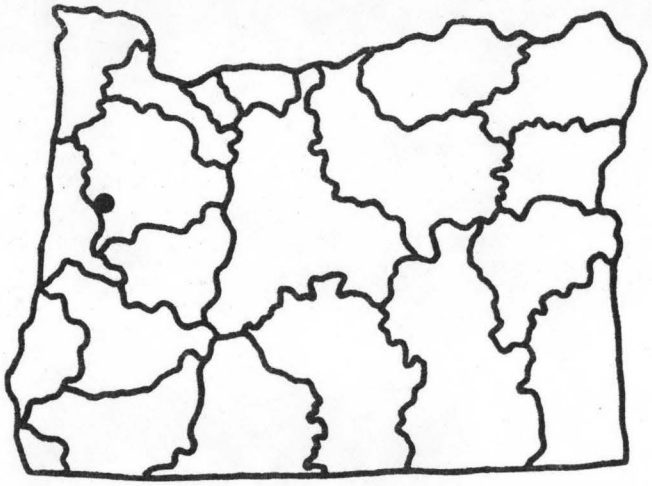
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.6	.06	.51	1.000
80	15.0	.13	1.09	.930
50	97.5	.87	5.27	.693
30	257.1	2.29	10.24	.511
10	701.7	6.24	17.18	.314

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 274 CFS





U.S.G.S. TOPO. SERIES
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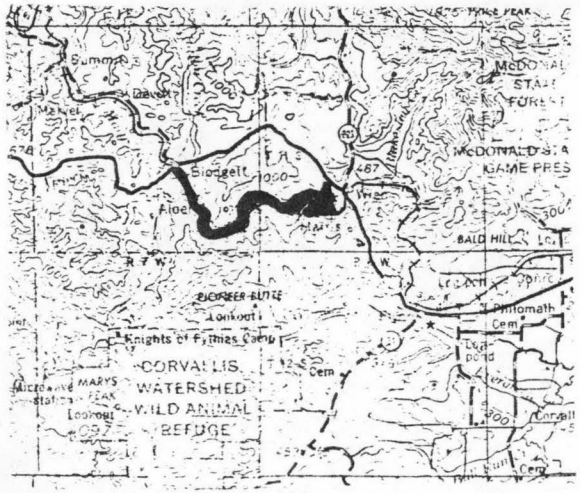
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-030-R0001

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T11S, R7W, Sec.26
D.	Latitude, Longitude	44°35'N,123°30'W
E.	Stream Name	Tumtum River
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 1.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

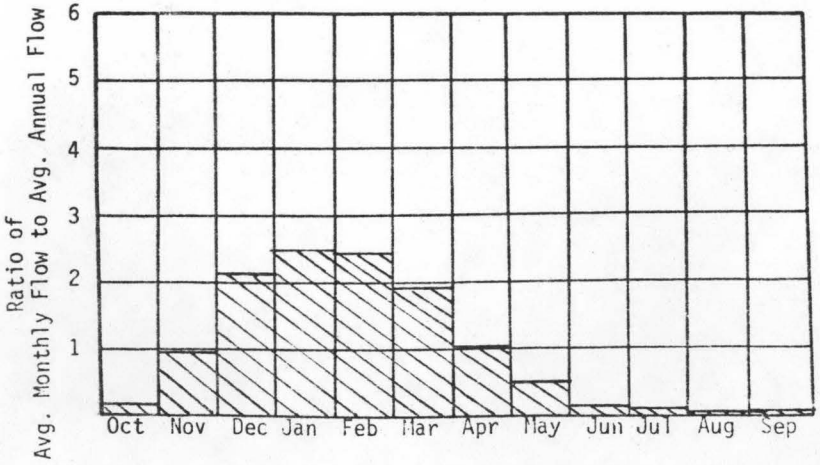
A.	Upstream Elevation of Reach	625	Ft. MSL
B.	Downstream Elevation of Reach	585	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	26.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	37	Sq.Mi.
F.	Inflow Classification	Natural	

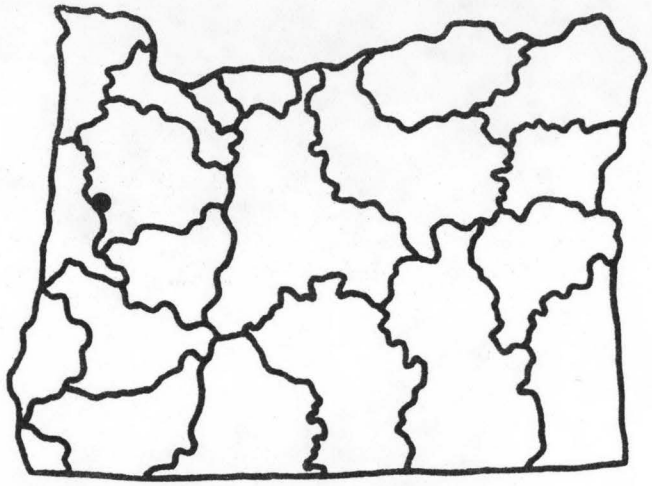
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.8	.01	.08	1.000
80	6.5	.02	.18	.929
50	44.1	.15	.91	.691
30	120.1	.41	1.81	.507
10	318.1	1.08	2.98	.316

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 124 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-030-R0002

I. LOCATION

A. State	Oregon	
B. County	Benton	
C. Township, Range	T11S, R8W.	
D. Latitude, Longitude	44°33'N.123°35'W	
E. Stream Name	Tumtum River	
F. Major Basin Name	Mid Willamette	
G. River Mile	1.5 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

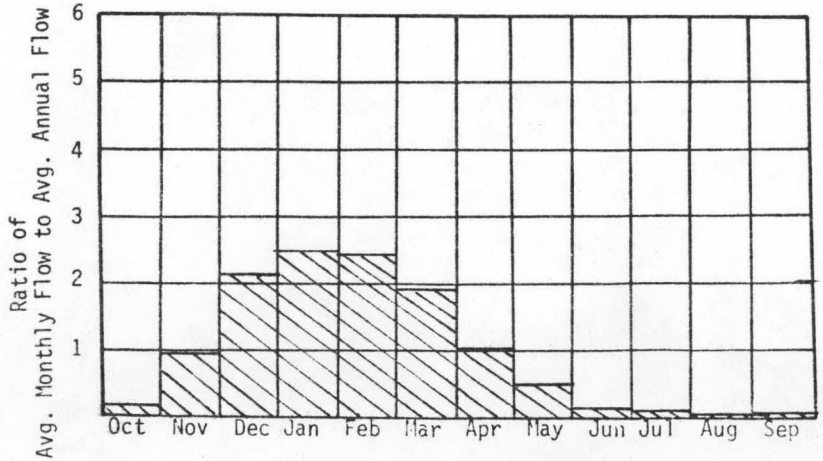
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	32	Sq.Mi.
F. Inflow Classification	Natural	

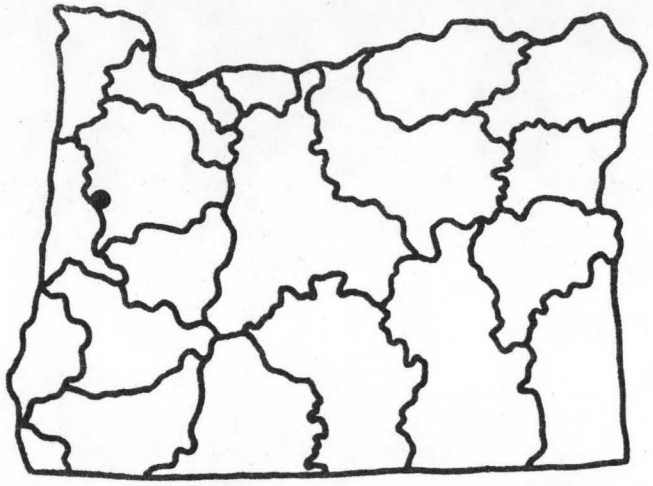
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.6	.01	.13	1.000
80	6.1	.03	.28	.929
50	40.9	.23	1.39	.691
30	111.9	.63	2.78	.507
10	295.5	1.65	4.58	.316

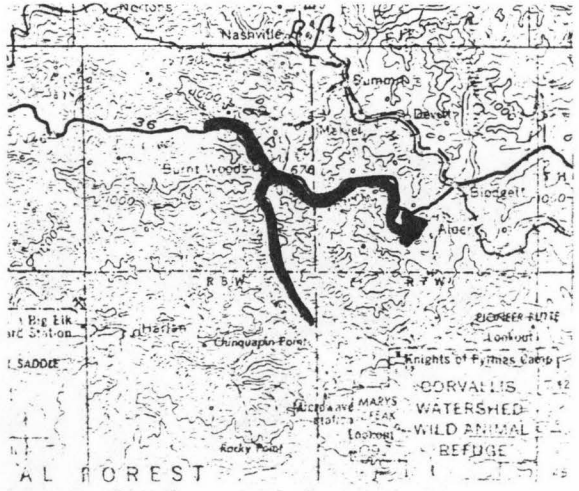
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 115 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T11S, R7W, Sec.22
D.	Latitude, Longitude	44°36'N.123°30'W
E.	Stream Name	Marys River
F.	Major Basin Name	Mid Willamette
G.	River Mile	31.9 to 33.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

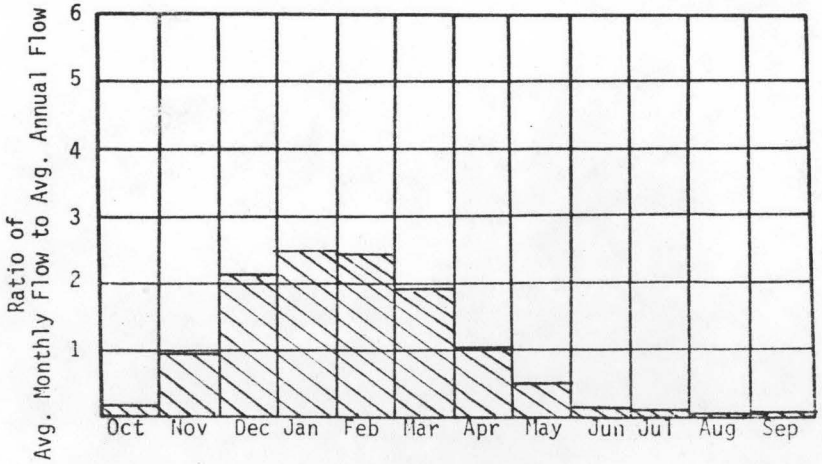
A.	Upstream Elevation of Reach	624	Ft. MSL
B.	Downstream Elevation of Reach	585	Ft. MSL
C.	Total Available Head in Reach	39	Ft.
D.	Average Slope in Reach	35	Ft./Mi.
E.	Drainage Area above Reach Mouth	35	Sq.Mi.
F.	Inflow Classification	Natural	

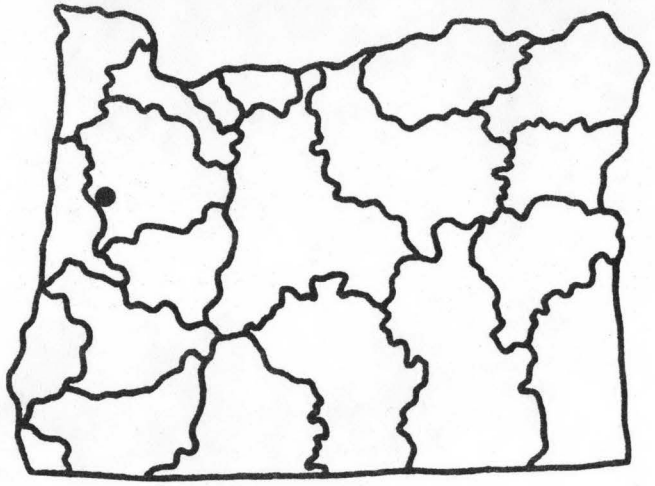
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.4	.01	.07	1.000
80	5.6	.02	.15	.929
50	37.7	.12	.75	.691
30	103.4	.34	1.51	.506
10	272.2	.90	2.49	.316

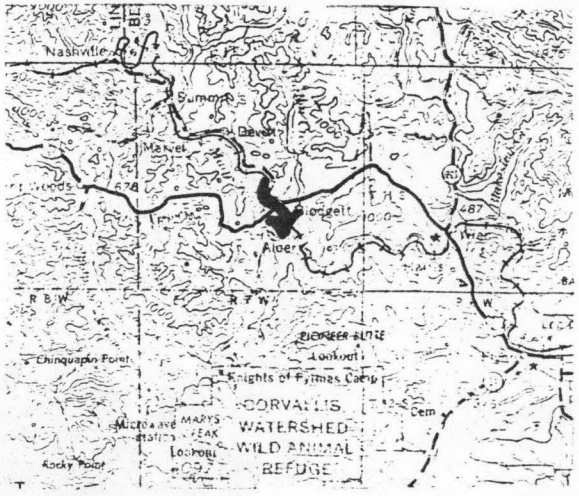
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 106 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-131-000-R0006

I. LOCATION

A. State	Oregon	
B. County	Benton	
C. Township, Range	T11S, R7W, Sec.15	
D. Latitude, Longitude	44°36'N,123°31'W	
E. Stream Name	Marys River	
F. Major Basin Name	Mid Willamette	
G. River Mile	33.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

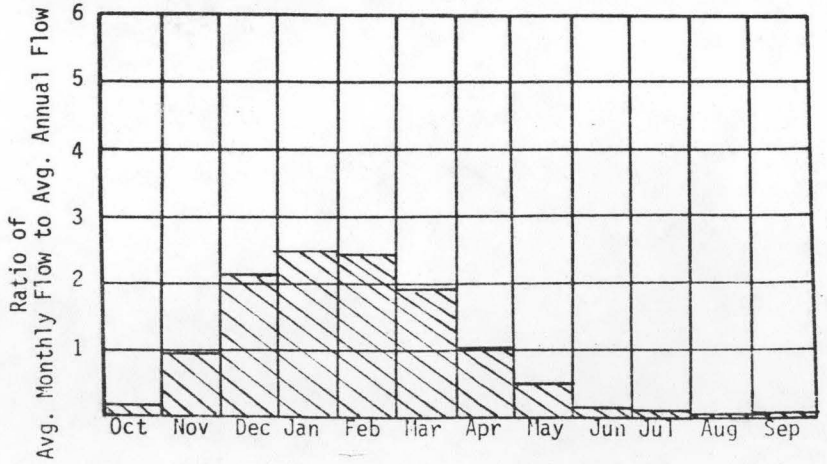
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	26	Sq.Mi.
F. Inflow Classification	Natural	

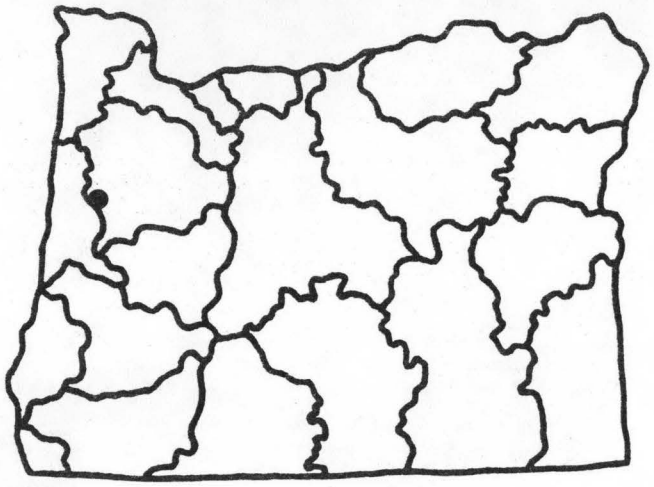
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2.0	.01	.10	1.000
80	4.8	.03	.22	.929
50	32.6	.18	1.10	.691
30	89.8	.50	2.22	.505
10	235.2	1.32	3.65	.317

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 92 CFS





U.S.G.S. TOPO. SERIES
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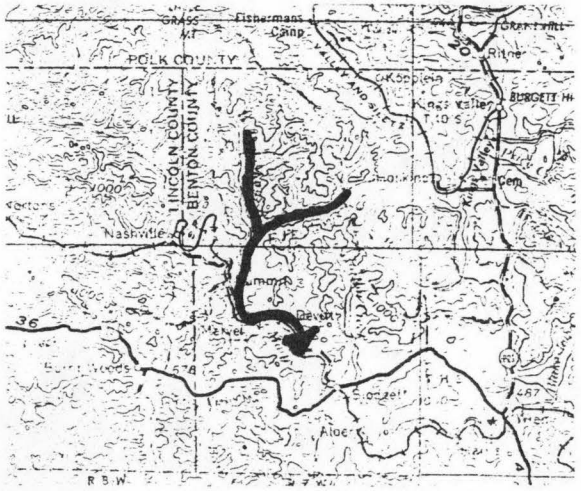
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0019

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T12S, R5W, Sec.2
D.	Latitude, Longitude	44°33'N,123°15'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	132.1 to 132.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

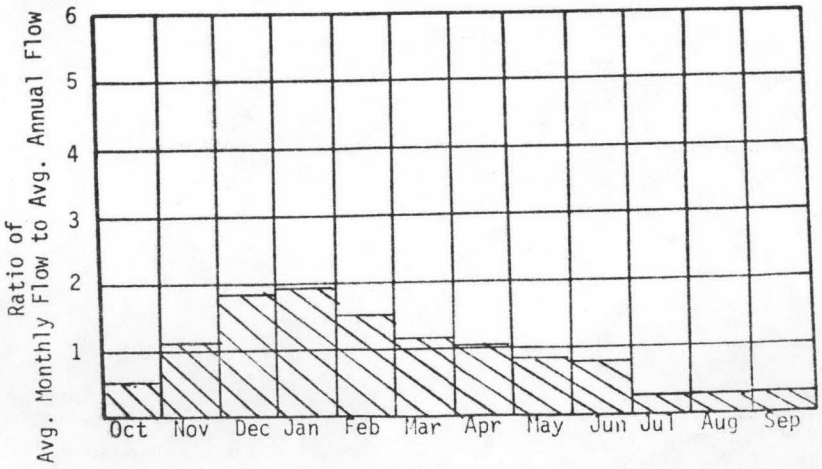
A.	Upstream Elevation of Reach	201	Ft. MSL
B.	Downstream Elevation of Reach	200	Ft. MSL
C.	Total Available Head in Reach	1	Ft.
D.	Average Slope in Reach	1.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	1972	Sq.Mi.
F.	Inflow Classification	Regulated	

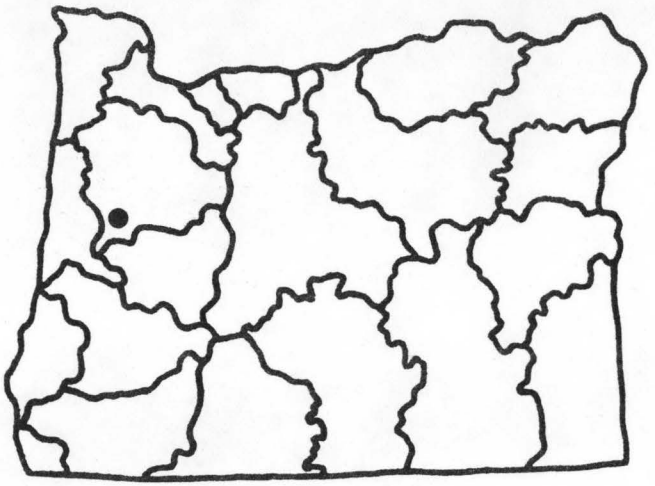
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2198.5	.19	1.63	1.000
80	3419.2	.29	2.43	.955
50	8270.4	.70	4.77	.776
30	13628.7	1.15	6.36	.628
10	27897.7	2.36	8.48	.409

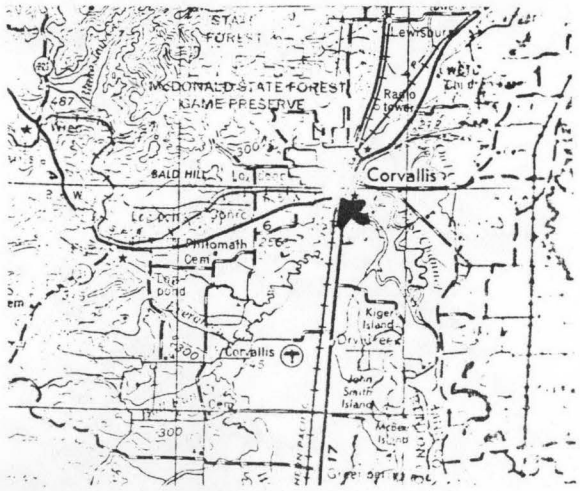
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 12276 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-134-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T12S, R4W, Sec.29
D.	Latitude, Longitude	44°29'N,123°11'W
E.	Stream Name	Muddy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	0.0 to 6.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

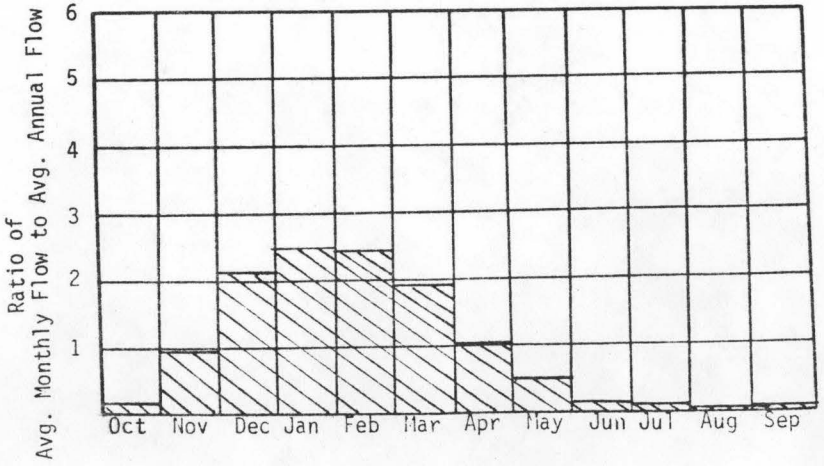
A.	Upstream Elevation of Reach	215	Ft. MSL
B.	Downstream Elevation of Reach	201	Ft. MSL
C.	Total Available Head in Reach	14	Ft.
D.	Average Slope in Reach	2.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	151	Sq.Mi.
F.	Inflow Classification	Natural	

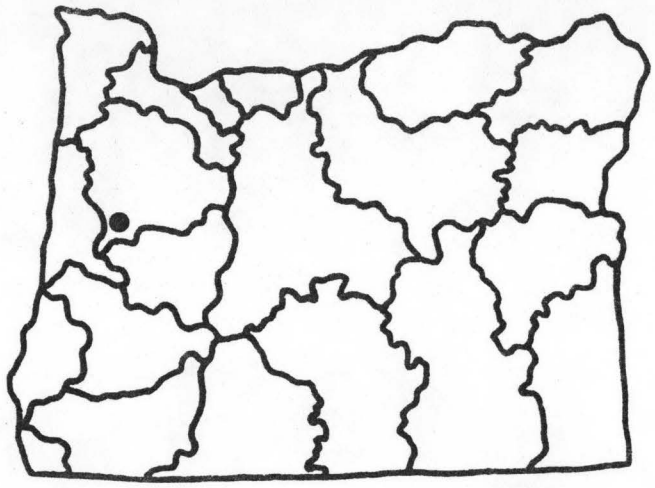
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	23.2	.03	.24	1.000
80	48.4	.06	.47	.935
50	206.1	.24	1.54	.717
30	381.7	.45	2.27	.571
10	821.8	.97	3.18	.372

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 350 CFS





U.S.G.S. TOPO. SERIES
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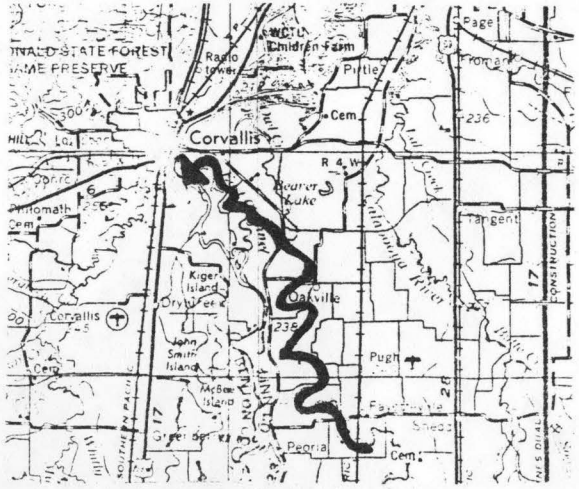


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-134-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T13S. R4W. Sec.27	
D. Latitude, Longitude	44°25'N.123°09'W	
E. Stream Name	Muddy Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	6.4 to 24.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

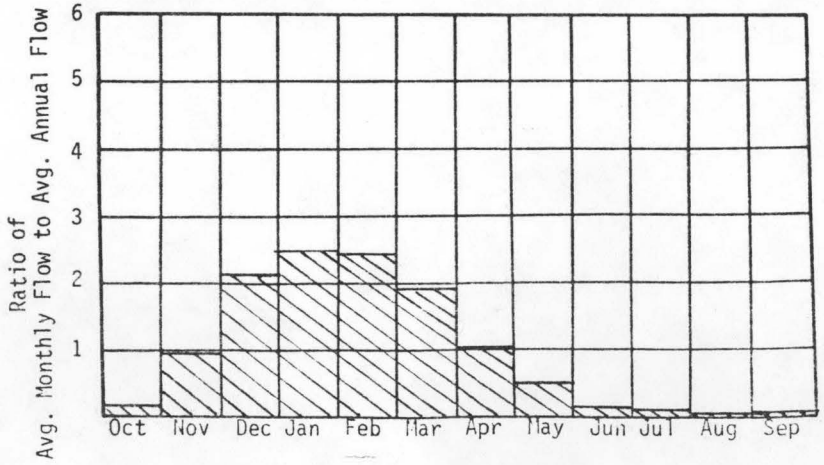
A. Upstream Elevation of Reach	273	Ft. MSL
B. Downstream Elevation of Reach	215	Ft. MSL
C. Total Available Head in Reach	58	Ft.
D. Average Slope in Reach	3.3	Ft./Mi.
E. Drainage Area above Reach Mouth	130	Sq.Mi.
F. Inflow Classification	Natural	

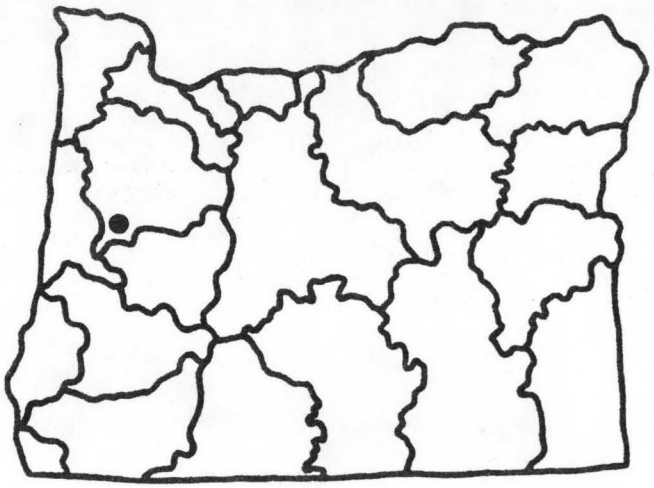
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	20.1	.10	.86	1.000
80	42.0	.21	1.69	.935
50	180.3	.89	5.56	.716
30	335.1	1.65	8.23	.570
10	724.2	3.56	11.58	.371

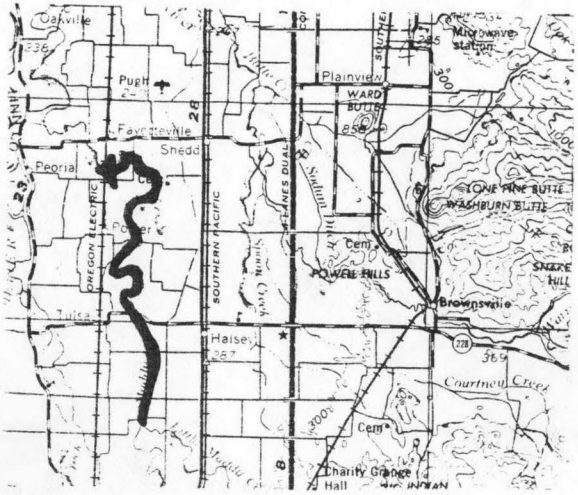
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 308 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-134-010-R0001

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T14S. R3W. Sec.30	
D. Latitude, Longitude	44°19'N.123°06'W	
E. Stream Name	Little Muddy Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	0.0 to 6.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

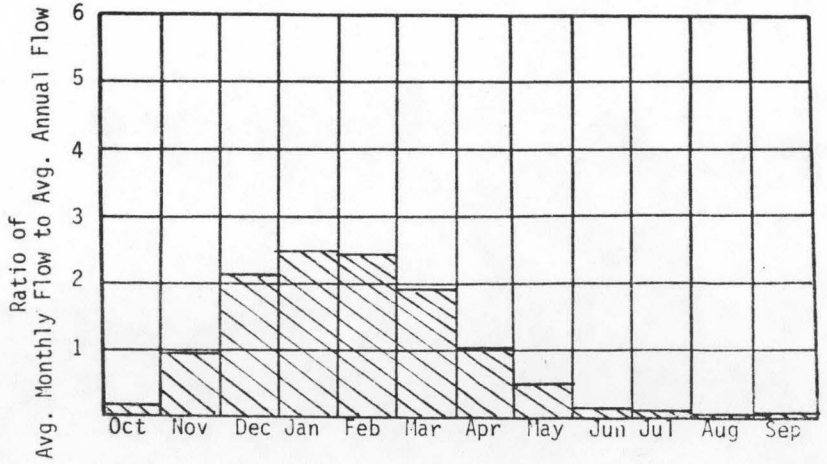
A. Upstream Elevation of Reach	307	Ft. MSL
B. Downstream Elevation of Reach	273	Ft. MSL
C. Total Available Head in Reach	34	Ft.
D. Average Slope in Reach	5.3	Ft./Mi.
E. Drainage Area above Reach Mouth	60	Sq.Mi.
F. Inflow Classification	Natural	

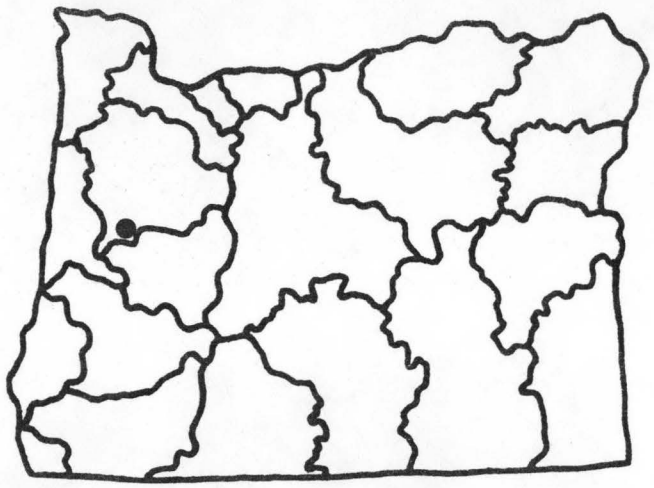
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.7	.02	.20	1.000
80	16.5	.05	.39	.934
50	74.9	.22	1.35	.713
30	142.4	.41	2.03	.564
10	315.8	.91	2.90	.364

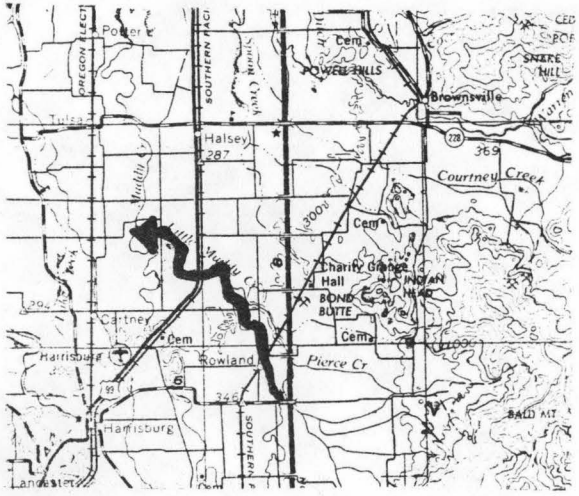
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 132 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-134-010-R0002

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T15S, R3W, Sec.5
D.	Latitude, Longitude	44°17'N,123°04'W
E.	Stream Name	Little Muddy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	6.4 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

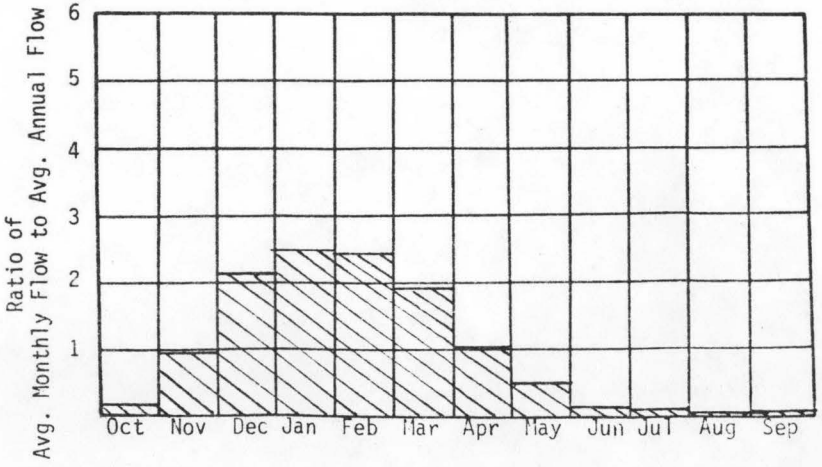
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	35	Sq.Mi.
F.	Inflow Classification	Natural	

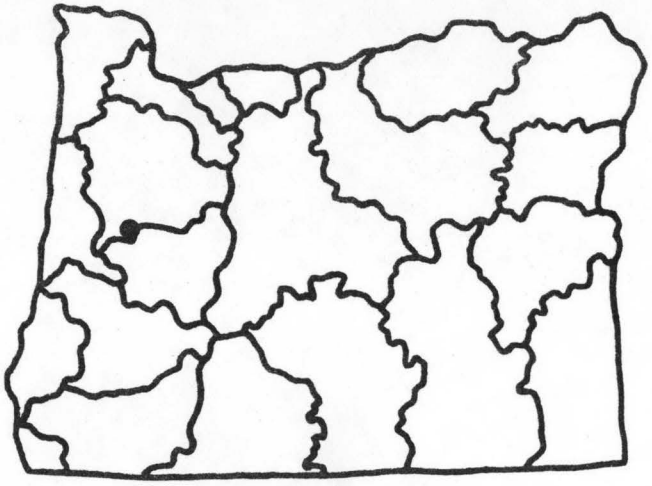
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.9	.03	.29	1.000
80	12.7	.07	.58	.933
50	58.7	.33	2.05	.711
30	112.3	.63	3.10	.563
10	250.8	1.40	4.45	.363

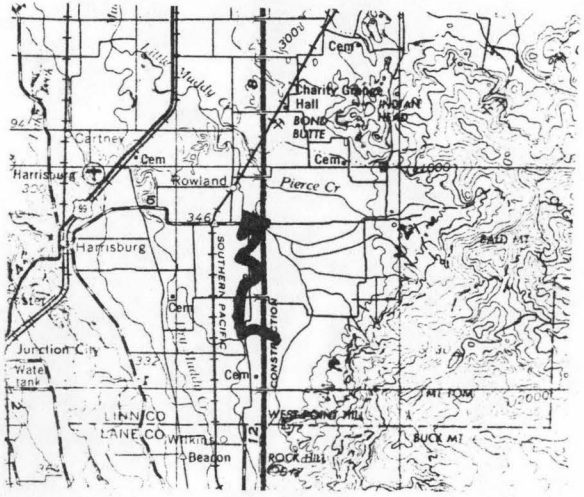
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 104 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-134-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Linn
C.	Township, Range	T14S, R4W, Sec.35
D.	Latitude, Longitude	44°16'N,123°08'W
E.	Stream Name	Muddy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	24.1 to 29.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

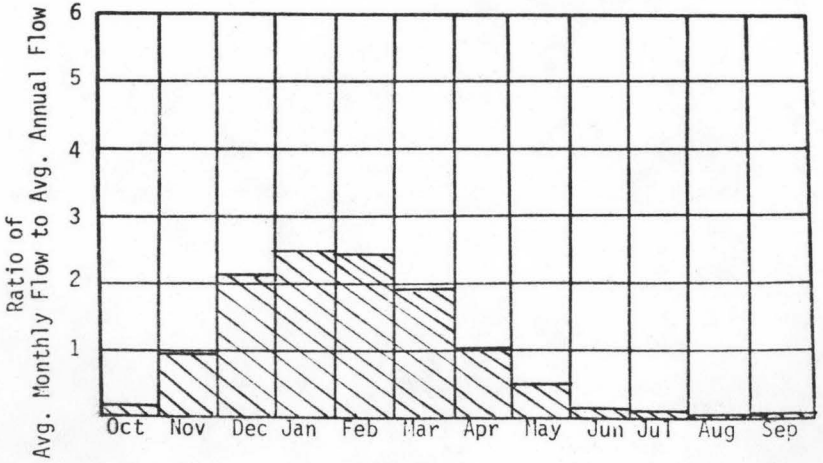
A.	Upstream Elevation of Reach	285	Ft. MSL
B.	Downstream Elevation of Reach	273	Ft. MSL
C.	Total Available Head in Reach	43	Ft.
D.	Average Slope in Reach	8	Ft./Mi.
E.	Drainage Area above Reach Mouth	48	Sq.Mi.
F.	Inflow Classification	Natural	

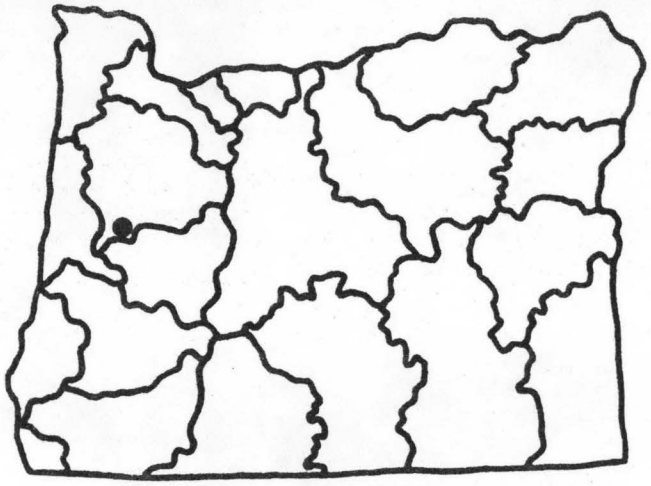
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.7	.03	.25	1.000
80	16.4	.06	.49	.934
50	74.4	.27	1.69	.712
30	141.5	.52	2.55	.564
10	313.7	1.14	3.65	.364

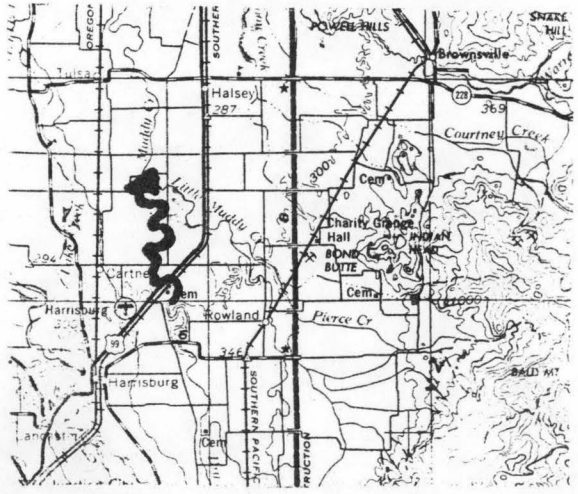
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 131 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-134-000-R0004

I. LOCATION

A. State	Oregon	
B. County	Linn	
C. Township, Range	T15S. R3W. Sec.19	
D. Latitude, Longitude	44°:5'N.123°06'W	
E. Stream Name	Muddy Creek	
F. Major Basin Name	Mid Willamette	
G. River Mile	29.5 to 36.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

