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

VOLUME D
APPENDIX I
WASHINGTON REACH DATA TABLES CONTINUED

A RESOURCE SURVEY OF

LOW-HEAD HYDROELECTRIC POTENTIAL

PACIFIC NORTHWEST REGION

JOHN S. GLADWELL
LEROY F. HEITZ
CALVIN C. WARNICK
IDAHO WATER RESOURCES RESEARCH INSTITUTE

IN COOPERATION WITH

CLAUD C. LOMAX
STATE OF WASHINGTON WATER RESEARCH CENTER

PETER C. KLINGEMAN
OREGON WATER RESOURCES RESEARCH INSTITUTE

ALFRED B. CUNNINGHAM
MONTANA UNIVERSITY JOINT WATER RESOURCES RESEARCH CENTER

THIS PROJECT FUNDED BY THE
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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Volume C	Appendix I, Washington Reach Data Tables continued
Volume D	Appendix I, Washington Reach Data Tables continued
Volume E	Appendix II Oregon Reach Data Tables
Volume F	Appendix II Oregon Reach Data Tables continued
Volume G	Appendix II Oregon Reach Data Tables continued
Volume H	Appendix III Idaho, Nevada and Wyoming Reach Data Tables
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Volume J	Appendix IV Montana Reach Data Tables

MAIN REPORT

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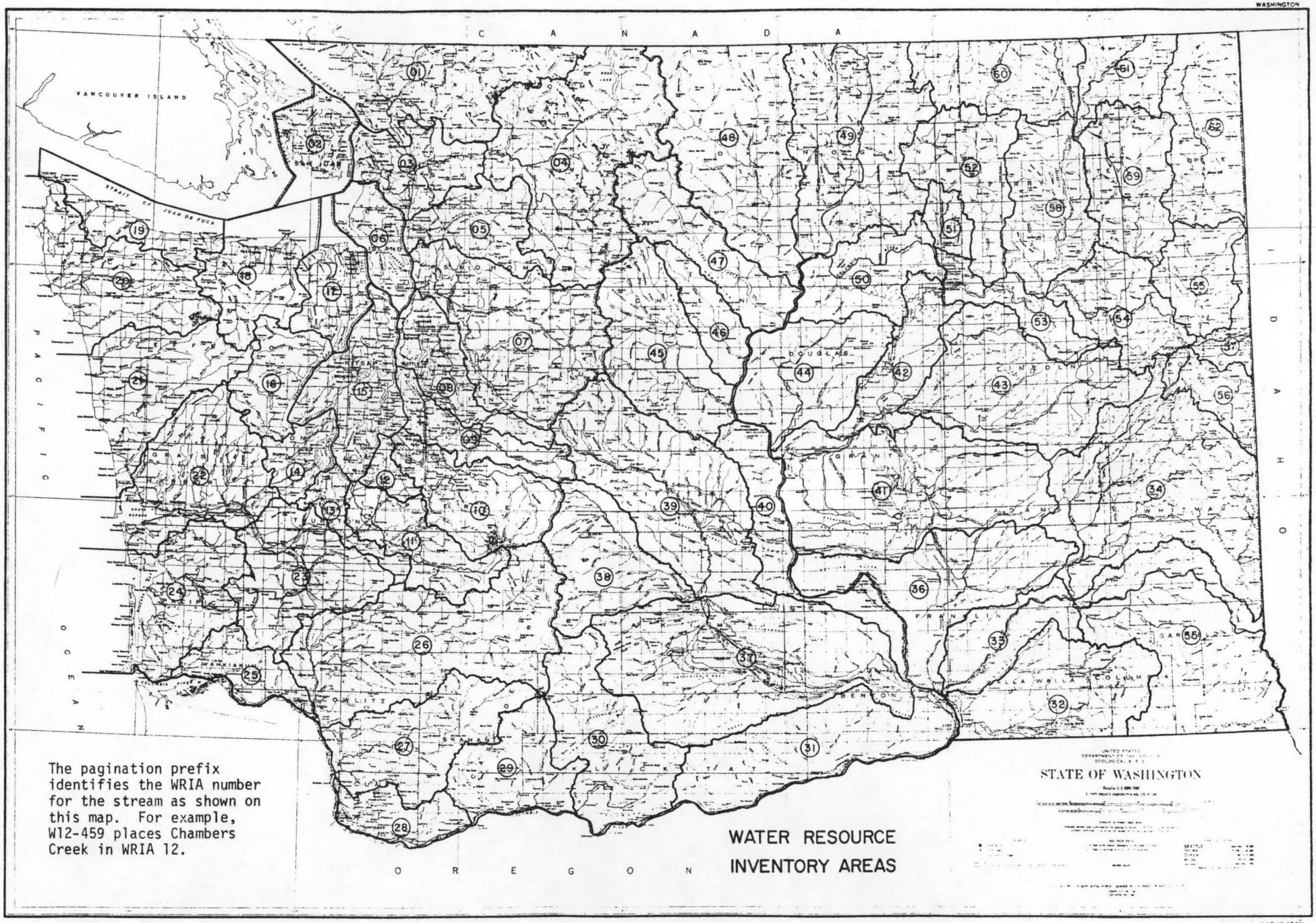
VOLUME C
Appendix II contains

Reach Hydro-Potential
Characteristic Sheets *W11-427 to W25-903*


WASHINGTON
C A N A D A
VANCOUVER ISLAND
STRAIT OF JUAN DE FUCA
PACIFIC OCEAN
I D A H O
O R E G O N
The pagination prefix identifies the WRIA number for the stream as shown on this map. For example, W12-459 places Chambers Creek in WRIA 12.
WATER RESOURCE INVENTORY AREAS
STATE OF WASHINGTON
WASHINGTON

Washington Reach Index

STREAM NAME	REACH NUMBER	PAGE THRU PAGE
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Sumas River	01-026-000-000-000-R0001 - R0004	W1-47 - W1-50
Samish River	01-060-000-000-000-R0001 - R0006	W3-51 - W3-56
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Stillaguamish River	01-022-000-000-000-R0001 - R0033	W5-241 - W5-273
Snohomish River	01-034-000-000-000-R0001 - R0092	W7-274 - W7-365
Sammamich River	01-020-000-000-000-R0001 - R0003	W8-366 - W8-368
Cedar River	01-021-000-000-000-R0001 - R0008	W8-369 - W8-376
Green River	01-028-000-000-000-R0001 - R0014	W9-377 - W9-390
Puyallup River	01-001-000-000-000-R0001 - R0036	W10-391 - W10-426
Nisqually River	01-029-000-000-000-R0001 - R0032	W11-427 - W11-458
Chambers Creed	01-005-000-000-000-R0001	W12-459
Deschutes River	01-006-000-000-000-R0001 - R0002	W13-460 - W13-461
Sherwood Creek	01-014-000-000-000-R0001	W14-462
Gosnell Creek	01-015-000-000-000-R0001	W14-463
Goldsborough Creek	01-018-000-000-000-R0001 - R0002	W14-464 - W14-465
Tahuya	01-004-000-000-000-R0001	W15-466
Lilliwaup Creek	01-027-000-000-000-R0001	W16-467
Dosewallips River	01-030-000-000-000-R0001 - R0007	W16-468 - W16-474
Duckabush River	01-031-000-000-000-R0001 - R0006	W16-475 - W16-480
Hamma Hamma River	01-032-000-000-000-R0001 - R0010	W16-481 - W16-490
Skokomish River	01-033-000-000-000-R0001 - R0030	W16-441 - W16-510
Little Quilcene River	01-019-000-000-000-R0001 - R0002	W17-511 - W17-512
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Dungeness River	01-004-000-000-000-R0001 - R0008	W18-519 - W18-526
Morse Creek	01-002-000-000-000-R0001 - R0002	W18-527 - W18-528
Elwha River	01-003-000-000-000-R0001 - R0019	W18-529 - W18-547
Sekiu River	01-008-000-000-000-R0001 - R0002	W19-548 - W19-549
Hoko River	01-009-000-000-000-R0001 - R0005	W19-550 - W19-554
Clallam River	01-010-000-000-000-R0001 - R0002	W19-555 - W19-556
Pysht River	01-011-000-000-000-R0001 - R0003	W19-557 - W19-559
Deep Creek	01-012-000-000-000-R0001	W19-560
Lyre Creek	01-013-000-000-000-R0001 - R0002	W19-561 - W19-562

STREAM NAME	REACH NUMBER	PAGE THRU PAGE
Sooes River	01-035-000-000-000-R0001 - R0002	W20-563 - W20-564
Ozette Creek	01-036-000-000-000-R0001 - R0002	W20-565 - W20-566
Dickey River	01-038-000-000-000-R0001 - R0006	W20-567 - W20-572
Quillayute River	01-037-000-000-000-R0001 - R0039	W20-573 - W20-611
Goodman Creek	01-039-000-000-000-R0001 - R0004	W20-612 - W20-615
Mosquito Creek	01-040-000-000-000-R0001 - R0002	W20-616 - W20-617
Hoh River	01-041-000-000-000-R0001 - R0020	W20-618 - W20-637
Cedar Creek	01-042-000-000-000-R0001	W20-638
Queets River	01-043-000-000-000-R0001 - R0027	W21-639 - W21-665a
Raft River	01-044-000-000-000-R0001 - R0007	W21-666 - W21-672
Quinault River	01-045-000-000-000-R0001 - R0039	W21-673 - W21-711
Moclips River	01-046-000-000-000-R0001 - R0002	W21-712 - W21-713
Copalis River	01-047-000-000-000-R0001 - R0003	W21-714 - W21-716
Humptulips River	01-048-000-000-000-R0001 - R0014	W22-717 - W22-730
Hoquim River	01-049-000-000-000-R0001 - R0006	W22-731 - W22-736
Wishkah River	01-050-000-000-000-R0001 - R0009	W22-737 - W22-745
Johns River	01-052-000-000-000-R0001	W22-746
Elk River	01-053-000-000-000-R0001	W22-747
Chehalis River	01-051-000-000-000-R0001 - R0093	W23-748 - W23-840
North River	01-054-000-000-000-R0001 - R0009	W24-841 - W24-849
Smith River	01-055-000-000-000-R0001 - R0004	W24-850 - W24-853
Willapa River	01-056-000-000-000-R0001 - R0012	W24-854 - W24-865
Bear River	01-059-000-000-000-R0001	W24-866
Palix River	01-062-000-000-000-R0001 - R0003	W24-867 - W24-869
North Nemah River	01-057-000-000-000-R0001 - R0003	W24-870 - W24-872
Naselle River	01-058-000-000-000-R0001 - R0009	W24-873 - R24-881
Grays River	01-500-002-000-000-R0001 - R0009	W25-882 - R25-890
Skamokawa River	01-500-004-000-000-R0001 - R0005	W25-891 - W25-895
Elochoman River	01-500-006-000-000-R0001 - R0003	W25-896 - W25-898
Mill Creek	01-500-008-000-000-R0001	W25-899
Abernathy Creek	01-500-010-000-000-R0001 - R0002	W25-900 - R25-901
German Creek	01-500-012-000-000-R0001	W25-902
Coal Creek	01-500-014-000-000-R0001	W25-903
Cowlitz River	01-500-020-000-000-R0001 - R0144	W26-904 - W26-1047
Kalama River	01-500-038-000-000-R0001 - R0011	W27-1048 - W27-1058
Lewis River	01-500-040-000-000-R0001 - R0036	W27-1059 - W27-1094
Salmon Creek	01-500-042-000-000-R0001 - R0002	W28-1095 - W28-1096

STREAM NAME	REACH NUMBER	PAGE THRU PAGE
LaCamas Creek	01-500-044-000-000-R0001 - R0003	W28-1097 - W28-1099
Washougal River	01-500-046-000-000-R0001 - R0011	W28-1100 - W28-1110
Hamilton Creek	01-500-048-000-000-R0001	W28-1111
Rock Creek	01-500-096-000-000-R0001 - R0002	W29-1112 - W29-1113
Wind River	01-500-100-000-000-R0001 - R0013	W29-1114 - W29-1126
Little White Salmon River	01-500-106-000-000-R0001 - R0003	W29-1127 - W29-1129
White Salmon River	01-500-120-000-000-R0001 - R0016	W29-1130 - W29-1145
Klickitat River	01-500-160-000-000-R0001 - R0029	W30-1146 - W30-1174
Walla Walla River	01-500-238-000-000-R0001 - R0030	W32-1175 - W32-1194
Palouse River	01-500-240-020-000-R0001 - R0003	W34-1195 - W34-1197
Asotin Creek	01-500-240-050-000-R0001 - R0002	W35-1198 - W35-1199
Tucannon River	01-500-240-010-000-R0001 - R0003	W35-1200 - W35-1202
Grande Ronde River	01-500-240-060-000-R0001 - R0006	W35-1203 - R35-1208
Yakima River	01-500-260-000-000-R0001 - R0058	W37-1209 - W37-1266
Columbia River	01-500-000-000-000-R0001	W40-1267
Crab Creek	01-500-280-000-000-R0001 - R0002	W41-1268 - W41-1269
Wenatchee River	01-500-300-000-000-R0001 - R0044	W45-1270 - W45-1313
Entiat River	01-500-320-000-000-R0001 - R0010	W46-1314 - W47-1323
Chelan River	01-500-340-000-000-R0001 - R0026	W47-1324 - W47-1349
Pasayten River	01-064-000-000-000-R0001 - R0002	W48-1350 - W48-1351
Methow River	01-500-360-000-000-R0001 - R0022	W48-1352 - W48-1373
Okanogan River	01-500-380-000-000-R0001 - R0013	W49-1374 - W49-1386
Nespelem River	01-500-390-000-000-R0001 - R0002	W51-1387 - W41-1388
Sanpoil River	01-500-400-000-000-R0001 - R0005	W52-1389 - W52-1393
Spokane River	01-500-420-000-000-R0001 - R0012	W54-1394 - W54-1405
Colville River	01-500-440-000-000-R0001 - R0006	W59-1406 - W59-1411
Kettle River	01-500-460-000-000-R0001 - R0006	W60-1412 - W60-1417
Big Sheep Creek	01-500-470-000-000-R0001 - R0002	W61-1418 - W61-1419
Pend Oreille River	01-500-480-000-000-R0001 - R0002	W62-1420 - W62-1421

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T8N R2W
D.	Latitude, Longitude	46°09' 122°55'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	1.3/8.4

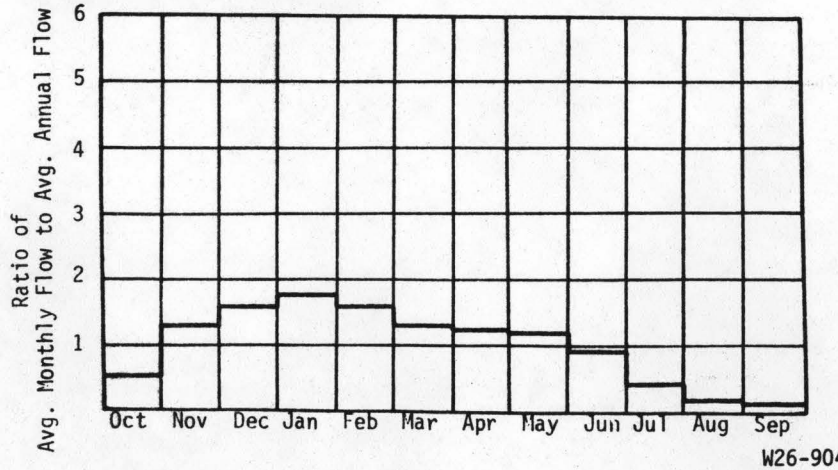
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	10	Ft. MSL
B.	Downstream Elevation of Reach	5	Ft. MSL
C.	Total Available Head in Reach	5	Ft.
D.	Average Slope in Reach	0.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	2300	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	382	0.16	1.41	1.00
80	859	0.36	2.96	0.93
50	4870	2.06	12.3	0.68
30	10800	4.56	21.2	0.53
10	24000	10.2	30.3	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 9542 cfs