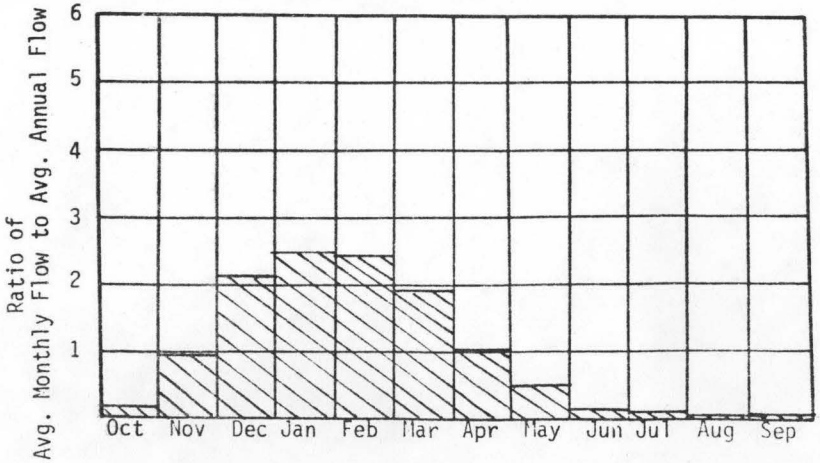
A. Upstream Elevation of Reach	316	Ft. MSL
B. Downstream Elevation of Reach	285	Ft. MSL
C. Total Available Head in Reach	31	Ft.
D. Average Slope in Reach	5.6	Ft./Mi.
E. Drainage Area above Reach Mouth	42	Sq.Mi.
F. Inflow Classification	Natural	

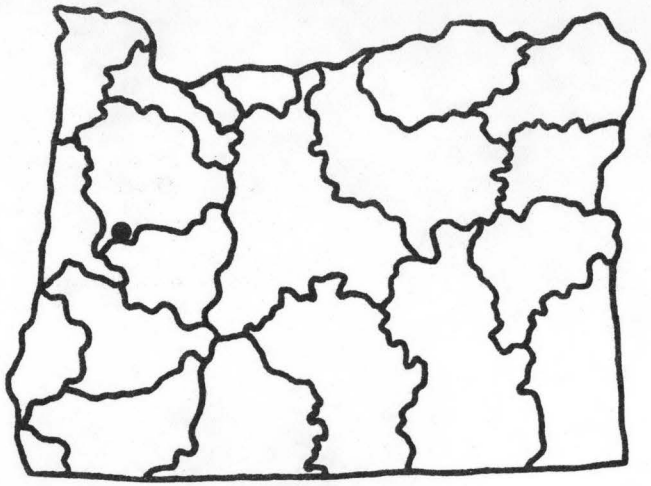
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.4	.01	.13	1.000
80	11.7	.03	.25	.933
50	54.1	.14	.89	.711
30	103.7	.27	1.34	.562
10	232.0	.61	1.93	.362

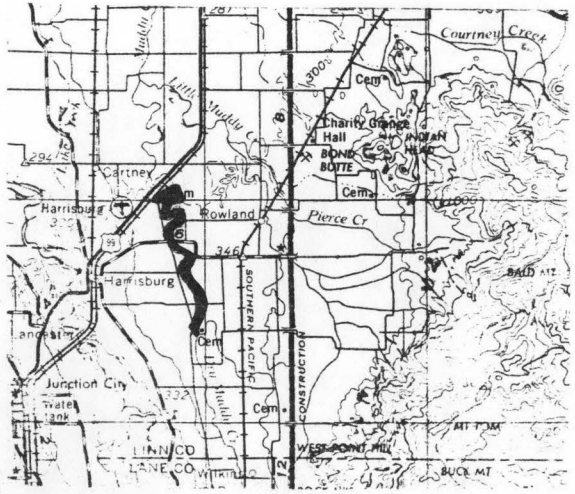
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 96 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-134-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Linn-Lane
C.	Township, Range	T16S, R3W, Sec.5
D.	Latitude, Longitude	44°12'N,123°05'W
E.	Stream Name	Muddy Creek
F.	Major Basin Name	Mid Willamette
G.	River Mile	36.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

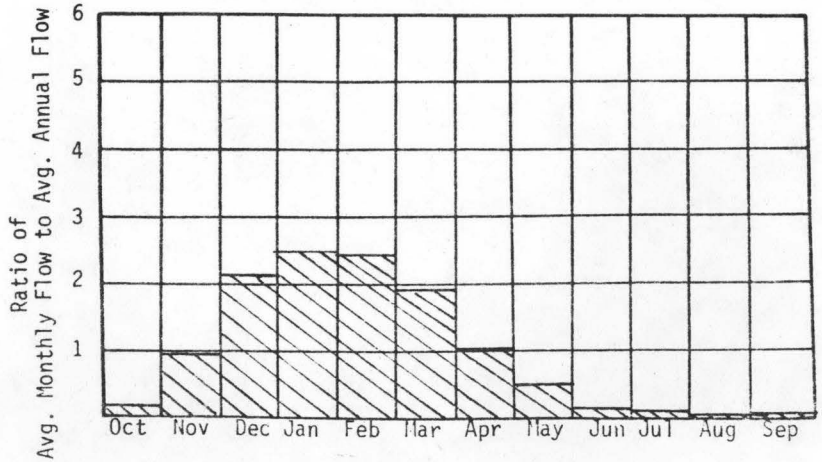
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	21	Sq.Mi.
F.	Inflow Classification	Natural	

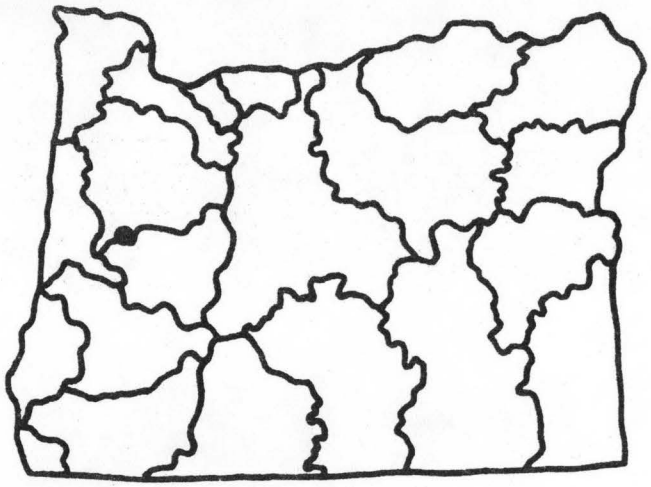
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.02	.18	1.000
80	8.1	.05	.37	.933
50	38.1	.21	1.33	.710
30	73.7	.41	2.02	.560
10	166.7	.93	2.93	.359

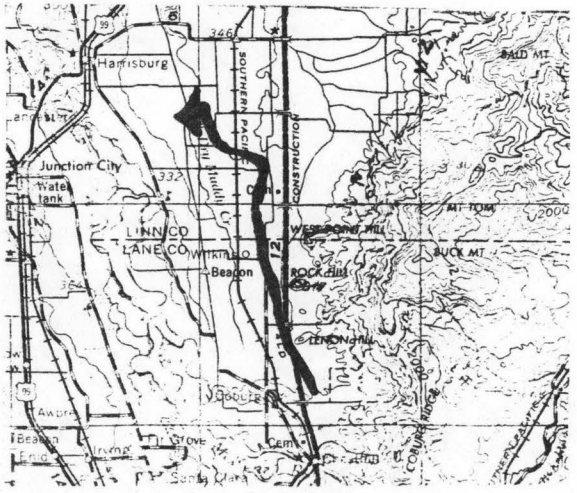
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 69 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0020

I. LOCATION

A.	State	Oregon
B.	County	Benton
C.	Township, Range	T13S, R4W, Sec.6
D.	Latitude, Longitude	44°28'N.123°13'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Mid Willamette
G.	River Mile	132.6 to 145.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

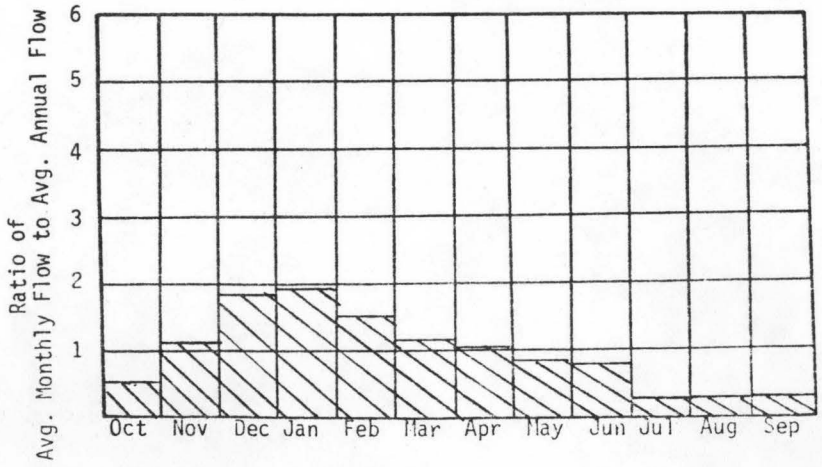
A.	Upstream Elevation of Reach	230	Ft. MSL
B.	Downstream Elevation of Reach	201	Ft. MSL
C.	Total Available Head in Reach	29	Ft.
D.	Average Slope in Reach	2.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	3929	Sq.Mi.
F.	Inflow Classification	Regulated	

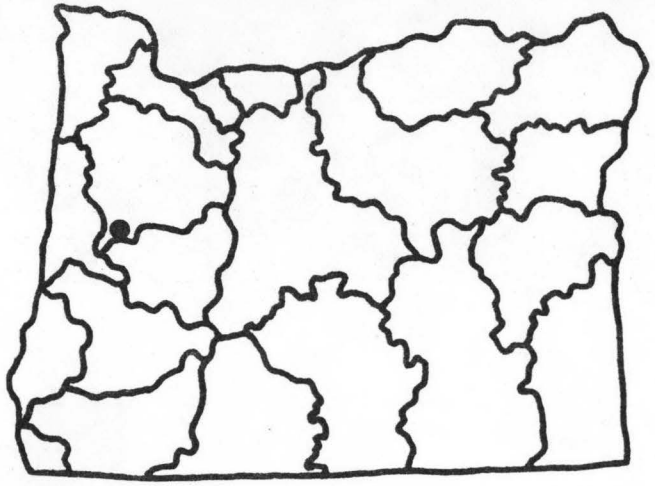
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	2123.4	5.22	45.71	1.000
80	3307.6	8.13	68.02	.955
50	8017.2	19.70	133.93	.776
30	13232.1	32.52	178.84	.628
10	27014.7	66.39	238.18	.410

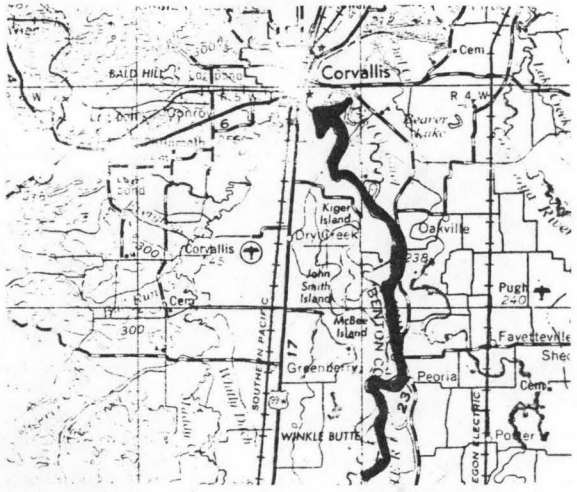
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 11896 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
000-000-R0005	-	-	-	X	1.0	57-P	1.2	7.5
036-000-R0001	-	-	-	X	0.5	500-B	1.2	10.0
036-005-R0001	-	-	-	X	0.2	500-B	-	12.2
036-005-R0002	-	X	X	-	0.2	57-P	-	14.0
036-005-R0003	-	-	-	-	0.8	57-P	-	15.0
036-005-R0004	-	X	X	X	1.5	500-B	-	15.0
036-005-R0005	-	-	-	-	0.2	230-P	-	16.5
036-005-R0006	-	-	-	-	3.0	230-P	-	17.0
036-005-R0007	-	-	-	-	1.2	57-P	-	17.0
036-005-R0008	-	-	-	X	1.8	230-P	-	16.8
036-005-R0009	-	X	X	X	1.0	230-P	-	21.0
036-005-R0010	-	X	X	X	2.8	500-B	-	20.0
036-005-R0011	X	-	-	X	7.6	500-B	-	23.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
036-005-R0025	-	-	-	-	1.5	500-B	-	18.5
036-005-R0026	-	-	-	-	1.5	500-B	-	18.5
036-005-R0027	-	X	X	-	0.3	57-P	-	10.0
036-005-R0028	-	-	-	-	3.1	230-B	-	11.3
036-005-R0029	-	-	-	-	2.5	230-B	-	13.2
036-005-R0030	-	-	-	-	2.2	230-B	-	8.5
036-005-R0031	-	-	-	-	1.5	230-B	-	8.0
036-000-R0002	-	X	X	X	2.0	230-P	-	11.0
036-010-R0001	-	X	X	X	0.5	57-P	-	9.5
036-010-R0002	-	X	X	X	4.2	57-P	-	14.2
036-010-R0003	-	X	X	X	7.0	57-P	-	14.0
036-000-R0003	-	X	-	X	0.2	57-P	-	10.5
036-000-R0004	-	X	X	X	4.0	57-P	-	16.5

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
036-015-R0001	-	-	-	X	10.0	57-P	-	21.0
036-015-R0002	-	-	-	X	13.0	57-P	-	22.6
036-000-R0005	-	-	-	X	9.5	57-P	-	23.0
036-000-R0006	-	-	-	X	7.0	500-B	-	28.0
036-020-R0001	-	-	-	X	5.0	500-B	-	28.6
036-020-R0002	-	-	-	X	2.6	500-B	-	30.0
036-000-R0007	-	-	-	X	2.0	500-B	-	31.0
036-000-R0008	-	-	-	X	0.6	500-B	-	33.6
000-000-R0006	-	X	X	X	0.2	115-B	-	12.0
046-000-R0001	-	-	-	-	2.8	115-B	-	18.0
000-000-R0007	-	-	-	X	2.7	115-P	-	20.0
000-000-R0008	-	-	-	X	1.7	115-P	-	22.0
055-000-R0001	-	X	X	X	1.0	115-P	-	20.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
055-000-R0002	-	-	-	X	0.2	57-P	-	21.6
055-005-R0001	-	X	X	-	0.3	115-B	-	23.2
055-005-R0002	-	-	-	-	0.4	115/230-B	-	24.0
055-005-R0003	-	-	-	-	1.2	57-P	-	31.8
055-005-R0004	-	-	-	-	3.5	57-P	-	30.0
055-005-R0005	-	-	-	X	2.1	115/230-B	-	26.0
055-010-R0001	-	-	-	X	0.6	115-P	-	20.0
055-010-R0002	-	X	X	X	1.0	57-B	-	18.5
055-010-R0003	-	-	-	-	0.1	57-B	-	16.0
055-010-R0004	-	-	-	-	0.7	57-B	-	14.0
055-010-R0005	X	-	-	X	1.5	57-P	-	19.0
055-010-R0006	-	-	-	X	1.5	57-P	-	18.0
055-010-R0007	-	-	-	X	1.0	57-P	-	17.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
055-010-R0008	-	X	X	X	1.2	57-P	-	18.5
055-010-R0009	-	-	-	X	1.7	57-P	-	19.0
055-010-R0010	-	-	-	X	3.0	57-P	-	19.5
055-010-R0011	-	X	X	X	1.0	57-P	-	23.5
055-010-R0012	-	X	X	X	3.1	57-P	-	26.0
055-010-R0013	-	X	X	X	6.5	57-P	-	28.0
055-010-R0014	-	X	X	-	1.0	57-P	-	26.0
055-010-R0015	-	X	X	-	0.3	57-P	-	28.5
055-010-R0016	-	X	X	-	1.0	115-B	-	31.5
055-010-R0017	-	X	X	-	1.0	115-B	-	31.5
000-000-R0009	-	-	-	X	3.5	57-P	-	18.2
000-000-R0010	-	-	-	X	2.8	115-B	-	13.0
000-000-R0011	-	-	X	X	0.2	57-P	1,2	6.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
084-000-R0001	X	X	X	-	0.5	57-B	1,2	3.2
084-009-R0001	-	-	-	-	1.4	230-PPL	-	8.9
084-009-R0002	-	-	-	-	1.3	230-PPL	-	10.9
084-000-R0002	-	X	X	-	2.6	230-PPL	-	7.7
084-015-R0001	-	-	-	-	1.9	230-P	-	7.8
084-015-R0002	-	-	-	-	0.8	230-B	-	5.3
084-000-R0003	-	X	-	-	3.4	230-P	-	9.3
084-000-R0004	-	X	X	-	1.9	69/115-PPL	-	6.3
000-000-R0012	-	X	X	X	0.8	57-P	1,2	1.3
089-000-R0001	-	-	-	X	0.2	115-B	1,2	4.8
089-000-R0002	-	X	X	X	0.6	115-B	1,2	7.0
089-000-R0003	-	X	X	X	1.3	69-PPL	-	11.0
089-000-R0004	-	X	X	X	1.7	69-PPL	-	15.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
000-000-R0013	-	X	X	X	1.5	69-PPL	1,2	6.7
000-000-R0014	-	-	-	X	1.2	115-B	-	9.0
107-000-R0001	-	-	-	X	1.8	69-PPL	-	8.4
107-002-R0001	-	-	-	-	1.0	69-PPL	-	8.0
107-000-R0002	-	-	-	X	0.3	69-PPL	-	9.5
107-000-R0003	-	X	-	X	1.8	115-B	-	13.0
107-005-R0001	-	-	-	X	5.6	115-B	-	17.0
107-005-R0002	-	X	X	X	10.2	115-B	-	20.0
107-005-R0003	-	X	X	-	11.0	69-CPI	-	22.5
107-000-R0004	-	-	-	X	5.0	115-B	-	15.0
107-000-R0005	-	X	-	X	4.8	69-CPI	-	16.0
107-000-R0006	-	X	-	X	4.0	69-CPI	-	16.2
107-000-R0007	-	X	-	X	0.8	69-CPI	-	17.5

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
107-000-R0008	-	X	-	X	2.5	69-CPI	-	21.0
107-000-R0009	-	-	-	-	7.0	69-CPI	-	23.0
000-000-R0015	-	-	-	X	2.0	115-B	-	8.0
110-000-R0001	-	-	-	X	1.3	69-PPL	-	7.8
110-010-R0001	-	-	-	X	0.8	230-B	-	10.2
110-010-R0002	-	-	-	X	1.1	69/115-PPL	-	19.4
110-010-R0003	-	-	-	X	0.3	69-PPL	-	21.0
110-010-R0004	-	-	-	X	2.0	230-P	-	28.0
110-010-R0005	-	-	-	X	1.0	230-P	-	34.0
110-010-R0006	-	-	-	X	1.4	230-P	-	39.0
110-010-R0007	-	-	-	-	0.3	230-P	-	41.0
110-010-R0008	-	X	X	X	0.4	69-PPL	-	29.0
110-010-R0009	-	-	-	X	0.2	69-PPL	-	35.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
110-010-R0012	-	-	-	-	4.8	2-230/287-B	-	47.0
110-010-R0013	-	-	-	-	8.0	2-230/287-B	-	49.0
110-010-R0015	-	X	-	-	0.1	2-230/287-B	-	47.0
110-010-R0016	-	X	-	-	0.6	2-230/287-B	-	52.0
110-010-R0017	-	-	-	-	0.5	2-230/287-B	-	57.0
110-010-R0018	-	-	-	-	3.0	2-230/287-B	-	59.0
110-010-R0019	-	-	-	-	3.1	2-230/287-B	-	58.0
110-010-R0020	-	-	-	-	7.0	2-230/287-B	-	61.0
110-010-R0021	-	X	X	-	0.5	23-CPI	-	49.0
110-010-R0022	-	X	-	-	1.0	23-CPI	-	54.0
110-010-R0023	-	-	-	-	4.0	23-CPI	-	58.0
110-010-R0024	-	-	-	-	6.5	23-CPI	-	60.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
110-010-R0025	-	-	-	-	3.2	23-CPI	-	55.0
110-010-R0026	-	-	-	-	5.0	23-CPI	-	57.0
110-010-R0027	-	-	-	-	7.0	23-CPI	-	59.0
110-010-R0028	-	X	X	-	6.2	23-CPI	-	56.0
110-010-R0029	-	-	X	-	9.0	23-CPI	-	58.0
110-010-R0030	-	-	-	-	11.0	23-CPI	-	60.0
110-010-R0031	-	X	-	-	7.5	23-CPI	-	55.0
110-010-R0032	-	X	-	-	9.0	23-CPI	-	56.0
110-010-R0033	-	X	-	-	11.0	23-CPI	-	57.0
110-020-R0001	-	-	-	X	0.1	230-PPL	1,2	7.0
110-020-R0002	-	X	X	X	1.3	69-PPL	1,2	11.0
110-020-R0003	-	X	-	X	1.0	69-PPL	-	15.0
110-020-R0004	-	-	-	X	1.0	2-500-B	-	20.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
110-020-R0005	-	X	-	-	3.8	2-500-B	-	24.0
110-020-R0006	-	-	-	-	5.8	2-230/287-B	-	32.0
110-020-R0007	-	-	-	X	6.5	2-230/287-B	-	34.0
110-020-R0008	-	-	-	X	1.0	230-PPL	-	8.0
110-020-R0009	-	X	X	-	0.5	69-PPL	-	10.0
110-020-R0010	-	-	-	-	0.7	230/287-B	-	12.2
110-020-R0011	-	-	-	X	1.2	2-230-B	-	14.0
110-020-R0012	-	-	-	X	0.3	230/287-B	-	14.5
110-020-R0013	-	X	X	X	5.0	2-500-B	-	15.0
110-020-R0014	-	-	-	X	6.5	2-500-B	-	15.5
110-020-R0015	-	-	-	X	9.0	2-500-B	-	18.0
110-020-R0016	-	-	-	X	11.0	2-500-B	-	20.0
110-020-R0017	-	-	-	X	2.0	2-230-B	1,2	6.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
110-020-R0018	-	X	X	X	1.0	230/287-B	1,2	2.0
110-020-R0019	-	X	X	X	1.2	2-500-B	1,2	5.0
110-020-R0020	-	-	-	X	1.4	2-500-B	-	9.0
110-020-R0021	-	X	X	X	1.2	115-PPL	1,2	4.2
110-020-R0022	-	-	-	X	0.3	2-500-B	-	7.0
110-020-R0023	-	-	X	X	0.8	2-500-B	-	9.0
110-020-R0024	-	-	-	X	1.8	2-500-B	-	10.0
110-020-R0025	-	X	X	X	0.8	23-PPL	-	11.0
110-020-R0026	-	-	X	X	1.0	23-PPL	-	12.5
110-020-R0027	-	-	-	X	2.8	23-PPL	-	20.0
110-020-R0028	-	-	-	X	6.0	23-PPL	-	26.0
110-020-R0029	-	X	X	-	1.0	115-B	-	18.0
110-020-R0030	-	-	-	-	14.0	115-B	-	31.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
110-020-R0031	-	-	-	-	20.0	115-B	-	37.0
110-020-R0032	-	-	-	-	22.0	115-B	-	39.0
110-020-R0033	-	-	-	-	19.0	115-B	-	37.0
110-020-R0034	-	-	-	X	19.0	115-B	-	37.0
110-020-R0035	-	-	-	X	8.0	115-B	-	23.0
110-020-R0036	-	-	-	-	9.0	2-230/287-B	-	28.0
110-020-R0037	-	-	-	-	10.0	2-230/287-B	-	30.0
110-020-R0038	-	-	-	-	9.8	13.8-F	-	30.0
110-020-R0039	-	-	-	-	8.5	13.8-F	-	33.0
110-020-R0040	-	X	X	-	0.8	23-PPL	-	19.0
110-020-R0041	-	-	-	-	10.2	115-B	-	28.0
110-020-R0042	-	-	-	-	14.0	115-B	-	32.0
110-020-R0043	-	X	X	-	10.0	115-B	-	28.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
110-020-R0044	-	X	X	-	16.0	115-B	-	34.5
110-020-R0045	-	-	-	-	17.8	115-B	-	36.0
000-000-R0016	-	X	X	X	0.1	115-B	-	2.0
120-000-R0001	-	X	X	X	0.1	115-B	-	2.0
120-000-R0002	-	-	-	X	0.3	115-PPL	1,2	4.0
120-000-R0003	-	-	-	X	2.0	115-B	-	7.0
120-000-R0004	-	-	-	X	3.0	230-PPL	-	11.0
120-000-R0005	-	X	X	X	3.0	230-PPL	-	10.0
120-000-R0006	-	X	X	X	0.1	2-500-B	1	5.0
120-000-R0007	-	X	X	X	7.0	2-500-B	-	9.0
120-000-R0008	-	-	-	X	8.0	115-B	-	17.0
120-000-R0009	-	-	-	X	7.0	115-B	-	21.0
000-000-R0017	-	-	-	X	1.0	2-115-PPL	1,2	5.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
000-000-R0018	-	X	X	X	0.7	115-PPL	1,2	1.0
131-000-R0001	-	-	-	X	0.6	115-PPL	1,2	2.8
131-010-R0001	-	-	-	-	4.3	115-PPL	1,2	4.6
131-010-R0002	-	-	-	-	7.7	115-B	-	9.3
131-010-R0003	-	-	-	-	7.2	69-PPL	-	10.8
131-000-R0002	-	-	-	-	1.3	115-PPL	1,2	2.1
131-020-R0001	-	X	X	-	1.2	115-CPI	1,2	0.8
131-000-R0003	-	X	X	-	0.2	115-CPI	1,2	3.4
131-000-R0004	-	X	-	-	0.4	115/230-B	-	5.1
131-030-R0001	-	-	-	-	0.3	115/230-B	-	7.9
131-030-R0002	-	-	-	-	0.9	115/230-B	-	8.9
131-000-R0005	-	X	X	-	0.3	115-CPI	-	8.6
131-000-R0006	-	X	X	-	1.0	115-CPI	-	9.7

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
000-000-R0019	-	X	-	X	0.4	115-PPL	1,2	1.4
134-000-R0001	-	X	X	-	1.1	115-B	-	6.4
134-000-R0002	-	-	-	-	0.8	115-B	2	9.3
134-010-R0001	-	-	-	-	1.1	69-PPL	-	6.0
134-010-R0002	-	-	-	-	0.8	230-PPL	-	6.2
134-000-R0003	-	-	-	-	0.8	69-PPL	1,2	3.8
134-000-R0004	-	X	X	-	0.2	69-PPL	1,2	1.8
134-000-R0005	-	-	-	-	0.7	69-PPL	1,2	2.3
000-000-R0020	-	-	-	X	2.2	115-B	-	5.2

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-039-001-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Columbia	
C. Township, Range	Sec.31, T4N, R1W	
D. Latitude, Longitude	45°47'N,122°51'W	
E. Stream Name	Scapoose Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to 5.00	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

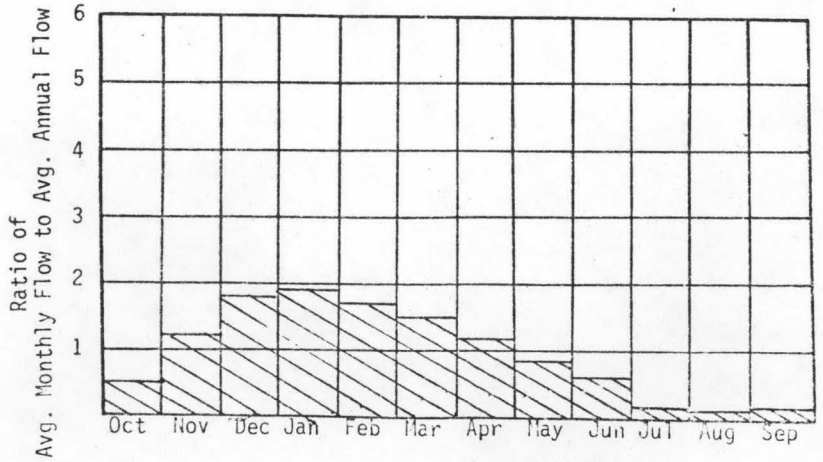
A. Upstream Elevation of Reach	38	Ft. MSL
B. Downstream Elevation of Reach	12	Ft. MSL
C. Total Available Head in Reach	26	Ft.
D. Average Slope in Reach	5.2	Ft./Mi.
E. Drainage Area above Reach Mouth	63.5	Sq.Mi.
F. Inflow Classification	Natural	

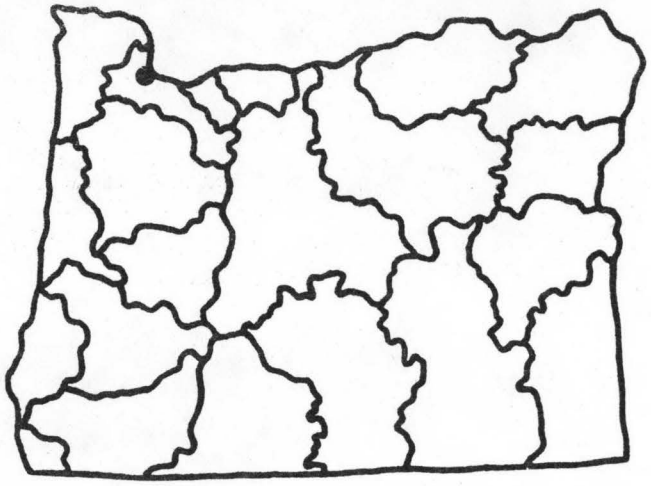
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.7	.01	.07	1.000
80	9.4	.02	.17	.924
50	48.1	.11	.65	.703
30	129.7	.29	1.28	.512
10	332.4	.73	2.07	.322

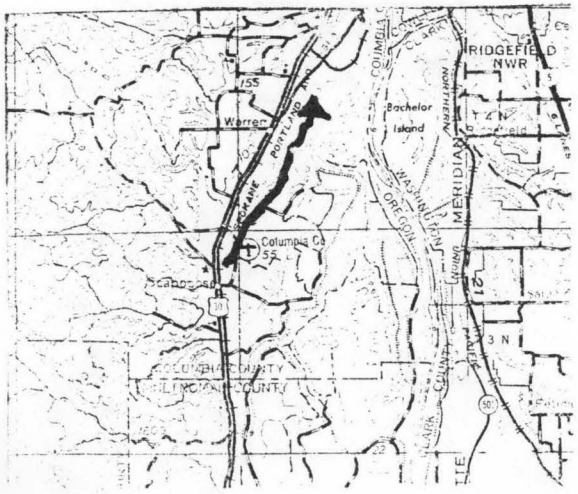
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 148 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-039-001-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Columbia
C.	Township, Range	Sec.1, T3S, R2W
D.	Latitude, Longitude	45°46'N,122°52'W
E.	Stream Name	Scapoose Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	5.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

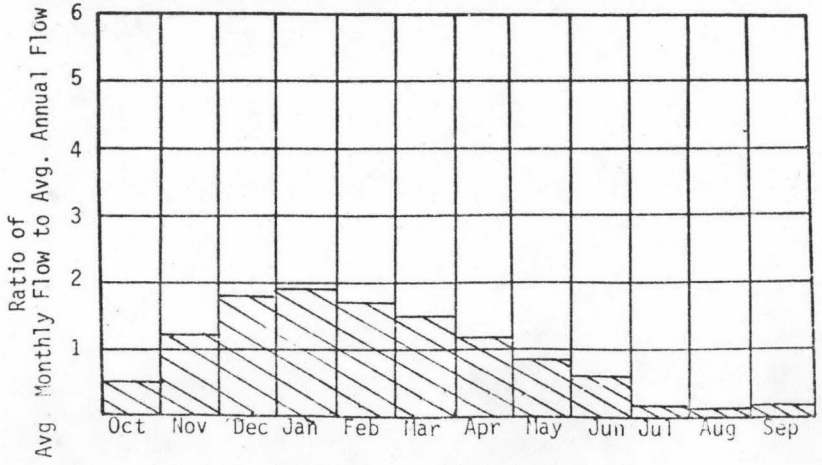
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	60.3	Sq.Mi.
F.	Inflow Classification	Natural	

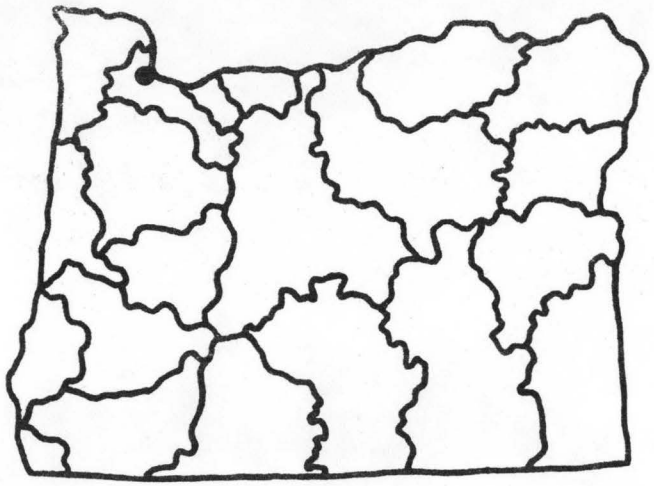
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.02	.18	1.000
80	9.2	.05	.41	.925
50	47.0	.26	1.62	.703
30	126.7	.71	3.18	.513
10	324.3	1.81	5.12	.322

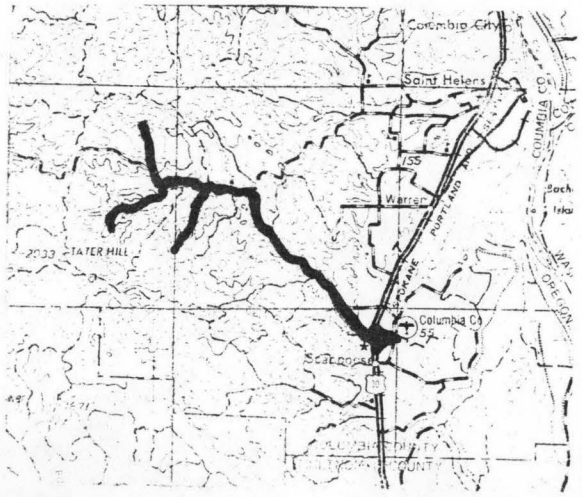
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 145 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Multnomah	
C. Township, Range	T1N, R1E	
D. Latitude, Longitude	45°33'N,122°43'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to 18.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

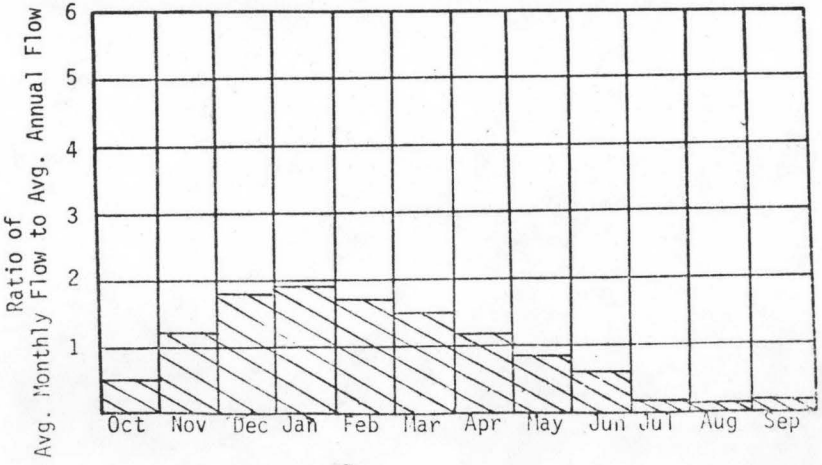
A. Upstream Elevation of Reach	15	Ft. MSL
B. Downstream Elevation of Reach	13	Ft. MSL
C. Total Available Head in Reach	2	Ft.
D. Average Slope in Reach	0.1	Ft./Mi.
E. Drainage Area above Reach Mouth	9115	Sq.Mi.
F. Inflow Classification	Regulated	

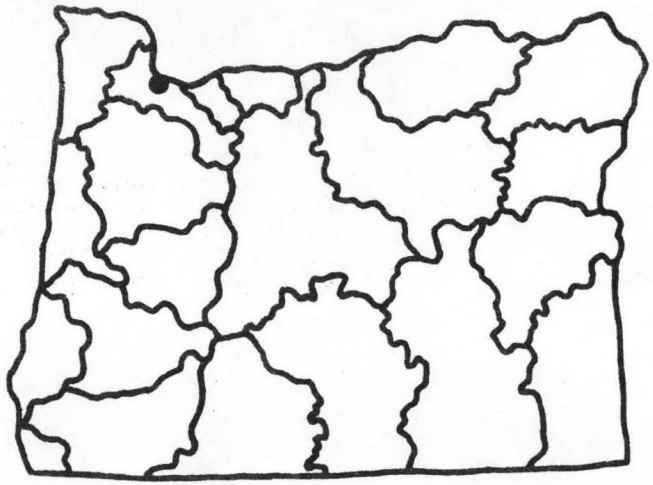
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6964.7	1.18	10.34	1.000
80	10273.6	1.74	14.64	.960
50	23186.0	3.93	27.10	.787
30	36288.3	6.15	34.88	.647
10	81061.5	13.74	48.18	.400

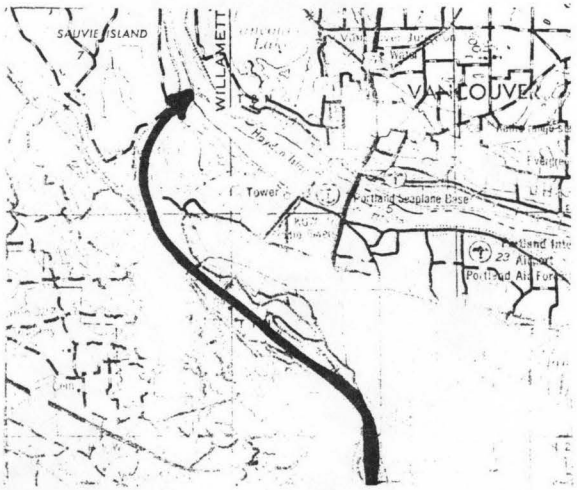
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 34857 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-018-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Multnomah
C.	Township, Range	Sec.35, T1S, R1E
D.	Latitude, Longitude	45°36'N,122°38'W
E.	Stream Name	Johnson Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

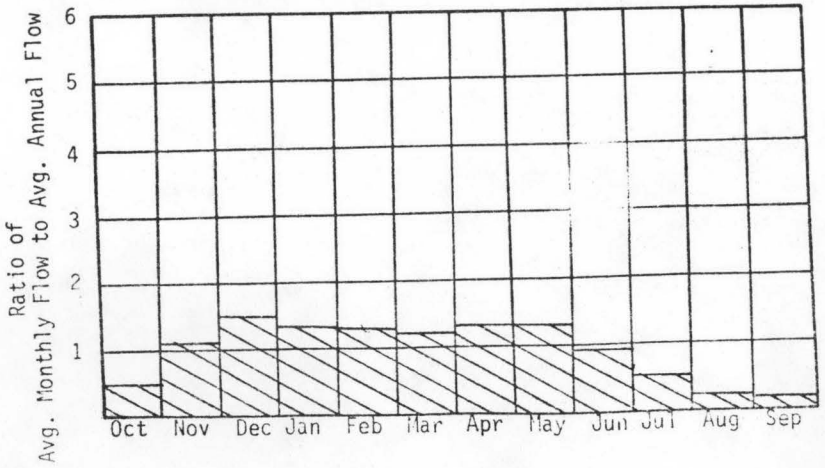
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	43.9	Sq.Mi.
F.	Inflow Classification	Natural	

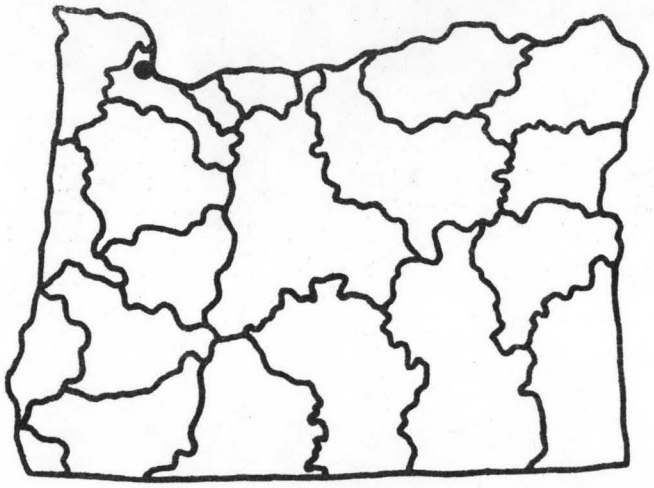
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.7	.03	.28	1.000
80	9.6	.05	.44	.949
50	34.4	.19	1.23	.733
30	74.0	.41	2.01	.555
10	158.5	.89	2.84	.366

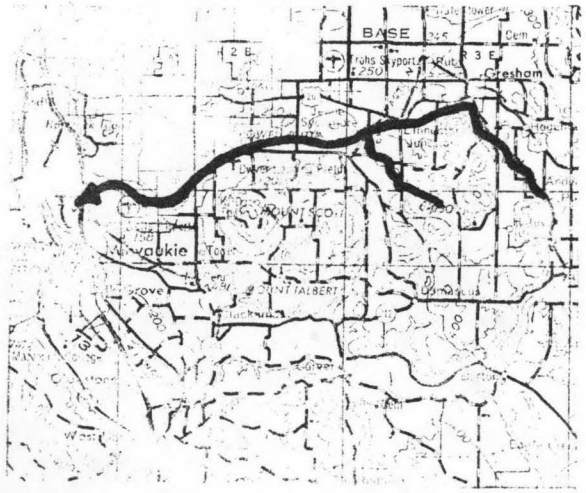
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 72 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.11, T2S, R1E	
D. Latitude, Longitude	45°25'N,122°39'W	
E. Stream Name	Willamette River	
F. Major Basin Name	Lower Willamette	
G. River Mile	18.5 to 24.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

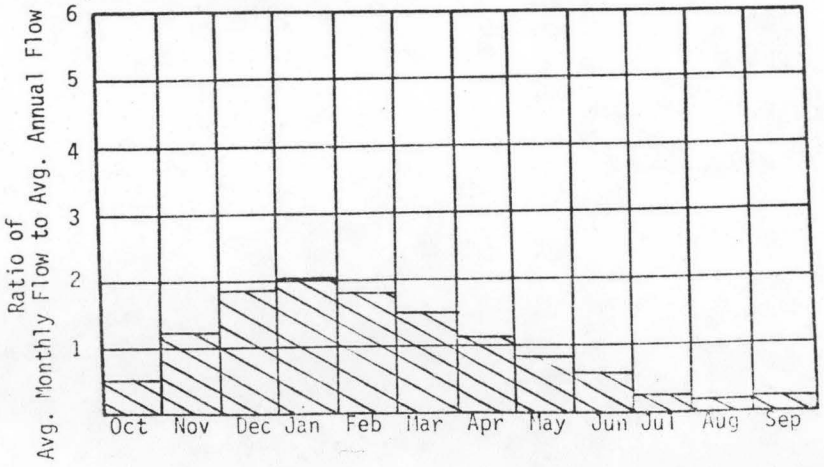
A. Upstream Elevation of Reach	16	Ft. MSL
B. Downstream Elevation of Reach	15	Ft. MSL
C. Total Available Head in Reach	1	Ft.
D. Average Slope in Reach	0.2	Ft./Mi.
E. Drainage Area above Reach Mouth	8989.3	Sq.Mi.
F. Inflow Classification	Regulated	

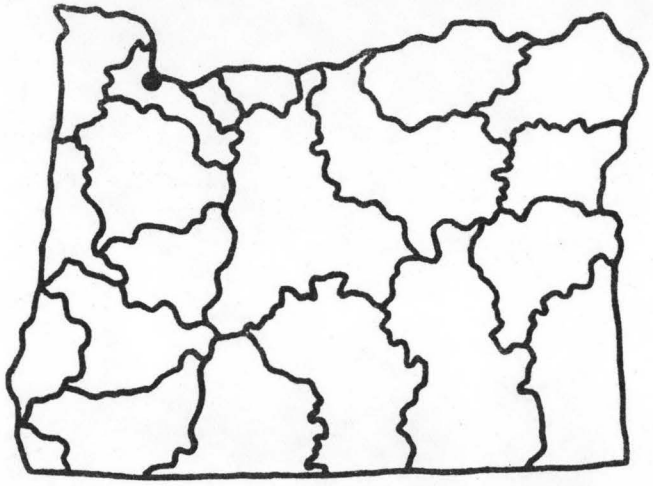
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6914.9	.59	5.13	1.000
80	10203.4	.86	7.27	.960
50	23037.5	1.95	13.46	.787
30	36067.4	3.06	17.33	.647
10	80524.4	6.82	23.93	.400

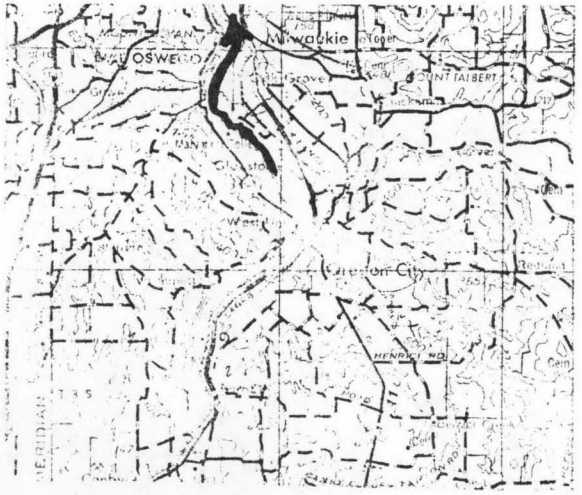
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 34679 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0001

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.13, T2S, R2E	
D. Latitude, Longitude	45°24'N,122°33'W	
E. Stream Name	Clackamas River	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to 8.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

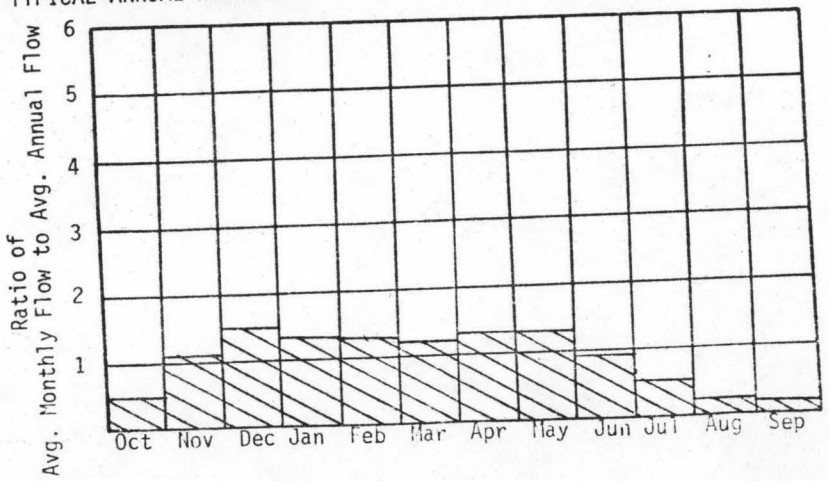
A. Upstream Elevation of Reach	86	Ft. MSL
B. Downstream Elevation of Reach	16	Ft. MSL
C. Total Available Head in Reach	70	Ft.
D. Average Slope in Reach	8.7	Ft./Mi.
E. Drainage Area above Reach Mouth	958.8	Sq.Mi.
F. Inflow Classification	Regulated	

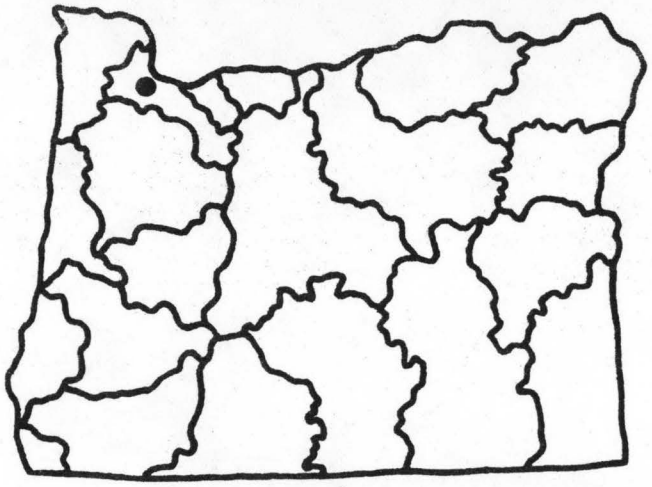
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1600.8	9.50	83.19	1.000
80	1931.4	11.46	98.22	.979
50	3096.3	18.37	137.57	.855
30	4120.0	24.44	158.85	.742
10	6339.0	37.60	181.91	.552

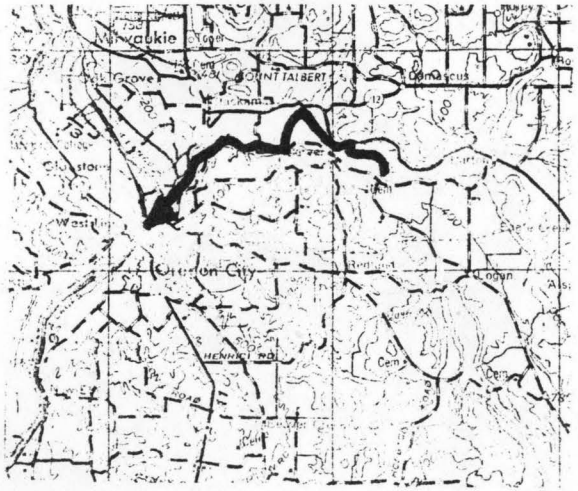
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3538 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-003-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.31, T2S, R3E
D.	Latitude, Longitude	45°21'N.122°28'W
E.	Stream Name	Clear Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 10.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

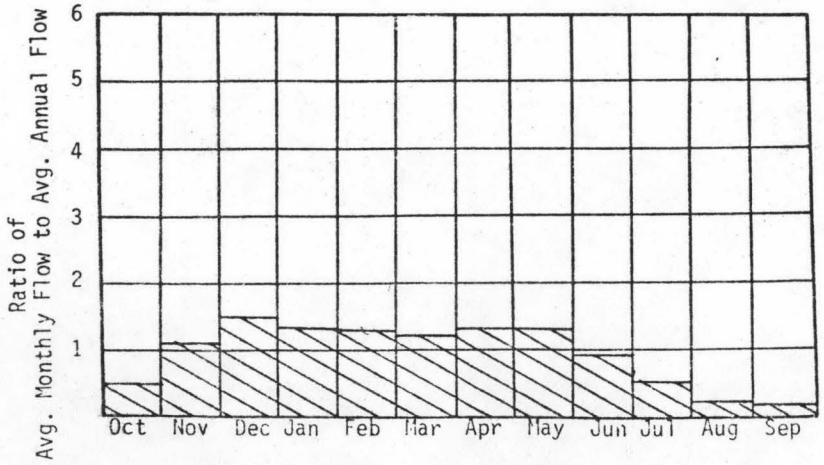
A.	Upstream Elevation of Reach	315	Ft. MSL
B.	Downstream Elevation of Reach	86	Ft. MSL
C.	Total Available Head in Reach	229	Ft.
D.	Average Slope in Reach	22.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	75.6	Sq.Mi.
F.	Inflow Classification	Natural	

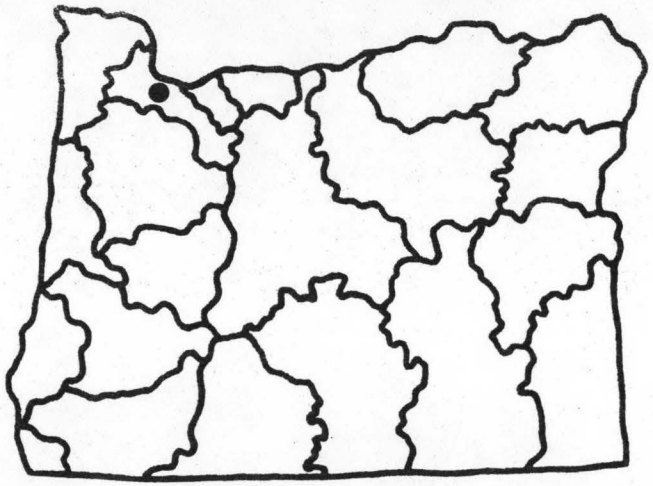
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.3	.36	3.12	1.000
80	28.9	.56	4.69	.954
50	87.8	1.70	11.20	.750
30	171.0	3.32	16.85	.580
10	341.9	6.63	22.66	.390

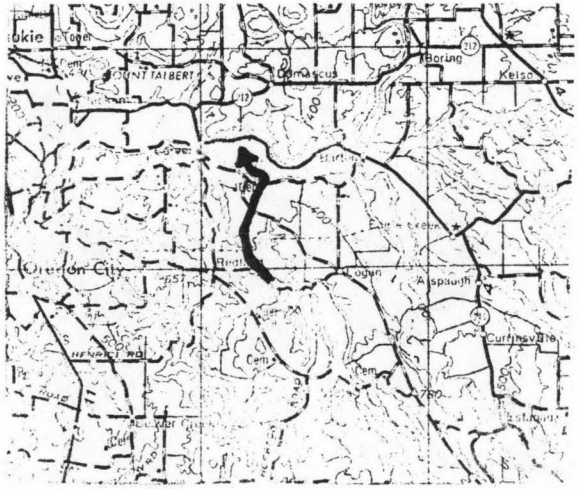
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 162 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

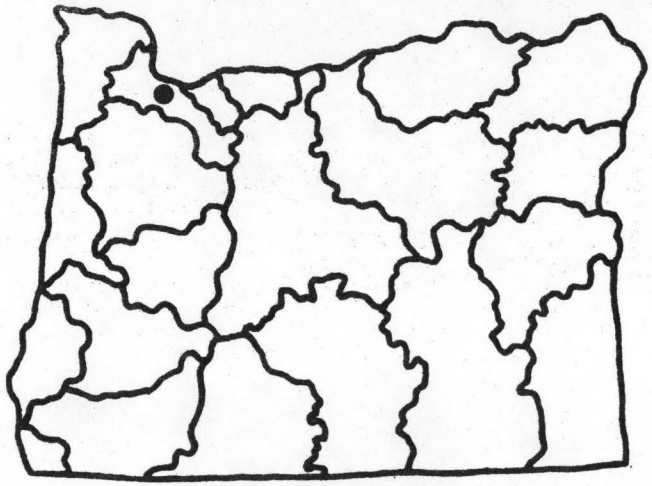


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-003-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.25, T3S, R3E
D.	Latitude, Longitude	45°17'N,122°23'W
E.	Stream Name	Clear Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	10.0 to 19.0



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	900	Ft. MSL
B.	Downstream Elevation of Reach	315	Ft. MSL
C.	Total Available Head in Reach	585	Ft.
D.	Average Slope in Reach	65.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	57.4	Sq.Mi.
F.	Inflow Classification	Natural	

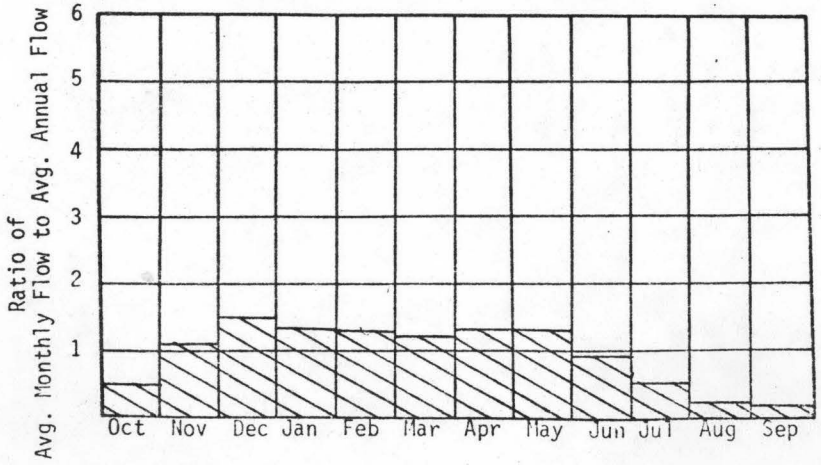
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	11.1	.55	4.84	1.000
80	18.1	.90	7.48	.952
50	59.1	2.93	19.04	.743
30	120.0	5.95	29.63	.569
10	247.0	12.25	40.66	.379

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 114 CFS

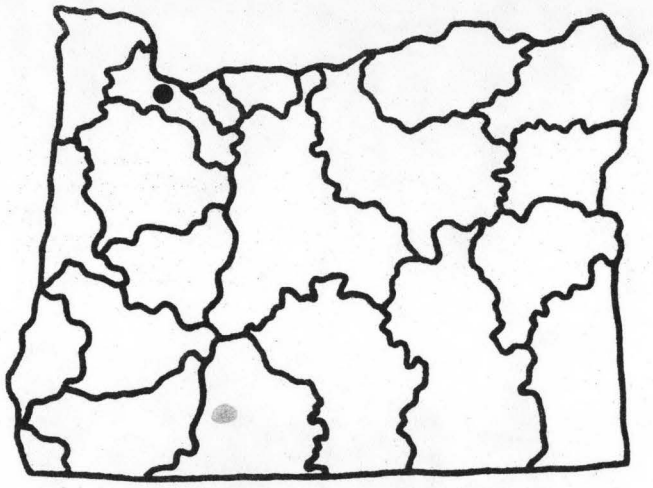


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-003-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.7, T4S, R4E
D.	Latitude, Longitude	45°13'N,122°21'W
E.	Stream Name	Clear Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	19.0 to H.W.



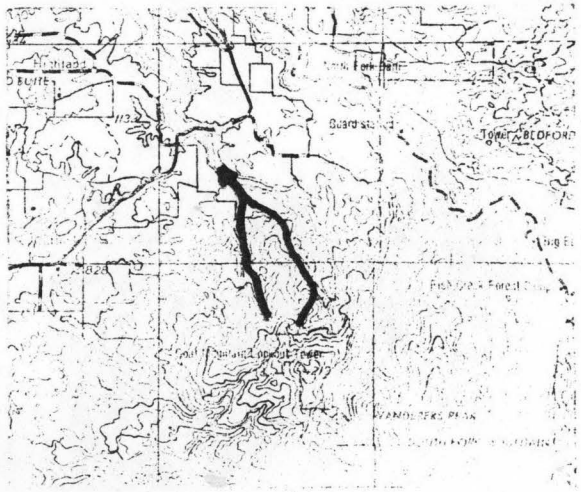
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	34.9	Sq.Mi.
F.	Inflow Classification	Natural	

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

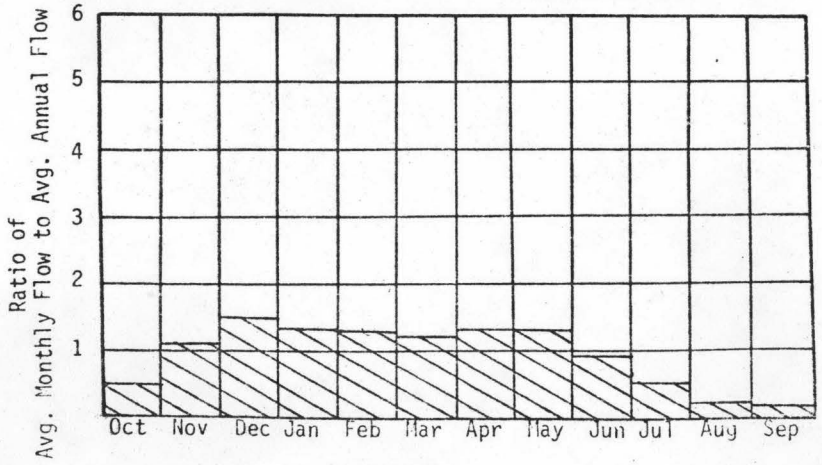
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.8	.04	.38	1.000
80	12.9	.07	.60	.950
50	44.3	.25	1.60	.737
30	92.8	.52	2.55	.561
10	195.0	1.09	3.55	.372



IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 89 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.13, T2S, R3E	
D. Latitude, Longitude	45°23'N.122°26'W	
E. Stream Name	Clackamas River	
F. Major Basin Name	Lower Willamette	
G. River Mile	8.0 to 16.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

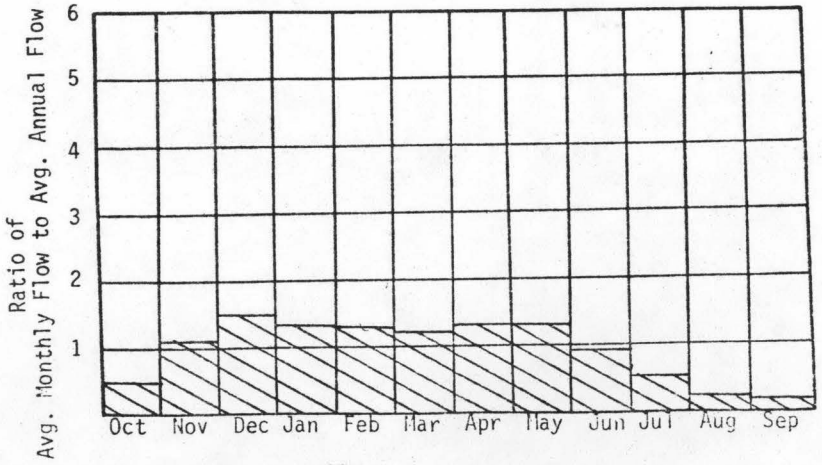
A. Upstream Elevation of Reach	200	Ft. MSL
B. Downstream Elevation of Reach	86	Ft. MSL
C. Total Available Head in Reach	114	Ft.
D. Average Slope in Reach	13.1	Ft./Mi.
E. Drainage Area above Reach Mouth	859.4	Sq.Mi.
F. Inflow Classification	Regulated	

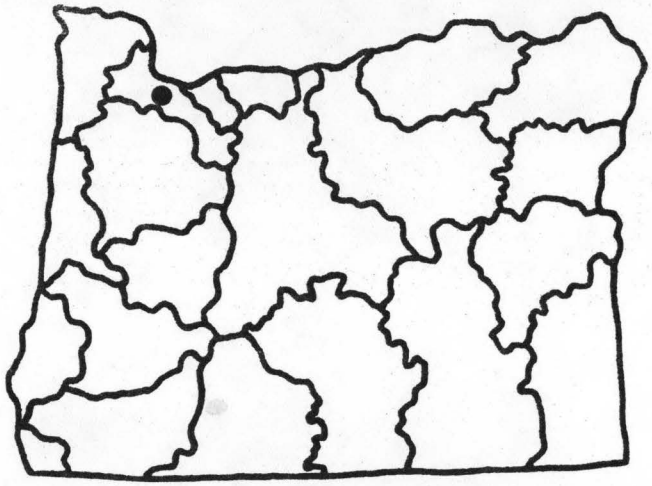
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1360.6	13.14	115.15	1.000
80	1657.7	16.01	137.15	.978
50	2720.1	26.28	195.59	.850
30	3669.8	35.45	227.74	.733
10	5700.3	55.07	262.11	.543

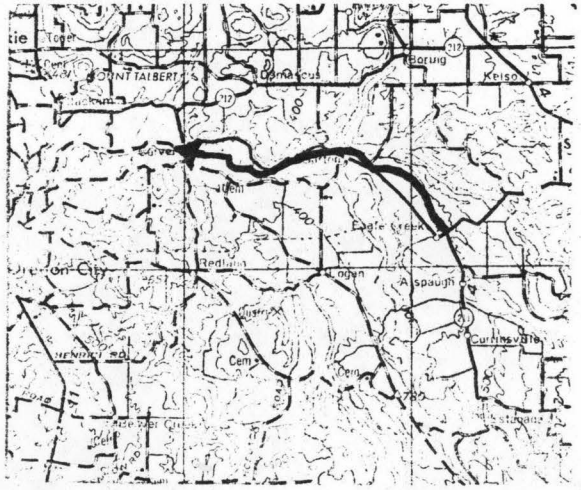
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 3162 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-004-R0001

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.6, T3S, R4E	
D. Latitude, Longitude	45°20'N,122°20'W	
E. Stream Name	Eagle Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to 5.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

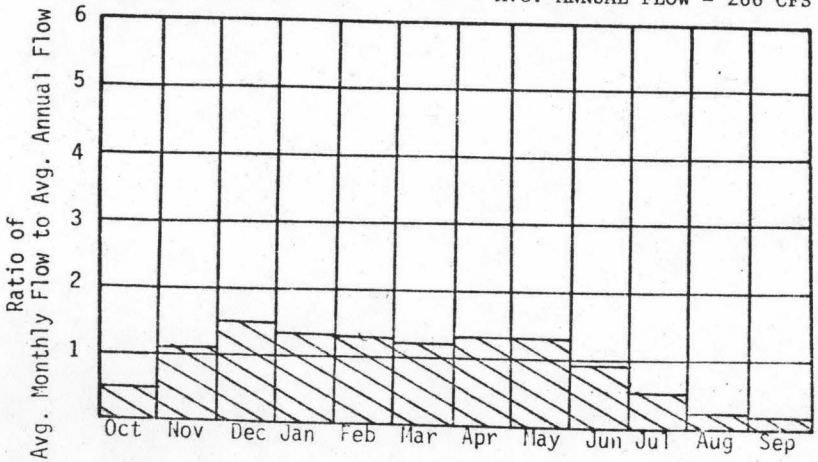
A. Upstream Elevation of Reach	545	Ft. MSL
B. Downstream Elevation of Reach	200	Ft. MSL
C. Total Available Head in Reach	340	Ft.
D. Average Slope in Reach	63	Ft./Mi.
E. Drainage Area above Reach Mouth	87.7	Sq.Mi.
F. Inflow Classification	Natural	

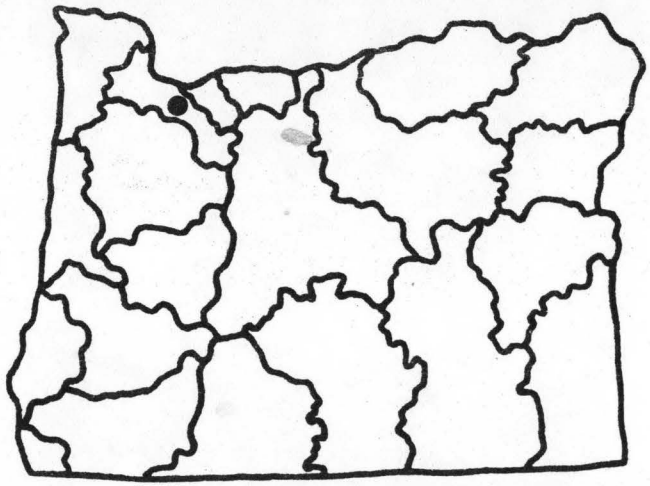
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	37.8	1.09	9.54	1.000
80	57.0	1.64	13.79	.958
50	156.3	4.50	30.07	.762
30	286.2	8.25	43.19	.598
10	548.4	15.80	56.43	.408

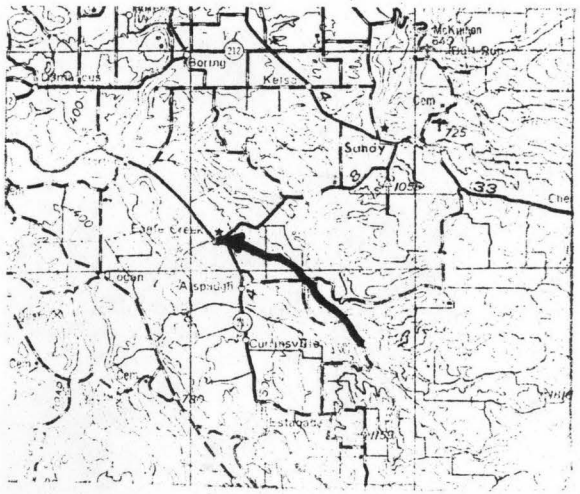
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 266 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-004-R0002

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.11, T3S, R5E	
D. Latitude, Longitude	45°20'N,122°12'W	
E. Stream Name	North Fork Eagle Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

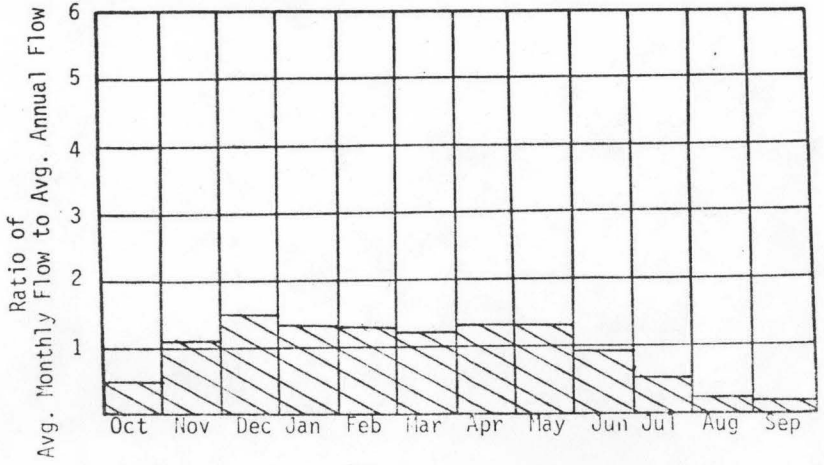
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	29.4	Sq.Mi.
F. Inflow Classification	Natural	

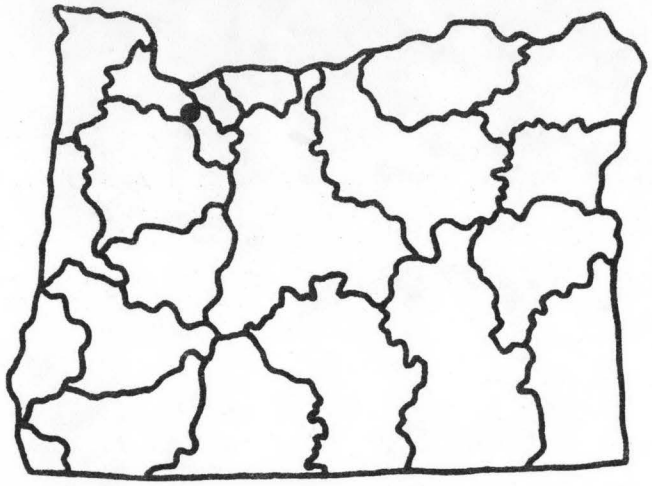
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.1	.04	.35	1.000
80	11.9	.07	.55	.950
50	41.3	.23	1.49	.736
30	87.2	.49	2.39	.559
10	184.4	1.03	3.34	.370

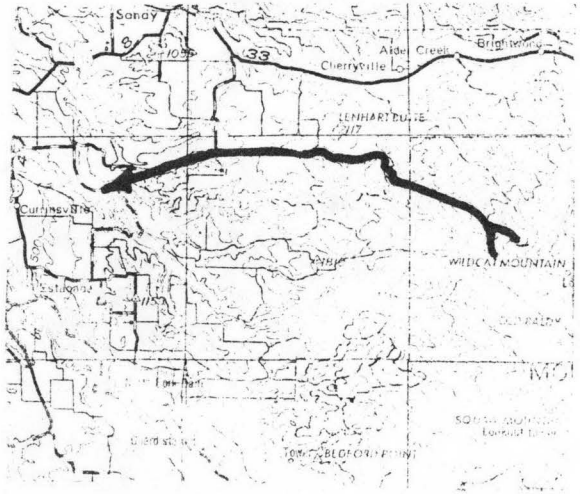
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 84 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-004-R0003

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.24, T3S, R5E	
D. Latitude, Longitude	45°16'N,122°15'W	
E. Stream Name	Eagle Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	5.4 to 12.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

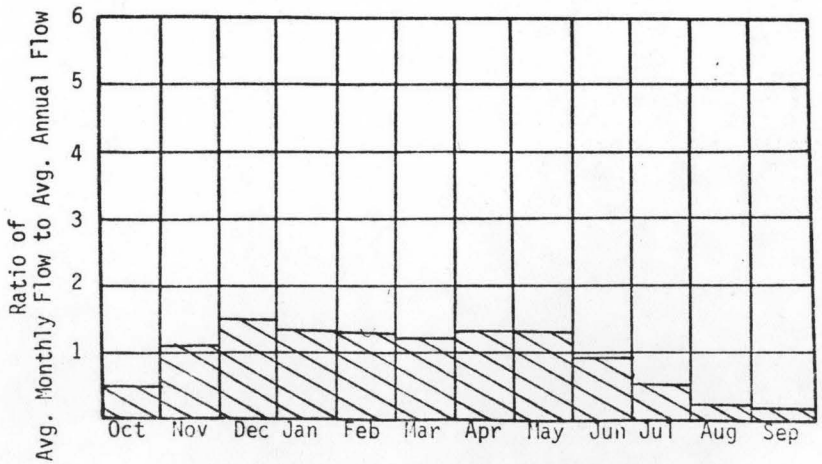
A. Upstream Elevation of Reach	1130	Ft. MSL
B. Downstream Elevation of Reach	545	Ft. MSL
C. Total Available Head in Reach	585	Ft.
D. Average Slope in Reach	86	Ft./Mi.
E. Drainage Area above Reach Mouth	47.6	Sq.Mi.
F. Inflow Classification	Natural	

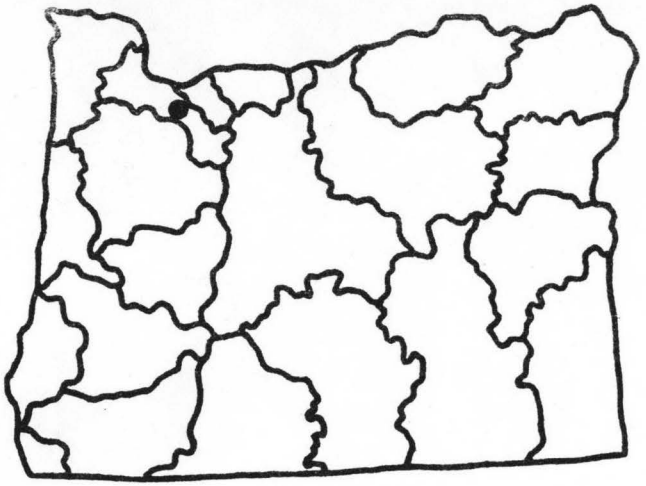
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.9	.64	5.62	1.000
80	20.8	1.03	8.62	.953
50	66.5	3.30	21.52	.745
30	133.5	6.62	33.14	.572
10	272.3	13.50	45.20	.382

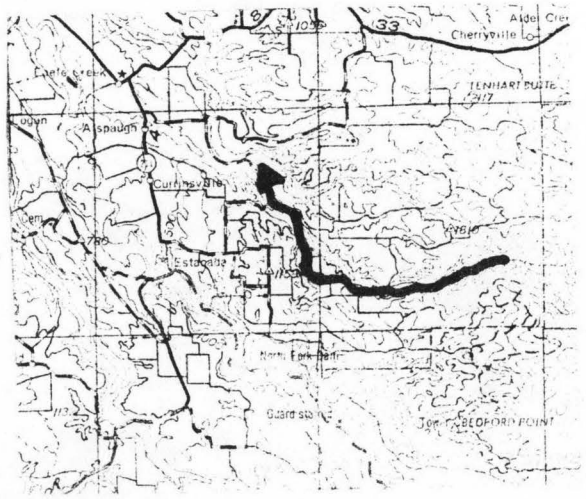
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 127 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

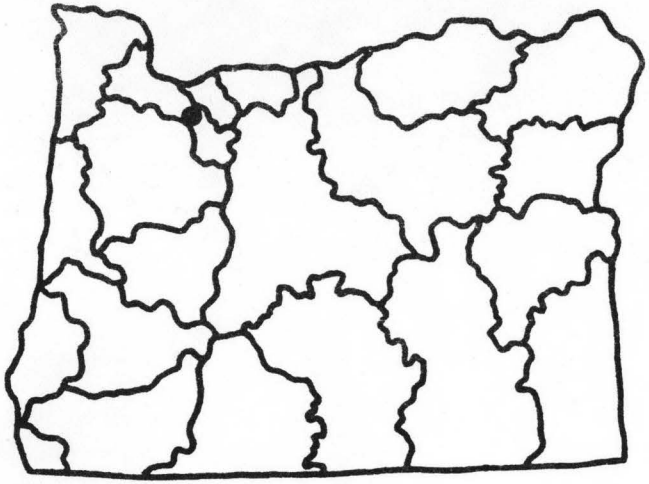


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-004-R0004

I. LOCATION

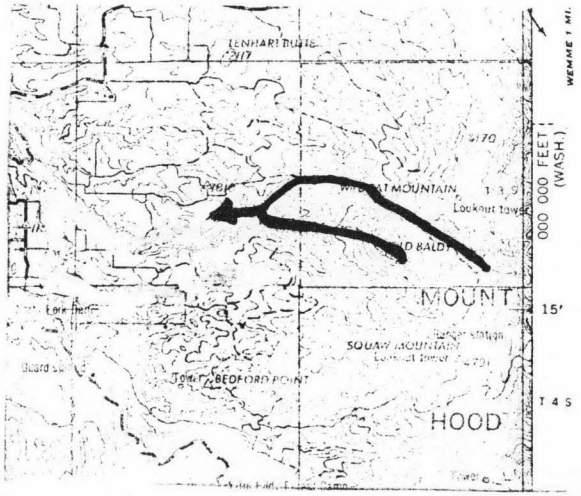
A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.21, T3S, R6E
D.	Latitude, Longitude	45°17'N,122°08'W
E.	Stream Name	Eagle Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	12.2 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	27.6	Sq.Mi.
F.	Inflow Classification	Natural	

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

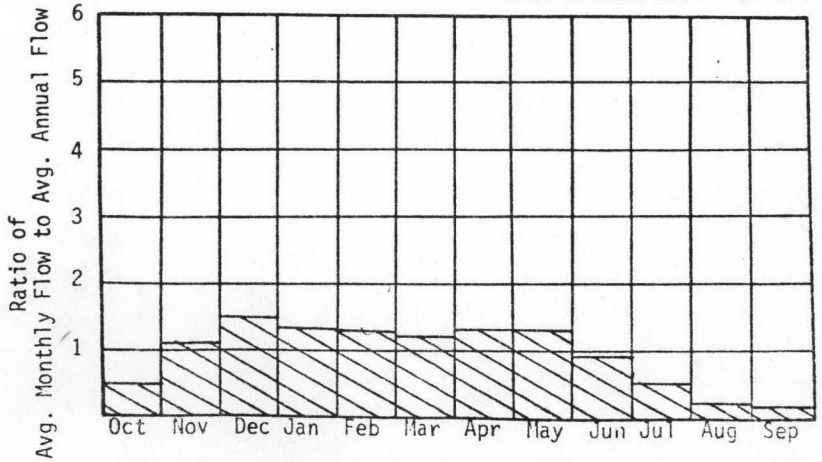


III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.9	.05	.44	1.000
80	14.6	.08	.68	.951
50	49.3	.28	1.79	.739
30	102.2	.57	2.82	.564
10	213.1	1.19	3.91	.374

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 98 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.29, T3S, R4E
D.	Latitude, Longitude	45°17'N.122°20'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	16.7 to 31.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

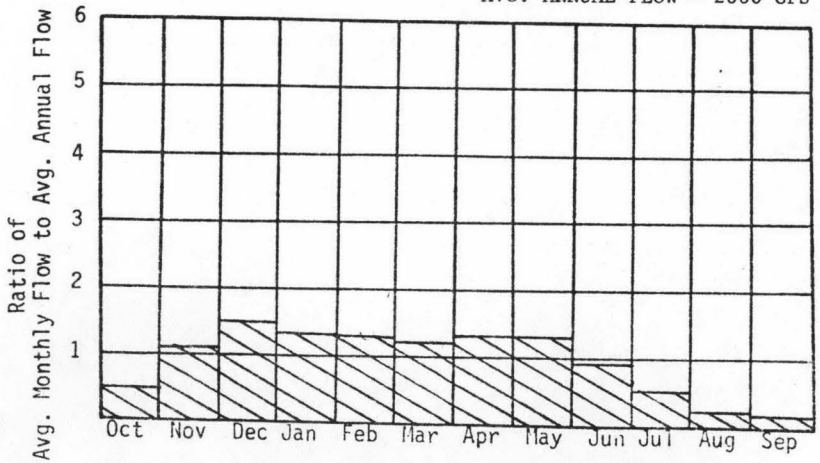
A.	Upstream Elevation of Reach	570	Ft. MSL
B.	Downstream Elevation of Reach	200	Ft. MSL
C.	Total Available Head in Reach	370	Ft.
D.	Average Slope in Reach	25	Ft./Mi.
E.	Drainage Area above Reach Mouth	701.1	Sq.Mi.
F.	Inflow Classification	Regulated	