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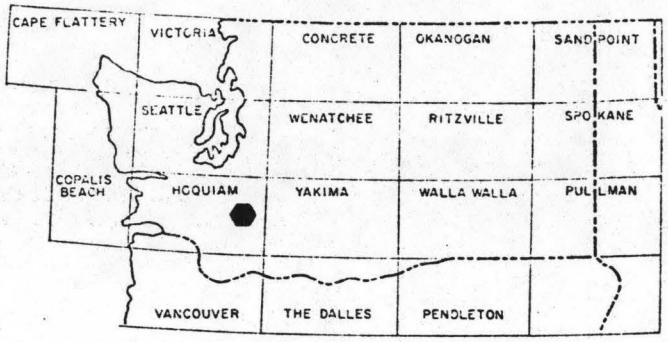
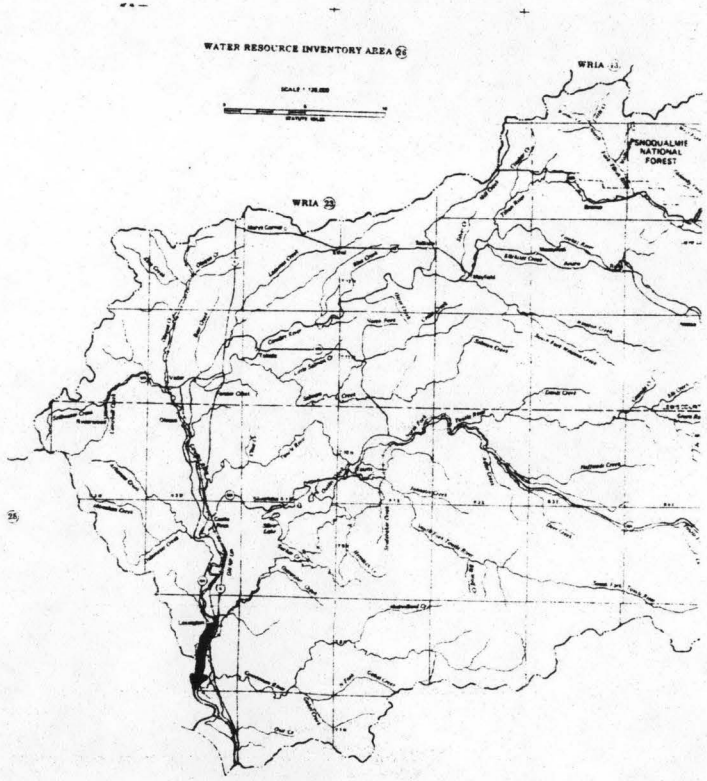


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R2W
D.	Latitude, Longitude	46°14' 122°54'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	8.4/16.5

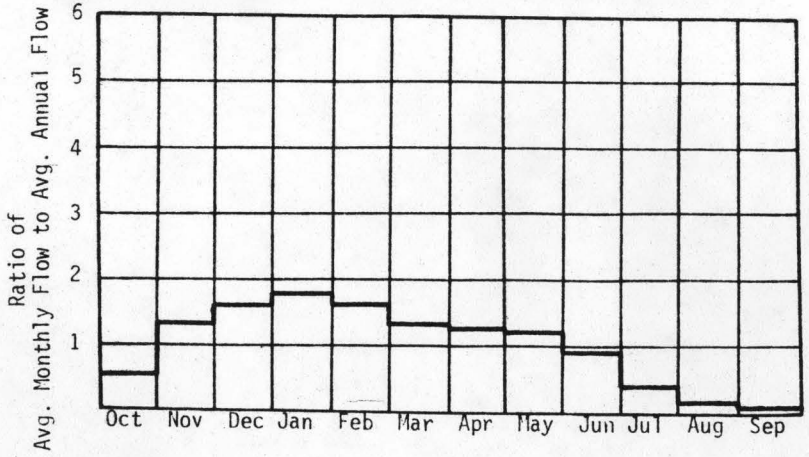
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

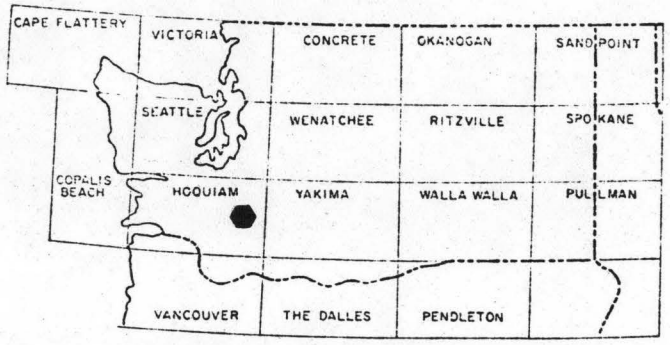
A.	Upstream Elevation of Reach	20	Ft. MSL
B.	Downstream Elevation of Reach	10	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	1.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	2270	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

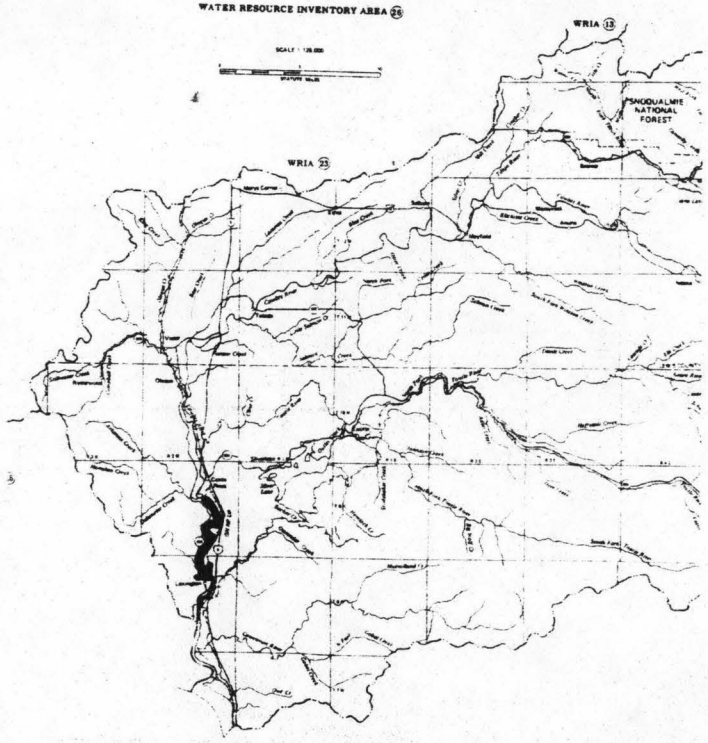
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	376	0.32	2.79	1.00
80	846	0.72	5.83	0.93
50	4790	4.06	24.2	0.68
30	10600	8.99	41.7	0.53
10	23700	20.1	59.7	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 9400 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R2N
D.	Latitude, Longitude	46°16' 122°55'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	16.5/20.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	45	Ft. MSL
B.	Downstream Elevation of Reach	20	Ft. MSL
C.	Total Available Head in Reach	25	Ft.
D.	Average Slope in Reach	7.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	2190	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	366	0.77	6.78	1.00
80	824	1.74	14.2	0.93
50	4670	9.88	58.8	0.68
30	10340	21.9	102	0.53
10	23100	48.8	145	0.34

IV. TYPICAL ANNUAL HYDROGRAPH

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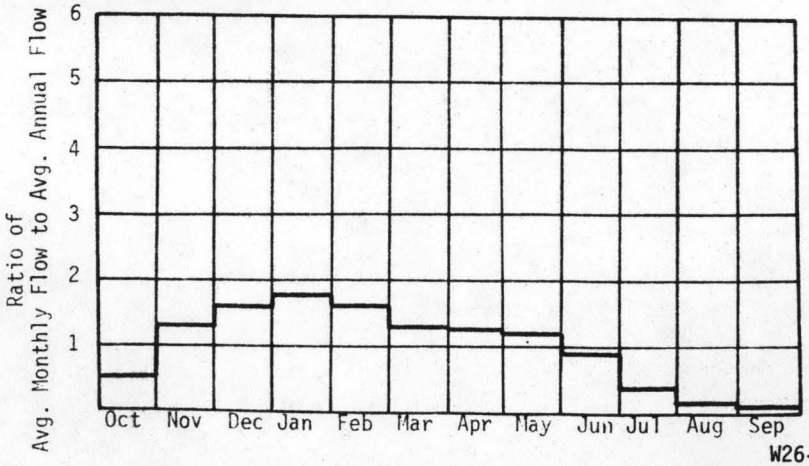
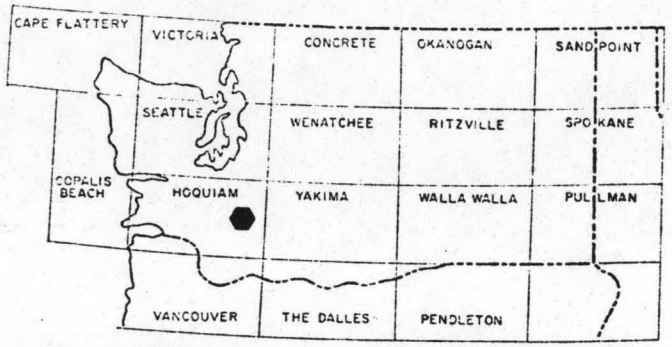
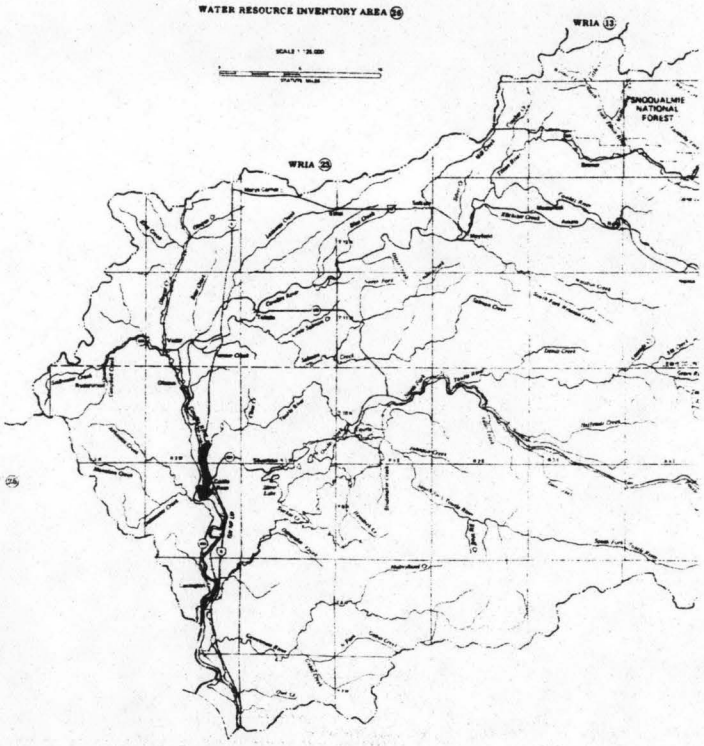


W26-906



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T10N R2W
D.	Latitude, Longitude	46°20' 122°55'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	20/24.9

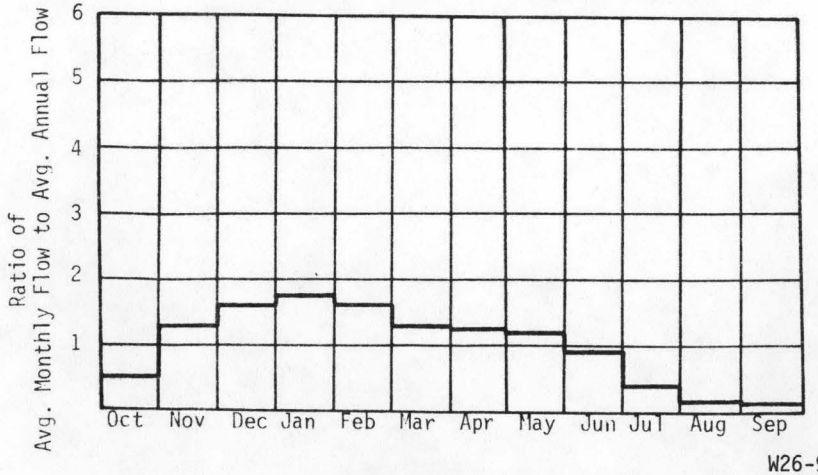
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

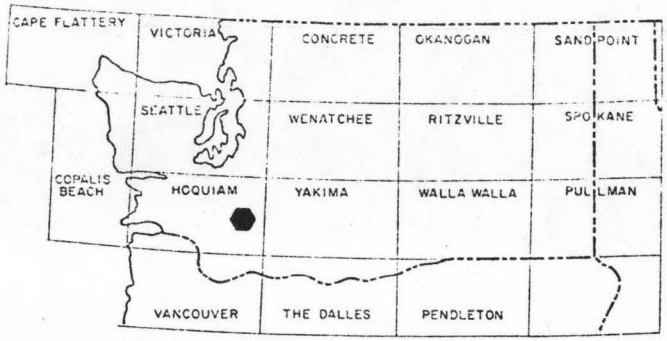
A.	Upstream Elevation of Reach	50	Ft. MSL
B.	Downstream Elevation of Reach	45	Ft. MSL
C.	Total Available Head in Reach	5	Ft.
D.	Average Slope in Reach	1.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	1670	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

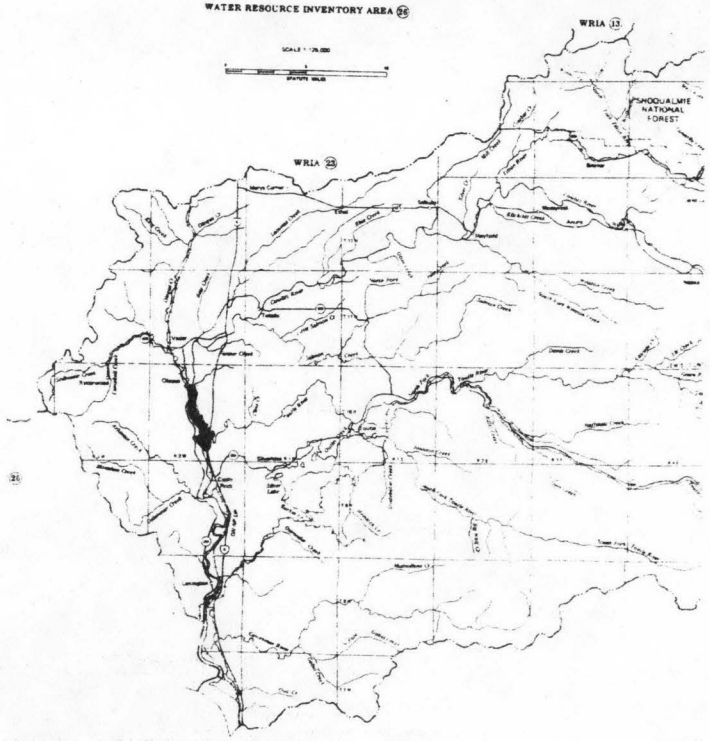
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	280	0.12	1.04	1.00
80	631	0.27	2.17	0.93
50	3570	1.51	9.01	0.68
30	7920	3.35	15.6	0.53
10	17700	7.47	22.3	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 7009 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-907

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T10N R2W
D.	Latitude, Longitude	46°24' 122°55'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	24.9/28

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

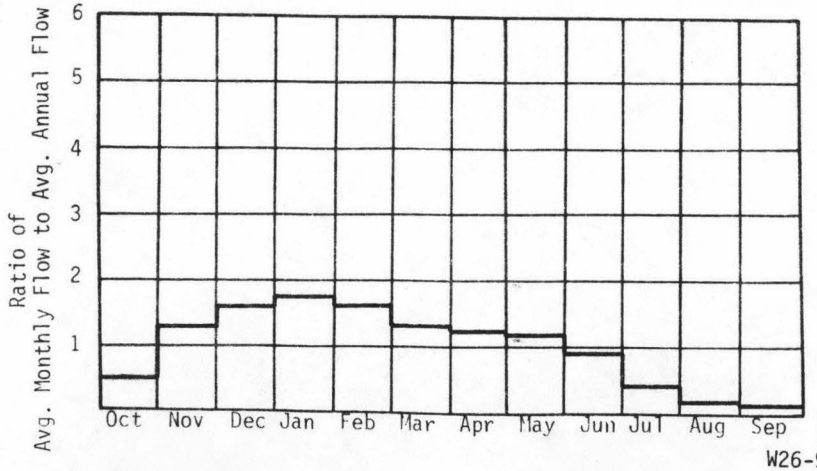
A.	Upstream Elevation of Reach	65	Ft. MSL
B.	Downstream Elevation of Reach	50	Ft. MSL
C.	Total Available Head in Reach	15	Ft.
D.	Average Slope in Reach	4.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	1570	Sq.Mi.
F.	Inflow Classification	Regulated	