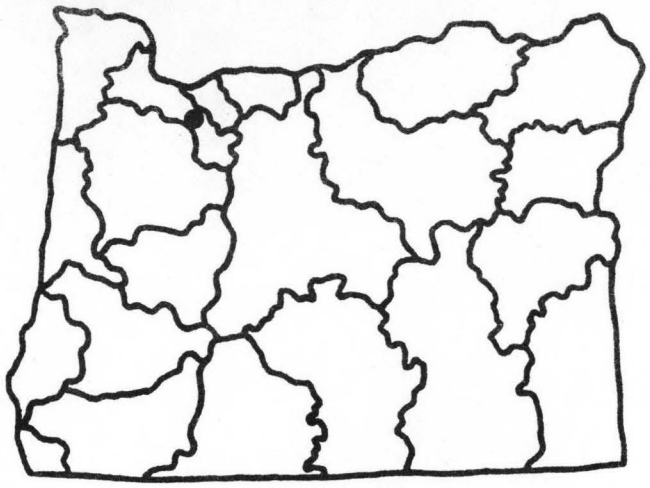
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	1062.9	33.33	291.94	1.000
80	1314.2	41.21	352.35	.976
50	2234.0	70.05	516.57	.842
30	3078.1	96.52	609.32	.721
10	4851.0	152.11	706.71	.530

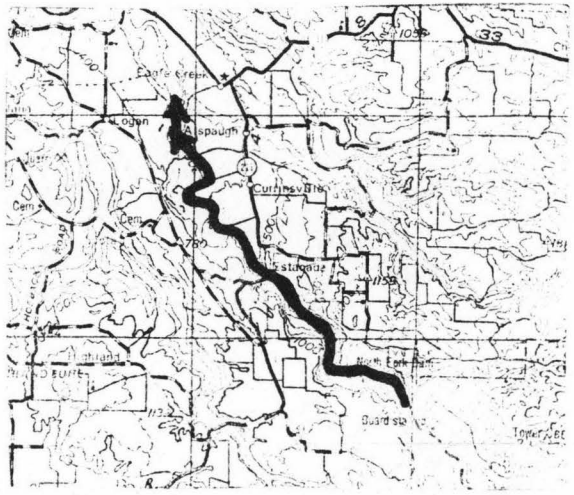
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2666 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-005-R0001

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.7, T4S, R5E	
D. Latitude, Longitude	45°12'N,122°13'W	
E. Stream Name	North Fork Clackamas	River
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

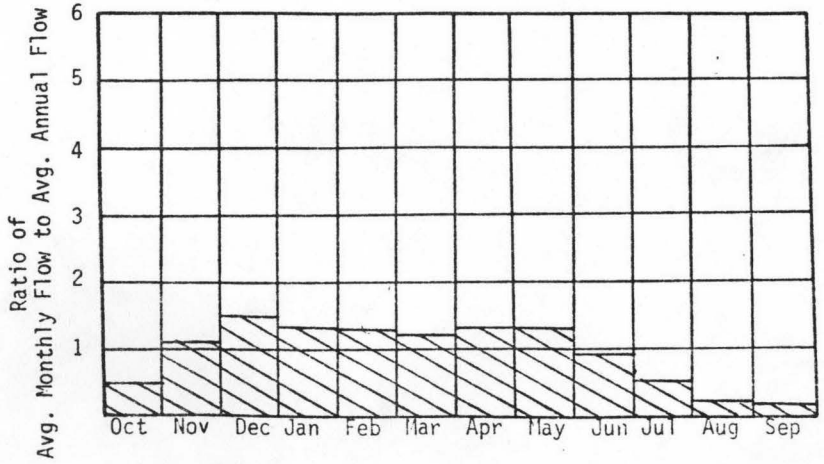
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	32.7	Sq.Mi.
F. Inflow Classification	Natural	

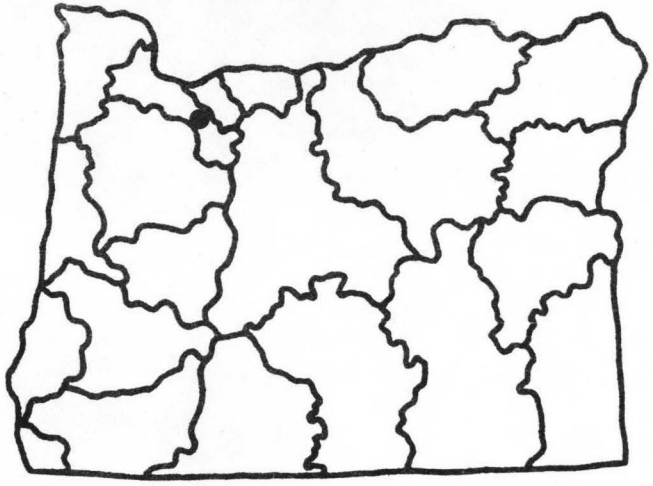
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	9.2	.05	.45	1.000
80	15.1	.08	.71	.951
50	50.8	.28	1.84	.740
30	104.8	.59	2.90	.565
10	218.2	1.22	4.01	.375

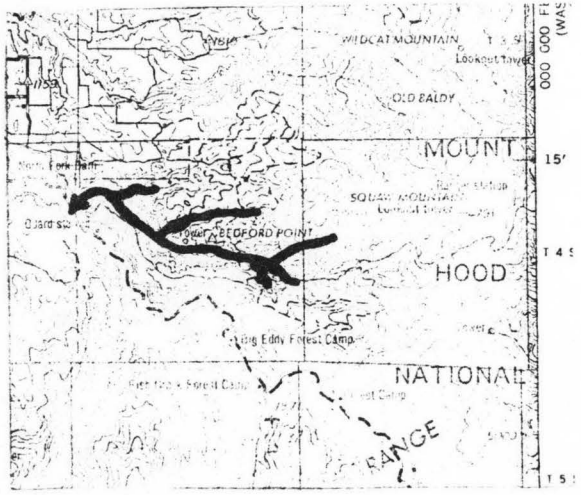
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 101 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0004

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.19, T4S, R5E	
D. Latitude, Longitude	45°13'N,122°15'W	
E. Stream Name	Clackamas River	
F. Major Basin Name	Lower Willamette	
G. River Mile	31.5 to 34.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

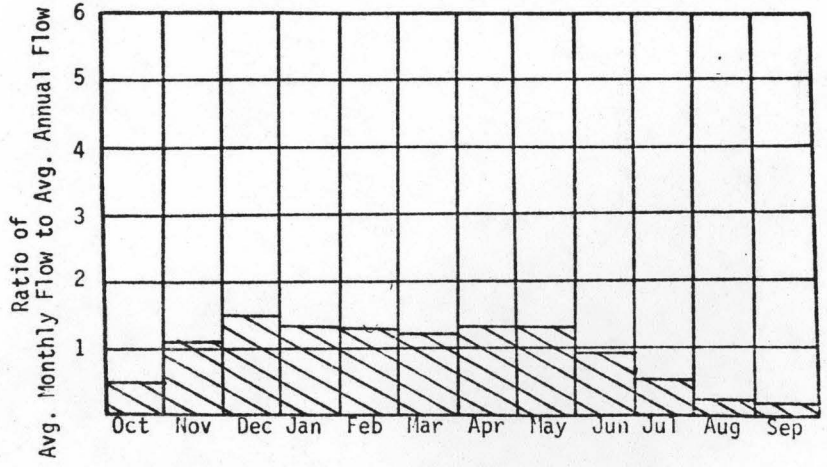
A. Upstream Elevation of Reach	660	Ft. MSL
B. Downstream Elevation of Reach	570	Ft. MSL
C. Total Available Head in Reach	90	Ft.
D. Average Slope in Reach	29	Ft./Mi.
E. Drainage Area above Reach Mouth	644.3	Sq.Mi.
F. Inflow Classification	Regulated	

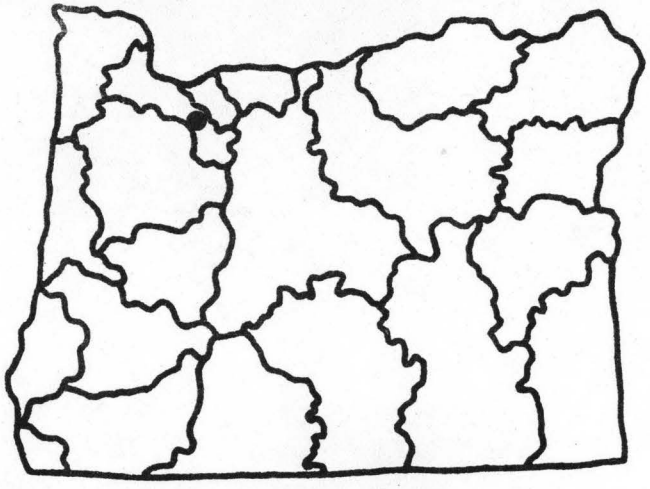
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	959.2	7.32	64.08	1.000
80	1193.3	9.10	77.77	.975
50	2058.5	15.70	115.35	.839
30	2861.2	21.82	136.80	.716
10	4536.3	34.60	159.18	.525

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2484 CFS





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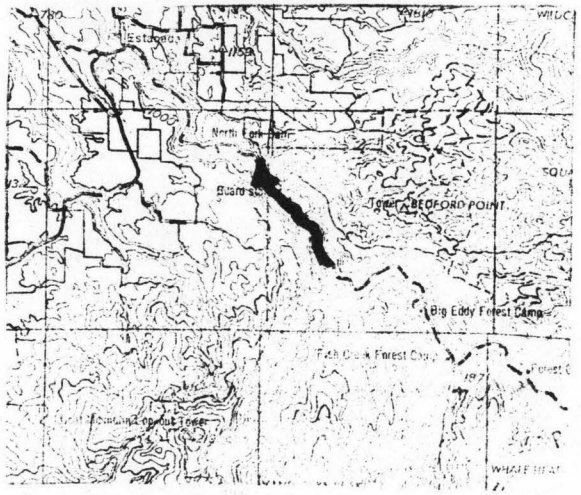
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.28, R4S, T5E
D.	Latitude, Longitude	45°11'N,122°10'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	34.6 to 41.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

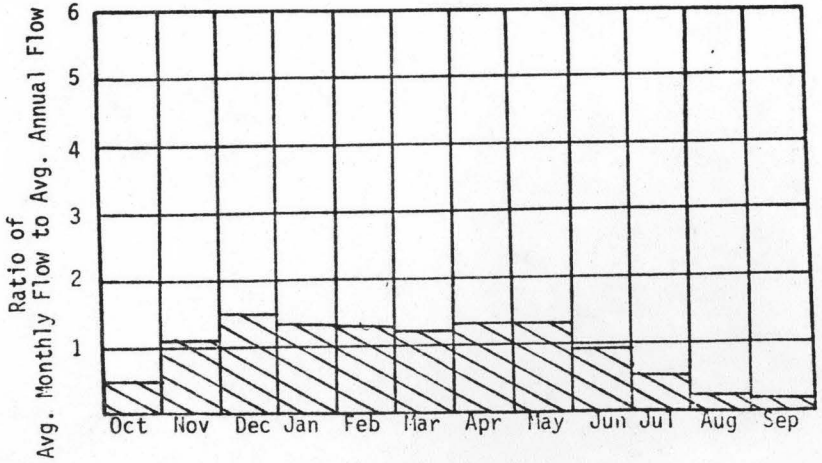
A.	Upstream Elevation of Reach	870	Ft. MSL
B.	Downstream Elevation of Reach	660	Ft. MSL
C.	Total Available Head in Reach	210	Ft.
D.	Average Slope in Reach	29.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	640	Sq.Mi.
F.	Inflow Classification	Regulated	

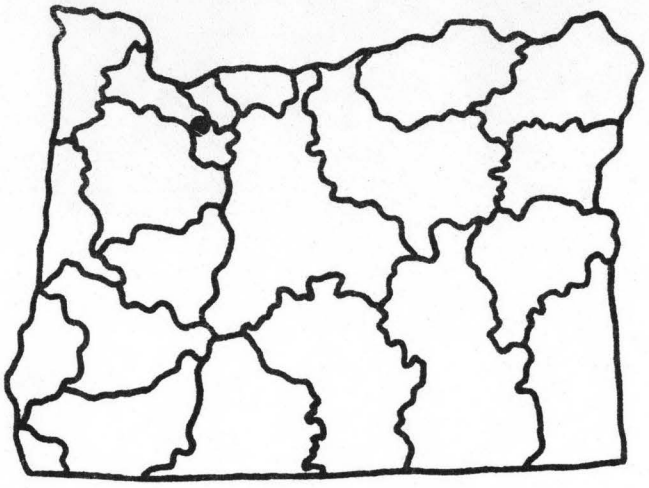
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	915.4	16.29	142.71	1.000
80	1142.0	20.32	173.62	.975
50	1983.3	35.30	258.87	.837
30	2767.6	49.25	307.78	.713
10	4400.0	78.31	358.68	.523

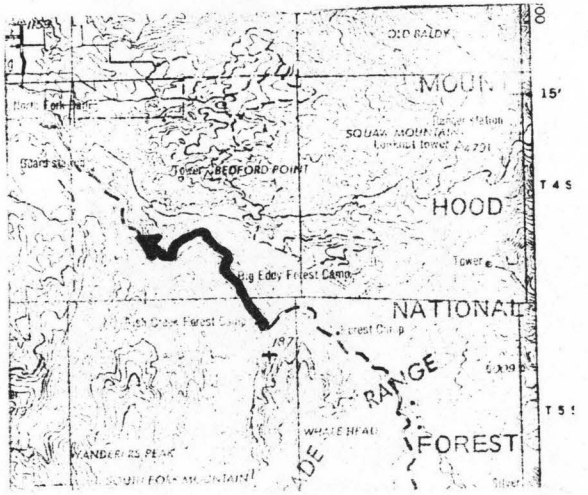
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2404 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-006-R0001

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.23, T5S, R5E	
D. Latitude, Longitude	45°07'N,122°10'W	
E. Stream Name	Fish Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to 6.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

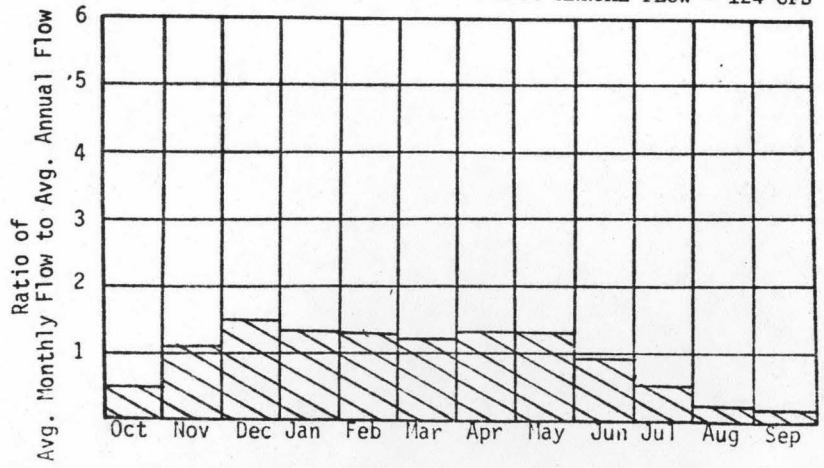
A. Upstream Elevation of Reach	1540	Ft. MSL
B. Downstream Elevation of Reach	870	Ft. MSL
C. Total Available Head in Reach	670	Ft.
D. Average Slope in Reach	109.8	Ft./Mi.
E. Drainage Area above Reach Mouth	48.2	Sq.Mi.
F. Inflow Classification	Natural	

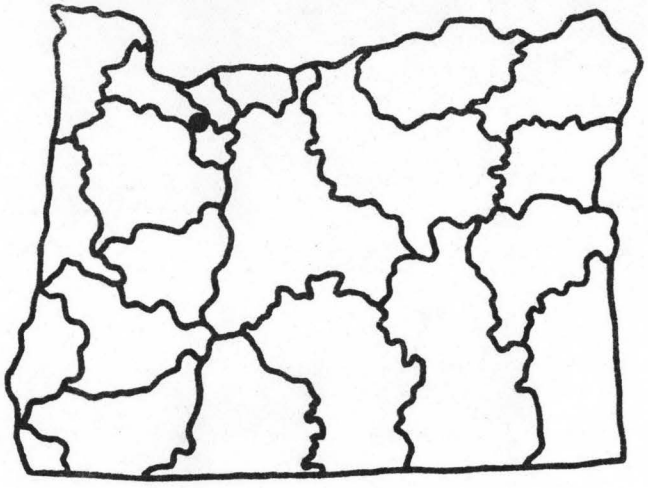
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	12.5	.71	6.21	1.000
80	20.1	1.14	9.53	.953
50	64.6	3.67	23.92	.744
30	130.0	7.38	36.94	.571
10	265.9	15.10	50.46	.381

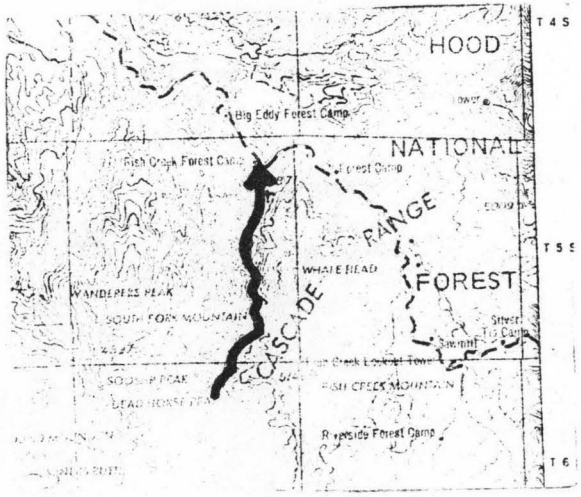
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 124 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

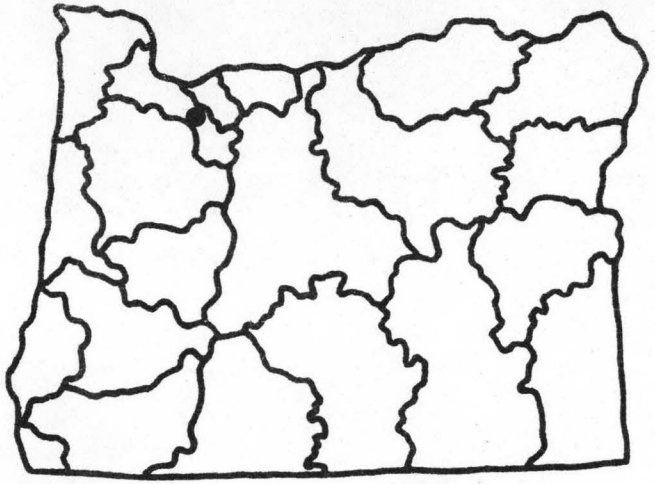


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-006-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.6, T6S, R5E
D.	Latitude, Longitude	45°07'N,122°12'W
E.	Stream Name	Fish Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	6.1 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	31.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.9	.05	.44	1.000
80	14.7	.08	.68	.951
50	49.5	.28	1.79	.739
30	102.4	.57	2.83	.564
10	213.6	1.19	3.92	.374

U.S.G.S. TOPO. SERIES
1:250,000 SCALE
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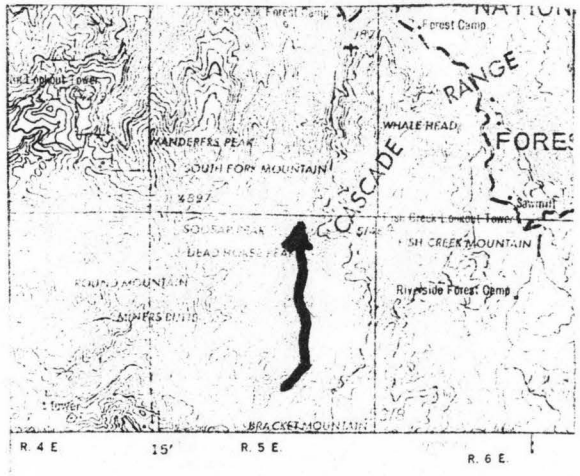
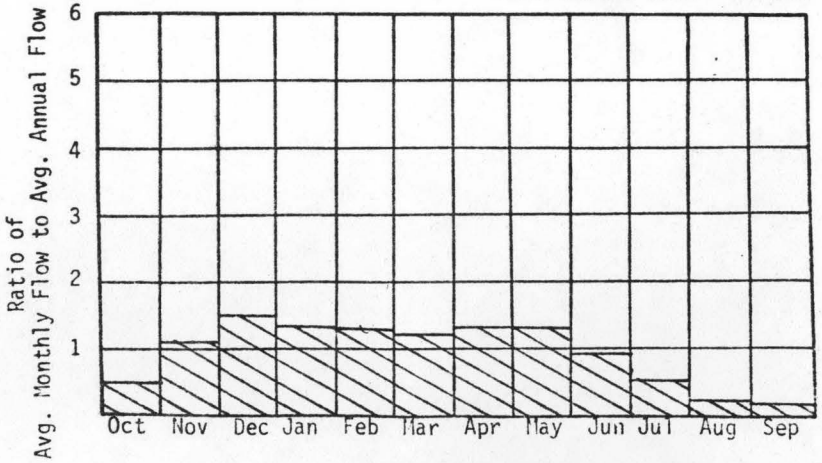


IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 98 CFS



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.6, T5S, R5-6E
D.	Latitude, Longitude	45°10'N,122°08'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	41.7 to 44.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

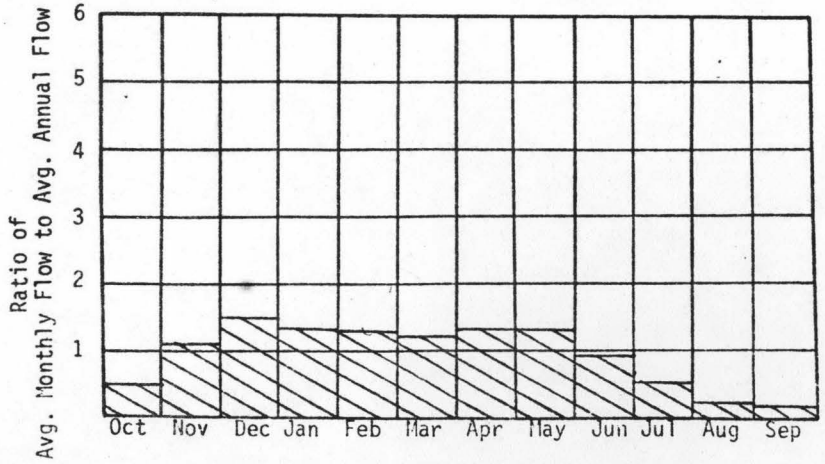
A.	Upstream Elevation of Reach	955	Ft. MSL
B.	Downstream Elevation of Reach	870	Ft. MSL
C.	Total Available Head in Reach	85	Ft.
D.	Average Slope in Reach	37	Ft./Mi.
E.	Drainage Area above Reach Mouth	555.1	Sq.Mi.
F.	Inflow Classification	Regulated	

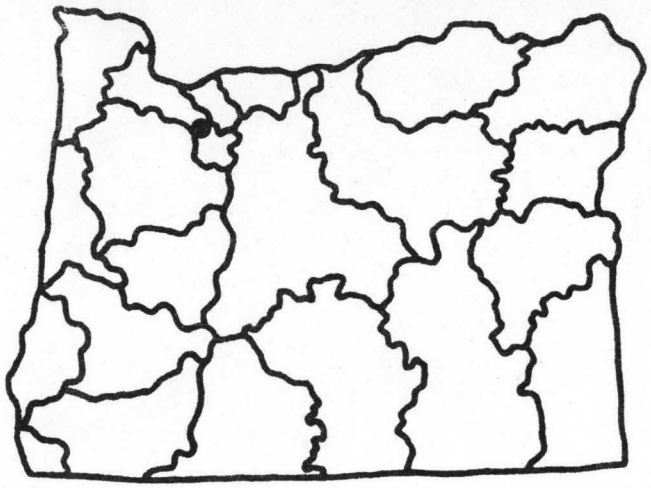
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	767.1	5.53	48.40	1.000
80	967.1	6.97	59.45	.974
50	1722.6	12.41	90.43	.832
30	2440.3	17.58	108.55	.705
10	3920.1	28.24	127.23	.514

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 2128 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-007-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.4, T4-5S, R6E
D.	Latitude, Longitude	45°10'N.122°05'W
E.	Stream Name	Roaring River
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 4.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

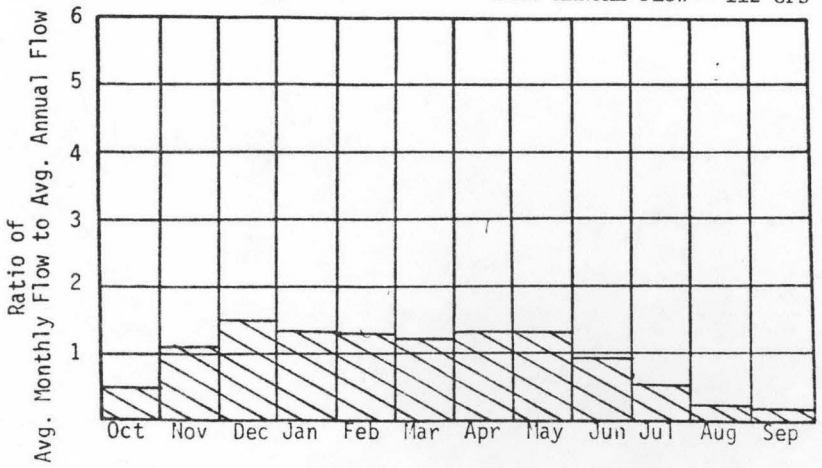
A.	Upstream Elevation of Reach	1740	Ft. MSL
B.	Downstream Elevation of Reach	955	Ft. MSL
C.	Total Available Head in Reach	795	Ft.
D.	Average Slope in Reach	180.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	44.3	Sq.Mi.
F.	Inflow Classification	Natural	

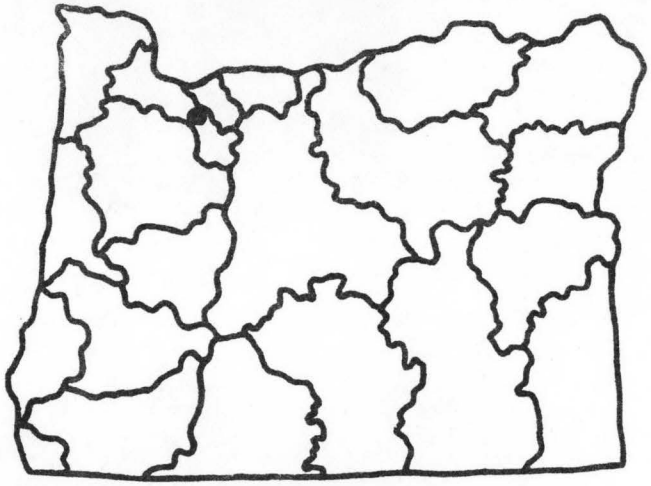
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.7	.72	6.32	1.000
80	17.4	1.17	9.79	.952
50	57.2	3.85	25.04	.742
30	116.6	7.85	39.06	.568
10	240.6	16.21	53.70	.378

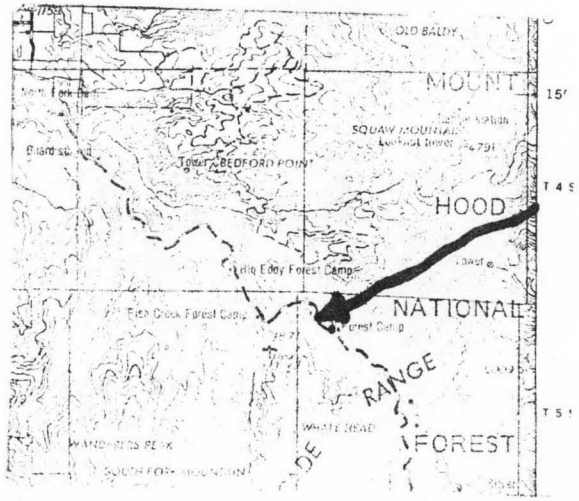
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 112 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

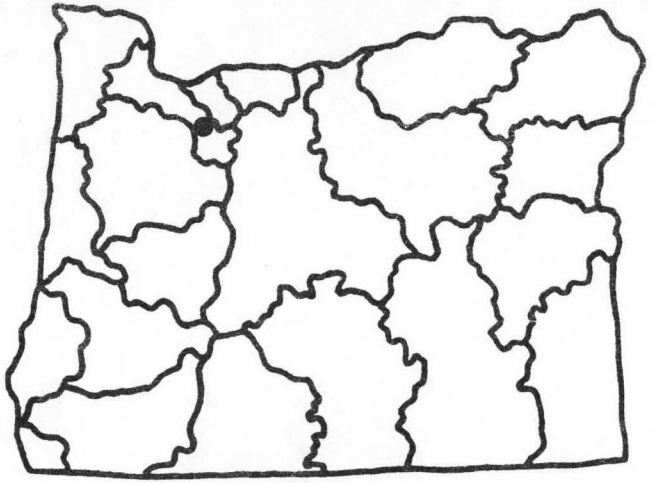


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-007-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.33, T4S, R7E
D.	Latitude, Longitude	45°12'N.122°03'W
E.	Stream Name	Roaring River
F.	Major Basin Name	Lower Willamette
G.	River Mile	4.4 to H.W.



II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	26	Sq.Mi.
F.	Inflow Classification	Natural	

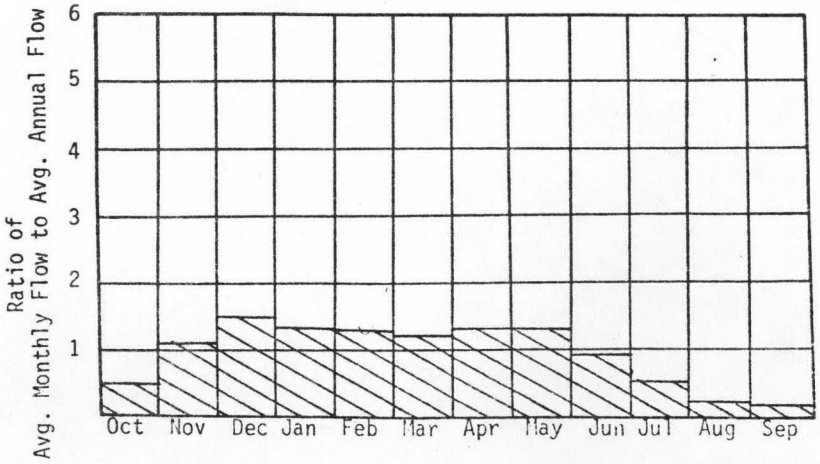
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

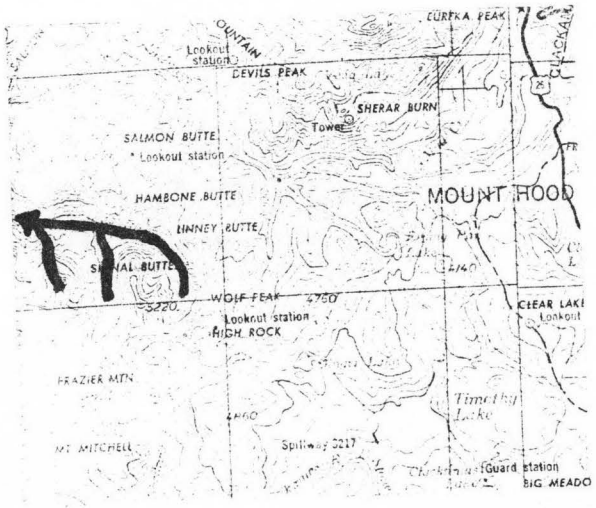
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.7	.04	.33	1.000
80	11.2	.06	.52	.950
50	39.4	.22	1.42	.735
30	83.5	.47	2.28	.558
10	177.1	.99	3.20	.369

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 81 CFS



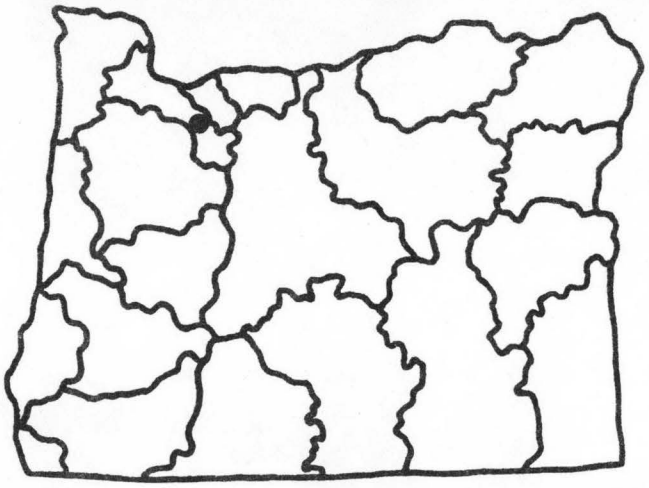


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.28, T5S, R6E
D.	Latitude, Longitude	45°06'N,122°05'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	44.0 to 53.0



U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

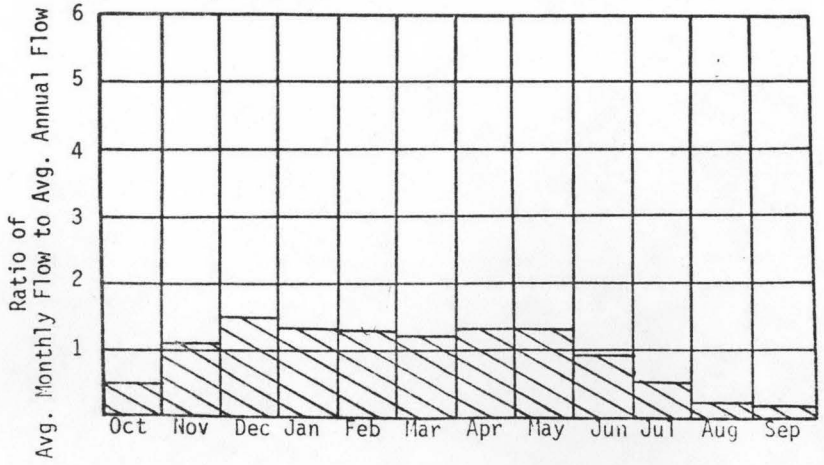
A.	Upstream Elevation of Reach	1338	Ft. MSL
B.	Downstream Elevation of Reach	955	Ft. MSL
C.	Total Available Head in Reach	383	Ft.
D.	Average Slope in Reach	42.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	508	Sq.Mi.
F.	Inflow Classification	Regulated	

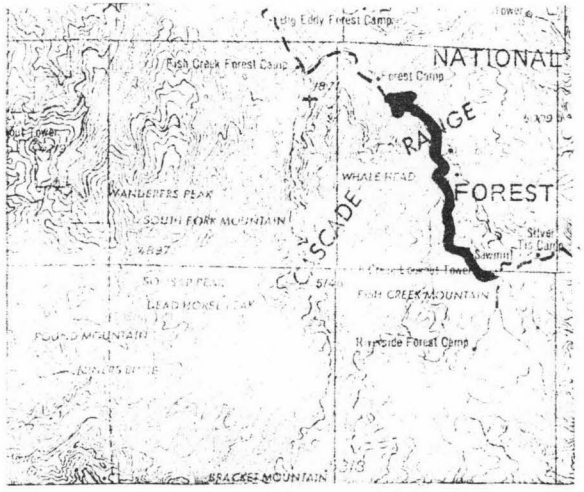
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	634.9	20.61	180.53	1.000
80	809.6	26.28	223.99	.973
50	1481.6	48.09	348.19	.827
30	2133.1	69.23	422.28	.696
10	3464.7	112.46	498.00	.506

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1868 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-009-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.6, T6S, R7E
D.	Latitude, Longitude	45°05'N,121°58'W
E.	Stream Name	Oak Grove Fork of Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 7.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

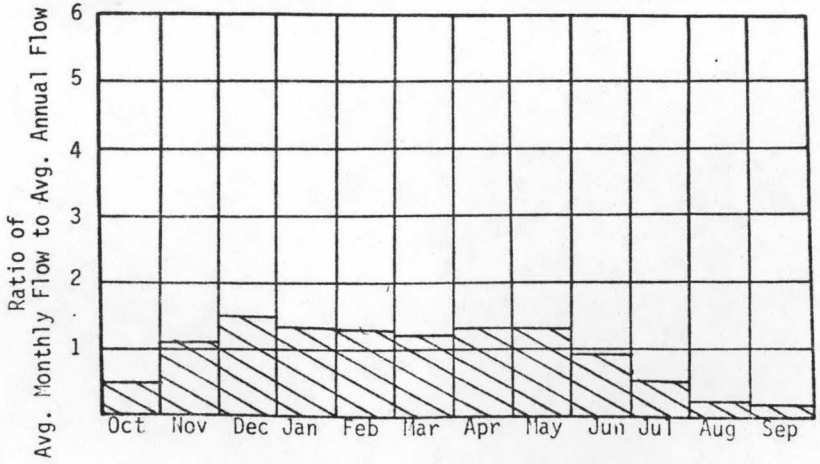
A.	Upstream Elevation of Reach	2200	Ft. MSL
B.	Downstream Elevation of Reach	1338	Ft. MSL
C.	Total Available Head in Reach	862	Ft.
D.	Average Slope in Reach	111.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	143.9	Sq.Mi.
F.	Inflow Classification	Regulated	

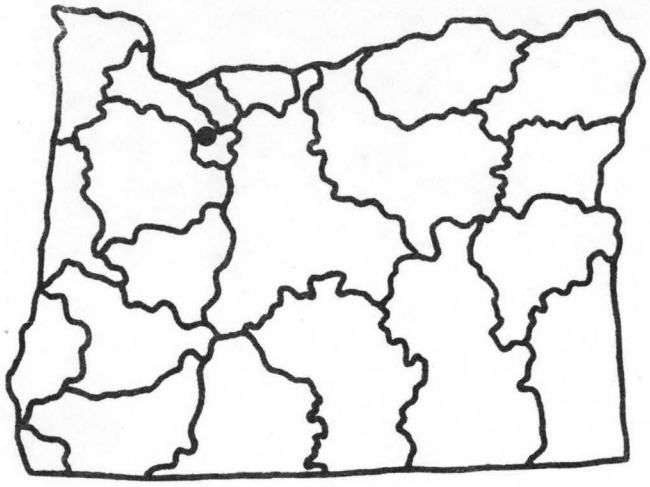
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	66.7	4.87	42.68	1.000
80	97.3	7.11	59.83	.961
50	245.9	17.96	121.62	.773
30	428.9	31.33	168.47	.614
10	795.0	58.08	215.32	.423

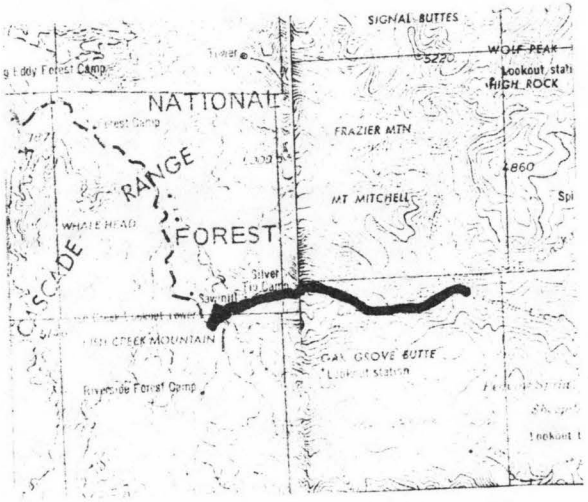
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 394 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER-THE DALLES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-009-R0002

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.32, T5S, R8E	
D. Latitude, Longitude	45°05'N,121°51'W	
E. Stream Name	Oak Grove Fork of Clackamas	
F. Major Basin Name	Lower Willamette	
G. River Mile	7.7 to 15.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

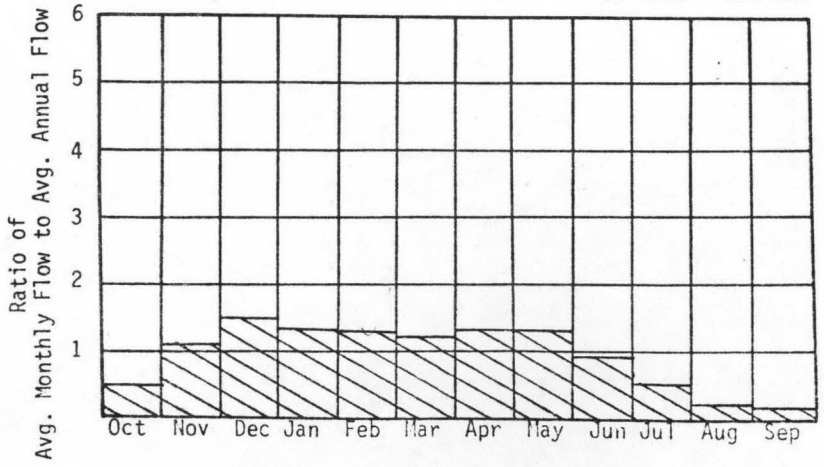
A. Upstream Elevation of Reach	3217	Ft. MSL
B. Downstream Elevation of Reach	2200	Ft. MSL
C. Total Available Head in Reach	1017	Ft.
D. Average Slope in Reach	125.6	Ft./Mi.
E. Drainage Area above Reach Mouth	121.8	Sq.Mi.
F. Inflow Classification	Regulated	

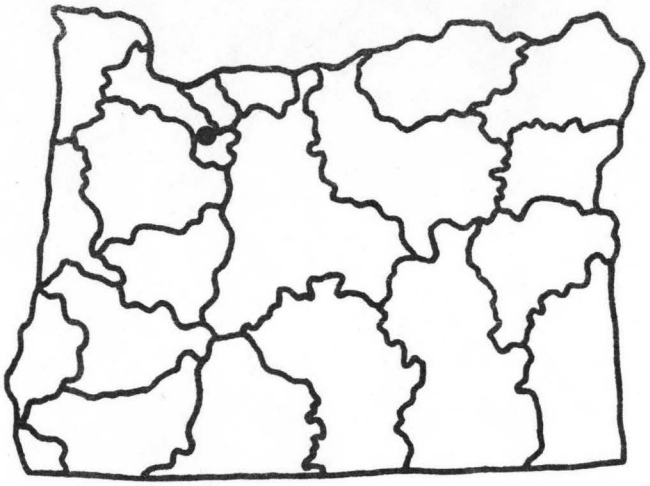
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	36.9	3.18	27.88	1.000
80	55.8	4.81	40.36	.958
50	153.5	13.23	88.28	.762
30	281.5	24.26	126.96	.597
10	540.3	46.56	166.02	.407

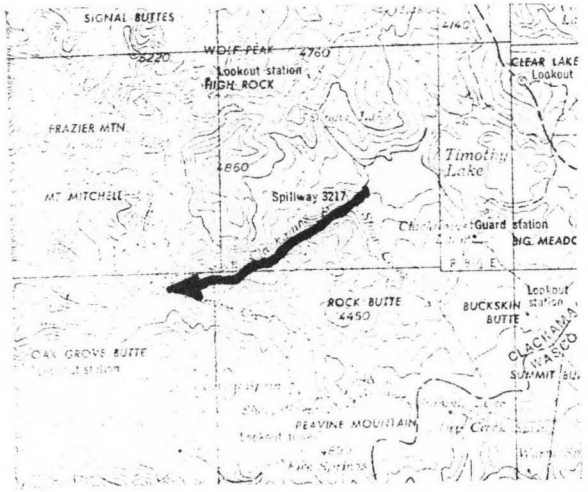
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 262 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: THE DALLES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-009-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.7, T5S, R8½E
D.	Latitude, Longitude	45°06'N,121°46'W
E.	Stream Name	Oak Grove Fork of Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	18.2 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

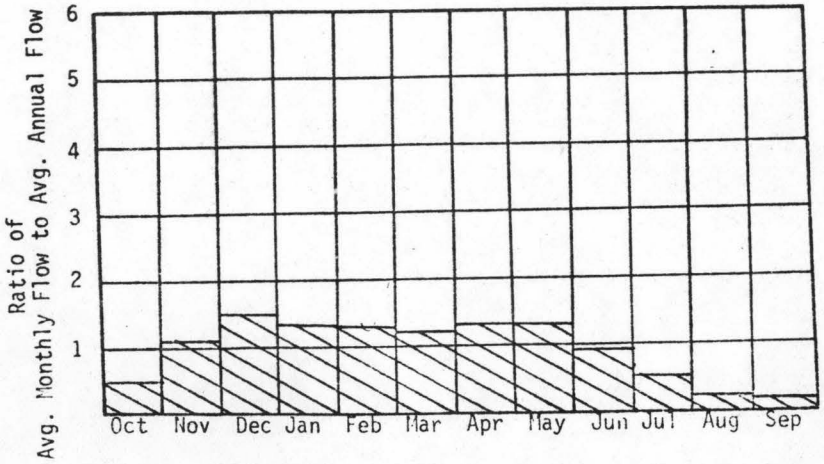
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	27.8	Sq.Mi.
F.	Inflow Classification	Natural	

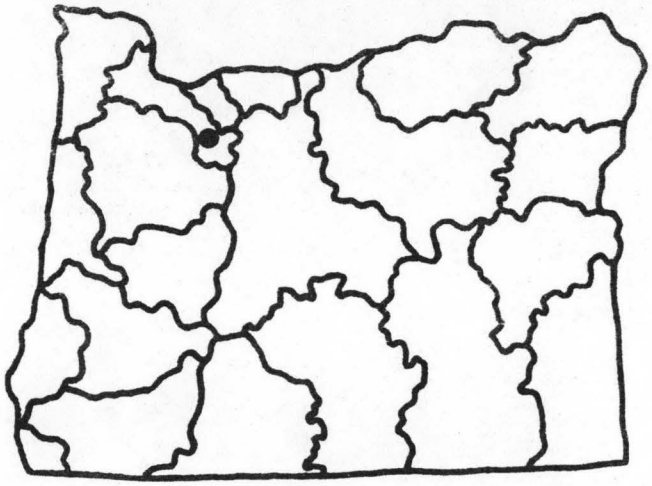
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.3	.04	.31	1.000
80	10.6	.06	.49	.949
50	37.6	.21	1.35	.735
30	80.2	.45	2.19	.557
10	170.7	.95	3.08	.368

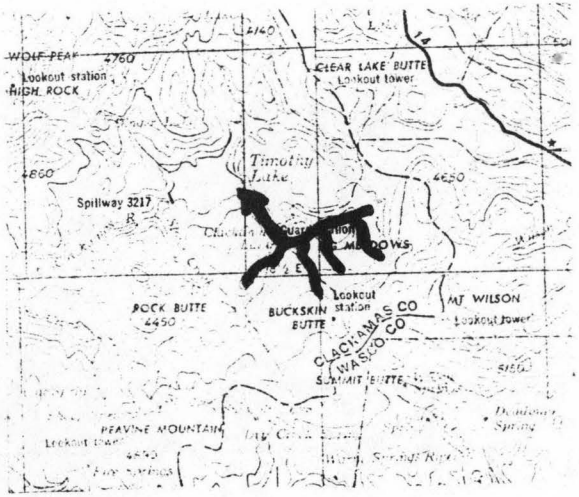
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 78 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: THE DALLES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0008

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.10, T6S, R6E	
D. Latitude, Longitude	45°03'N,122°04'W	
E. Stream Name	Clackamas River	
F. Major Basin Name	Lower Willamette	
G. River Mile	53.0 to 57.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

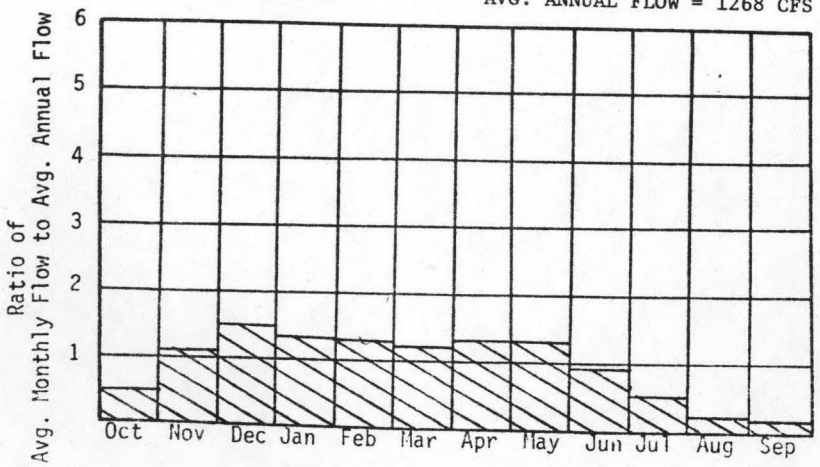
A. Upstream Elevation of Reach	1465	Ft. MSL
B. Downstream Elevation of Reach	1338	Ft. MSL
C. Total Available Head in Reach	127	Ft.
D. Average Slope in Reach	31.7	Ft./Mi.
E. Drainage Area above Reach Mouth	330.4	Sq.Mi.
F. Inflow Classification	Natural	

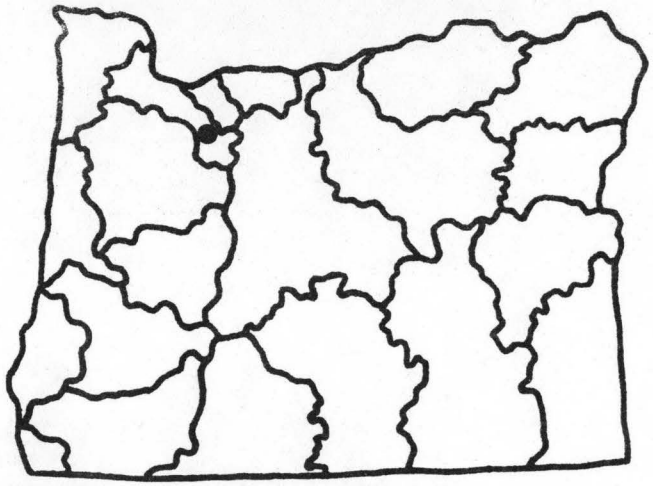
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	362.5	3.90	34.17	1.000
80	478.0	5.14	43.70	.970
50	947.7	10.20	72.49	.811
30	1431.2	15.40	90.72	.672
10	2402.3	25.85	109.03	.481

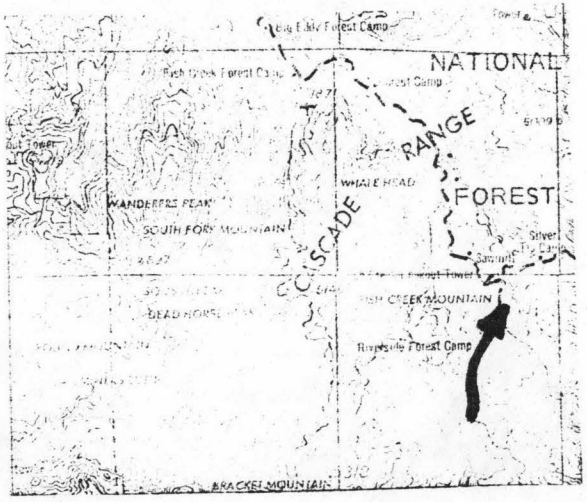
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1268 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-011-R0001

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.27, T6S, R6E	
D. Latitude, Longitude	45°00'N,122°04'W	
E. Stream Name	Collawash River	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to 4.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

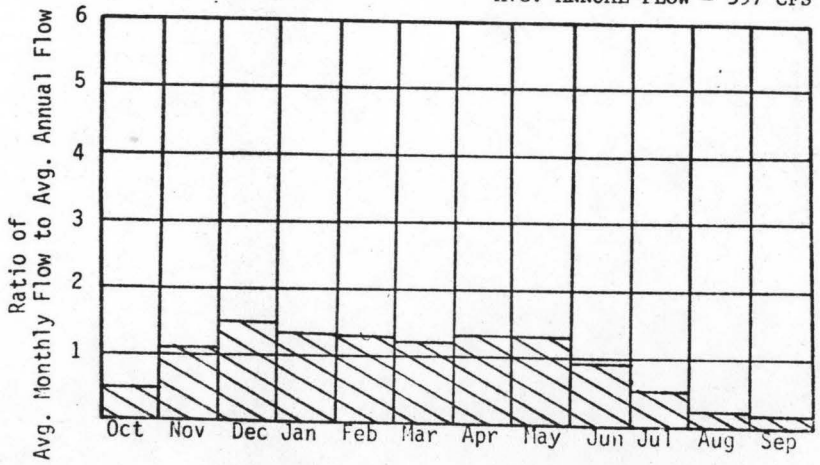
A. Upstream Elevation of Reach	1616	Ft. MSL
B. Downstream Elevation of Reach	1465	Ft. MSL
C. Total Available Head in Reach	151	Ft.
D. Average Slope in Reach	37.7	Ft./Mi.
E. Drainage Area above Reach Mouth	156	Sq.Mi.
F. Inflow Classification	Natural	

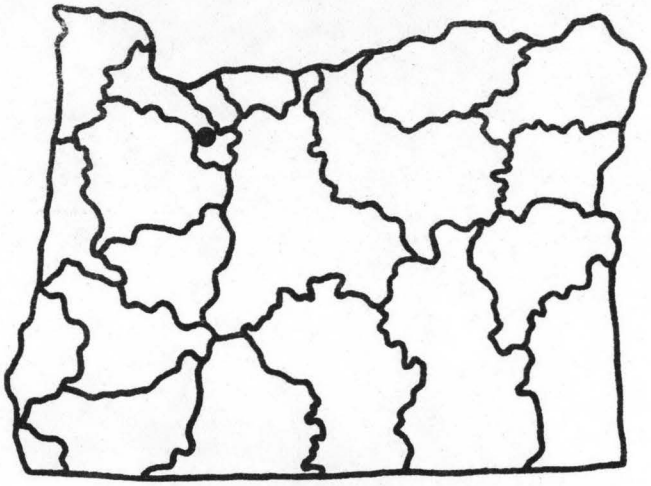
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	122.2	1.56	13.70	1.000
80	171.9	2.20	18.58	.964
50	398.4	5.10	35.07	.785
30	659.9	8.45	46.80	.633
10	1180.6	15.11	58.48	.442

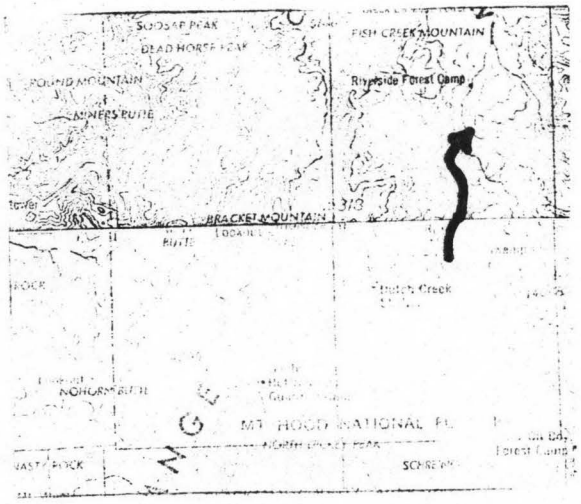
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 597 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER-SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-011-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.7, T7S, R6E
D.	Latitude, Longitude	44°58'N,122°07'W
E.	Stream Name	Hot Spring Fork Collawash River
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 6.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

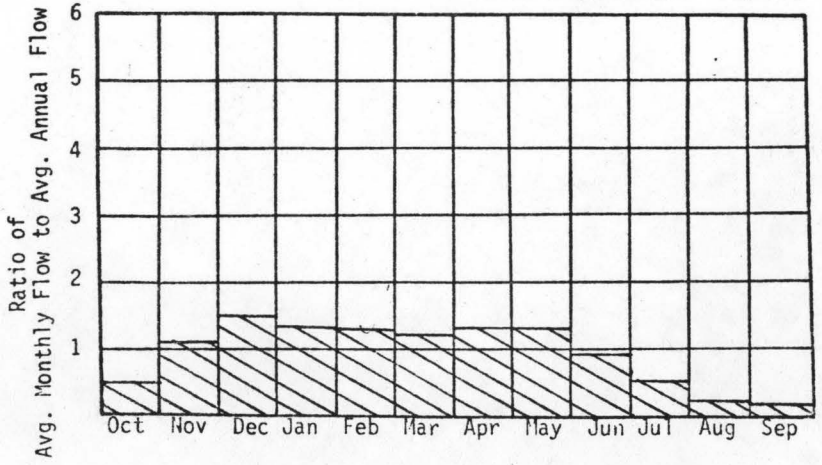
A.	Upstream Elevation of Reach	2050	Ft. MSL
B.	Downstream Elevation of Reach	1616	Ft. MSL
C.	Total Available Head in Reach	434	Ft.
D.	Average Slope in Reach	67.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	63.2	Sq.Mi.
F.	Inflow Classification	Natural	

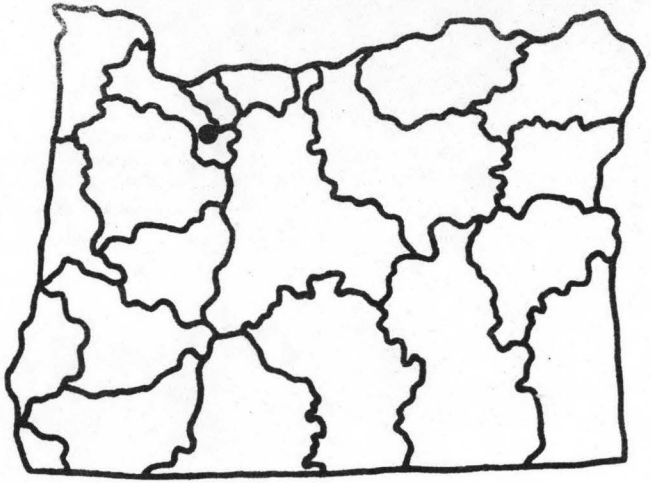
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	27.3	1.00	8.80	1.000
80	42.0	1.55	12.95	.956
50	120.7	4.44	29.43	.757
30	227.2	8.36	43.15	.589
10	443.8	16.32	57.11	.399

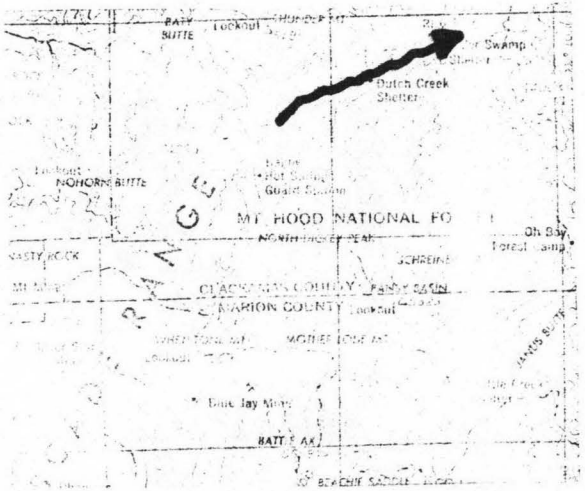
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 213 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-011-R0003

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.28, T7S, R5E	
D. Latitude, Longitude	44°56'N,122°10'W	
E. Stream Name	Noborn Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	0.0 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

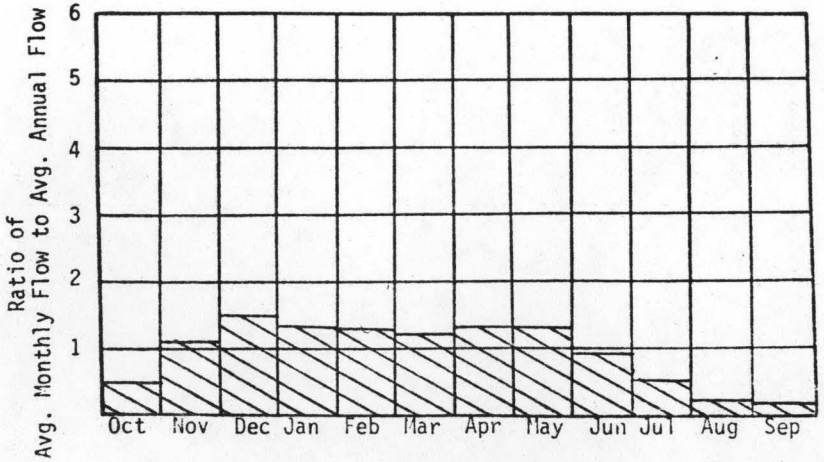
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	17.3	Sq.Mi.
F. Inflow Classification	Natural	

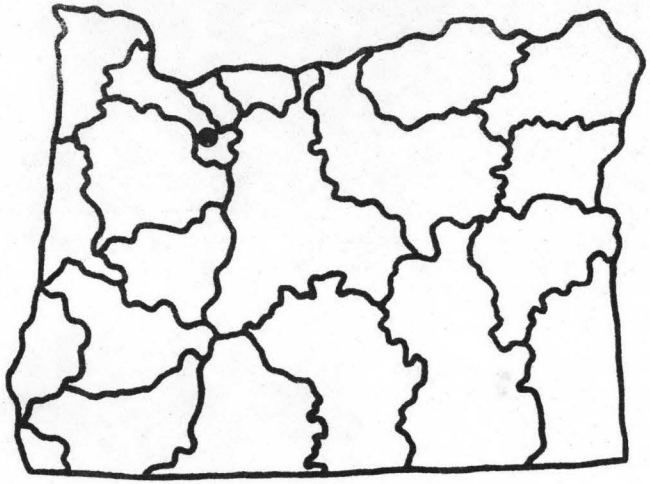
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5.5	.03	.27	1.000
80	9.3	.05	.43	.949
50	33.5	.19	1.20	.733
30	72.4	.40	1.96	.554
10	155.3	.87	2.78	.365

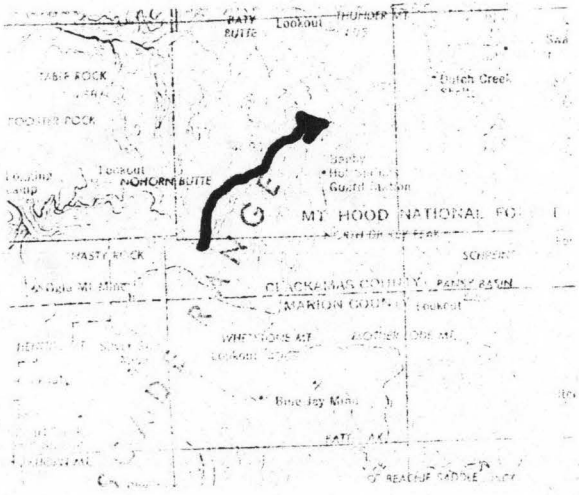
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 70 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-011-R0004

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.28, T7S, R5E
D.	Latitude, Longitude	44°56'N,122°10'W
E.	Stream Name	Hot Springs Fork Collawash River
F.	Major Basin Name	Lower Willamette
G.	River Mile	6.4 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

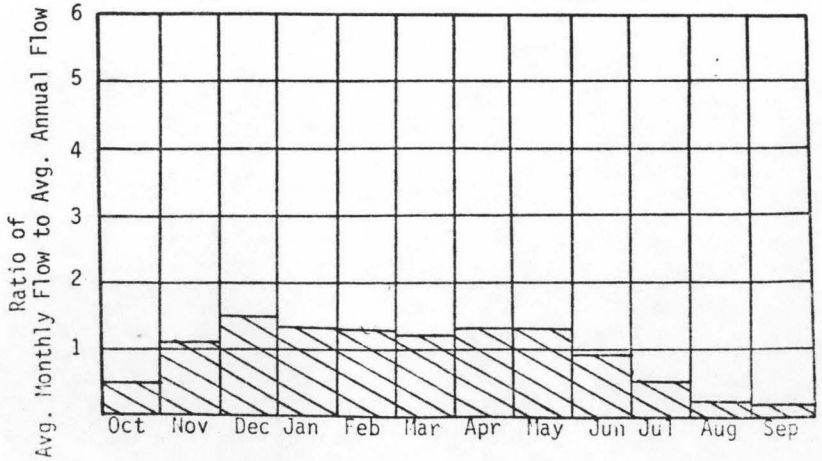
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	17.2	Sq.Mi.
F.	Inflow Classification	Natural	

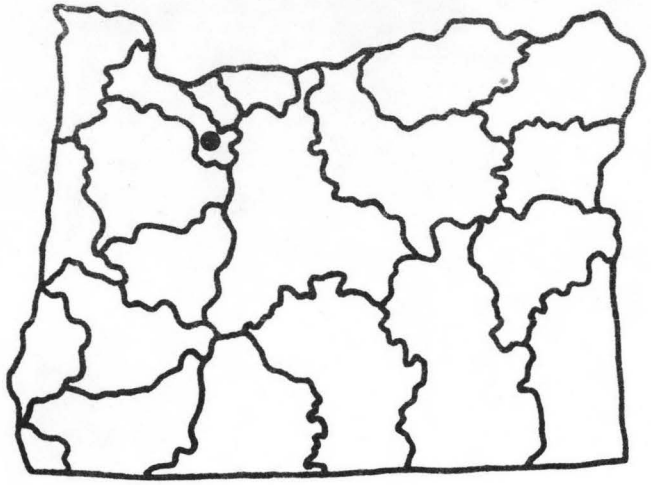
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.3	.04	.31	1.000
80	10.6	.06	.49	.949
50	27.4	.21	1.35	.735
30	79.9	.45	2.18	.557
10	170.0	.95	3.06	.368

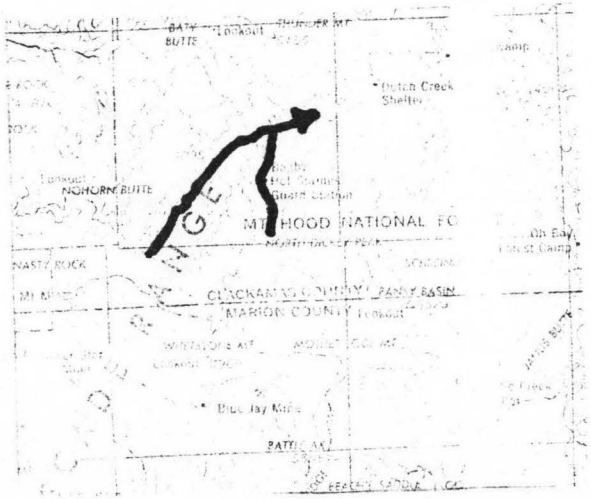
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 77 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

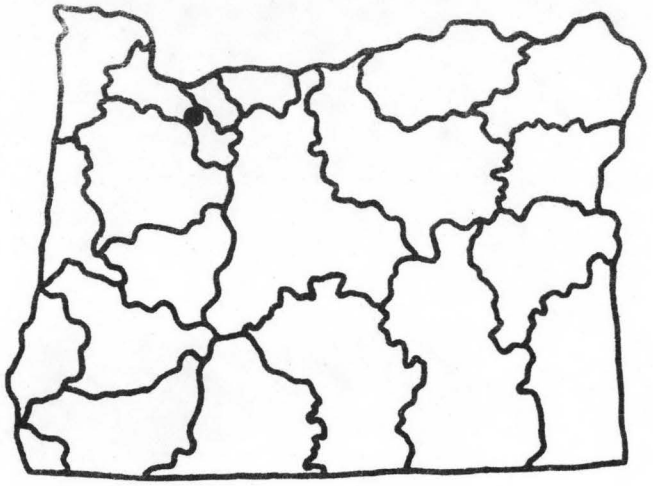


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0002

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.23, T7S, R6E
D.	Latitude, Longitude	44°56'N,122°02'W
E.	Stream Name	Collawash River
F.	Major Basin Name	Lower Willamette
G.	River Mile	4.0 to 12.4



U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

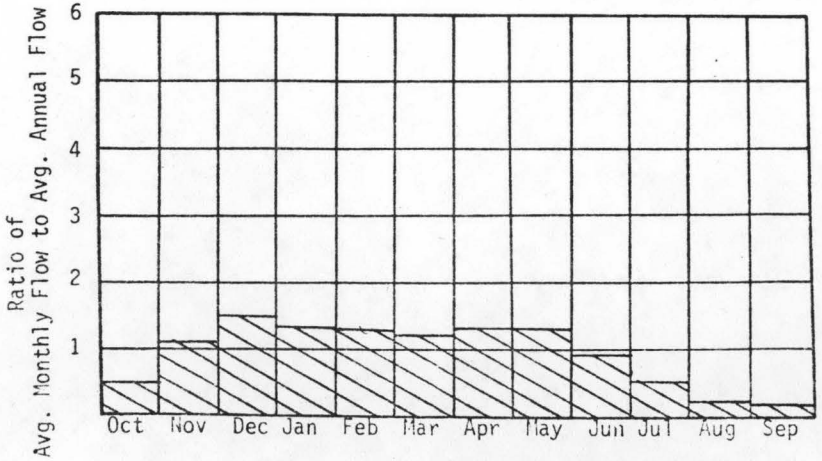
A.	Upstream Elevation of Reach	2280	Ft. MSL
B.	Downstream Elevation of Reach	1616	Ft. MSL
C.	Total Available Head in Reach	664	Ft.
D.	Average Slope in Reach	79	Ft./Mi.
E.	Drainage Area above Reach Mouth	82.1	Sq.Mi.
F.	Inflow Classification	Natural	

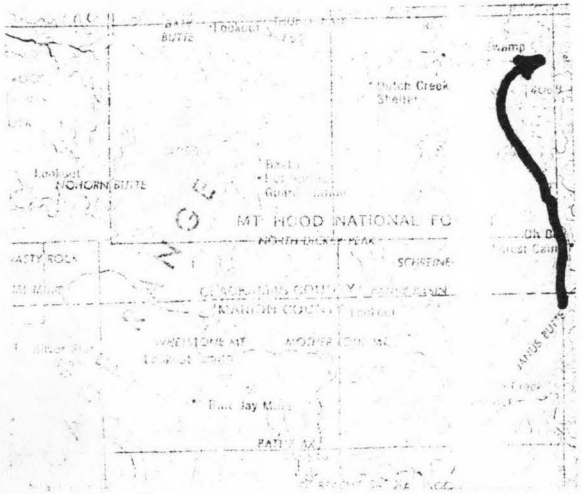
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	26.9	1.51	13.25	1.000
80	41.4	2.33	19.52	.956
50	119.2	6.71	44.44	.756
30	224.6	12.64	65.23	.589
10	439.2	24.71	86.38	.399

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 210 CFS



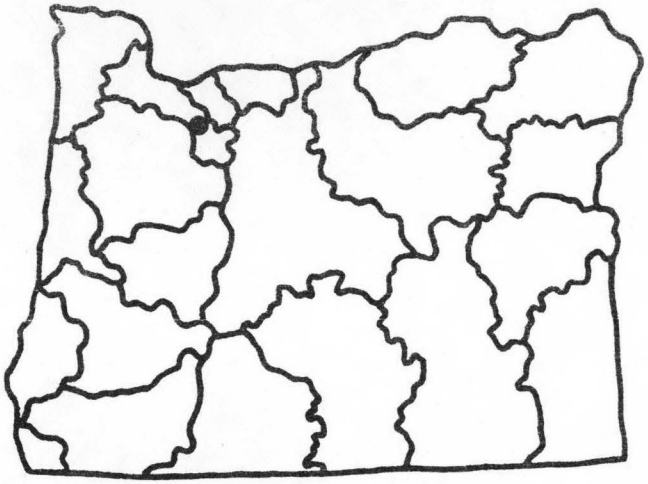


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-013-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T8S, R6E
D.	Latitude, Longitude	44°53'N,122°00'W
E.	Stream Name	Elk Lake Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to H.W.



U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: SALEM

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

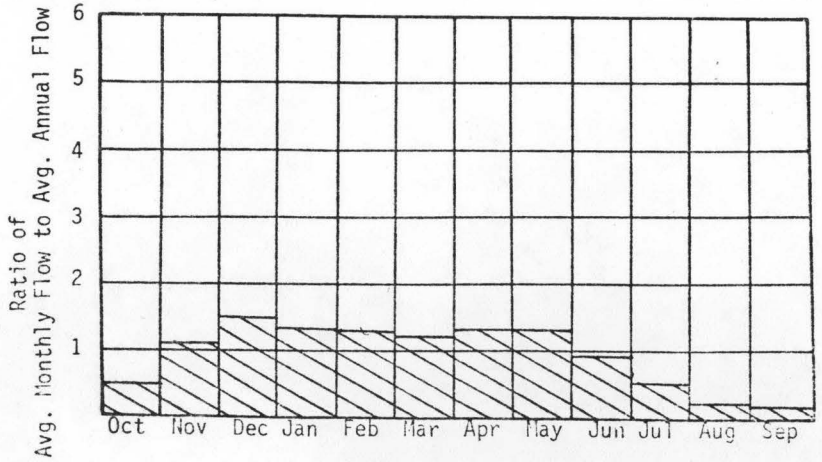
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	26.7	Sq.Mi.
F.	Inflow Classification	Natural	

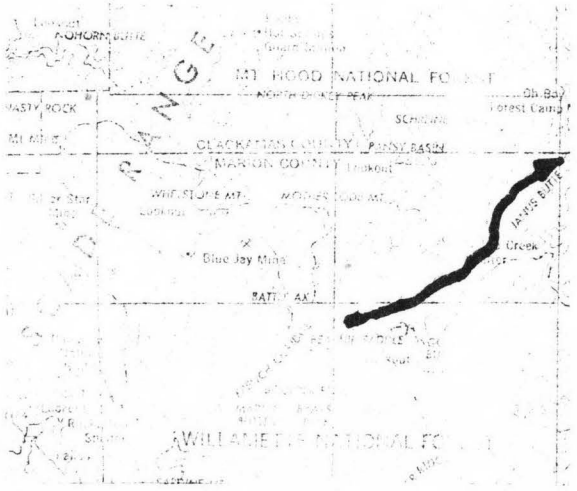
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.6	.05	.42	1.000
80	14.2	.08	.66	.951
50	48.1	.27	1.74	.739
30	100.0	.56	2.76	.563
10	208.9	1.17	3.83	.374

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 96 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0009

I. LOCATION

A. State	Oregon	
B. County	Clackamas	
C. Township, Range	Sec.29, T6S, R7E	
D. Latitude, Longitude	45°01'N,121°59'W	
E. Stream Name	Clackamas River	
F. Major Basin Name	Lower Willamette	
G. River Mile	57.0 to 65.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

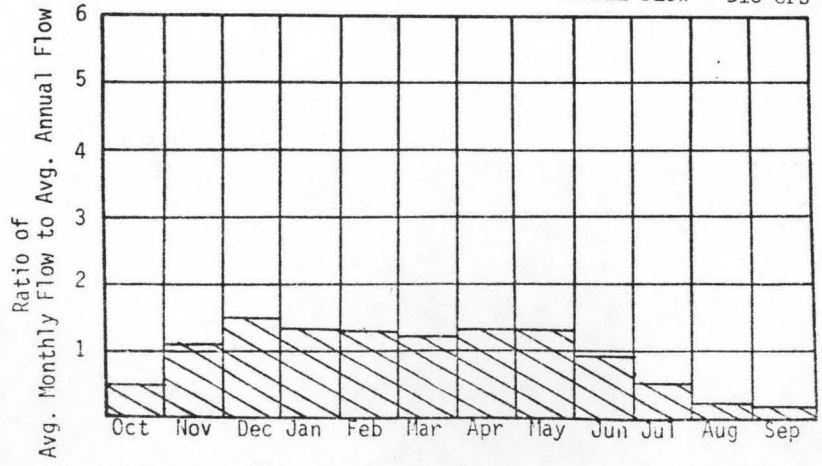
A. Upstream Elevation of Reach	2060	Ft. MSL
B. Downstream Elevation of Reach	1465	Ft. MSL
C. Total Available Head in Reach	595	Ft.
D. Average Slope in Reach	67.6	Ft./Mi.
E. Drainage Area above Reach Mouth	161.3	Sq.Mi.
F. Inflow Classification	Natural	

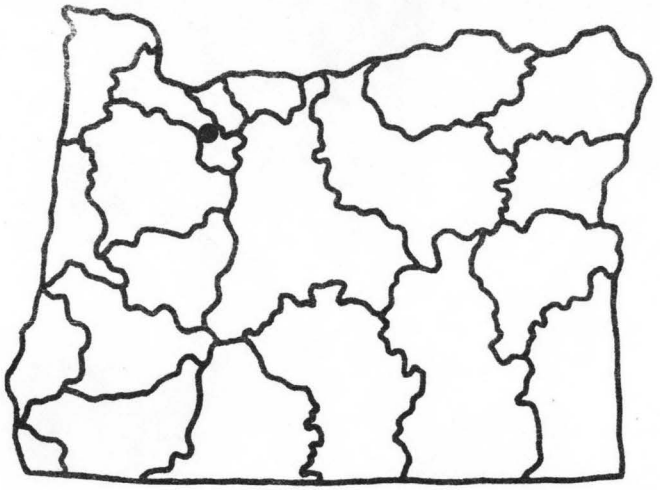
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	98.8	4.98	43.65	1.000
80	140.8	7.10	59.88	.963
50	336.3	16.96	116.02	.781
30	567.4	28.61	156.84	.626
10	1027.7	51.82	197.51	.435

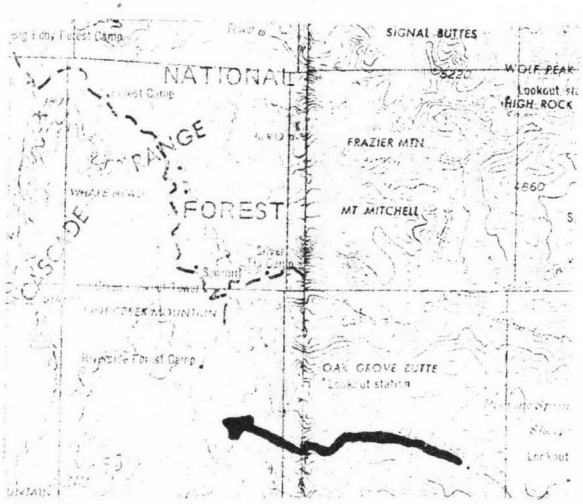
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 518 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER-THE DALLES

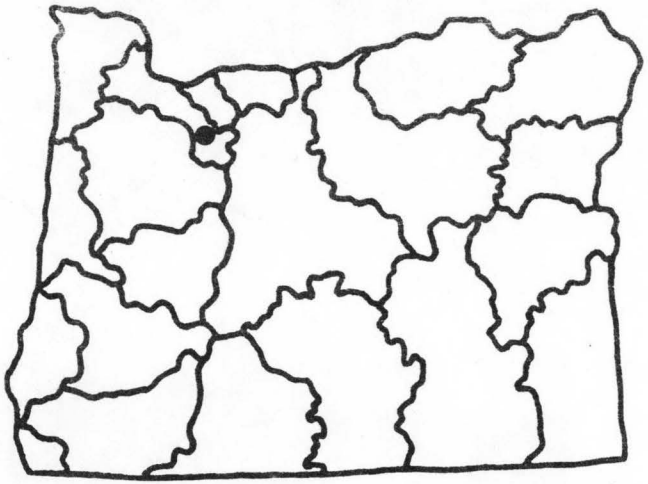


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R010

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T6S, R7E
D.	Latitude, Longitude	45°00'N,121°53'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	65.8 to 68.3