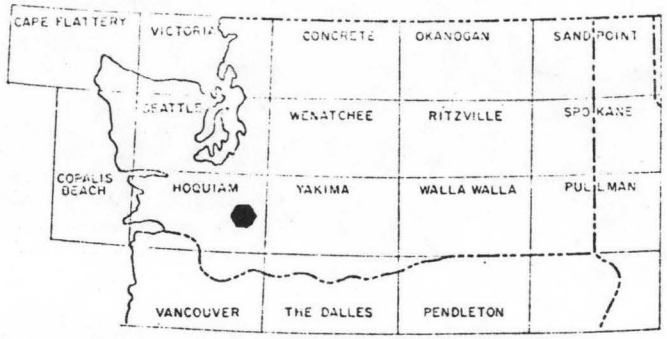
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1480	1.88	16.5	1.00
80	2420	3.08	25.6	0.95
50	5450	6.92	47.3	0.78
30	8280	10.5	59.9	0.65
10	12600	16.0	68.6	0.49

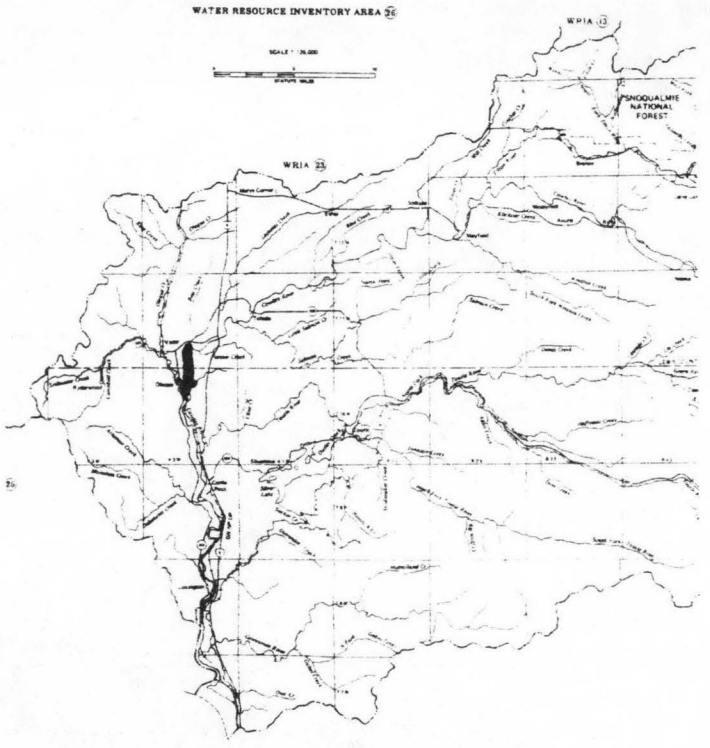
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 6732 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-908

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T10N R2W
D.	Latitude, Longitude	46°25' 122°52'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	28/32.3

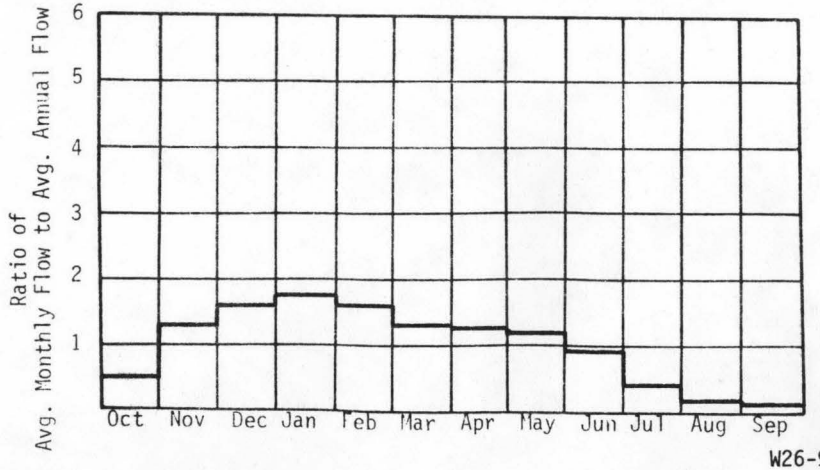
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	80	Ft. MSL
B.	Downstream Elevation of Reach	65	Ft. MSL
C.	Total Available Head in Reach	15	Ft.
D.	Average Slope in Reach	3.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	1520	Sq.Mi.
F.	Inflow Classification	Regulated	

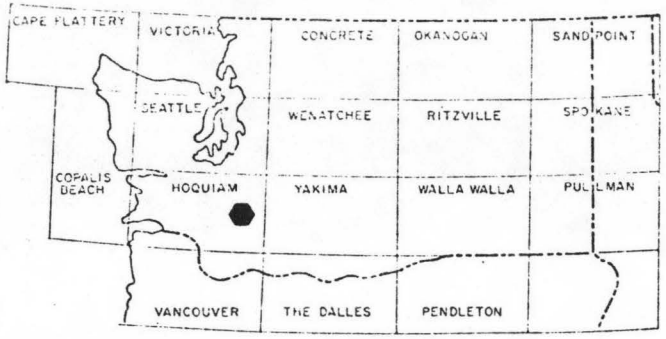
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1450	1.85	16.2	1.00
80	2380	3.02	25.1	0.95
50	5350	6.80	46.4	0.78
30	8130	10.3	58.8	0.65
10	12400	15.7	67.3	0.49

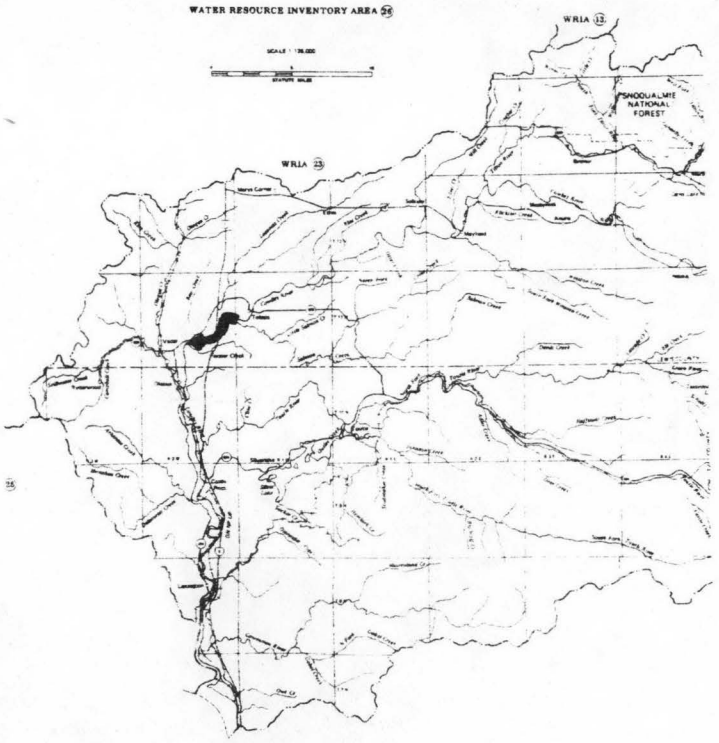
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 6608 cfs



W26-909



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R1W
D.	Latitude, Longitude	46°28' 122°46'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	33/50.6

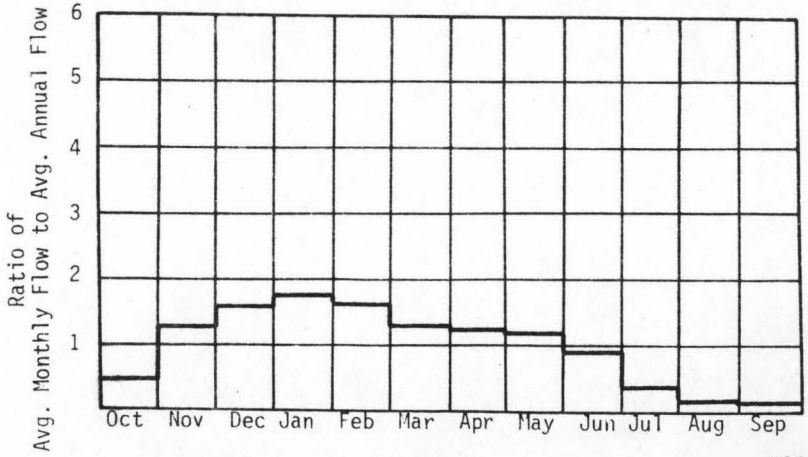
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

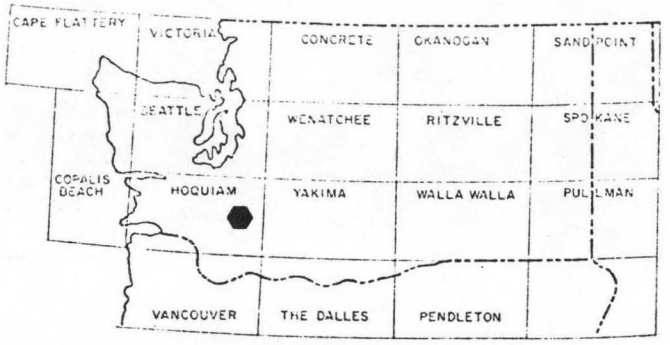
A.	Upstream Elevation of Reach	210	Ft. MSL
B.	Downstream Elevation of Reach	85	Ft. MSL
C.	Total Available Head in Reach	125	Ft.
D.	Average Slope in Reach	7.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	1430	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

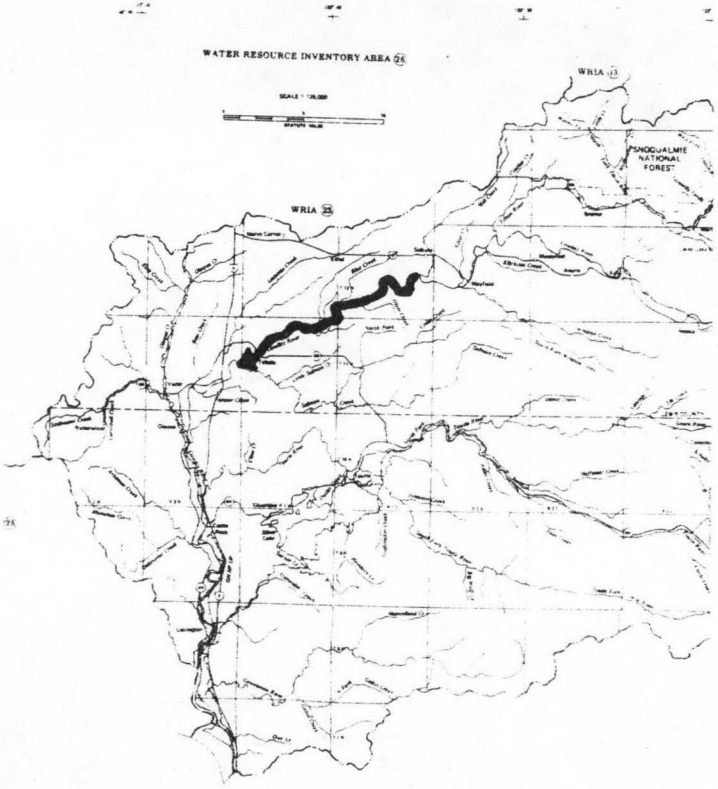
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1400	14.8	130	1.00
80	2290	24.2	202	0.95
50	5150	54.5	372	0.78
30	7820	82.8	471	0.65
10	11900	126	540	0.49

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 6359 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0008

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R1E	
D. Latitude, Longitude	46°30' 122°35'	
E. Stream Name	Cowlitz River	
F. Major Basin Name	Cowlitz	
G. River Mile	50.6/54.1	

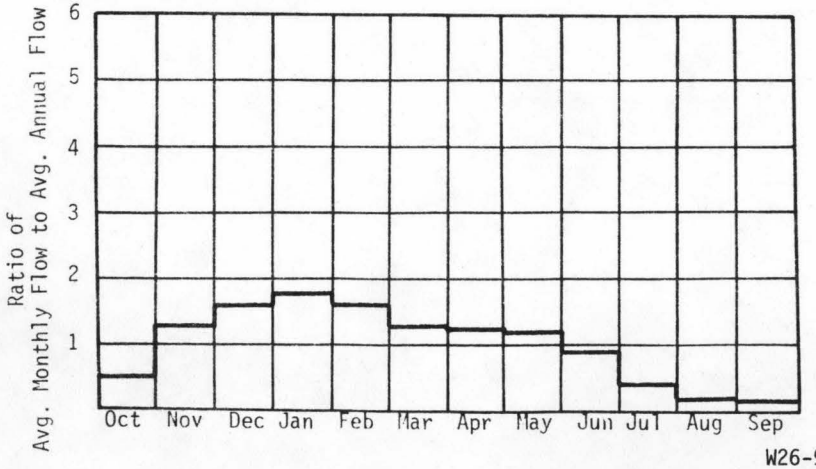
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	260	Ft. MSL
B. Downstream Elevation of Reach	210	Ft. MSL
C. Total Available Head in Reach	50	Ft.
D. Average Slope in Reach	14.3	Ft./Mi.
E. Drainage Area above Reach Mouth	1360	Sq.Mi.
F. Inflow Classification	Regulated	

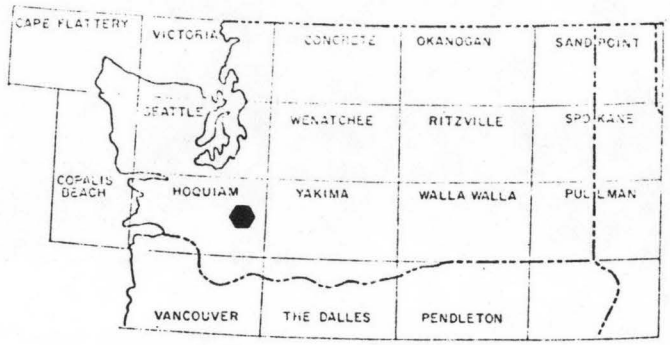
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	Reach eliminated by Mayfield Lake			
80				
50				
30				
10				

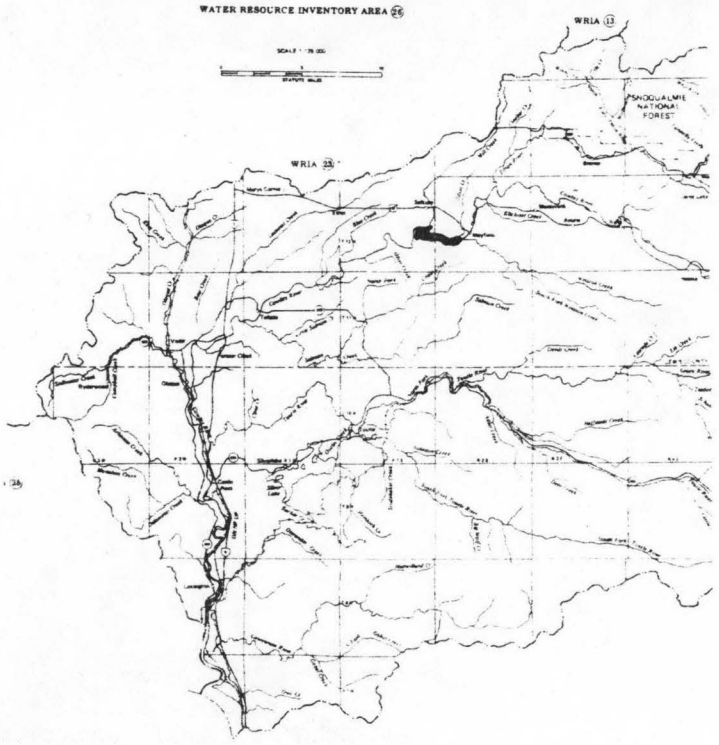
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 6210 cfs



W26-911



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0009

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R2E	
D. Latitude, Longitude	46°32' 122°34'	
E. Stream Name	Cowlitz River	
F. Major Basin Name	Cowlitz	
G. River Mile	54.1/59.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

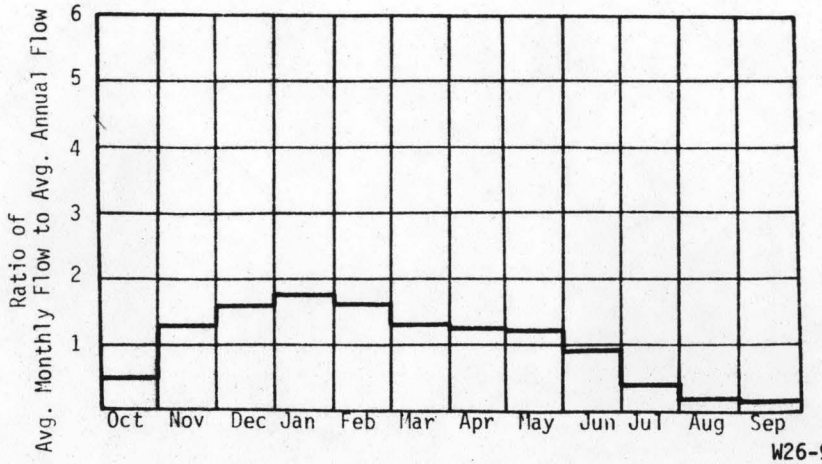
A. Upstream Elevation of Reach	300	Ft. MSL
B. Downstream Elevation of Reach	260	Ft. MSL
C. Total Available Head in Reach	40	Ft.
D. Average Slope in Reach	7.8	Ft./Mi.
E. Drainage Area above Reach Mouth	1310	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95				
80				
50	Reach eliminated by Mayfield Lake			
30				
10				

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 6245 cfs



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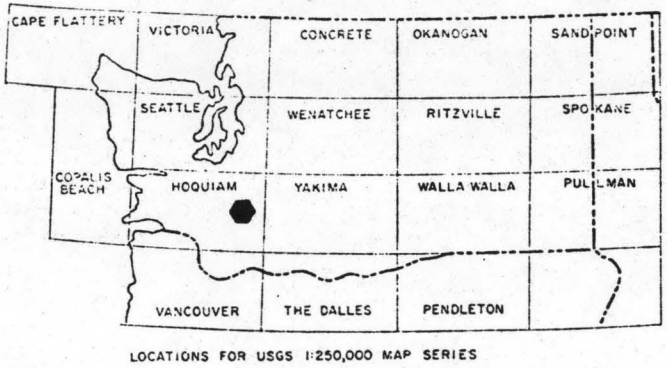
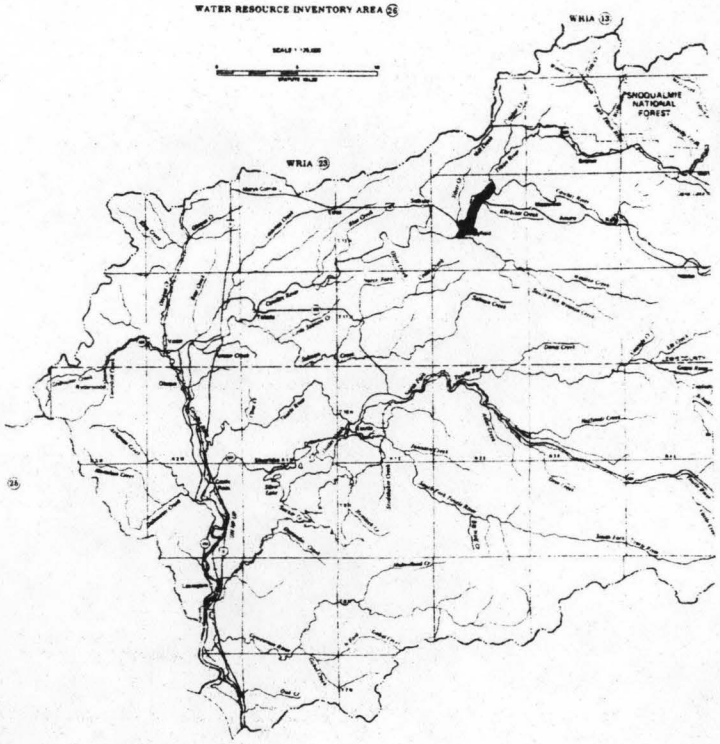


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T12N R3E
D.	Latitude, Longitude	46°32' 122°25'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	59.2/75.6

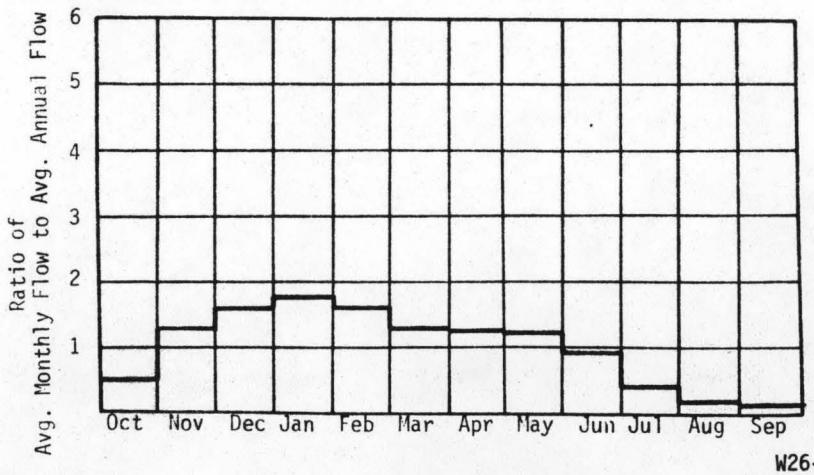
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

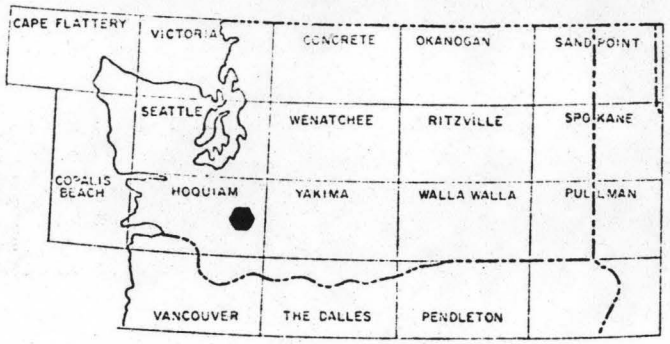
A.	Upstream Elevation of Reach	550	Ft. MSL
B.	Downstream Elevation of Reach	200	Ft. MSL
C.	Total Available Head in Reach	250	Ft.
D.	Average Slope in Reach	15.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	1140	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

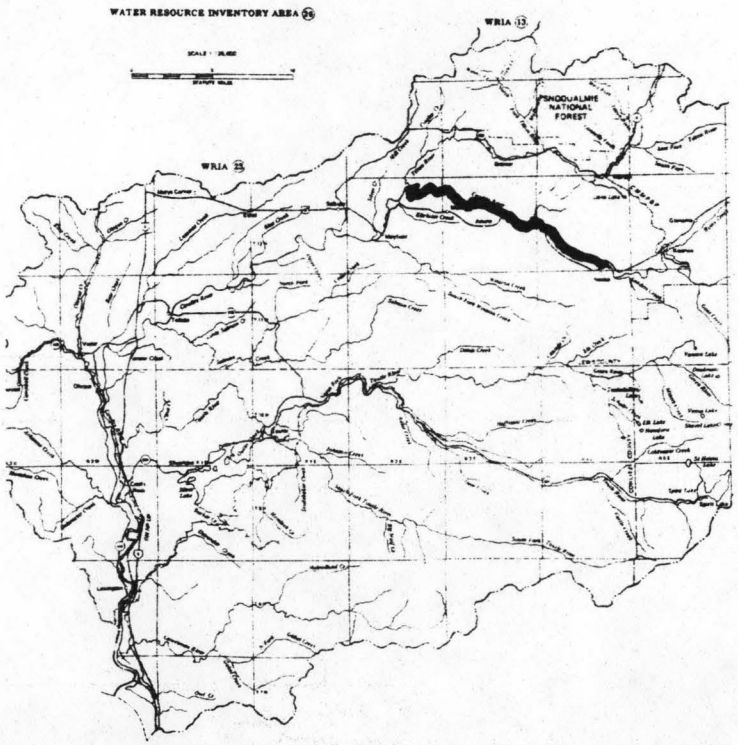
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	Reach eliminated by Davisson Lake			
80				
50				
30				
10				

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 5074 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-913

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R4E
D.	Latitude, Longitude	46°29' 122°14'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	75.6/83.1

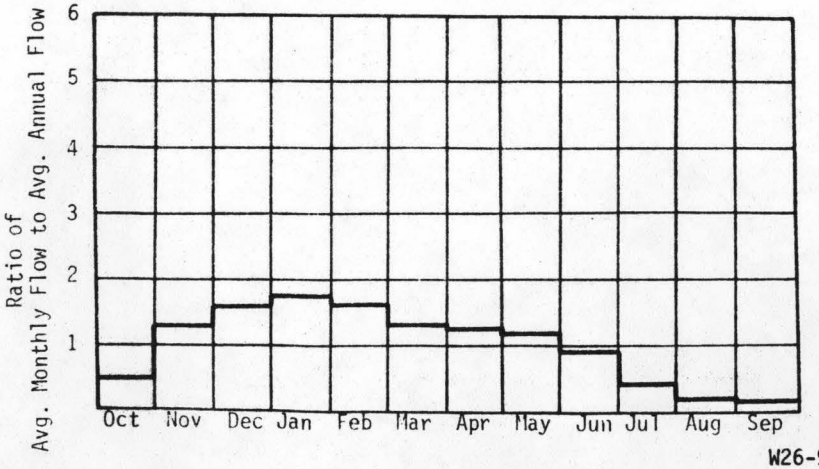
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

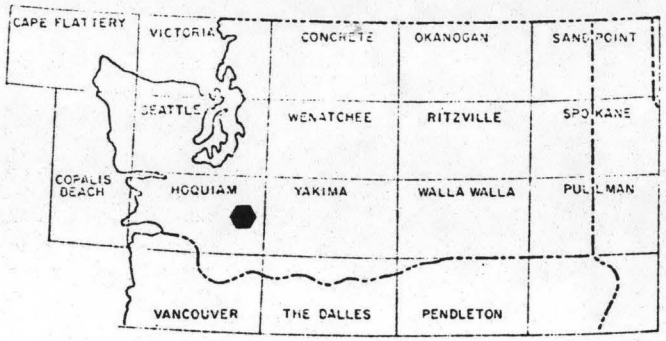
A.	Upstream Elevation of Reach	670	Ft. MSL
B.	Downstream Elevation of Reach	550	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	16.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	1080	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

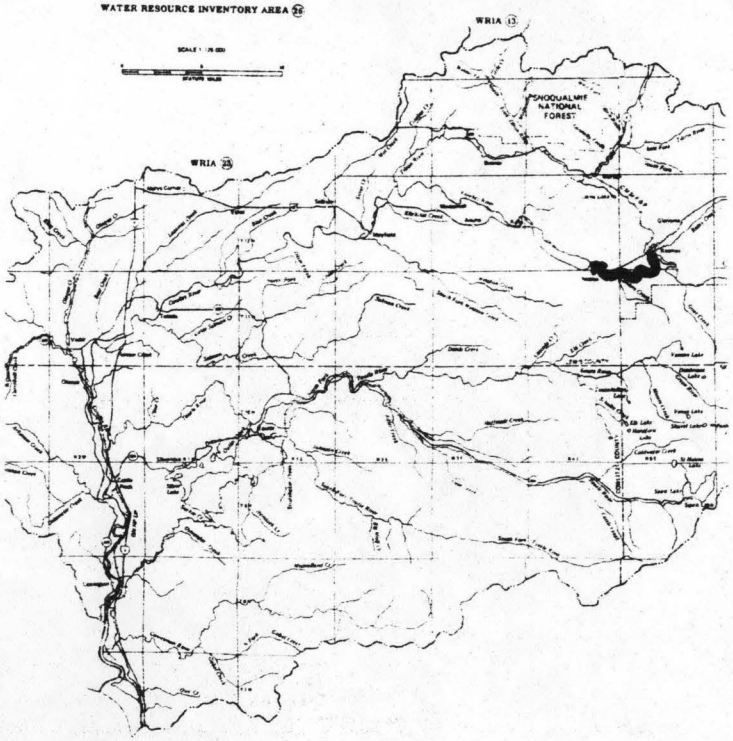
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	Reach eliminated by Davisson Lake			
80				
50				
30				
10				

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 4900 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-914

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0012

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R5E	
D. Latitude, Longitude	46°28' 122°10'	
E. Stream Name	Cowlitz River	
F. Major Basin Name	Cowlitz	
G. River Mile	83.1/87.5	

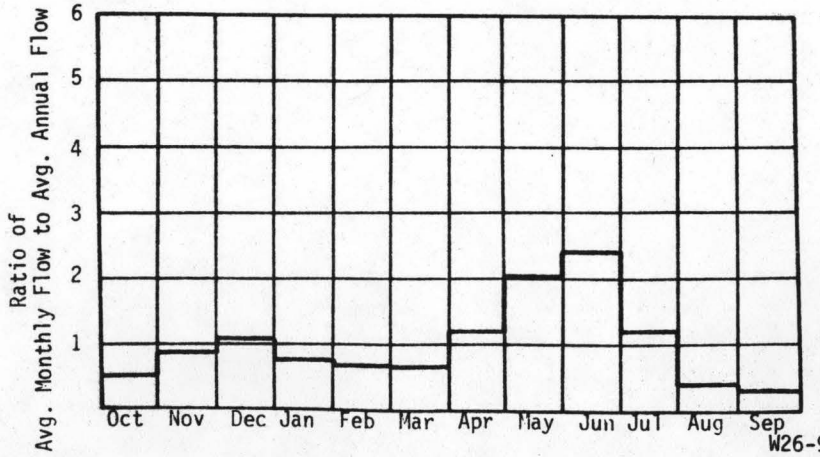
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	740	Ft. MSL
B. Downstream Elevation of Reach	670	Ft. MSL
C. Total Available Head in Reach	70	Ft.
D. Average Slope in Reach	15.9	Ft./Mi.
E. Drainage Area above Reach Mouth	1027	Sq.Mi.
F. Inflow Classification	Regulated	

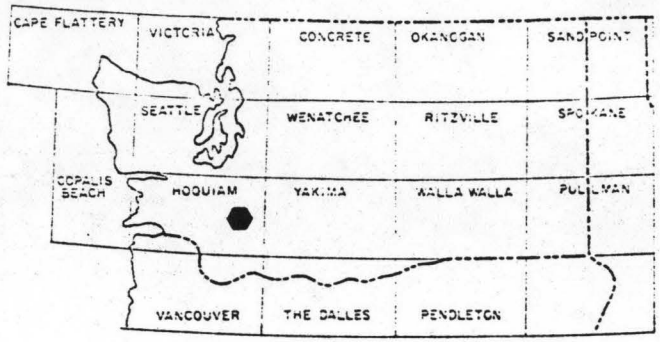
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	Reach eliminated by Davisson Lake			
80				
50				
30				
10				