U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: THE DALLES-BEND

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

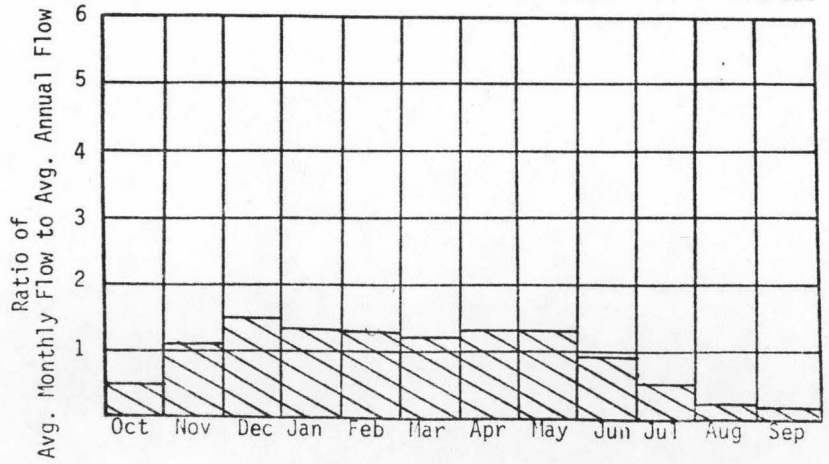
A.	Upstream Elevation of Reach	2210	Ft. MSL
B.	Downstream Elevation of Reach	2060	Ft. MSL
C.	Total Available Head in Reach	150	Ft.
D.	Average Slope in Reach	60	Ft./Mi.
E.	Drainage Area above Reach Mouth	137.3	Sq.Mi.
F.	Inflow Classification	Natural	

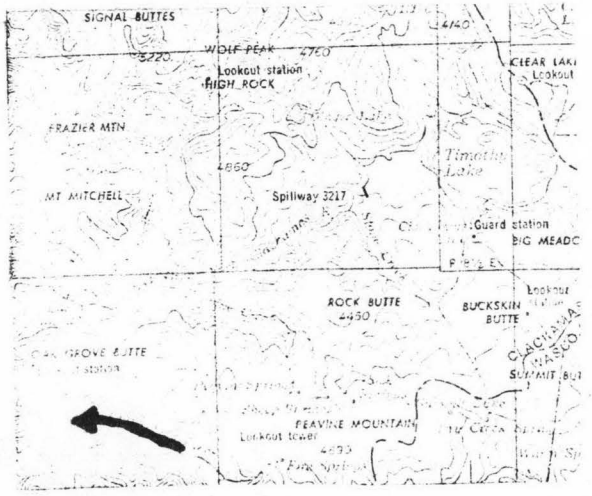
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	81.0	1.03	9.02	1.000
80	116.9	1.49	12.52	.962
50	287.2	3.65	24.84	.777
30	492.7	6.26	34.00	.620
10	902.9	11.48	43.13	.429

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 451 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-014-R0001

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T7S, R8E
D.	Latitude, Longitude	44°58'N,121°53'W
E.	Stream Name	Pinhead Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

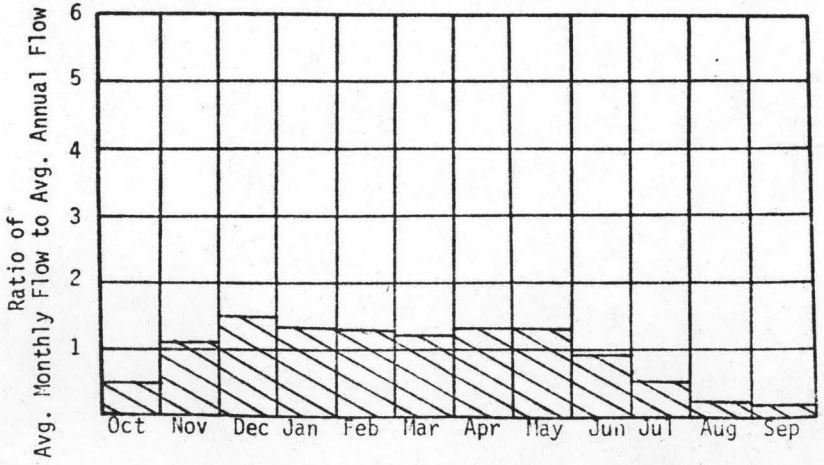
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	27.8	Sq.Mi.
F.	Inflow Classification	Natural	

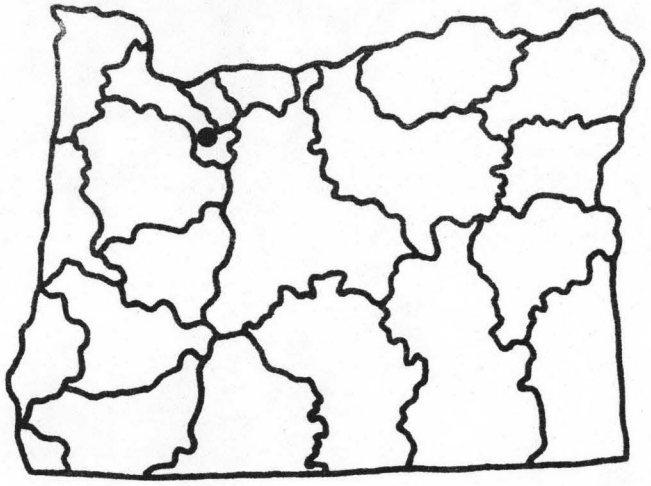
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.6	.04	.37	1.000
80	12.6	.07	.59	.950
50	43.4	.24	1.57	.737
30	91.1	.51	2.50	.561
10	191.8	1.07	3.49	.371

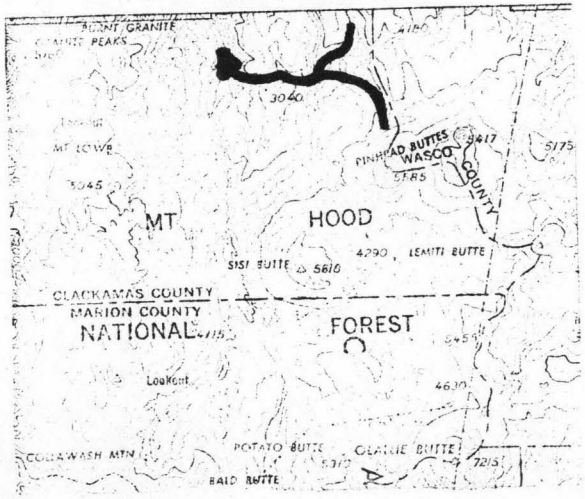
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 88 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0011

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	T7S, R7E
D.	Latitude, Longitude	45°56'N,121°53'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	68.3 to 74.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

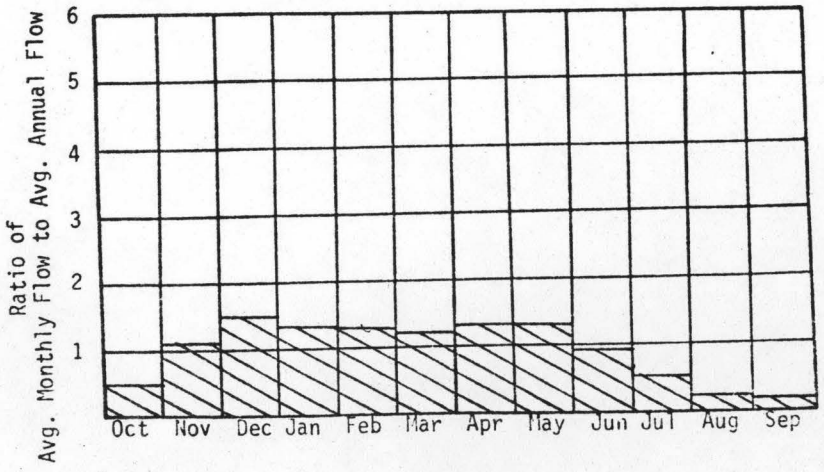
A.	Upstream Elevation of Reach	2560	Ft. MSL
B.	Downstream Elevation of Reach	2210	Ft. MSL
C.	Total Available Head in Reach	350	Ft.
D.	Average Slope in Reach	55.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	93.6	Sq.Mi.
F.	Inflow Classification	Natural	

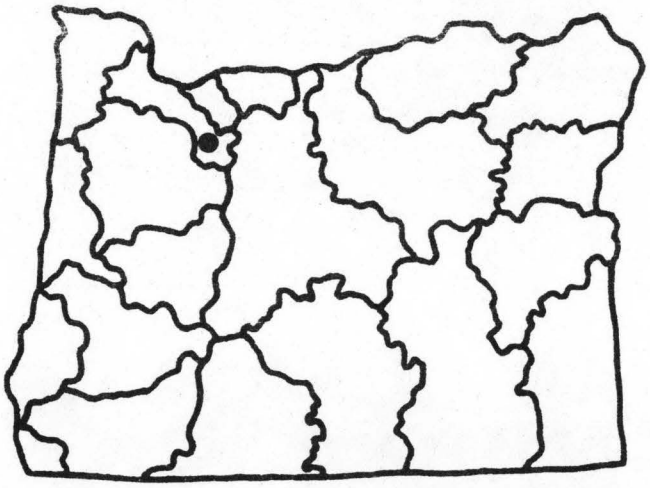
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	38.3	1.14	9.96	1.000
80	57.8	1.71	14.39	.958
50	158.1	4.69	31.33	.763
30	289.2	8.58	44.95	.598
10	553.7	16.42	58.69	.408

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 269 CFS





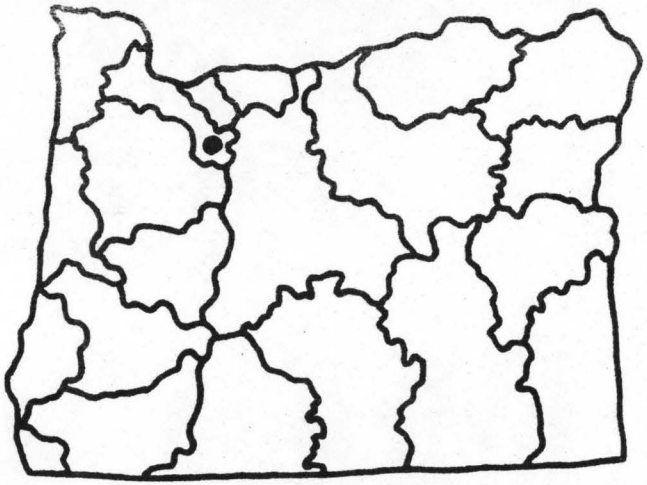
U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0012

I. LOCATION

A.	State	Oregon
B.	County	Clackamas-Marion
C.	Township, Range	T8S, R8E
D.	Latitude, Longitude	44°53'N,121°52'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	74.6 to 77.5



U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

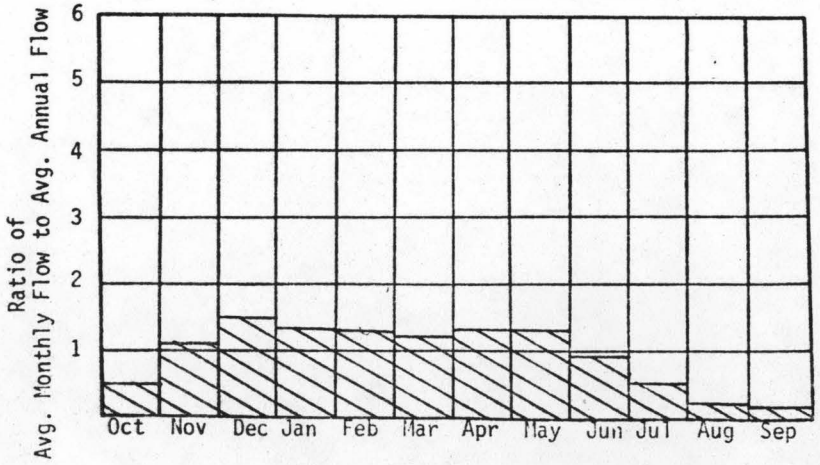
A.	Upstream Elevation of Reach	3160	Ft. MSL
B.	Downstream Elevation of Reach	2560	Ft. MSL
C.	Total Available Head in Reach	600	Ft.
D.	Average Slope in Reach	206.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	42.2	Sq.Mi.
F.	Inflow Classification	Natural	

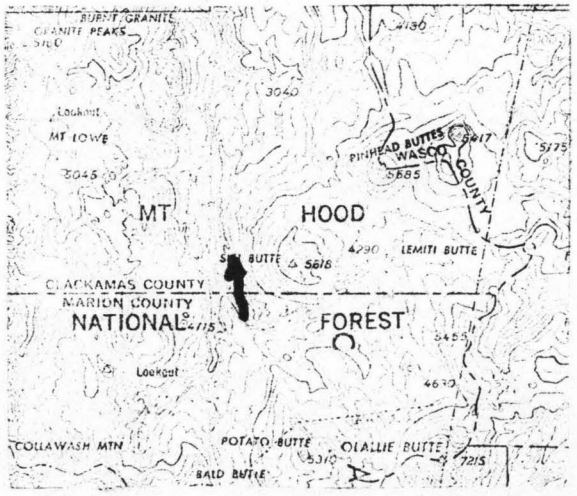
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	14.5	.74	6.45	1.000
80	23.2	1.18	9.83	.953
50	72.8	3.70	24.20	.746
30	144.6	7.35	37.00	.574
10	293.2	14.91	50.24	.385

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 138 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-024-000-R0013

I. LOCATION

A.	State	Oregon
B.	County	Marion-Clackamas
C.	Township, Range	T8S, R8E
D.	Latitude, Longitude	44°52'N,121°51'W
E.	Stream Name	Clackamas River
F.	Major Basin Name	Lower Willamette
G.	River Mile	77.5 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

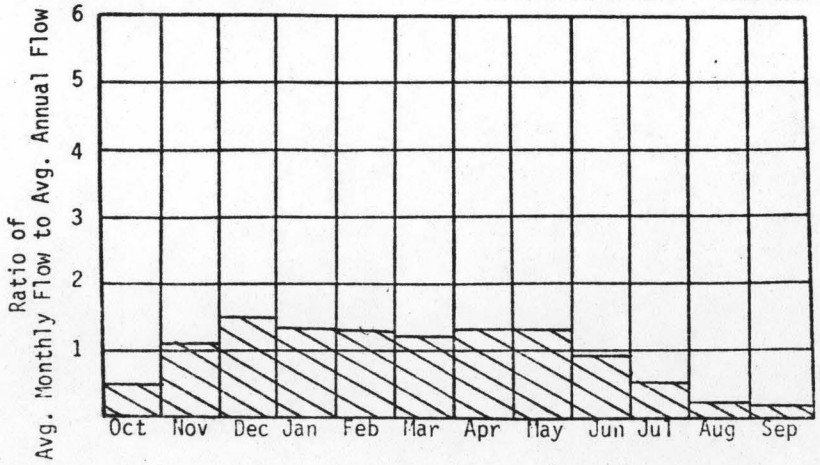
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	38.5	Sq.Mi.
F.	Inflow Classification	Natural	

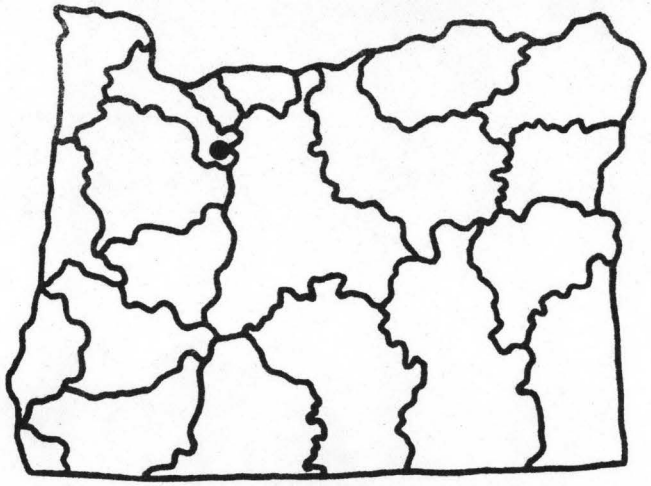
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	13.5	.08	.66	1.000
80	21.6	.12	1.01	.953
50	68.7	.38	2.51	.745
30	137.4	.77	3.86	.573
10	279.7	1.56	5.25	.383

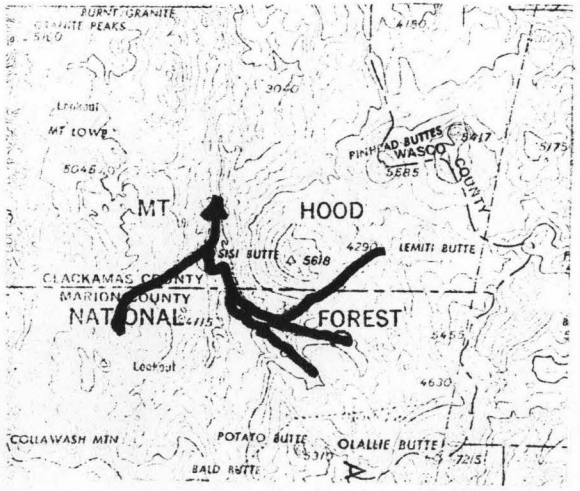
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 131 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: BEND



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0003

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.31, T2S, R1E
D.	Latitude, Longitude	45°21'N,122°38'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Lower Willamette
G.	River Mile	24.8 to 28.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

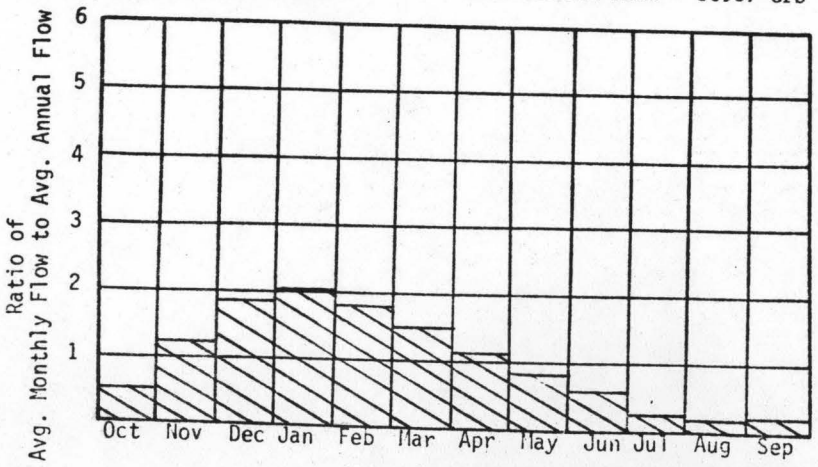
A.	Upstream Elevation of Reach	50	Ft. MSL
B.	Downstream Elevation of Reach	16	Ft. MSL
C.	Total Available Head in Reach	34	Ft.
D.	Average Slope in Reach	9.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	7988.2	Sq.Mi.
F.	Inflow Classification	Regulated	

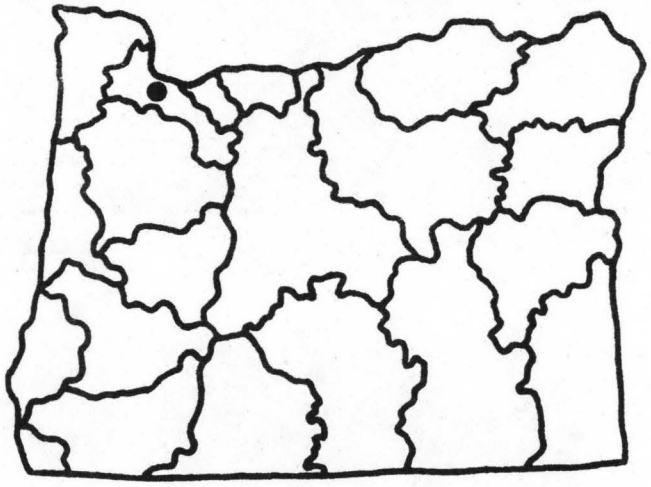
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6115.4	17.62	154.36	1.000
80	9074.7	26.15	219.72	.959
50	20641.1	59.47	409.48	.786
30	32493.7	93.63	529.15	.645
10	71873.5	207.09	727.94	.401

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 30987 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0001

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.28, T2S, R1E
D.	Latitude, Longitude	45°23'N,122°43'W
E.	Stream Name	Tualatin River
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 9.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

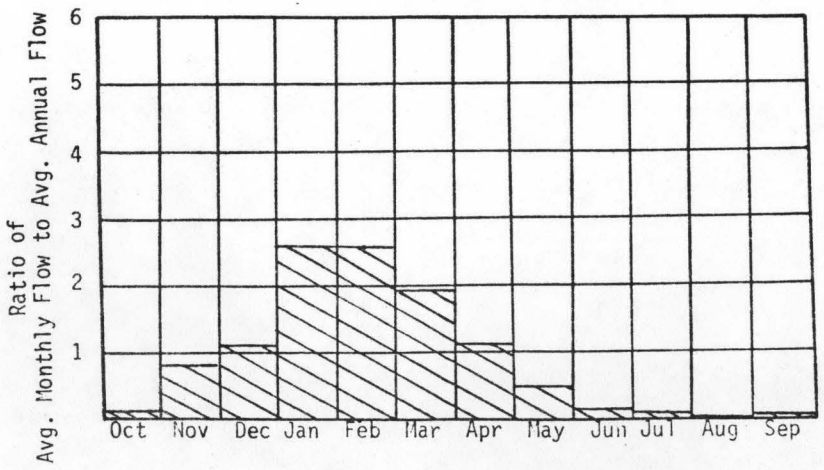
A.	Upstream Elevation of Reach	105	Ft. MSL
B.	Downstream Elevation of Reach	50	Ft. MSL
C.	Total Available Head in Reach	55	Ft.
D.	Average Slope in Reach	6.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	717.5	Sq.Mi.
F.	Inflow Classification	Regulated	

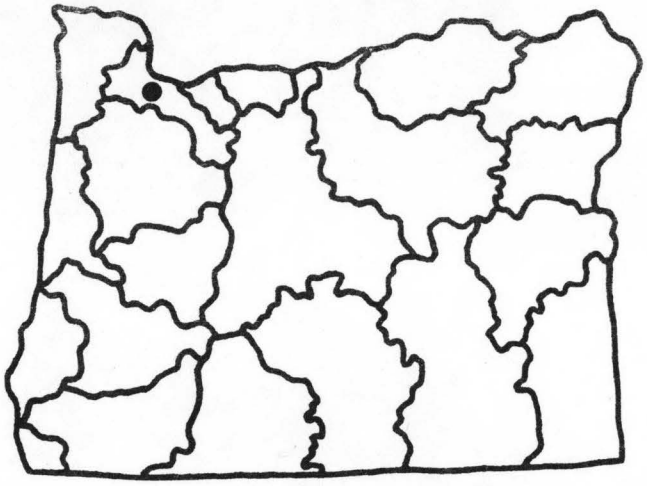
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	19.4	.09	.79	1.000
80	99.8	.47	3.66	.899
50	546.2	2.55	15.51	.696
30	1816.0	8.46	36.25	.489
10	4996.8	23.29	62.22	.305

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1592 CFS





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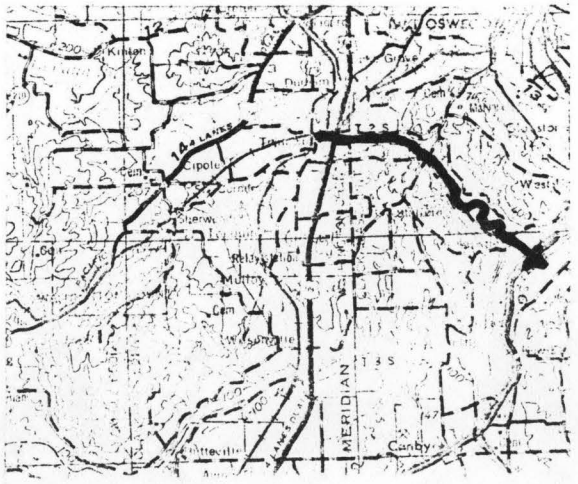


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0002

I. LOCATION

A. State	Oregon	
B. County	Washington	
C. Township, Range	Sec.16, T2S, R1W	
D. Latitude, Longitude	45°23'N,122°49'W	
E. Stream Name	Tualatin River	
F. Major Basin Name	Lower Willamette	
G. River Mile	9.0 to 15.6	

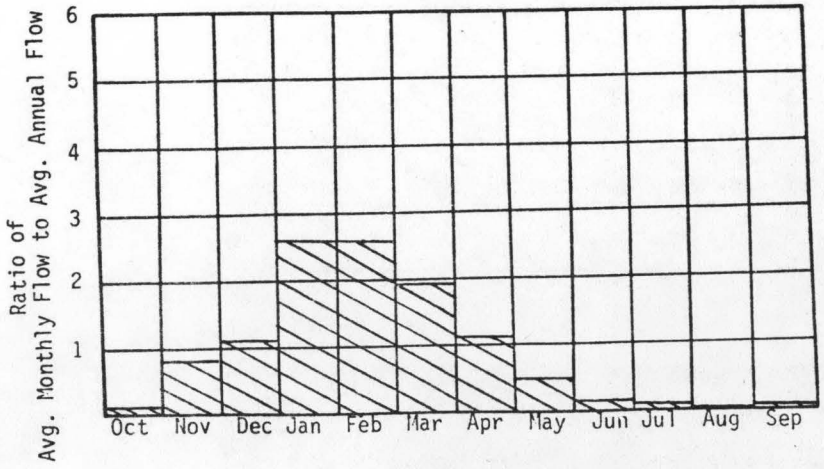
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

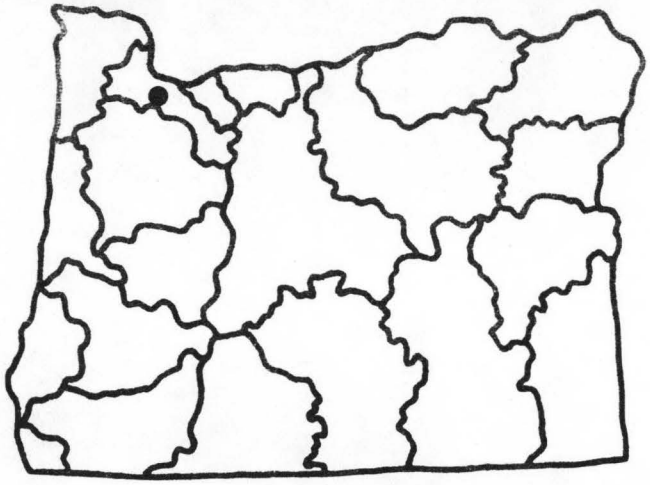
A. Upstream Elevation of Reach	115	Ft. MSL
B. Downstream Elevation of Reach	105	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	1.5	Ft./Mi.
E. Drainage Area above Reach Mouth	665.8	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.5	.02	.14	1.000
80	93.4	.08	.62	.900
50	510.2	.43	2.64	.696
30	1686.6	1.43	6.13	.489
10	4631.5	3.92	10.50	.305

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 1489 CFS





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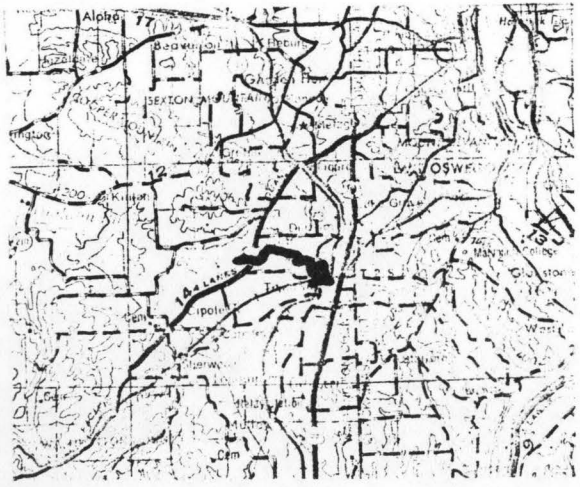


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0003

I. LOCATION

A. State	Oregon	
B. County	Washington	
C. Township, Range	Sec.14, T2S, R2W	
D. Latitude, Longitude	45°23'N,122°54'W	
E. Stream Name	Tualatin River	
F. Major Basin Name	Lower Willamette	
G. River Mile	15.6 to 28.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

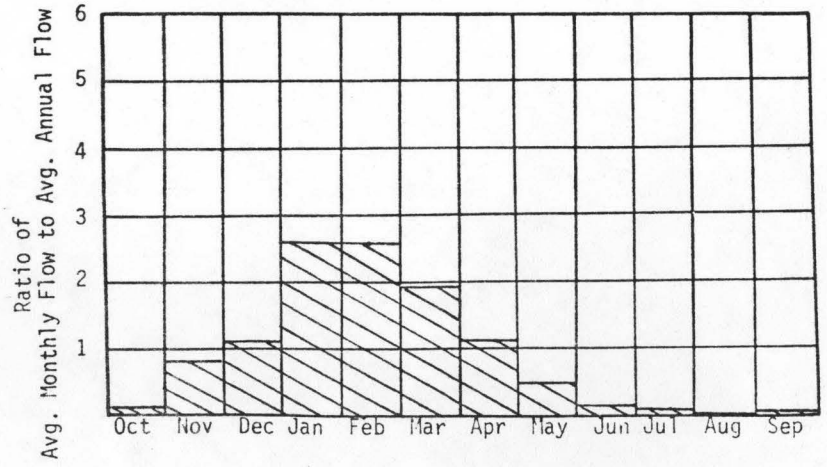
A. Upstream Elevation of Reach	118	Ft. MSL
B. Downstream Elevation of Reach	115	Ft. MSL
C. Total Available Head in Reach	3	Ft.
D. Average Slope in Reach	0.2	Ft./Mi.
E. Drainage Area above Reach Mouth	631.3	Sq.Mi.
F. Inflow Classification	Regulated	

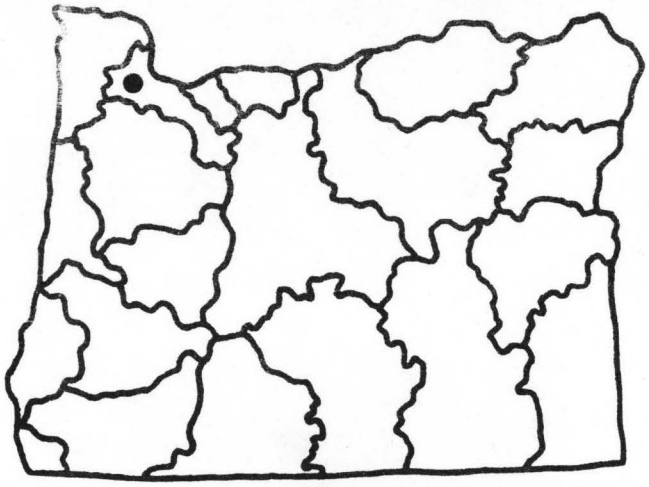
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	18.2	.00	.04	1.000
80	90.9	.02	.18	.900
50	496.5	.13	.77	.696
30	1637.5	.42	1.79	.490
10	4492.9	1.14	3.06	.306

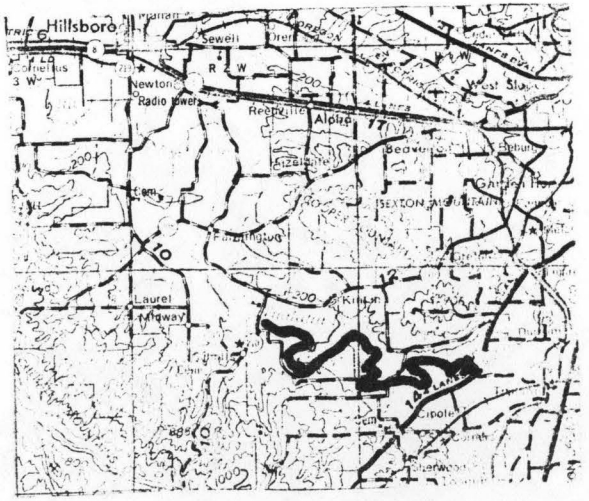
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1450 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0004

I. LOCATION

A. State	Oregon	
B. County	Washington	
C. Township, Range	Sec.32, T1S, R2W	
D. Latitude, Longitude	45°26'N,122°58'W	
E. Stream Name	Tualatin River	
F. Major Basin Name	Lower Willamette	
G. River Mile	28.2 to 38.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

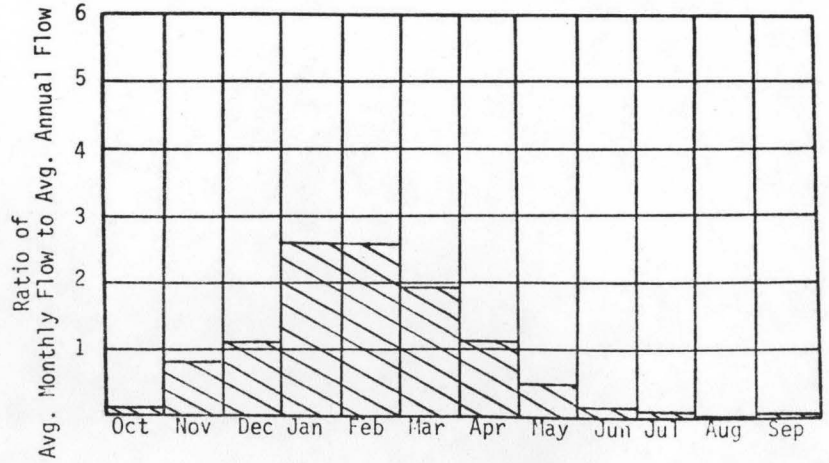
A. Upstream Elevation of Reach	119	Ft. MSL
B. Downstream Elevation of Reach	118	Ft. MSL
C. Total Available Head in Reach	1	Ft.
D. Average Slope in Reach	0.1	Ft./Mi.
E. Drainage Area above Reach Mouth	593.8	Sq.Mi.
F. Inflow Classification	Regulated	

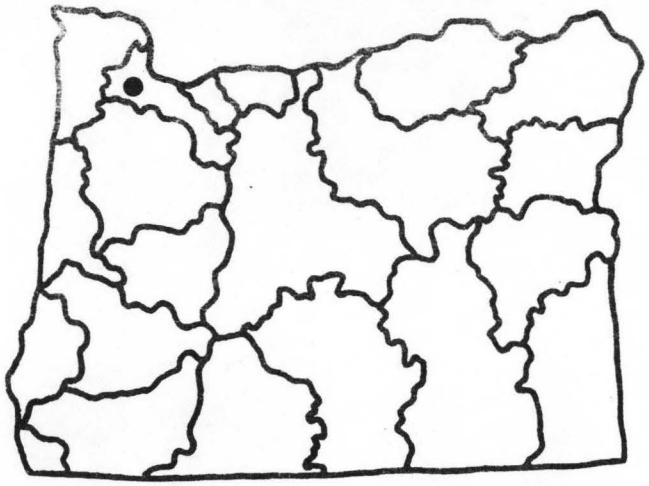
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	17.4	.00	.01	1.000
80	85.3	.01	.06	.900
50	464.9	.04	.24	.696
30	1524.4	.13	.55	.490
10	4174.7	.35	.95	.306

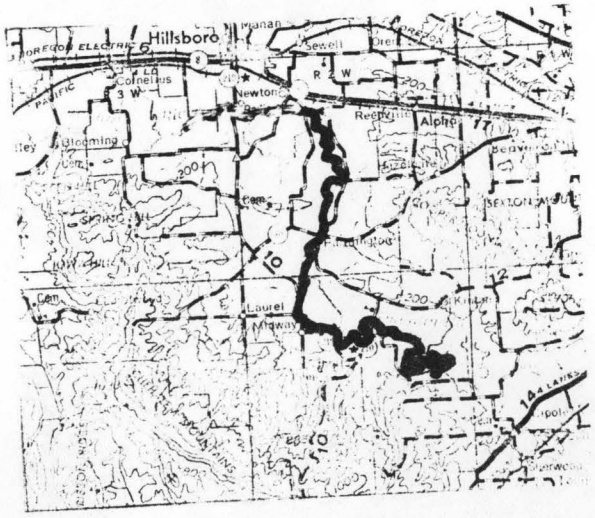
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1360 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-003-R0001

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	T1S, R2W, Sec.4
D.	Latitude, Longitude	45°30'N,122°56'W
E.	Stream Name	Rock Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 4.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

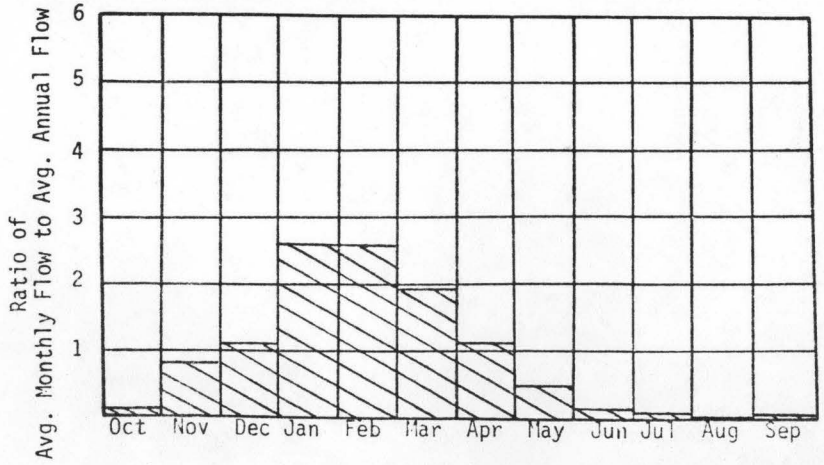
A.	Upstream Elevation of Reach	213	Ft. MSL
B.	Downstream Elevation of Reach	119	Ft. MSL
C.	Total Available Head in Reach	94	Ft.
D.	Average Slope in Reach	23.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	76.9	Sq.Mi.
F.	Inflow Classification	Natural	

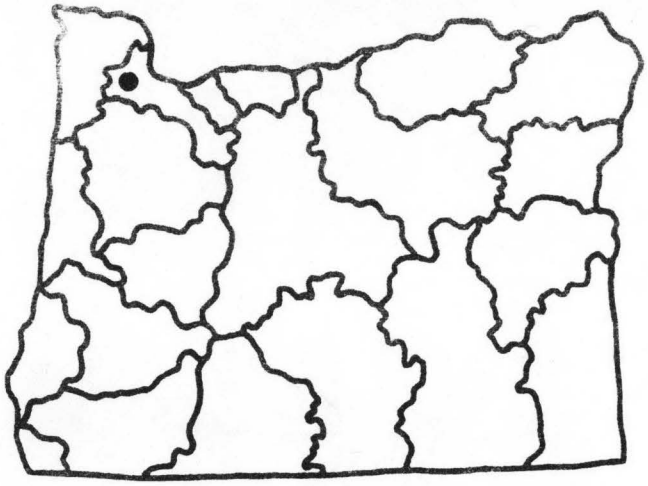
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.03	.25	1.000
80	8.9	.07	.57	.925
50	45.6	.36	2.24	.704
30	122.5	.98	4.39	.513
10	313.5	2.50	7.05	.322

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 140 CFS





U.S.G.S. TOPO. SERIES
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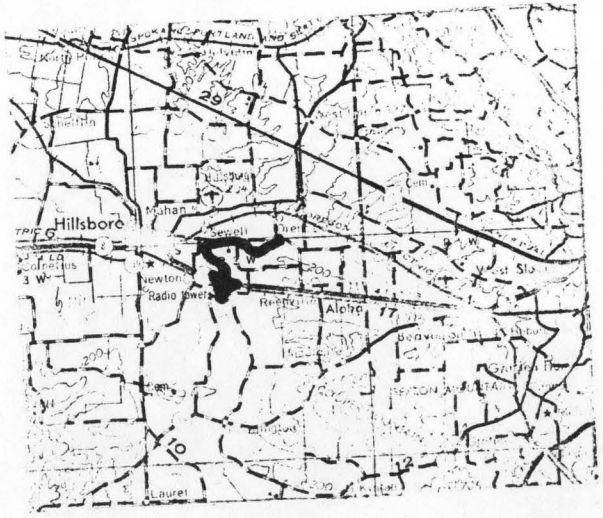


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-003-R0002

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.3, T1N, R1W
D.	Latitude, Longitude	45°31'N,122°55'W
E.	Stream Name	Rock Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	4.0 to H.W.