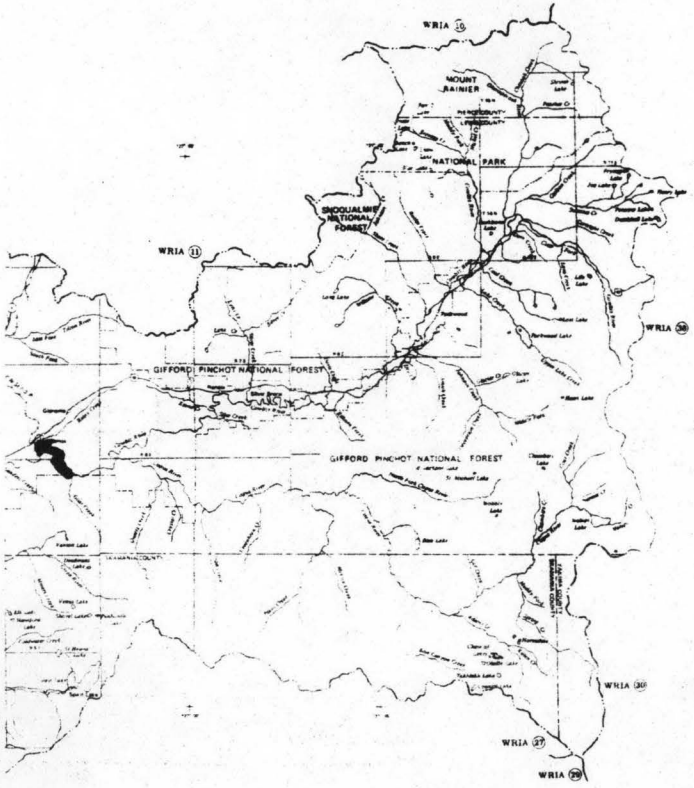
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 4729 cfs



W26-915



LOCATIONS FOR USGS 1:250,000 MAP SERIES

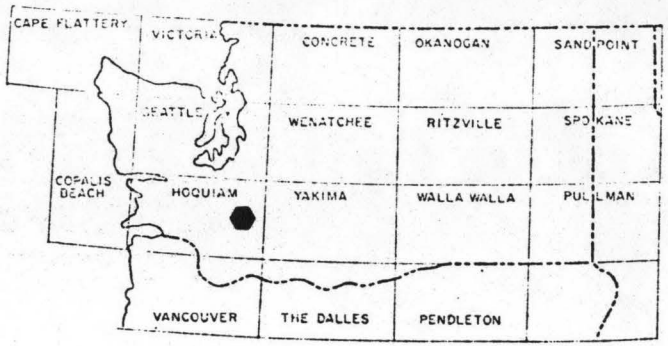


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0013

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	11N R5#
D.	Latitude, Longitude	46°27' 122°07'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	87.5/91.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

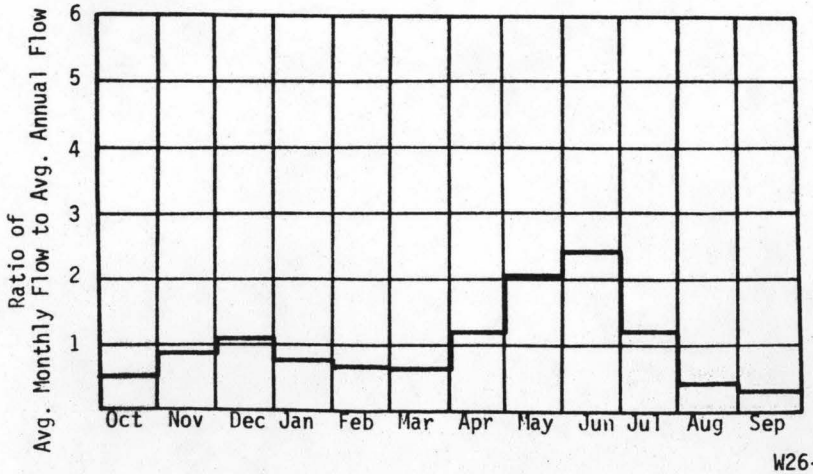
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

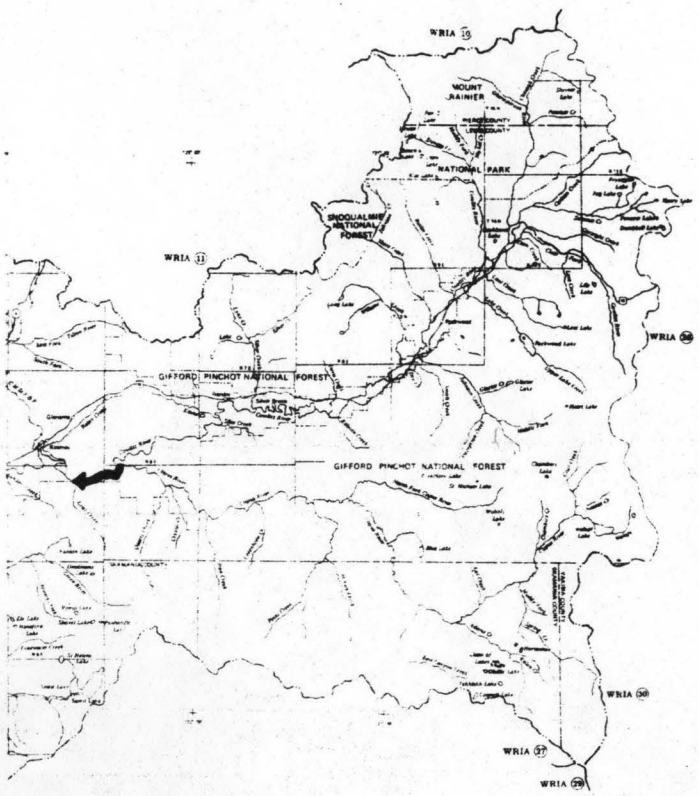
A.	Upstream Elevation of Reach	810	Ft. MSL
B.	Downstream Elevation of Reach	740	Ft. MSL
C.	Total Available Head in Reach	70	Ft.
D.	Average Slope in Reach	19.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	1020	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	Reach eliminated by Davisson Lake			
80				
50				
30				
10				

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 4669 cfs





W26-916

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0014

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R5E	
D. Latitude, Longitude	46°30' 122°04'	
E. Stream Name	Cowlitz River	
F. Major Basin Name	Cowlitz	
G. River Mile	91.1/100.4	

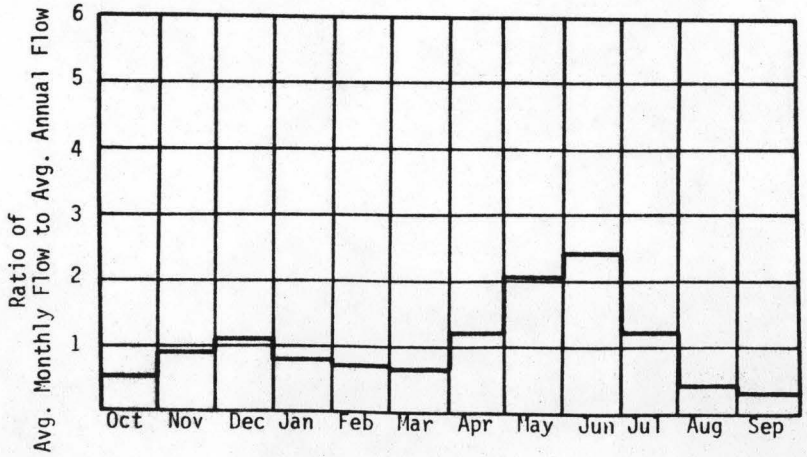
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

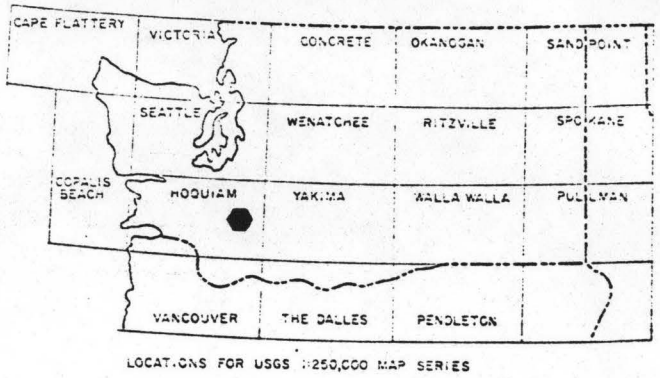
A. Upstream Elevation of Reach	840	Ft. MSL
B. Downstream Elevation of Reach	810	Ft. MSL
C. Total Available Head in Reach	30	Ft.
D. Average Slope in Reach	3.2	Ft./Mi.
E. Drainage Area above Reach Mouth	581	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

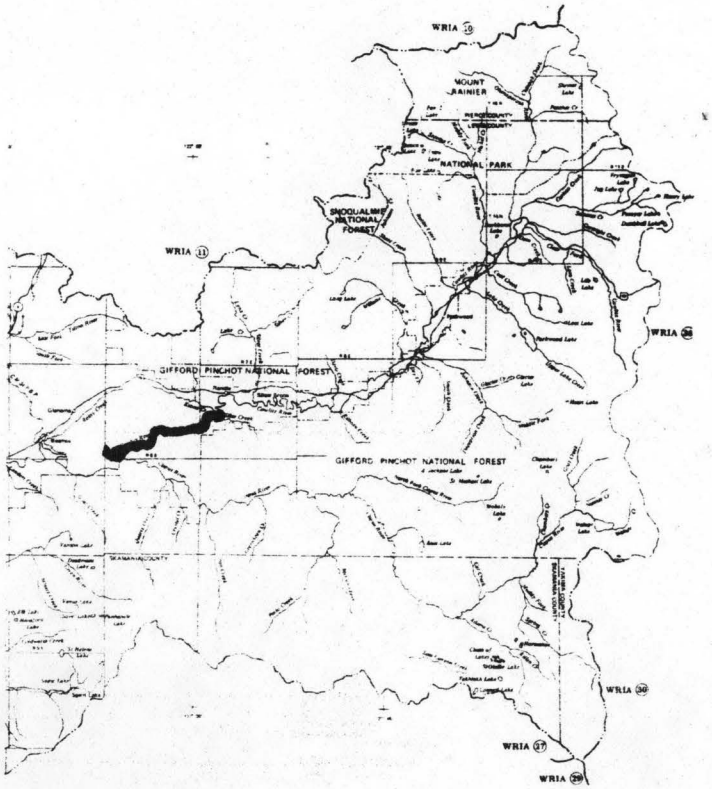
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	686	1.74	15.3	1.00
80	1060	2.69	22.6	0.96
50	1920	4.87	35.0	0.82
30	3200	8.13	46.3	0.65
10	6200	15.8	59.6	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2860 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0015

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T12N R7E
D.	Latitude, Longitude	46°32' 121°56'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	101.8/106.9

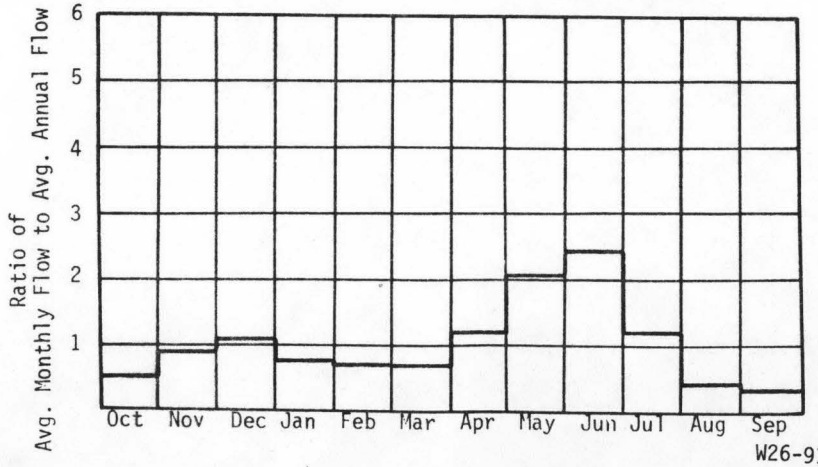
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	885	Ft. MSL
B.	Downstream Elevation of Reach	850	Ft. MSL
C.	Total Available Head in Reach	35	Ft.
D.	Average Slope in Reach	6.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	535	Sq.Mi.
F.	Inflow Classification	Regulated	

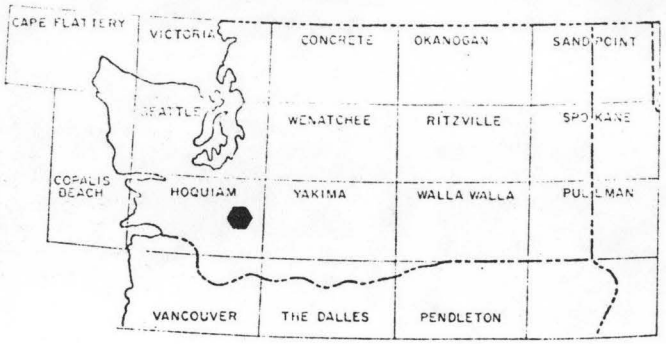
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	659	1.95	17.1	1.00
80	1020	3.01	25.3	0.96
50	1840	5.45	39.2	0.82
30	3080	0.11	52.9	0.65
10	5990	17.7	66.8	0.43

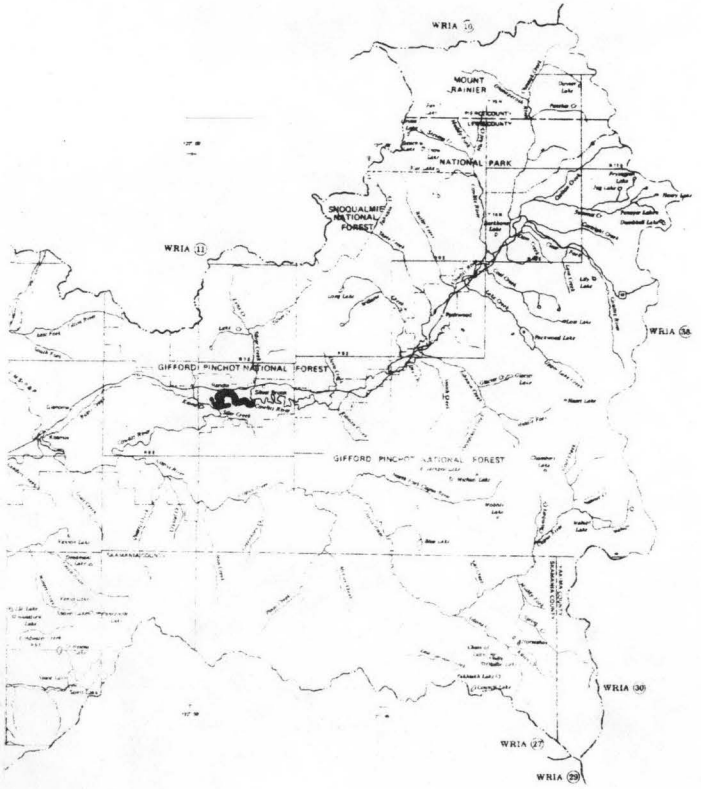
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2746 cfs



W26-918



LOCATIONS FOR USGS 1:250,000 MAP SERIES

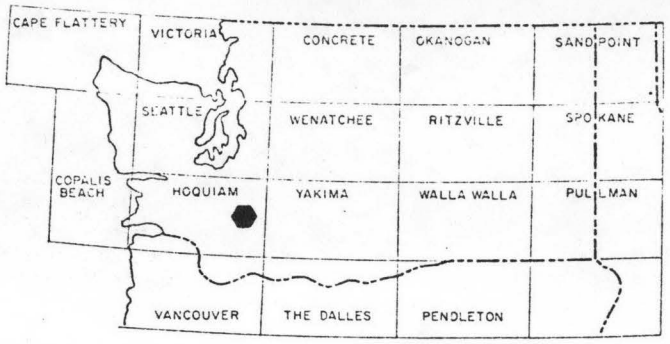


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0016

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T12N R7E
D.	Latitude, Longitude	46°32' 121°54'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	106.9/115



LOCATIONS FOR USGS 1:250,000 MAP SERIES

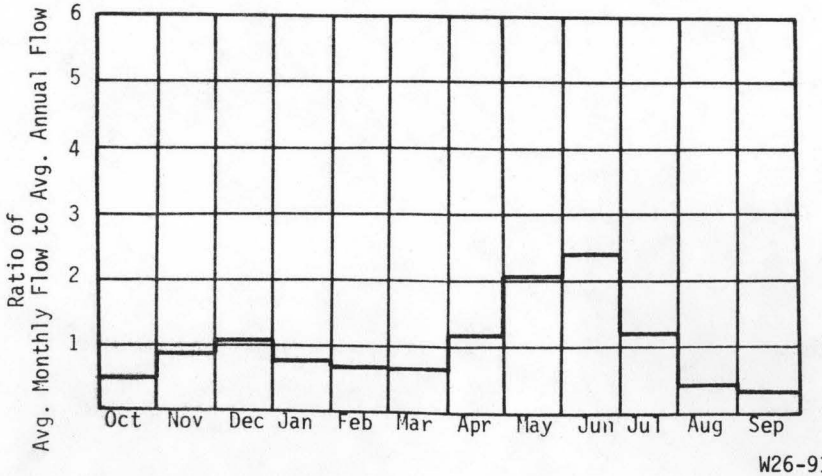
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

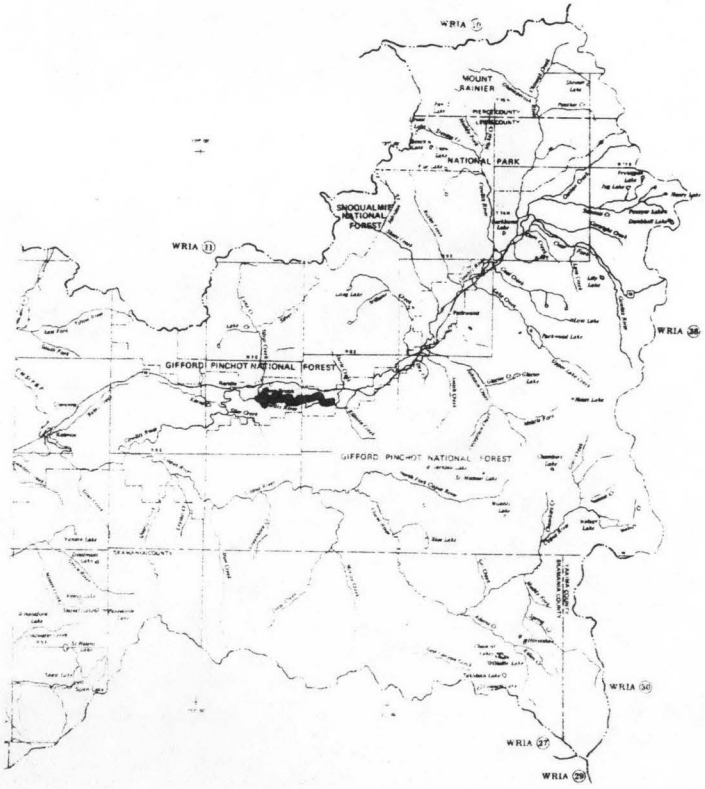
A.	Upstream Elevation of Reach	910	Ft. MSL
B.	Downstream Elevation of Reach	885	Ft. MSL
C.	Total Available Head in Reach	25	Ft.
D.	Average Slope in Reach	3.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	479	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	590	1.25	10.9	1.00
80	909	1.92	16.2	0.96
50	1650	3.48	25.0	0.82
30	2750	5.83	33.2	0.65
10	5360	11.3	42.7	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2458 cfs





W26-919

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0017

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R6E	
D. Latitude, Longitude	46°32' 121°48'	
E. Stream Name	Cowlitz River	
F. Major Basin Name	Cowlitz	
G. River Mile	115/122.4	

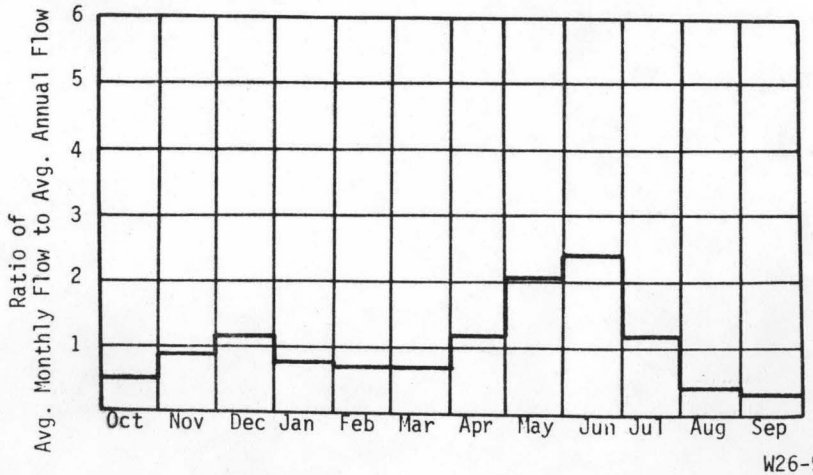
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

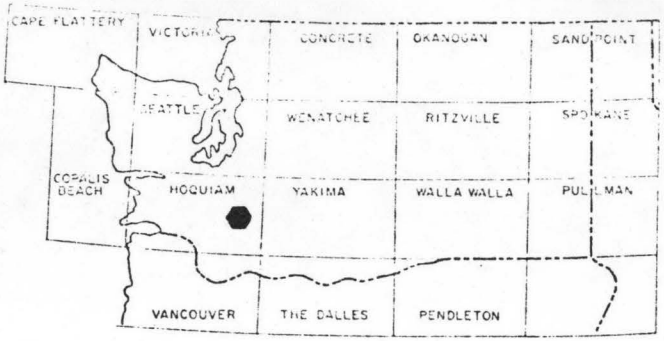
A. Upstream Elevation of Reach	980	Ft. MSL
B. Downstream Elevation of Reach	910	Ft. MSL
C. Total Available Head in Reach	70	Ft.
D. Average Slope in Reach	9.5	Ft./Mi.
E. Drainage Area above Reach Mouth	452	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

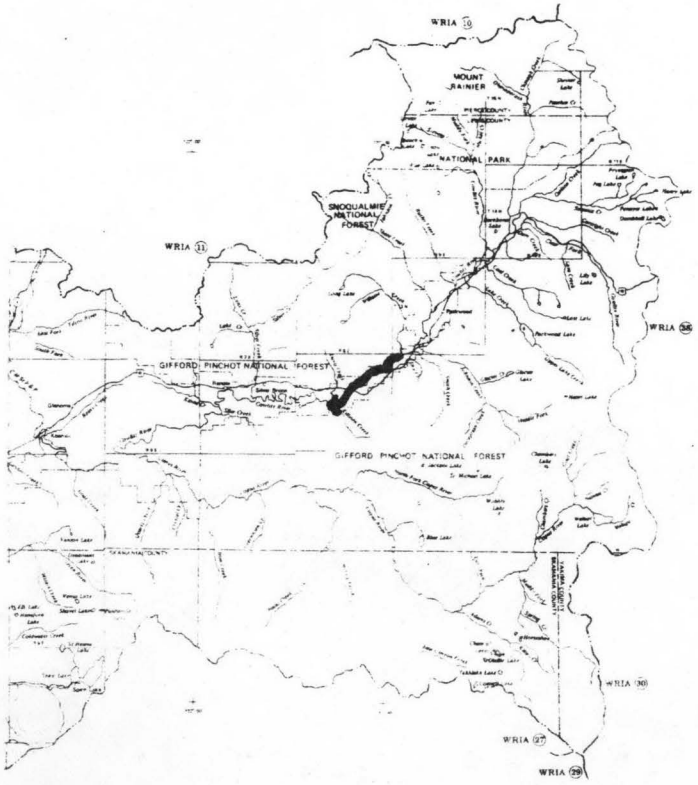
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	558	3.31	29.0	1.00
80	861	5.10	42.9	0.96
50	1560	9.24	66.4	0.82
30	2610	15.4	87.9	0.65
10	5070	30.1	113	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2327 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



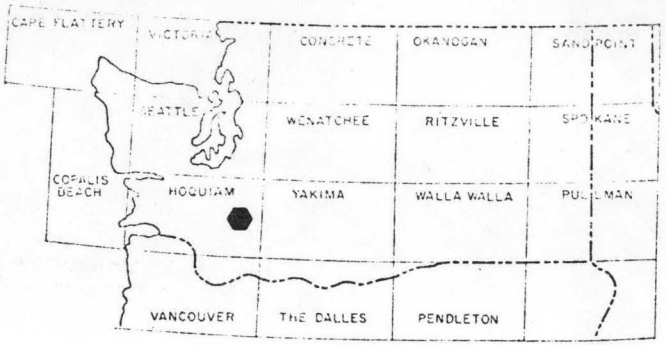
W26-920

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0018

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T12N R9E
D.	Latitude, Longitude	46°34' 121°42'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	122.4/123.6



LOCATIONS FOR USGS 1:250,000 MAP SERIES

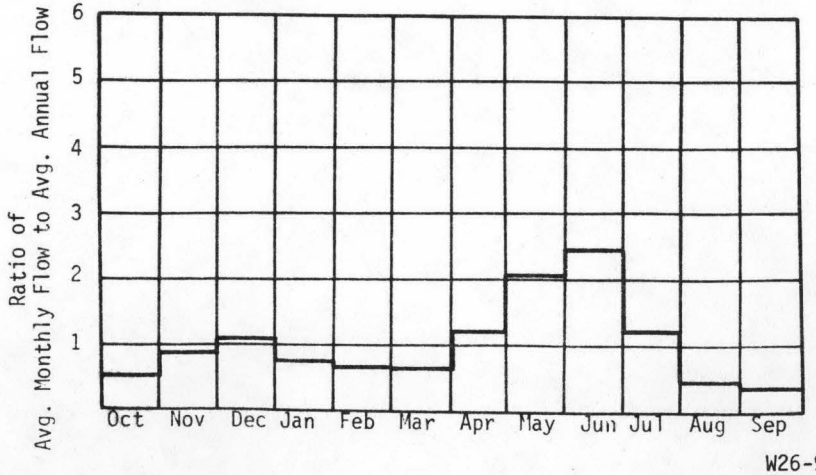
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

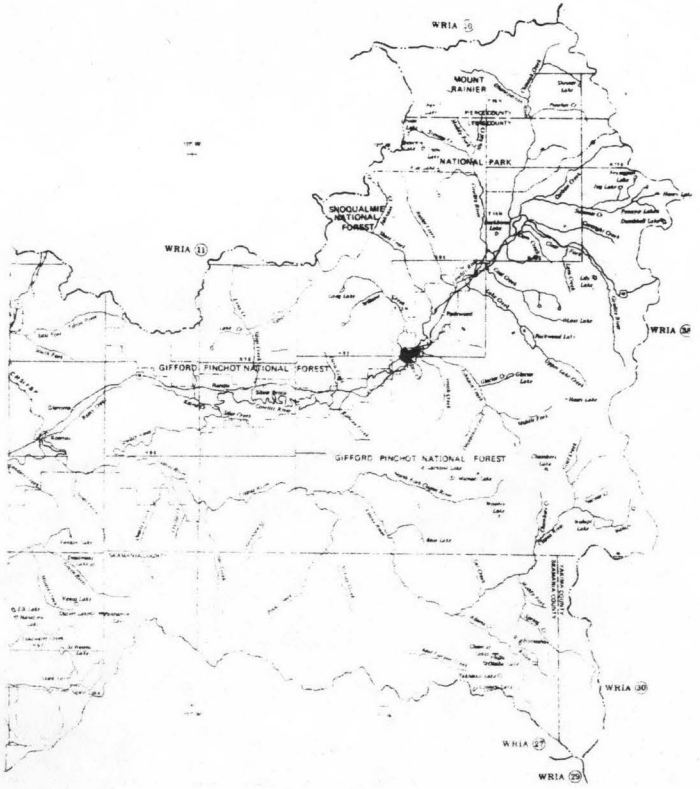
A.	Upstream Elevation of Reach	995	Ft. MSL
B.	Downstream Elevation of Reach	980	Ft. MSL
C.	Total Available Head in Reach	15	Ft.
D.	Average Slope in Reach	12.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	403	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	512	0.65	5.70	1.00
80	790	1.00	8.43	0.96
50	1430	1.82	13.0	0.82
30	2390	3.03	17.3	0.65
10	4650	5.91	22.3	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2134 cfs





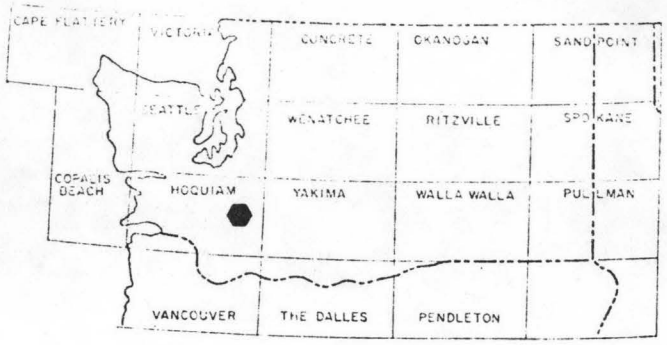
W26-921

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0019

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R9E
D.	Latitude, Longitude	46°26' 121°40'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	123.6/126.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

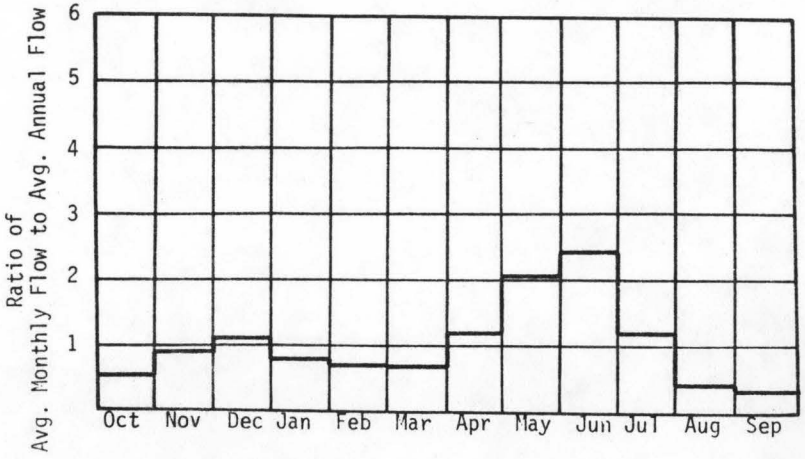
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

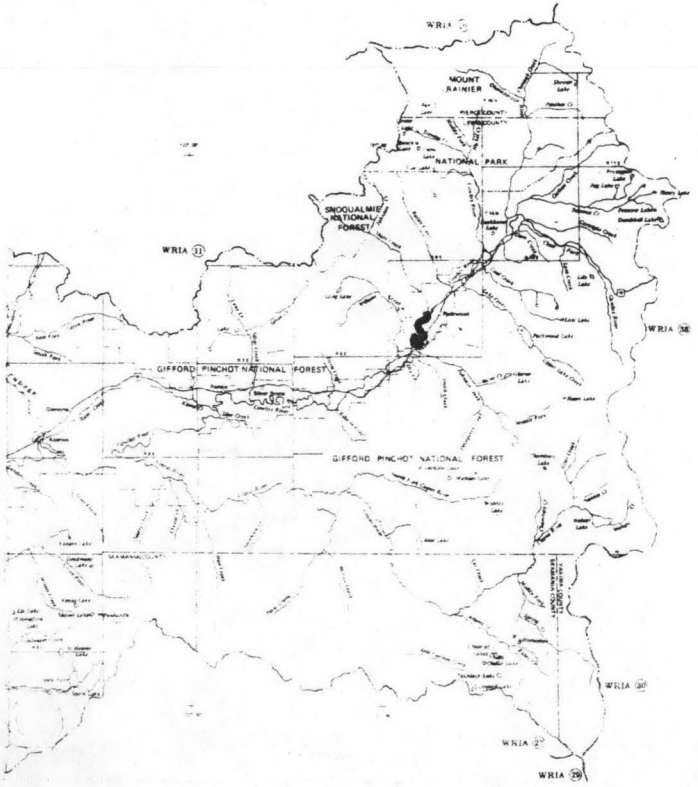
A.	Upstream Elevation of Reach	1035	Ft. MSL
B.	Downstream Elevation of Reach	995	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	12.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	339	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	445	1.51	13.2	1.00
80	687	2.32	19.6	0.96
50	1240	4.21	30.2	0.82
30	2080	7.04	40.1	0.65
10	4050	13.7	51.6	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1856 cfs