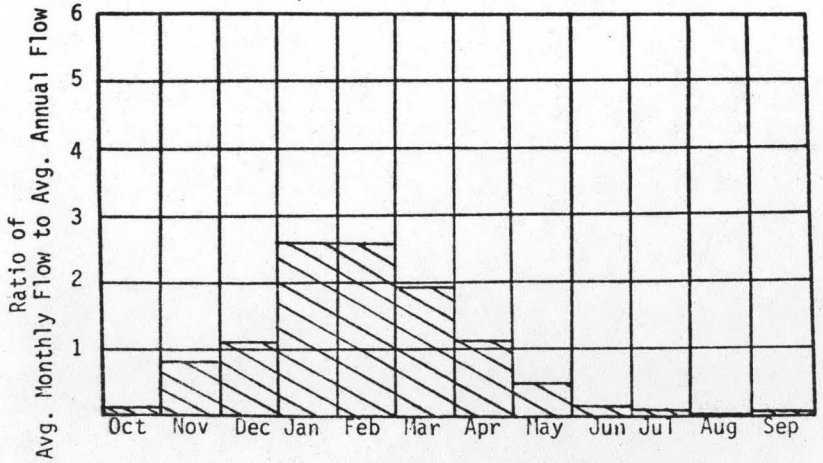
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

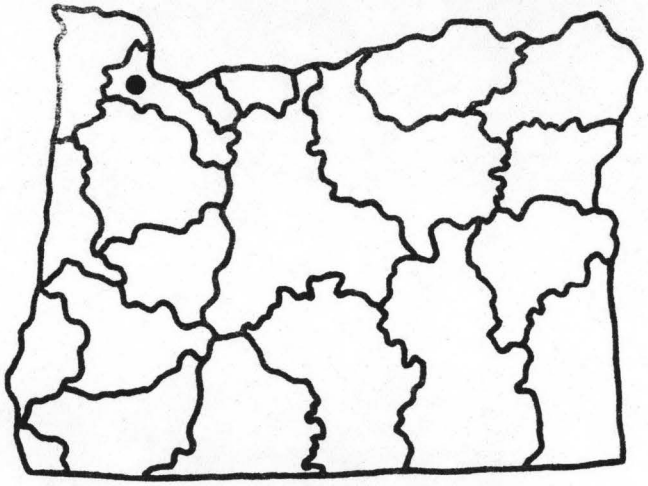
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	63	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

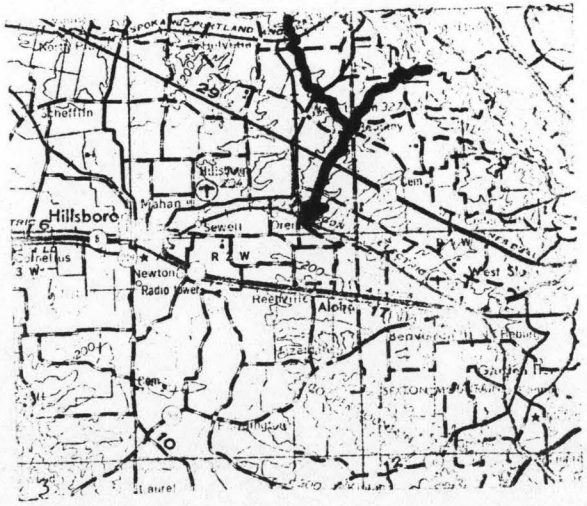
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.02	.16	1.000
80	8.1	.05	.37	.926
50	41.3	.23	1.43	.704
30	110.2	.62	2.78	.514
10	281.1	1.57	4.45	.323

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 127 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0005

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.18, T1S, R2W
D.	Latitude, Longitude	45°28'N,122°59'W
E.	Stream Name	Tualatin River
F.	Major Basin Name	Lower Willamette
G.	River Mile	38.1 to 44.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

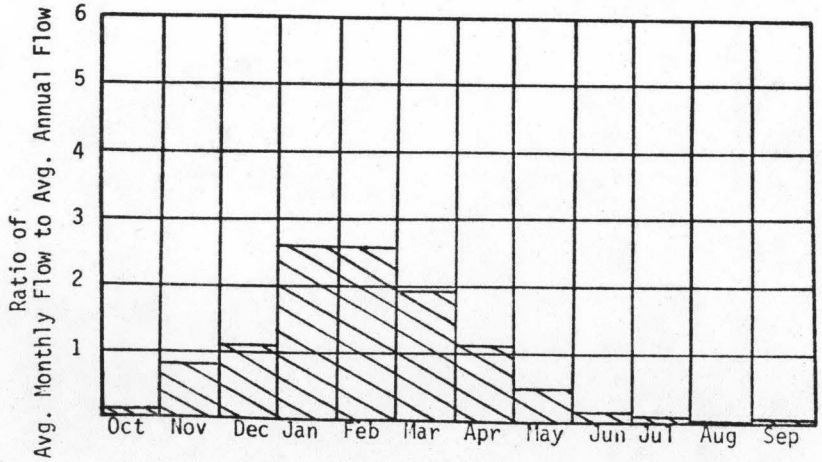
A.	Upstream Elevation of Reach	120	Ft. MSL
B.	Downstream Elevation of Reach	119	Ft. MSL
C.	Total Available Head in Reach	1	Ft.
D.	Average Slope in Reach	0.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	475.8	Sq.Mi.
F.	Inflow Classification	Regulated	

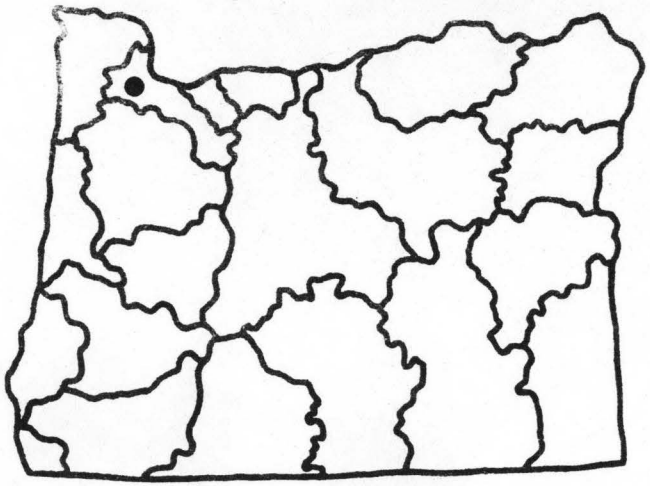
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	15.7	.00	.01	1.000
80	73.7	.01	.05	.902
50	400.0	.03	.21	.696
30	1295.0	.11	.47	.492
10	3530.9	.30	.80	.307

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 1174 CFS





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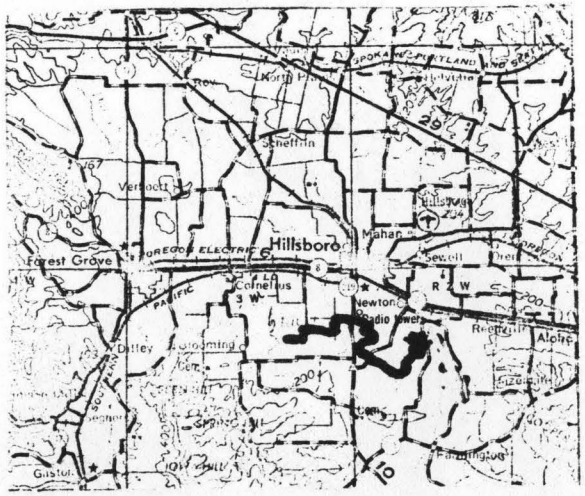
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0001

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.1, T1S, R3W
D.	Latitude, Longitude	45°31'N,123°00'W
E.	Stream Name	Dairy Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 2.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

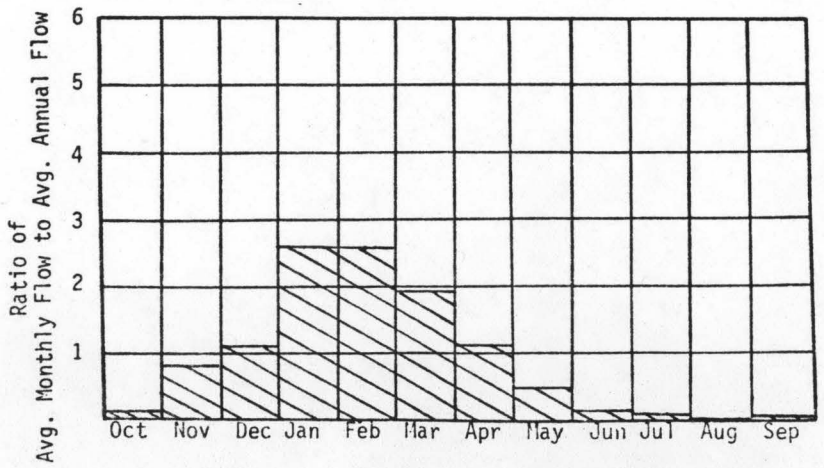
A.	Upstream Elevation of Reach	126	Ft. MSL
B.	Downstream Elevation of Reach	120	Ft. MSL
C.	Total Available Head in Reach	6	Ft.
D.	Average Slope in Reach	2.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	231	Sq.Mi.
F.	Inflow Classification	Natural	

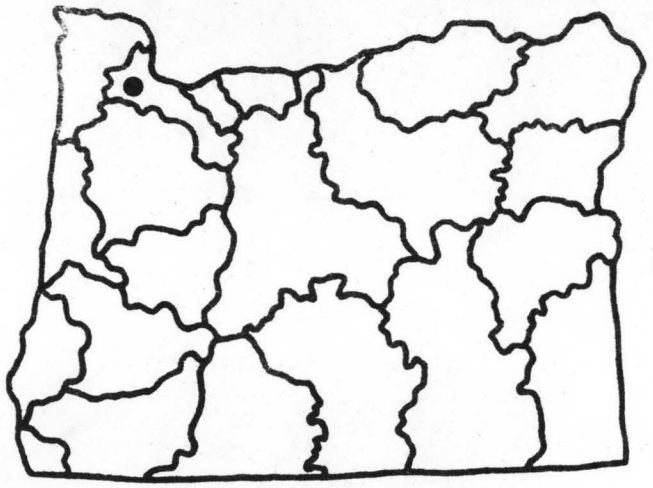
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	8.8	.00	.04	1.000
80	32.3	.02	.13	.909
50	171.5	.09	.53	.699
30	516.5	.26	1.15	.499
10	1373.6	.70	1.91	.313

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 512 CFS





U.S.G.S. TOPO. SERIES
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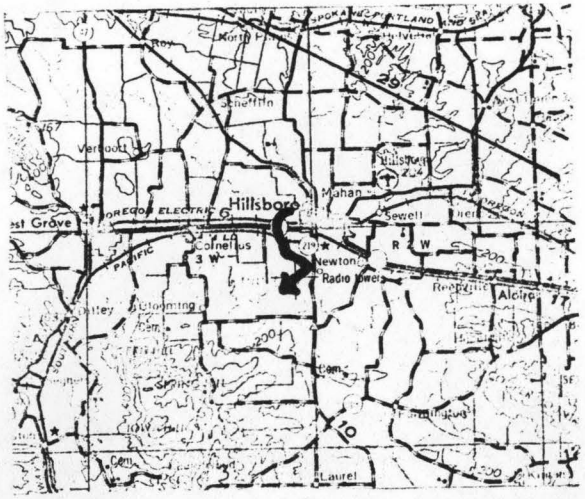


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0002

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.25, T1N, R3W
D.	Latitude, Longitude	45°32'N,123°00'W
E.	Stream Name	McKay Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 5.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

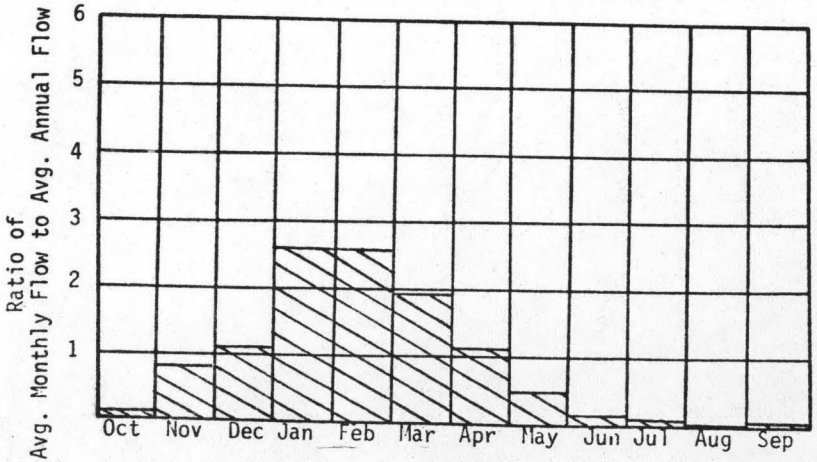
A.	Upstream Elevation of Reach	166	Ft. MSL
B.	Downstream Elevation of Reach	126	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	7.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	71.0	Sq.Mi.
F.	Inflow Classification	Natural	

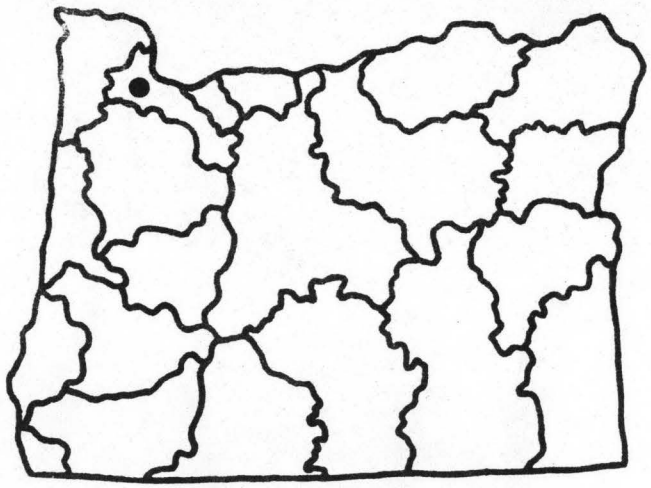
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.6	.01	.11	1.000
80	9.0	.03	.25	.925
50	46.1	.16	.96	.704
30	124.1	.42	1.89	.513
10	317.6	1.08	3.04	.322

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 142 CFS





U.S.G.S. TOPO. SERIES
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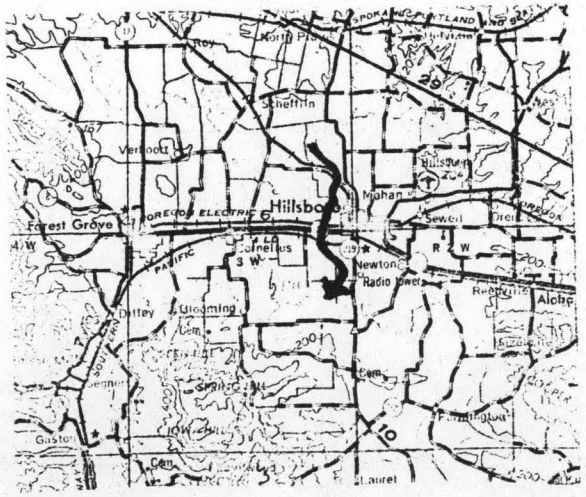


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0003

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.24, T2N, R2W
D.	Latitude, Longitude	45°34'N,123°00'W
E.	Stream Name	McKay Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	5.1 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

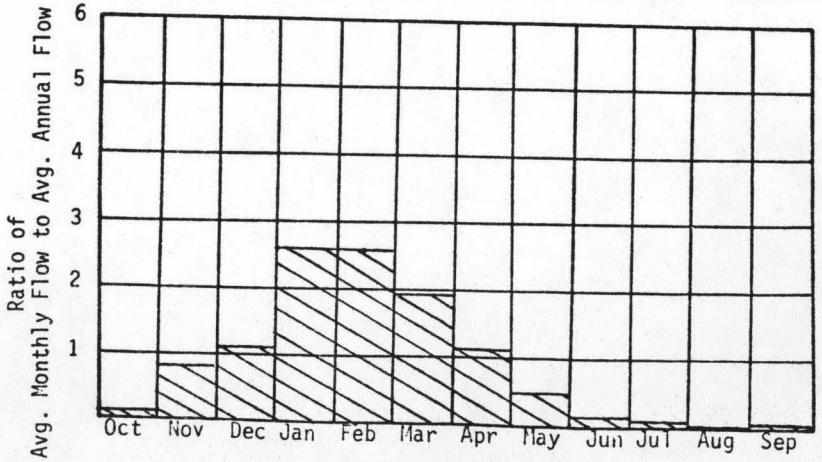
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	59.6	Sq.Mi.
F.	Inflow Classification	Natural	

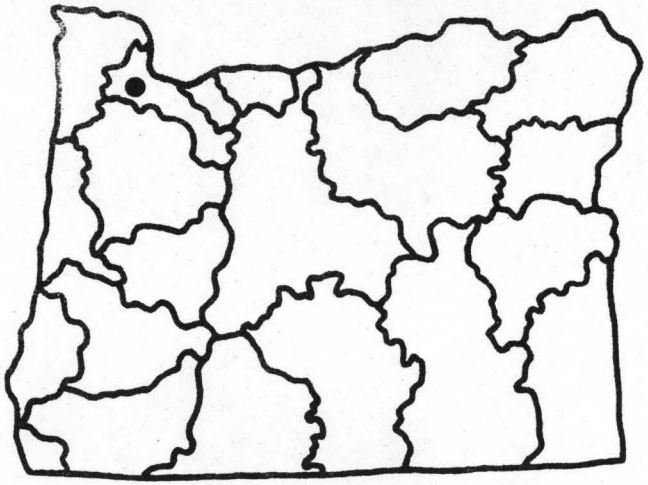
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.4	.02	.17	1.000
80	8.3	.05	.38	.926
50	42.6	.24	1.47	.704
30	114.0	.64	2.87	.514
10	291.0	1.63	4.60	.323

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 131 CFS





U.S.G.S. TOPO. SERIES
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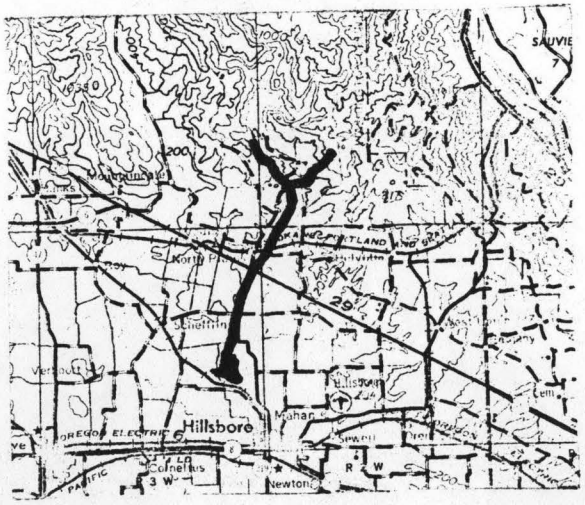
MAP NAME: VANCOUVER

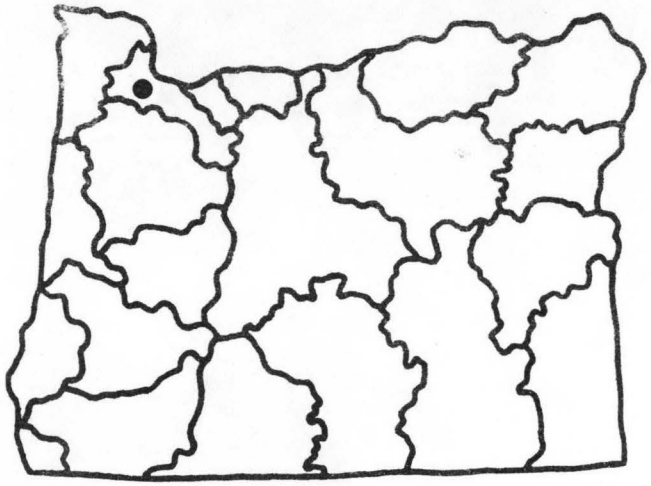


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0004

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.27, T1N, R3W
D.	Latitude, Longitude	45°32'N,123°03'W
E.	Stream Name	Dairy Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	2.4 to 10.1



U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

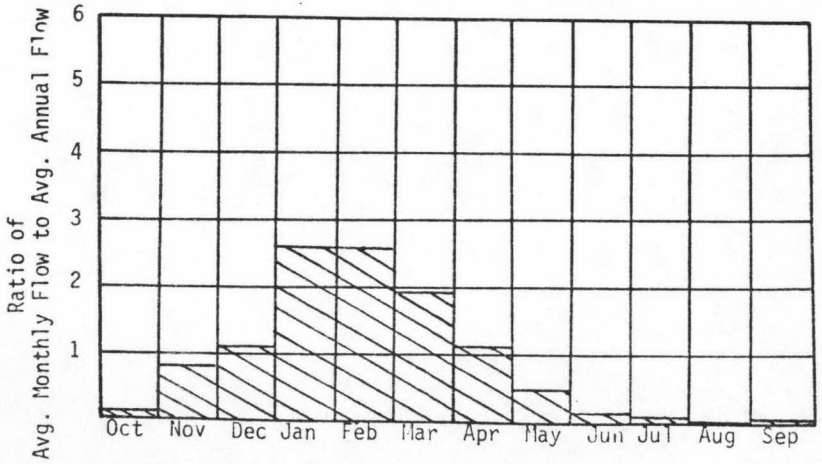
A.	Upstream Elevation of Reach	146	Ft. MSL
B.	Downstream Elevation of Reach	126	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	2.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	157.5	Sq.Mi.
F.	Inflow Classification	Natural	

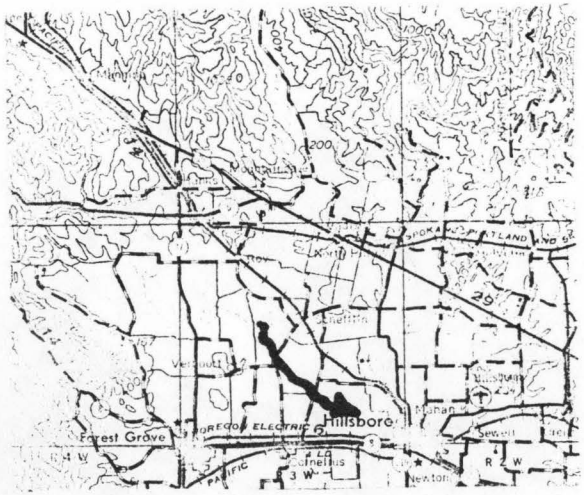
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	6.7	.01	.10	1.000
80	22.0	.04	.30	.913
50	115.6	.20	1.20	.700
30	336.4	.57	2.51	.503
10	884.4	1.50	4.14	.315

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 348 CFS





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0005

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.13, T1N, R4W
D.	Latitude, Longitude	45°34'N,123°07'W
E.	Stream Name	West Fork Dairy Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 7.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

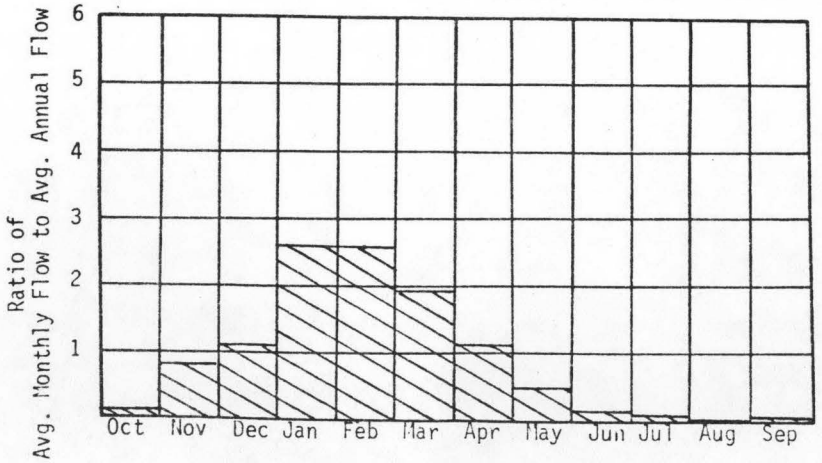
A.	Upstream Elevation of Reach	235	Ft. MSL
B.	Downstream Elevation of Reach	146	Ft. MSL
C.	Total Available Head in Reach	89	Ft.
D.	Average Slope in Reach	13	Ft./Mi.
E.	Drainage Area above Reach Mouth	62.2	Sq.Mi.
F.	Inflow Classification	Natural	

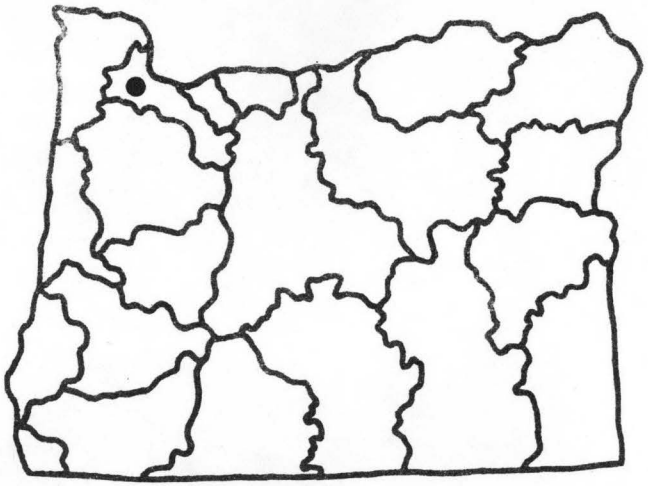
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.5	.03	.23	1.000
80	8.6	.07	.53	.925
50	44.2	.33	2.05	.704
30	118.4	.89	4.02	.513
10	302.6	2.28	6.45	.323

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 136 CFS





U.S.G.S. TOPO. SERIES
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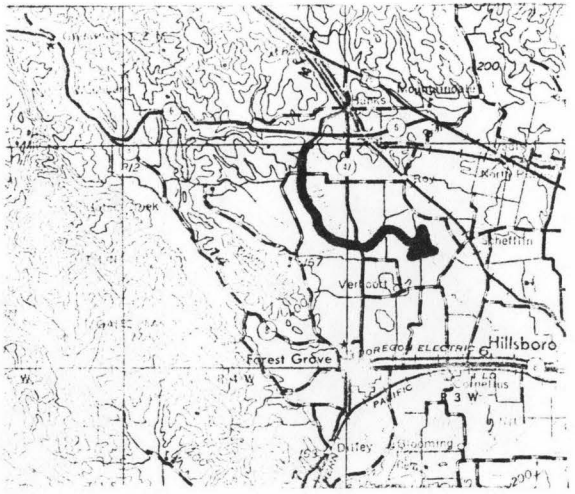
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0006

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.36, T2N, R3W
D.	Latitude, Longitude	45°34'N,123°04'W
E.	Stream Name	West Fork Dairy Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	7.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

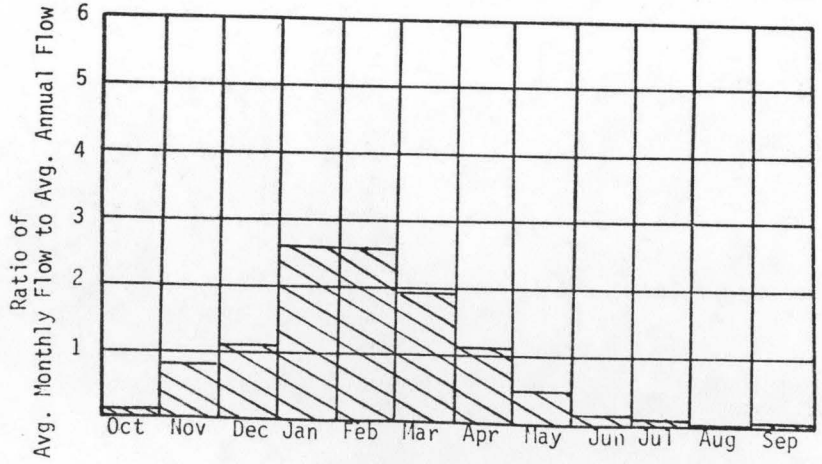
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	45.1	Sq.Mi.
F.	Inflow Classification	Natural	

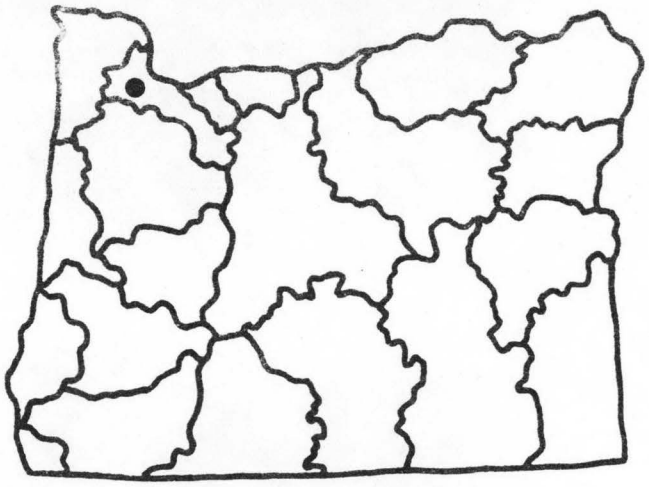
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.2	.02	.16	1.000
80	7.6	.04	.34	.927
50	38.7	.22	1.34	.704
30	102.6	.57	2.59	.515
10	261.2	1.46	4.14	.324

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 120 CFS





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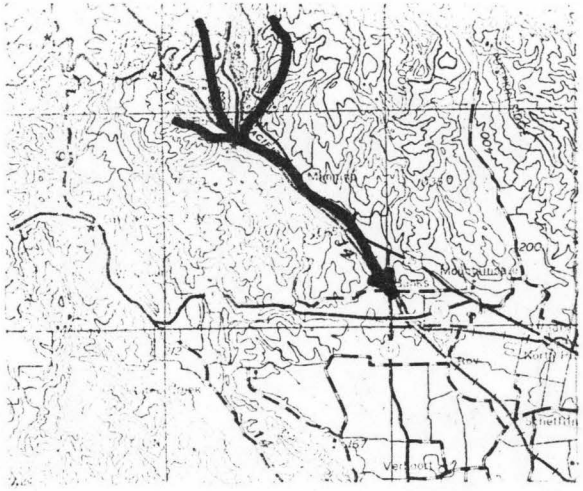


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0007

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.4, T1N, R3W
D.	Latitude, Longitude	45°35'N,123°05'W
E.	Stream Name	East Fork Dairy Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 7.0

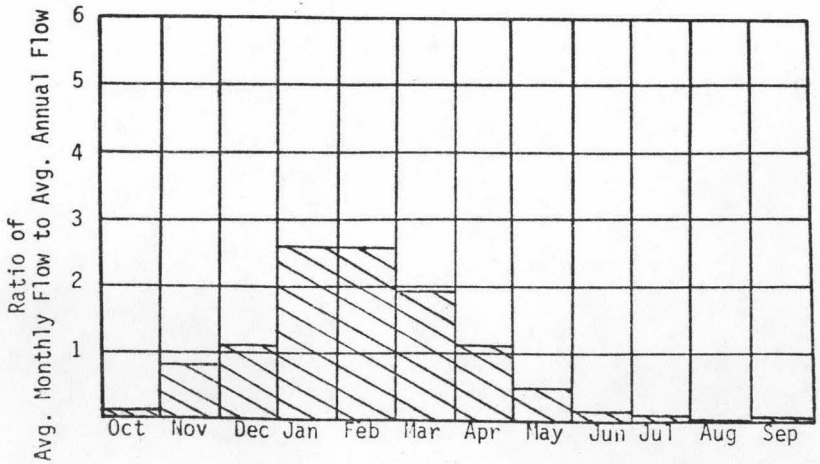
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

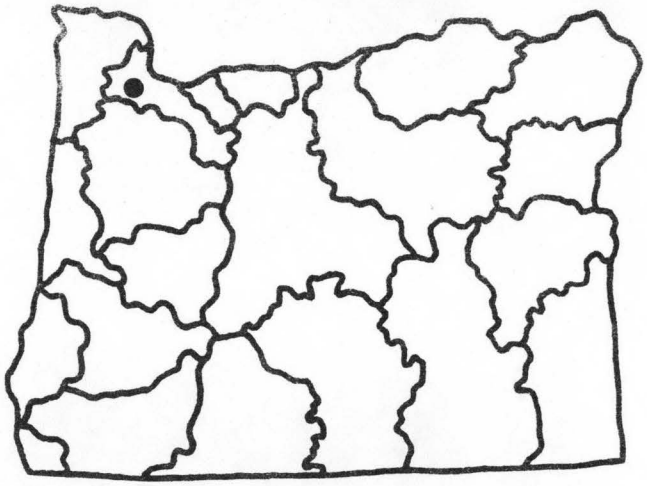
A.	Upstream Elevation of Reach	240	Ft. MSL
B.	Downstream Elevation of Reach	146	Ft. MSL
C.	Total Available Head in Reach	94	Ft.
D.	Average Slope in Reach	13	Ft./Mi.
E.	Drainage Area above Reach Mouth	77.6	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.8	.03	.26	1.000
80	9.6	.08	.62	.924
50	49.4	.39	2.43	.703
30	133.8	1.07	4.78	.512
10	343.1	2.73	7.70	.322

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 152 CFS





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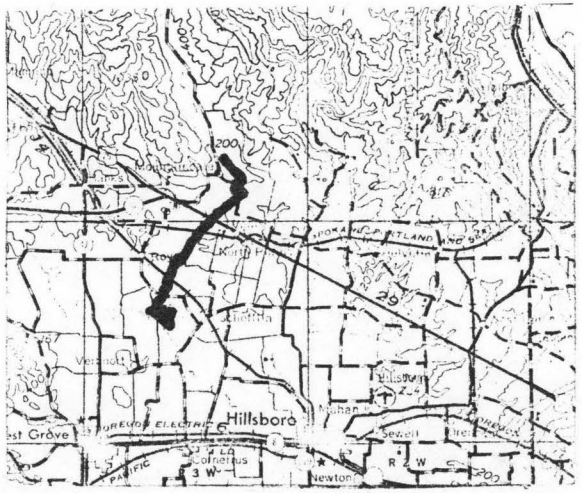


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-005-R0008

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.26, T2N, R3W
D.	Latitude, Longitude	45°37'N,123°02'W
E.	Stream Name	East Fork Dairy Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	7.0 to H.W.

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

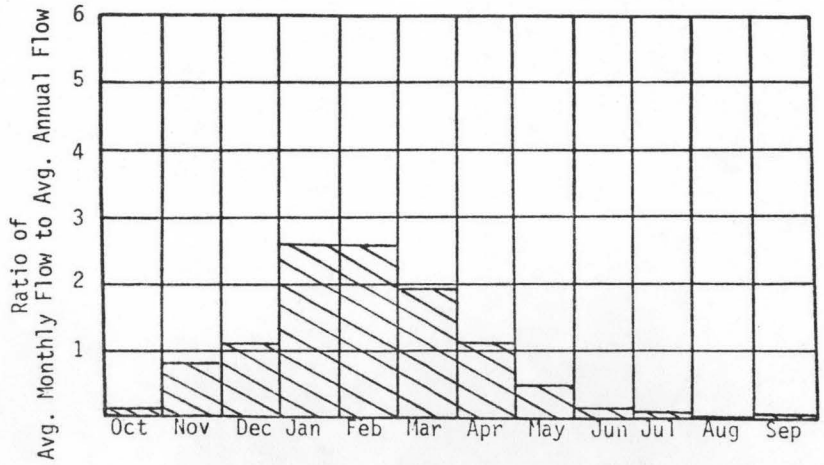
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	48.4	Sq.Mi.
F.	Inflow Classification	Natural	

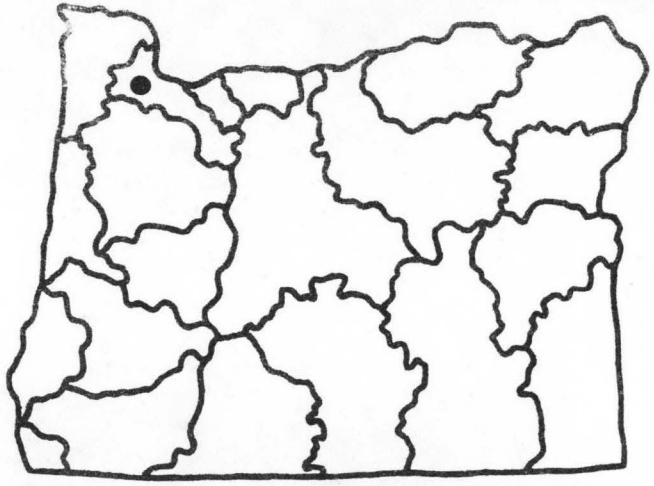
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.2	.02	.16	1.000
80	7.6	.04	.34	.928
50	38.6	.22	1.33	.704
30	102.3	.57	2.58	.515
10	260.5	1.46	4.13	.324

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 119 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0006

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.5, T1S, R3W
D.	Latitude, Longitude	45°31'N,123°02'W
E.	Stream Name	Tualatin River
F.	Major Basin Name	Lower Willamette
G.	River Mile	44.8 to 58.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

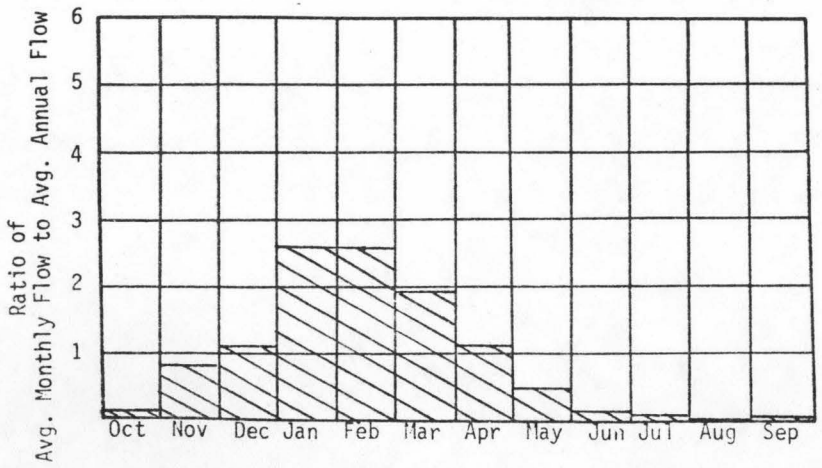
A.	Upstream Elevation of Reach	150	Ft. MSL
B.	Downstream Elevation of Reach	120	Ft. MSL
C.	Total Available Head in Reach	30	Ft.
D.	Average Slope in Reach	2.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	234.5	Sq.Mi.
F.	Inflow Classification	Regulated	

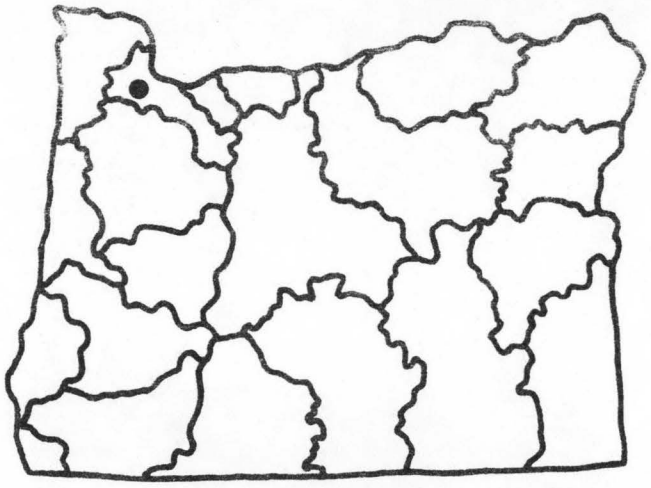
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	10.4	.03	.23	1.000
80	41.0	.10	.83	.907
50	219.3	.56	3.41	.698
30	674.5	1.71	7.46	.497
10	1806.9	4.59	12.51	.311

IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 652 CFS





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1:250,000 SCALE
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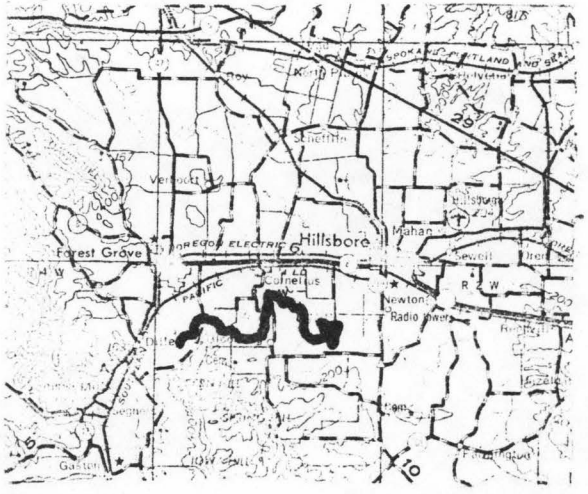


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-007-R0001

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.2, T1S, T1N, R4W
D.	Latitude, Longitude	45°31'N,123°08'W
E.	Stream Name	Gales Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 8.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