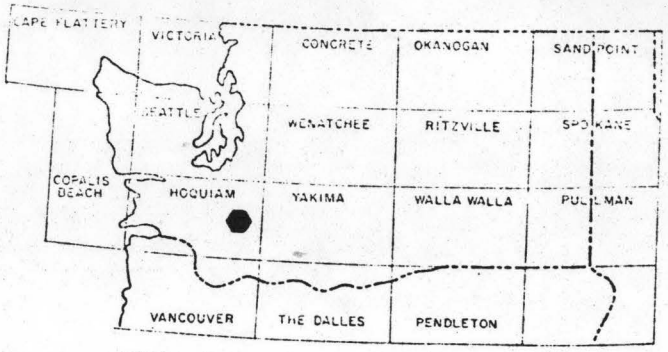
W26-922

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0020

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R9E
D.	Latitude, Longitude	46°37' 121°40'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	126.9/129.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

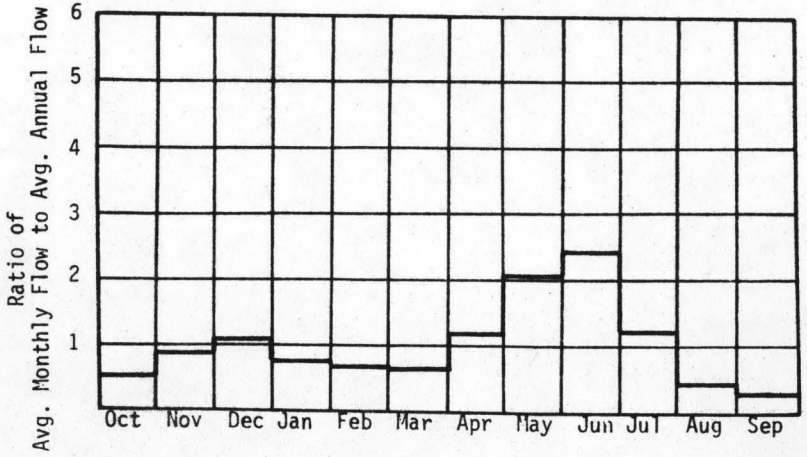
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

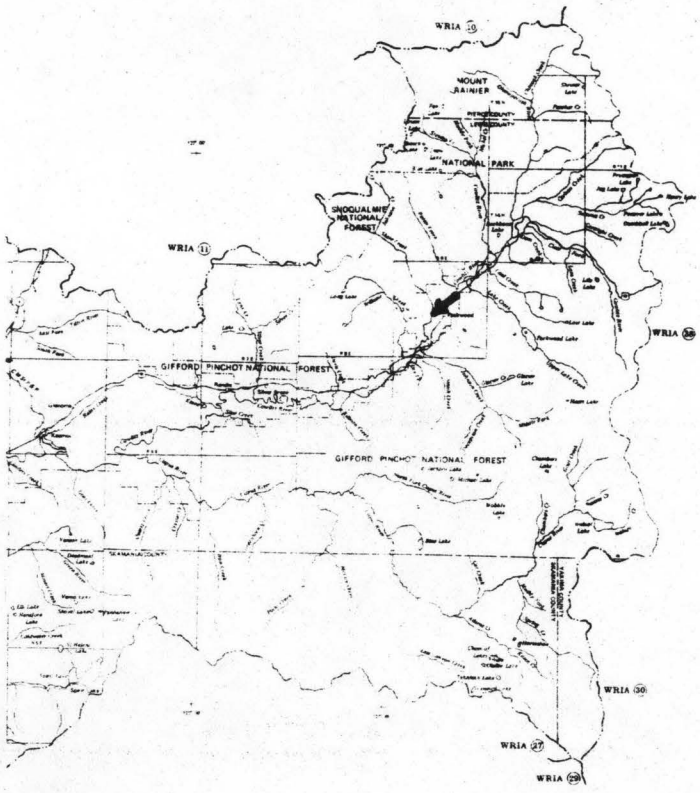
A.	Upstream Elevation of Reach	1060	Ft. MSL
B.	Downstream Elevation of Reach	1035	Ft. MSL
C.	Total Available Head in Reach	25	Ft.
D.	Average Slope in Reach	11.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	287	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	347	0.73	6.43	1.00
80	527	1.12	9.41	0.96
50	1020	2.17	15.2	0.80
30	1870	3.95	21.5	0.62
10	3570	7.55	27.8	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1652 cfs





W26-923

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0021

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R9E	
D. Latitude, Longitude	46°39' 121°37'	
E. Stream Name	Cowlitz River	
F. Major Basin Name	Cowlitz	
G. River Mile	129.1/133.5	

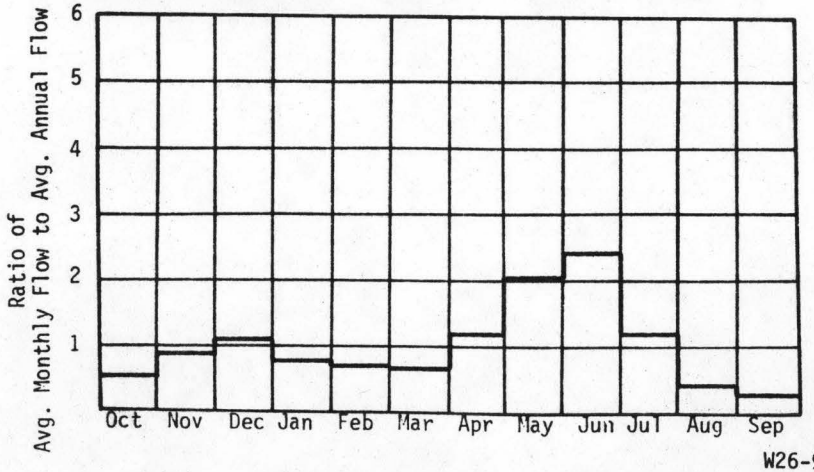
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

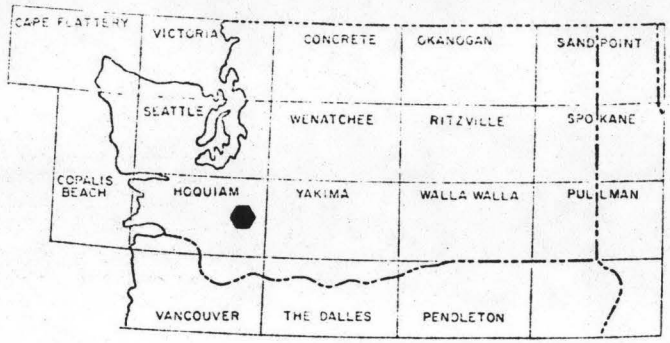
A. Upstream Elevation of Reach	1190	Ft. MSL
B. Downstream Elevation of Reach	1060	Ft. MSL
C. Total Available Head in Reach	130	Ft.
D. Average Slope in Reach	29.6	Ft./Mi.
E. Drainage Area above Reach Mouth	281	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

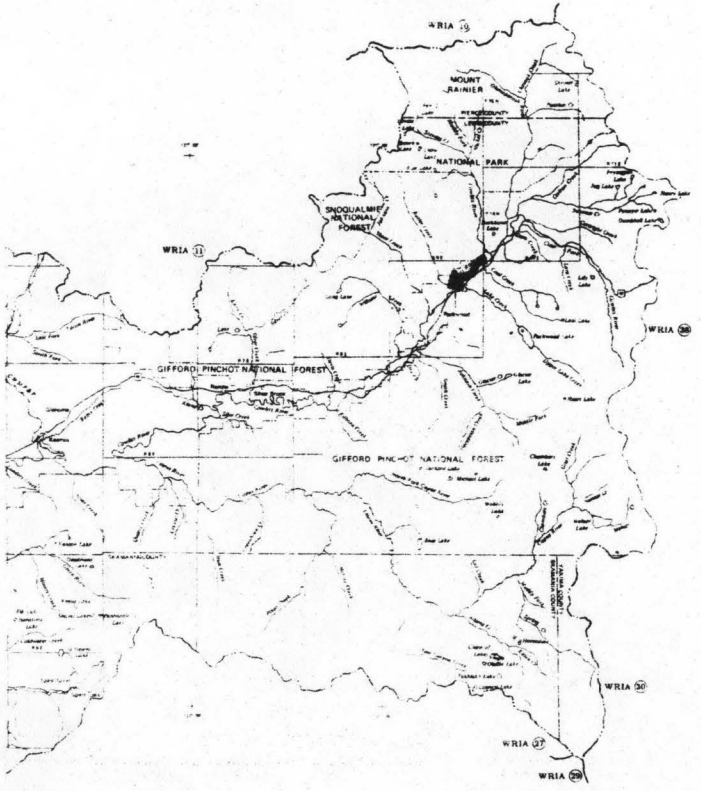
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	286	3.15	27.6	1.00
80	436	4.80	40.4	0.96
50	846	9.31	65.2	0.80
30	1540	17.0	92.1	0.62
10	2950	32.4	119	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1364 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-924

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0022

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R10E
D.	Latitude, Longitude	46°41' 121°35'
E.	Stream Name	Cowlitz River
F.	Major Basin Name	Cowlitz
G.	River Mile	133.5/135.1

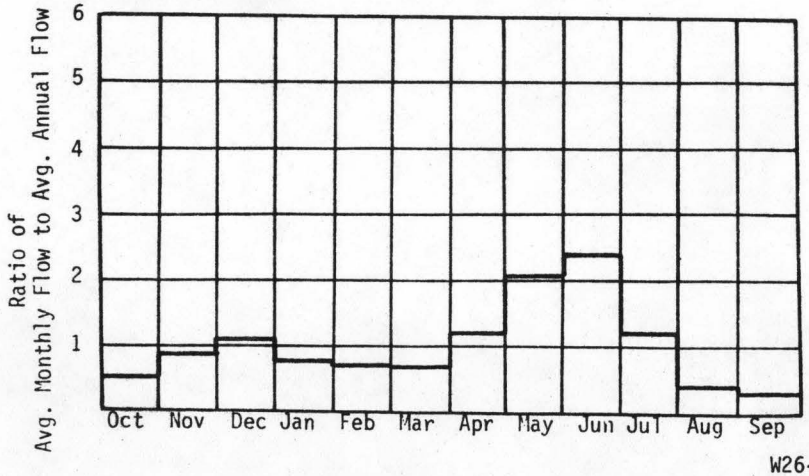
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1250	Ft. MSL
B.	Downstream Elevation of Reach	1190	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	37.5	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	168	0.85	7.48	1.00
80	256	1.30	11.0	0.96
50	497	2.52	17.7	0.80
30	905	4.60	25.0	0.62
10	1730	8.79	32.3	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 801 cfs



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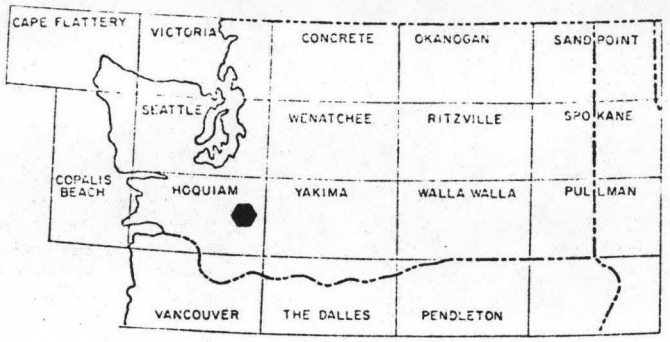
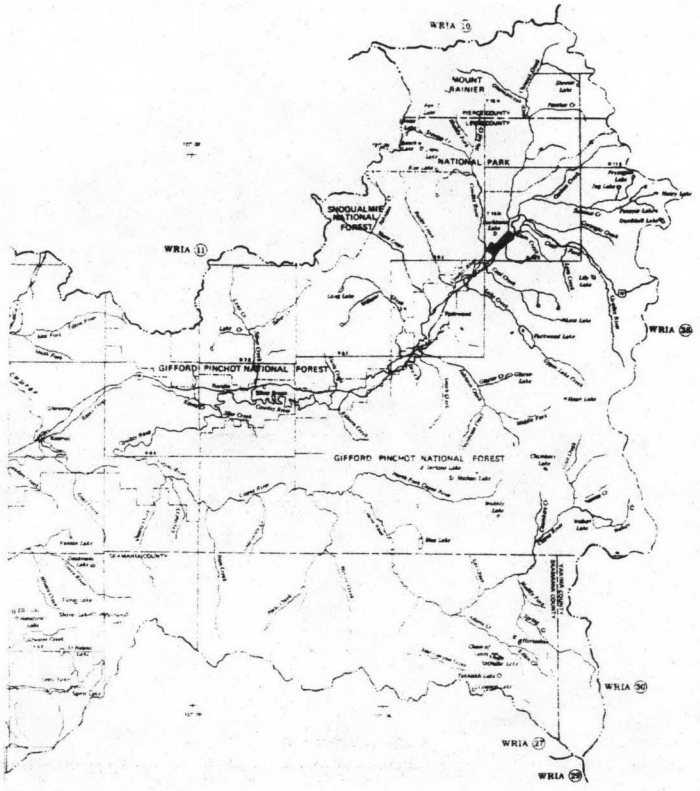


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0023

I. LOCATION

A.	State	Washington
B.	County	Wash. Cowlitz
C.	Township, Range	T8N R2W
D.	Latitude, Longitude	46°08' 122°54'
E.	Stream Name	Coweman River
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/10.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

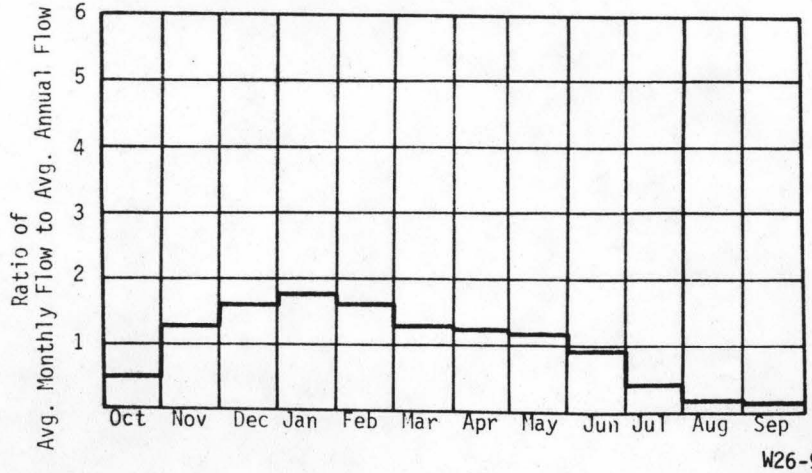
A.	Upstream Elevation of Reach	135	Ft. MSL
B.	Downstream Elevation of Reach	5	Ft. MSL
C.	Total Available Head in Reach	130	Ft.
D.	Average Slope in Reach	119	Ft./Mi.
E.	Drainage Area above Reach Mouth	128	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

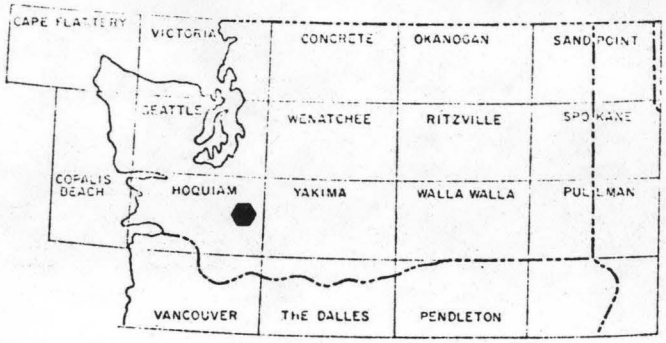
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	31.8	0.35	3.06	1.00
80	63.5	0.70	5.76	0.94
50	234	2.58	16.0	0.71
30	433	4.76	23.8	0.57
10	996	11.0	33.6	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