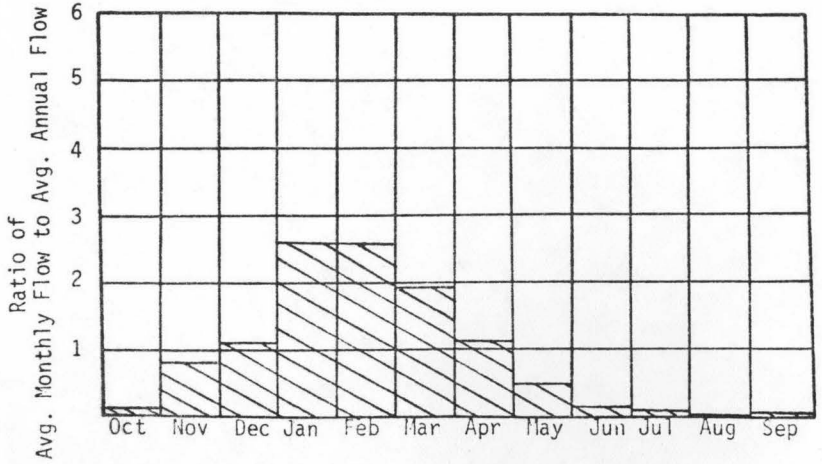
A.	Upstream Elevation of Reach	205	Ft. MSL
B.	Downstream Elevation of Reach	150	Ft. MSL
C.	Total Available Head in Reach	55	Ft.
D.	Average Slope in Reach	6.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	76.4	Sq.Mi.
F.	Inflow Classification	Natural	

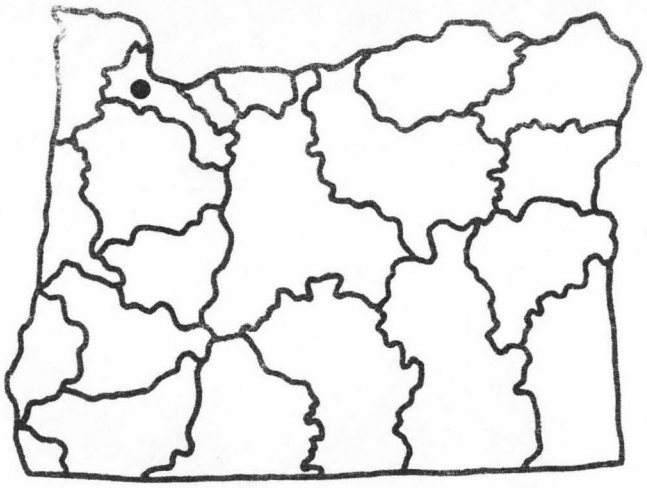
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.02	.19	1.000
80	13.5	.06	.51	.919
50	69.8	.33	2.00	.702
30	194.7	.91	4.04	.508
10	504.2	2.35	6.57	.319

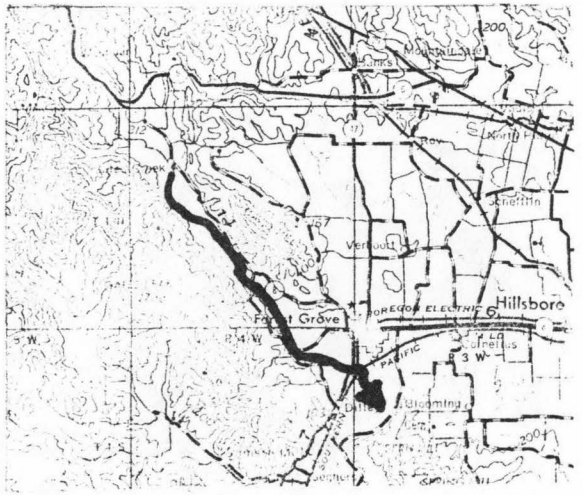
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 212 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-007-R0002

I. LOCATION

A. State	Oregon	
B. County	Washington	
C. Township, Range	Sec.5, T1N, R4W	
D. Latitude, Longitude	45°35'N,123°13'W	
E. Stream Name	Gales Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	8.7 to 16.5	

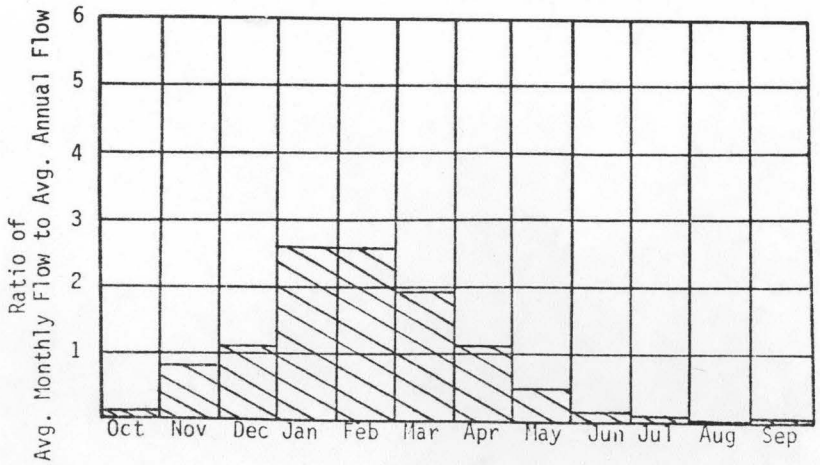
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

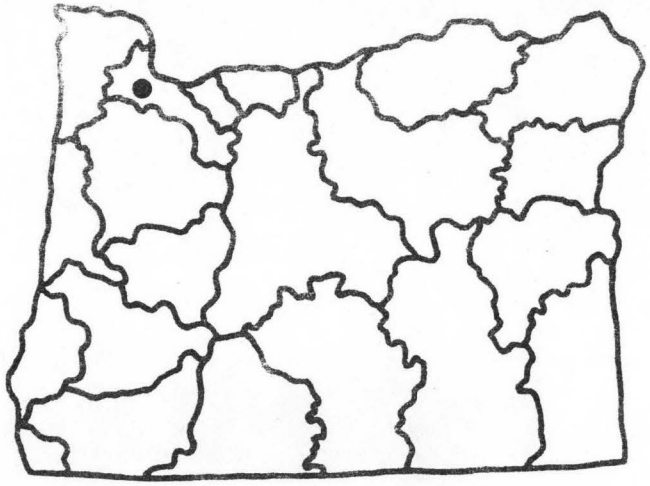
A. Upstream Elevation of Reach	440	Ft. MSL
B. Downstream Elevation of Reach	205	Ft. MSL
C. Total Available Head in Reach	235	Ft.
D. Average Slope in Reach	30.1	Ft./Mi.
E. Drainage Area above Reach Mouth	67.3	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

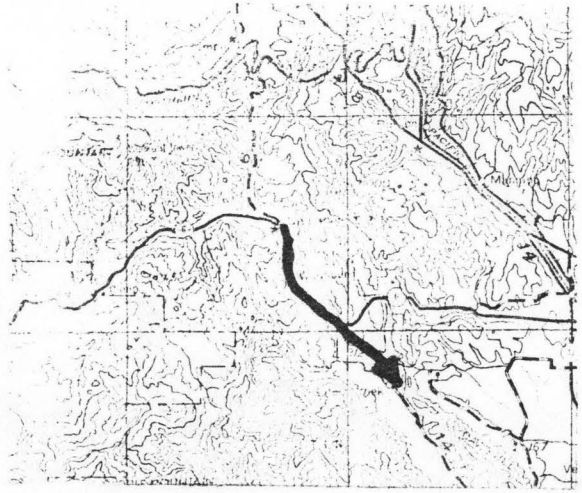
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.9	.08	.68	1.000
80	10.2	.20	1.64	.923
50	52.4	1.04	6.42	.703
30	142.4	2.84	12.71	.511
10	365.9	7.29	20.51	.321

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 160 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-007-R0003

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.26, T2N, R5W
D.	Latitude, Longitude	45°37'N,123°16'W
E.	Stream Name	Gales Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	16.5 to H.W.

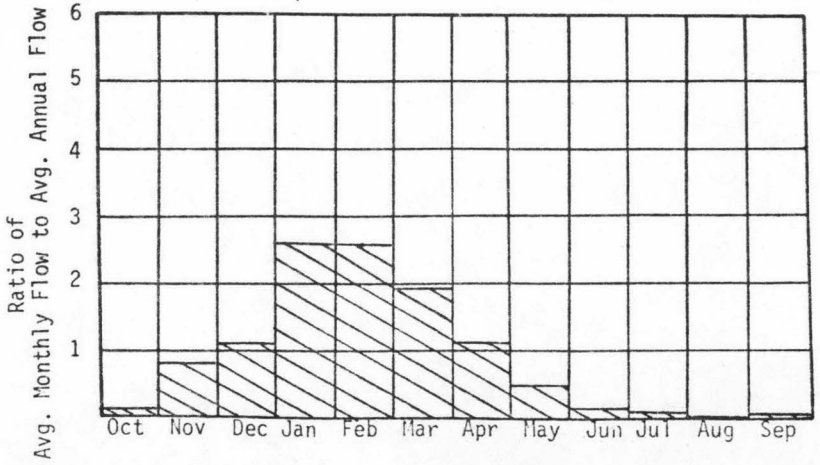
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

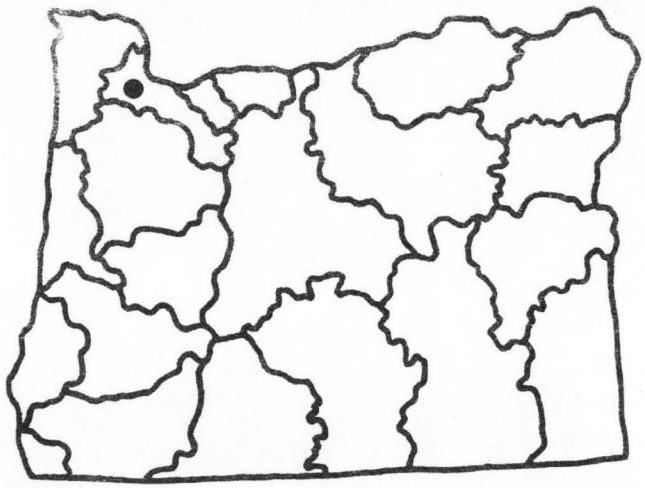
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	36.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

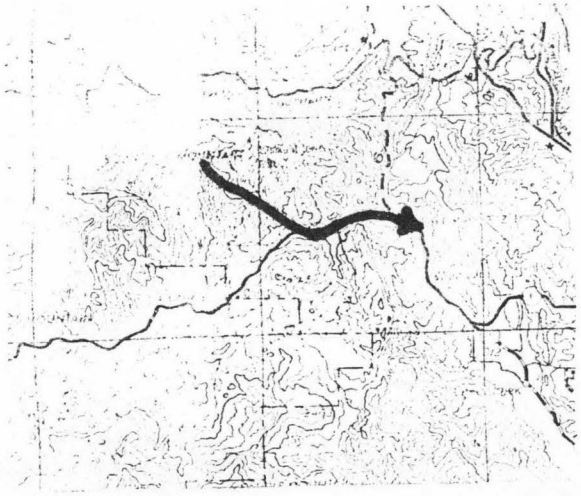
EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.2	.02	.16	1.000
80	7.5	.04	.34	.928
50	38.5	.22	1.33	.704
30	102.1	.57	2.57	.515
10	259.8	1.45	4.12	.324

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 119 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0007

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.13, T1S, R4W
D.	Latitude, Longitude	45°28'N,123°08'W
E.	Stream Name	Tualatin River
F.	Major Basin Name	Lower Willamette
G.	River Mile	58.5 to 62.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

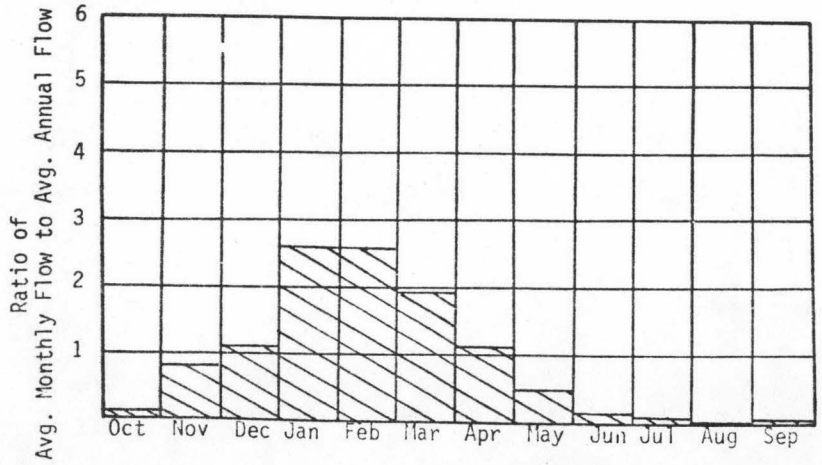
A.	Upstream Elevation of Reach	177	Ft. MSL
B.	Downstream Elevation of Reach	150	Ft. MSL
C.	Total Available Head in Reach	27	Ft.
D.	Average Slope in Reach	6.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	140.2	Sq.Mi.
F.	Inflow Classification	Regulated	

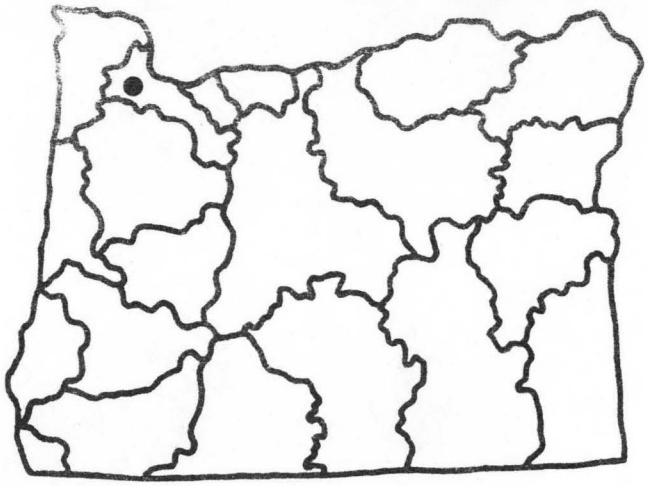
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	7.5	.02	.15	1.000
80	25.5	.06	.47	.912
50	134.5	.31	1.89	.700
30	396.5	.91	3.99	.502
10	1047.1	2.40	6.59	.314

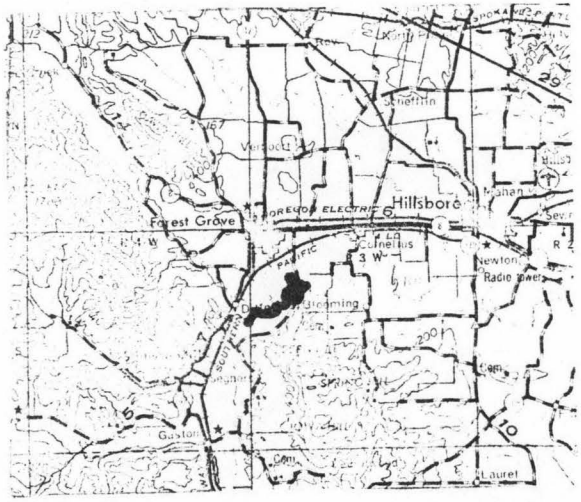
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 404 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-009-R0001

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.28, T1S, R4W
D.	Latitude, Longitude	45°27'N,123°11'W
E.	Stream Name	Scoggin Creek
F.	Major Basin Name	Lower Willamette
G.	River Mile	0.0 to 4.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

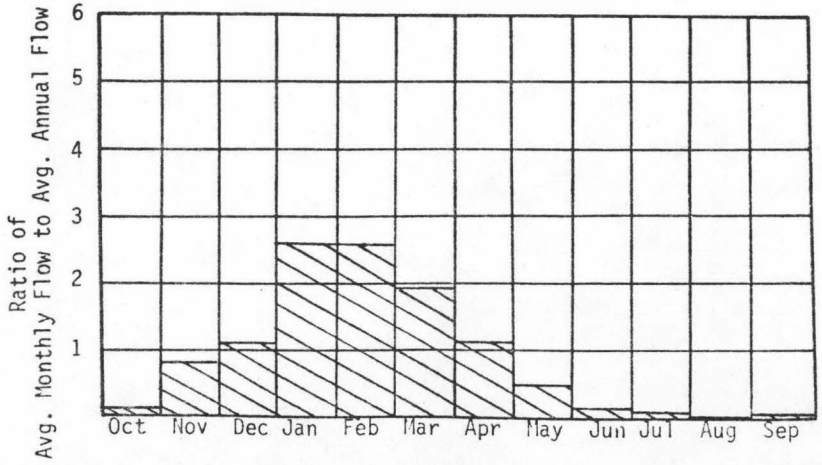
A.	Upstream Elevation of Reach	210	Ft. MSL
B.	Downstream Elevation of Reach	177	Ft. MSL
C.	Total Available Head in Reach	33	Ft.
D.	Average Slope in Reach	5.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	43.0	Sq.Mi.
F.	Inflow Classification	Regulated	

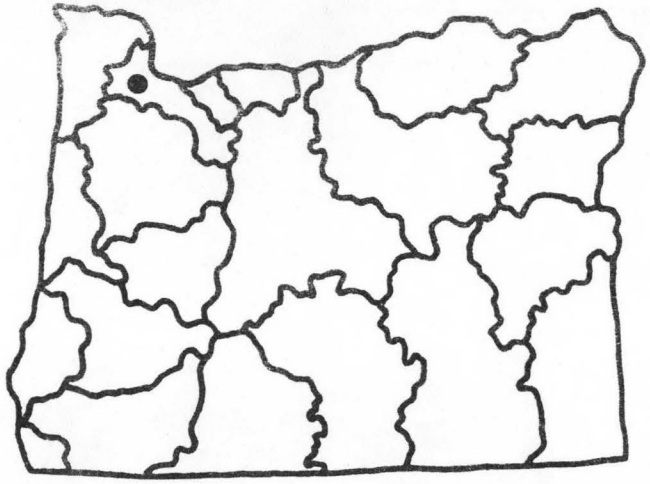
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.3	.01	.08	1.000
80	8.0	.02	.18	.927
50	40.7	.11	.70	.704
30	108.3	.30	1.36	.514
10	276.1	.77	2.19	.323

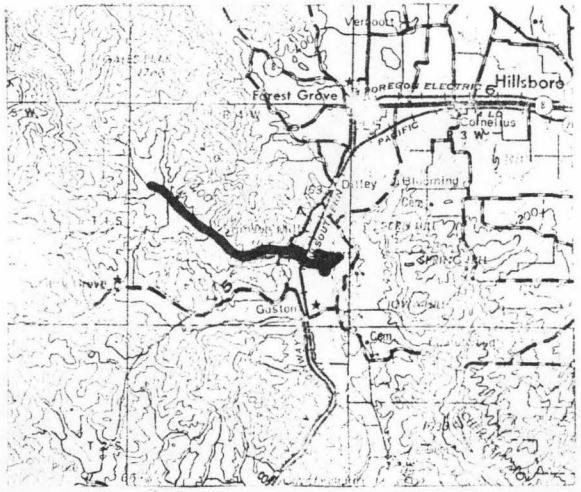
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 126 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-009-R0002

I. LOCATION

A. State	Oregon	
B. County	Washington	
C. Township, Range	Sec.18, T1S, R4W	
D. Latitude, Longitude	45°28'N,123°13'W	
E. Stream Name	Scoggin Creek	
F. Major Basin Name	Lower Willamette	
G. River Mile	6.3 to H.W.	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

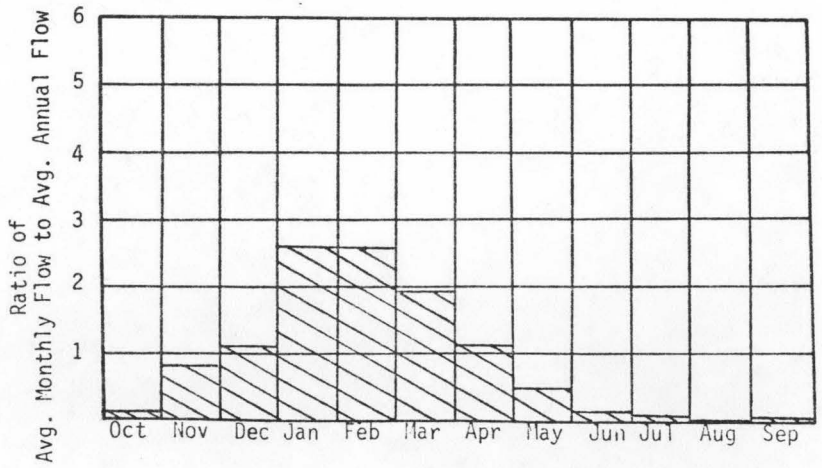
A. Upstream Elevation of Reach	--	Ft. MSL
B. Downstream Elevation of Reach	--	Ft. MSL
C. Total Available Head in Reach	66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	36.7	Sq.Mi.
F. Inflow Classification	Natural	

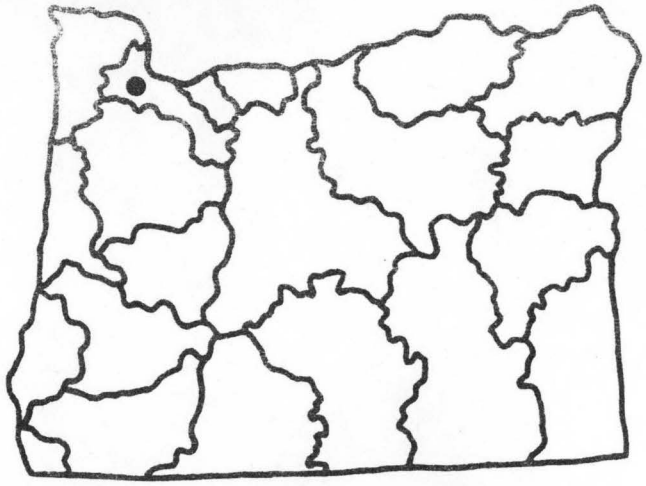
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	3.2	.02	.15	1.000
80	7.5	.04	.34	.928
50	38.2	.21	1.32	.704
30	101.0	.56	2.55	.515
10	257.0	1.44	4.08	.324

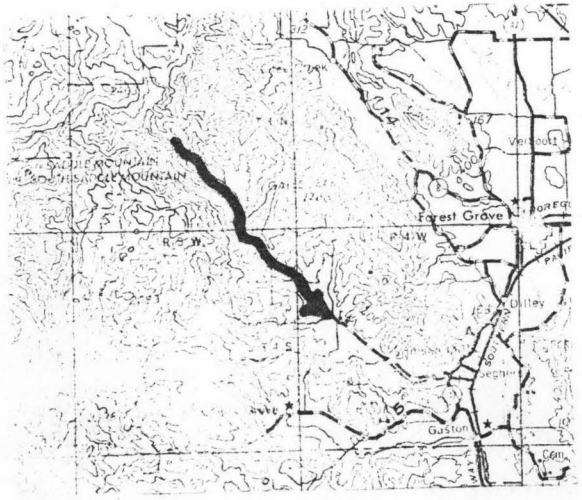
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 118 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0008

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	T1S, R4W, Sec.33
D.	Latitude, Longitude	45°26'N,123°10'W
E.	Stream Name	Tualatin River
F.	Major Basin Name	Lower Willamette
G.	River Mile	62.9 to 71.0

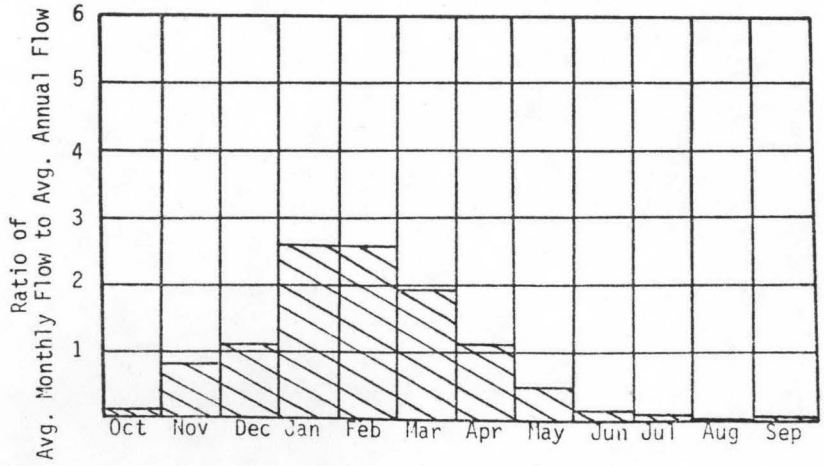
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

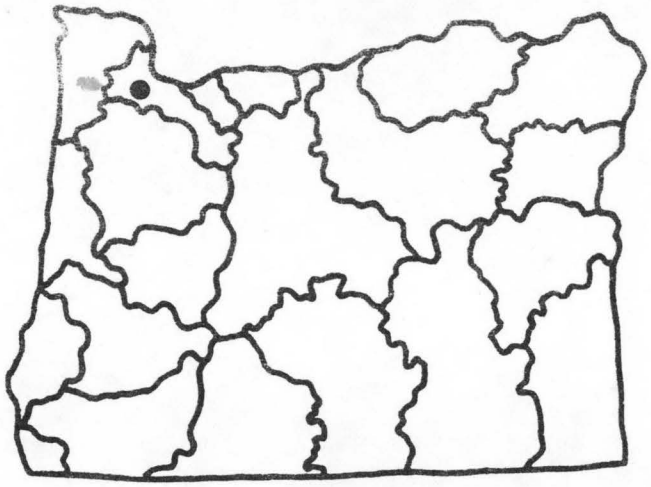
A.	Upstream Elevation of Reach	225	Ft. MSL
B.	Downstream Elevation of Reach	177	Ft. MSL
C.	Total Available Head in Reach	48	Ft.
D.	Average Slope in Reach	5.93	Ft./Mi.
E.	Drainage Area above Reach Mouth	81.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.8	.02	.17	1.000
80	13.6	.06	.44	.919
50	70.3	.29	1.76	.702
30	196.1	.80	3.55	.508
10	508.2	2.07	5.78	.319

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 214 CFS





U.S.G.S. TOPO. SERIES
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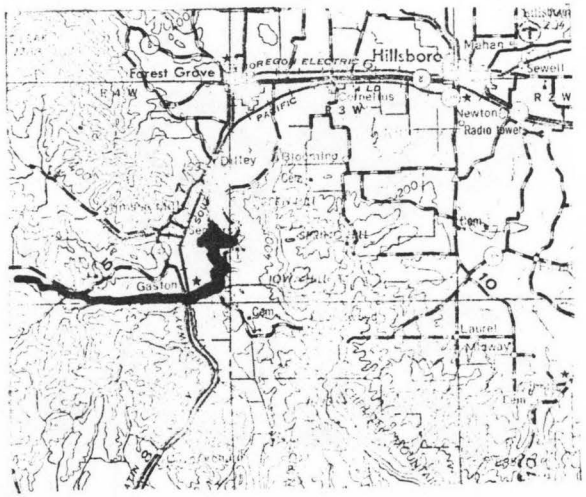
MAP NAME: VANCOUVER



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-029-000-R0009

I. LOCATION

A.	State	Oregon
B.	County	Washington
C.	Township, Range	Sec.31, T1S, R4W
D.	Latitude, Longitude	45°26'N,123°14'W
E.	Stream Name	Tualatin River
F.	Major Basin Name	Lower Willamette
G.	River Mile	71.0 to H.W.

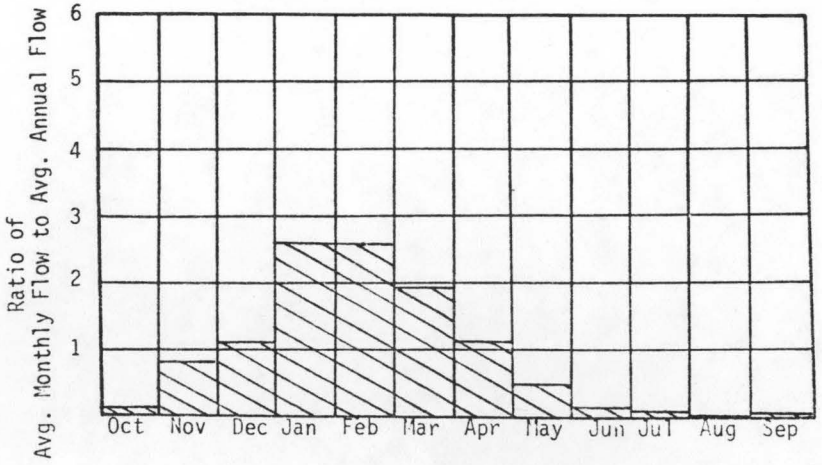
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

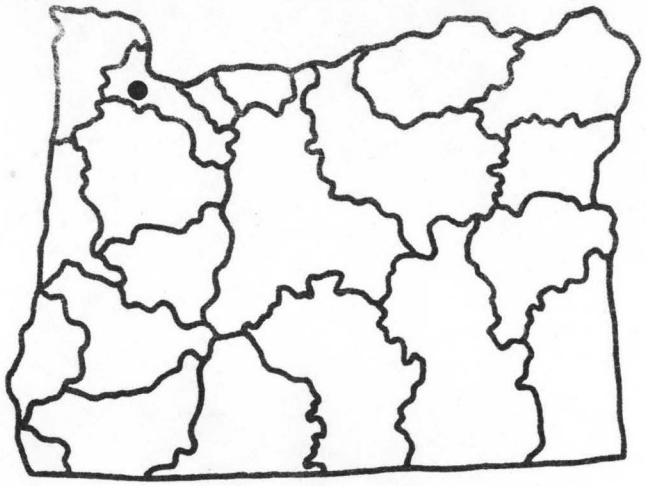
A.	Upstream Elevation of Reach	--	Ft. MSL
B.	Downstream Elevation of Reach	--	Ft. MSL
C.	Total Available Head in Reach	66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	40.5	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	4.1	.02	.20	1.000
80	10.7	.06	.48	.922
50	55.3	.31	1.90	.703
30	151.1	.85	3.78	.511
10	388.8	2.17	6.11	.321

IV. TYPICAL ANNUAL HYDROGRAPH AVG. ANNUAL FLOW = 169 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
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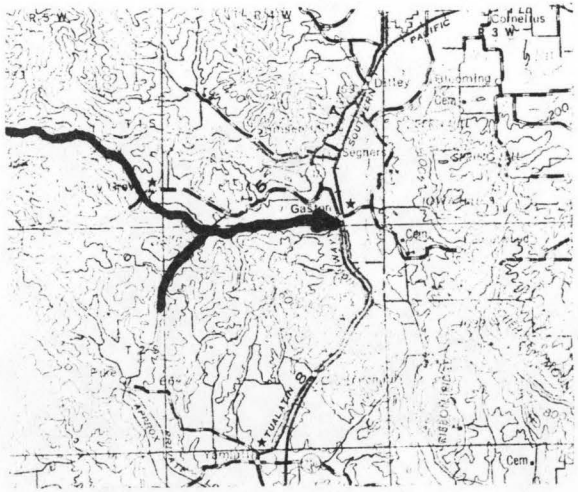


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 02-500-060-000-000-R0004

I. LOCATION

A.	State	Oregon
B.	County	Clackamas
C.	Township, Range	Sec.15, T3S, R1E
D.	Latitude, Longitude	45°19'N,122°39'W
E.	Stream Name	Willamette River
F.	Major Basin Name	Lower Willamette
G.	River Mile	28.4 to 32.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

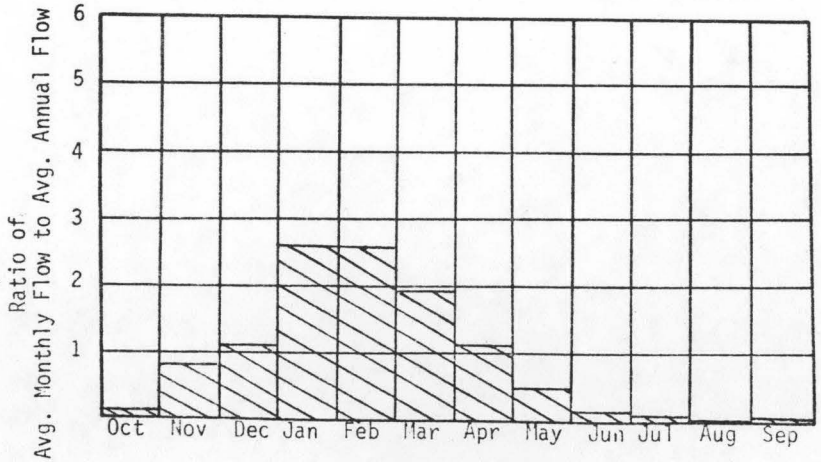
A.	Upstream Elevation of Reach	60	Ft. MSL
B.	Downstream Elevation of Reach	50	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	2.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	7229.1	Sq.Mi.
F.	Inflow Classification	Regulated	

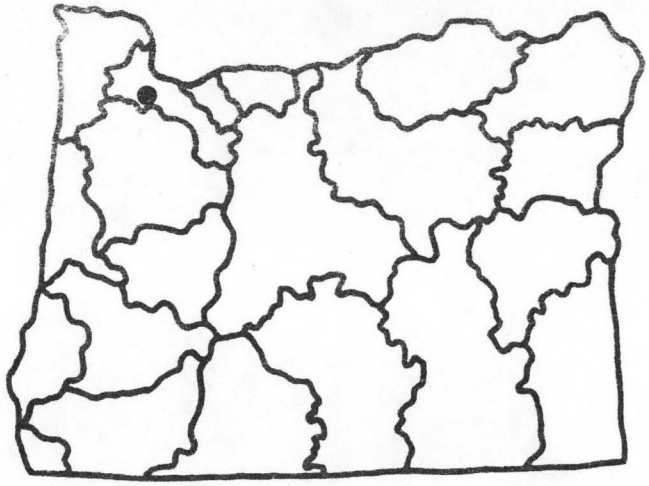
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

EXCEEDANCE PERCENTAGE	DISCHARGE CFS	THEORETICAL PLANT SIZE MW	ANNUAL ENERGY AVAILABLE GWH	PLANT FACTOR
95	5693.0	4.82	42.26	1.000
80	8475.7	7.18	60.34	.959
50	19361.7	16.41	112.87	.785
30	30577.3	25.91	146.17	.644
10	67268.8	57.01	200.65	.402

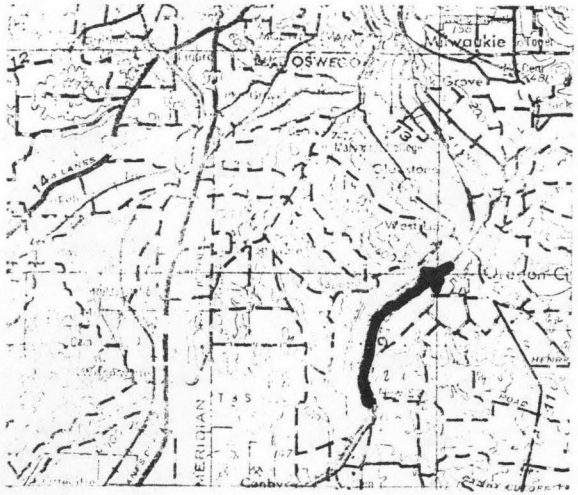
IV. TYPICAL ANNUAL HYDROGRAPH

AVG. ANNUAL FLOW = 29043 CFS





U.S.G.S. TOPO. SERIES
1:250,000 SCALE
MAP NAME: VANCOUVER



FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-								
039-001-000-R0001	X	-	-	X	0.1	P-57KV	1,2	0.5
039-001-000-R0002	-	X	X	X	0.6	115-P	1,2	2.5
02-500-060-								
000-000-R0001	-	X	X	X	1.0	115-PPL	1,2	1.0
018-000-R0001	-	X	X	X	0.5	115-P	1,2	1.0
000-000-R0002	X	X	X	X	1.2	115-P	1,2	1.0
024-000-R0001	-	X	X	X	0.7	115-P	-	7.0
024-003-R0001	-	X	X	X	0.7	230-500/B	-	10.8
024-003-R0002	-	-	-	X	0.5	57-P	1	2.0
024-003-R0003	-	-	-	X	3.5	57-P	1	5.0
024-000-R0002	X	-	-	X	1.2	230/500-B	-	7.8
024-004-R0001	-	-	-	X	1.4	57-P	1	3.4
024-004-R0002	-	-	-	X	3.0	57-P	1	3.8

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
024-004-R0003	-	-	-	X	2.5	2-115-P	1	5.0
024-004-R0004	-	-	-	X	4.3	2-115-P	-	8.4
024-000-R0003	X	X	X	X	0.2	57-P	1	1.0
024-005-R0001	-	-	-	X	0.2	2-115-P	-	6.2
024-000-R0004	-	X	-	X	0.3	2-115-P	-	7.4
024-000-R0005	-	X	-	X	0.5	2-115-P	-	7.7
024-006-R0001	-	-	-	X	3.2	2-115-P	1	4.3
024-006-R0002	-	-	-	X	6.3	2-115-P	-	6.3
024-000-R0006	-	X	-	X	0.4	2-115-P	1	4.1
024-007-R0001	-	-	-	X	2.2	2-115-P	1	3.7
024-007-R0002	-	-	-	-	3.8	2-115-P	-	5.3
024-000-R0007	-	X	X	X	0.4	2-115-P	1	0.4
024-009-R0001	-	-	-	X	4.2	500-B	1	5.0

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
024-009-R0002	-	-	-	-	3.2	500-B	-	10.6
024-009-R0003	-	-	-	-	4.9	500-B	-	15.2
024-000-R0008	-	-	-	X	2.0	500-B	1	4.8
024-011-R0001	-	-	-	X	1.2	500-B	-	7.9
024-011-R0002	-	-	-	X	0.9	500-B	-	10.7
024-011-R0003	-	-	-	-	1.3	500-B	-	13.3
024-011-R0004	-	-	-	-	1.3	500-B	-	13.3
024-000-R0002	-	-	-	X	5.0	500-B	-	12.3
024-013-R0001	-	-	-	-	6.8	230-P	-	15.8
024-000-R0009	-	X	-	X	0.2	500-B	-	8.3
024-000-R0010	-	X	-	X	2.8	500-B	-	12.6
024-014-R0001	-	-	-	X	3.9	500-B	-	13.6
024-000-R0011	-	-	-	X	5.7	500-B	-	15.1

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
024-000-R0012	-	-	-	X	3.6	230-P	-	18.6
024-000-R0013	-	-	-	X	2.1	230-P	-	20.0
000-000-R0003	-	X	-	X	0.6	230-P	1,2	1.4
029-000-R0001	-	-	X	X	0.6	115-P	1,2	3.6
029-000-R0002	-	-	X	X	0.4	115-P	1,2	0.3
029-000-R0003	-	-	-	X	0.6	500-B	1	2.3
029-000-R0004	-	-	-	X	2.6	500-B	-	5.6
029-003-R0001	-	-	-	-	2.6	500-B	1	2.6
029-003-R0002	X	-	-	-	1.3	500-B	1	3.4
029-000-R0005	-	-	-	X	3.3	57-P	1	2.8
029-005-R0001	-	-	-	X	1.0	57-P	1	1.0
029-005-R0002	-	-	-	X	0.5	2-115-B	1	2.4
029-005-R0003	X	-	-	X	1.0	2-115-B	1	3.6

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
029-005-R0004	-	-	-	X	0.2	2-115-B	1	3.9
029-005-R0005	-	-	-	X	0.8	57-P	1	3.7
029-005-R0006	-	-	-	X	0.6	57-P	-	6.6
029-005-R0007	-	-	-	X	0.8	57-P	-	6.0
029-005-R0008	-	-	-	X	0.6	57-P	-	7.3
029-000-R0006	-	-	-	X	1.6	57-P	1	3.3
029-007-R0001	-	-	-	X	1.5	57-P	1	0.7
029-007-R0002	-	-	-	X	0.3	115-B	-	6.2
029-007-R0003	-	-	-	X	0.2	115-B	-	8.8
029-000-R0007	-	-	-	X	0.2	57-P	-	3.9
029-009-R0001	-	-	-	X	0.3	57-P	-	5.5
029-009-R0002	-	-	-	X	1.0	57-P	-	5.2
029-000-R0008	-	X	X	X	1.5	57-P	-	6.8

FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
02-500-060-								
029-000-R0009	-	-	-	X	2.8	57-P	-	7.7
000-000-R0004	-	X	X	X	0.6	500-B	-	3.2