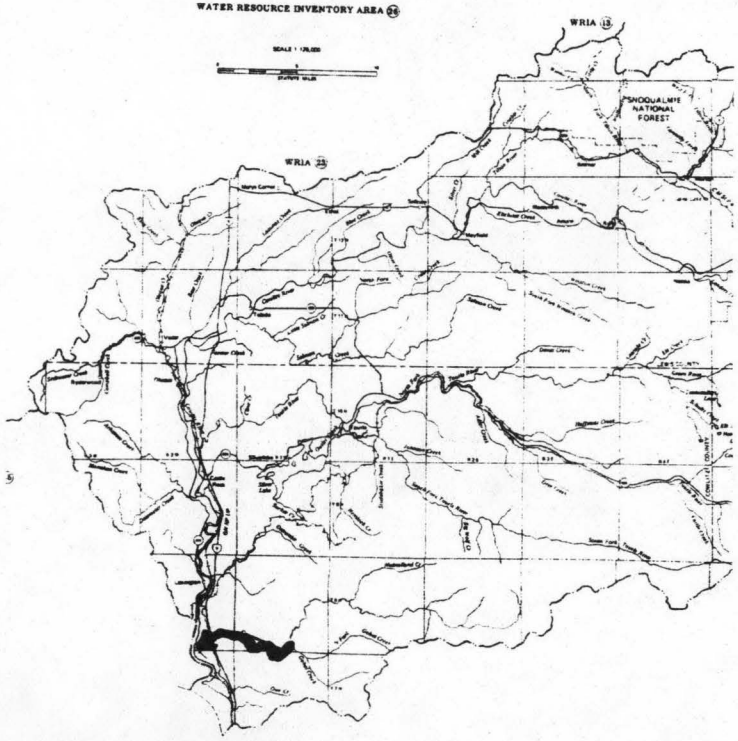
QMR = 397 cfs



W26-926



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0024

I. LOCATION

A. State	Washington	
B. County	Wash. Cowlitz	
C. Township, Range	T8N R1W	
D. Latitude, Longitude	46°09' 122°47'	
E. Stream Name	Coweman River	
F. Major Basin Name	Cowlitz	
G. River Mile	10.9/17.7	

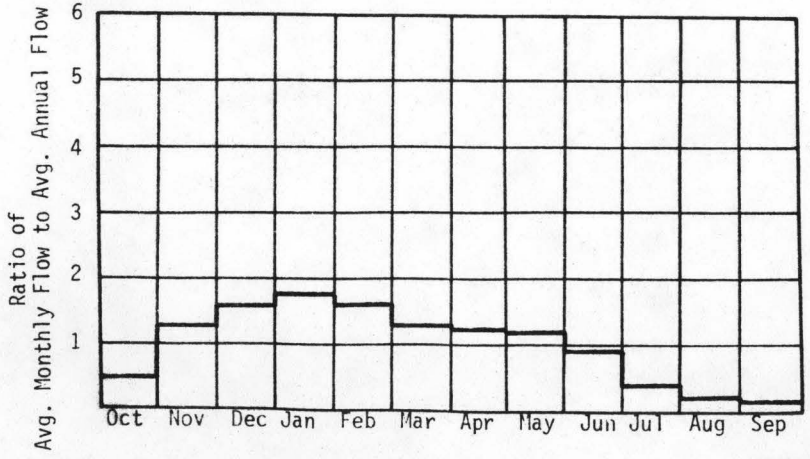
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

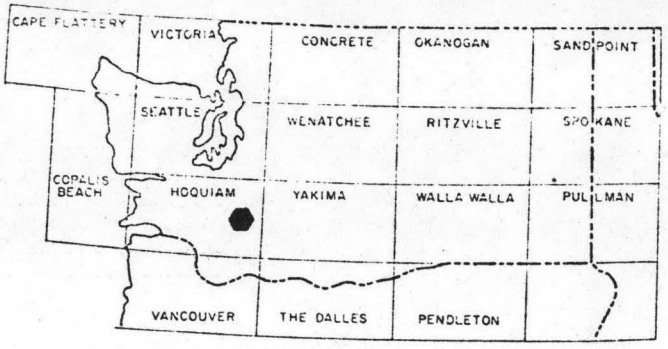
A. Upstream Elevation of Reach	380	Ft. MSL
B. Downstream Elevation of Reach	135	Ft. MSL
C. Total Available Head in Reach	245	Ft.
D. Average Slope in Reach	36.0	Ft./Mi.
E. Drainage Area above Reach Mouth	85.0	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

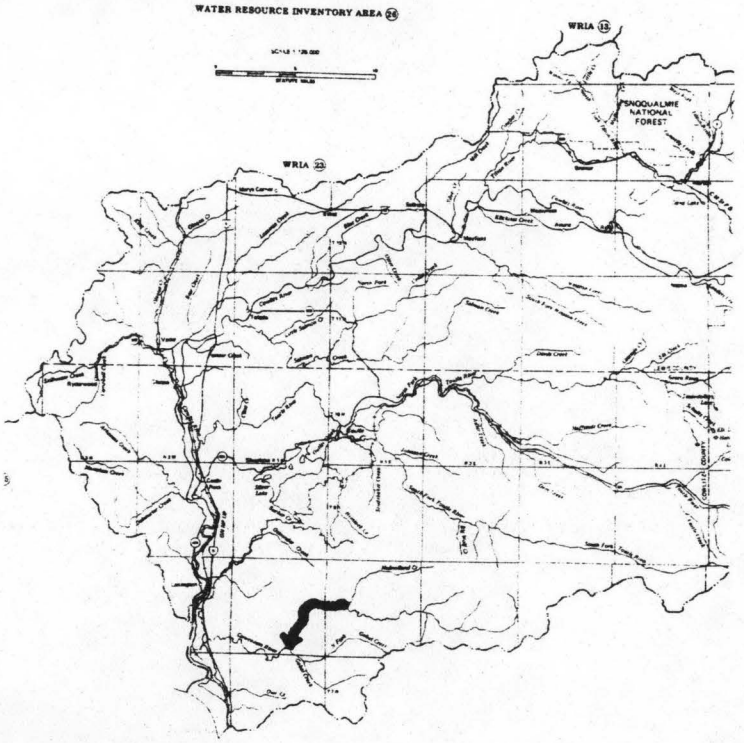
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	21.9	0.45	3.98	1.00
80	43.8	0.91	7.49	0.94
50	162	3.35	20.9	0.71
30	300	6.19	30.9	0.57
10	688	14.3	43.7	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 274 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0025

I. LOCATION

A.	State	Washington
B.	County	Wash. Cowlitz
C.	Township, Range	T7N R1E
D.	Latitude, Longitude	46°10' 122°40'
E.	Stream Name	Coweman River
F.	Major Basin Name	Cowlitz
G.	River Mile	17.7/25.3

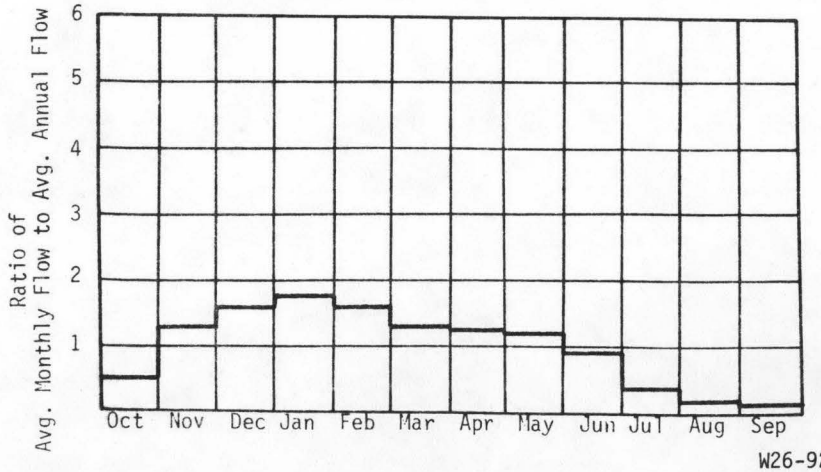
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	660	Ft. MSL
B.	Downstream Elevation of Reach	380	Ft. MSL
C.	Total Available Head in Reach	280	Ft.
D.	Average Slope in Reach	36.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	51	Sq.Mi.
F.	Inflow Classification	Natural	

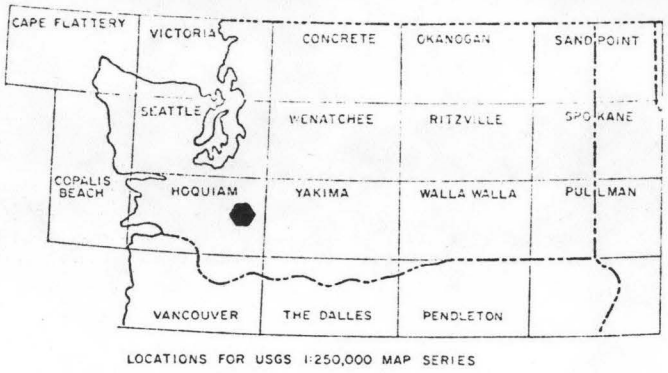
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.8	0.33	2.87	1.00
80	27.7	0.66	5.40	0.94
50	102	2.42	15.1	0.71
30	189	4.47	22.3	0.57
10	434	10.3	31.6	0.35

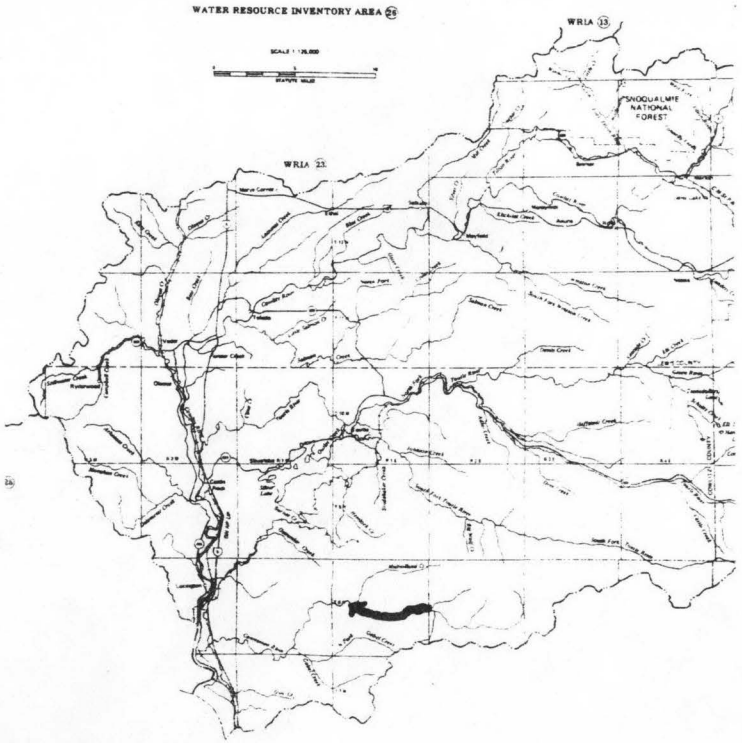
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 173 cfs



W26-928



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0026

I. LOCATION

A. State	Washington	
B. County	Wash. Cowlitz	
C. Township, Range	T7N R2E	
D. Latitude, Longitude	46°09' 122°32'	
E. Stream Name	Coweman River	
F. Major Basin Name	Cowlitz	
G. River Mile	25.3/31.0	

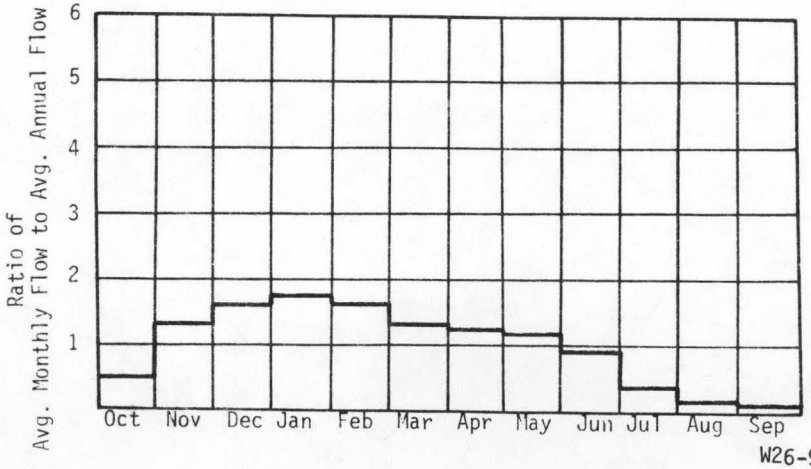
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1180	Ft. MSL
B. Downstream Elevation of Reach	660	Ft. MSL
C. Total Available Head in Reach	520 + 66 = 588	Ft.
D. Average Slope in Reach	91.2	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	7.28	0.36	3.17	1.00
80	14.6	0.72	5.97	0.94
50	53.7	2.67	16.6	0.71
30	99.2	4.94	24.7	0.57
10	228	11.4	34.9	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 91 cfs



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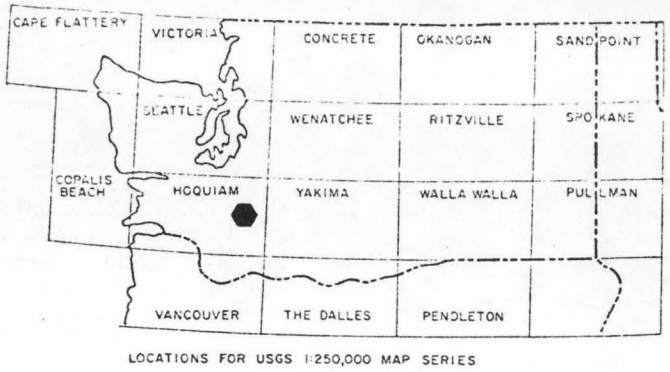
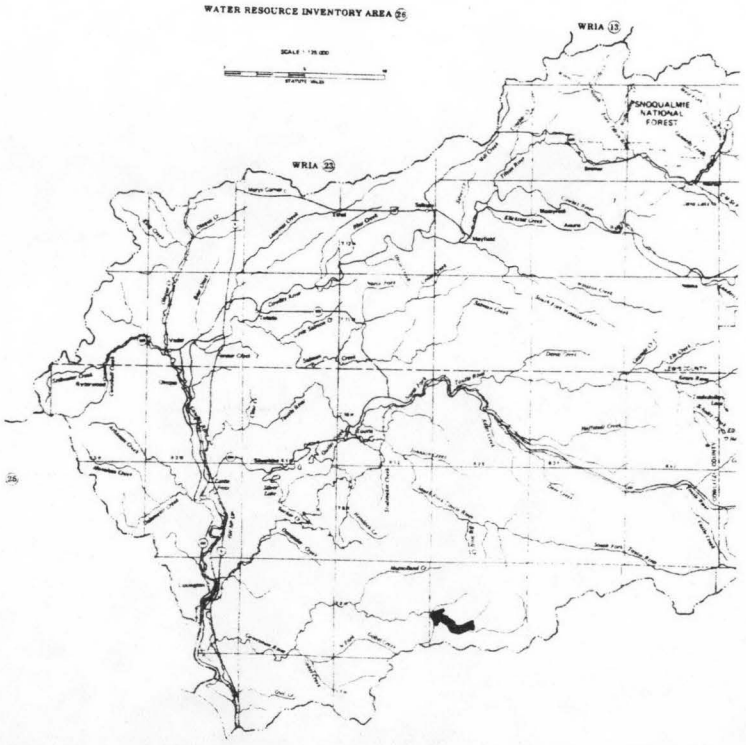


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0027

I. LOCATION

A. State	Washington	
B. County	Wash. Cowlitz	
C. Township, Range	T8N R2W	
D. Latitude, Longitude	46°12' 122°53'	
E. Stream Name	Ostrander Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/2.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

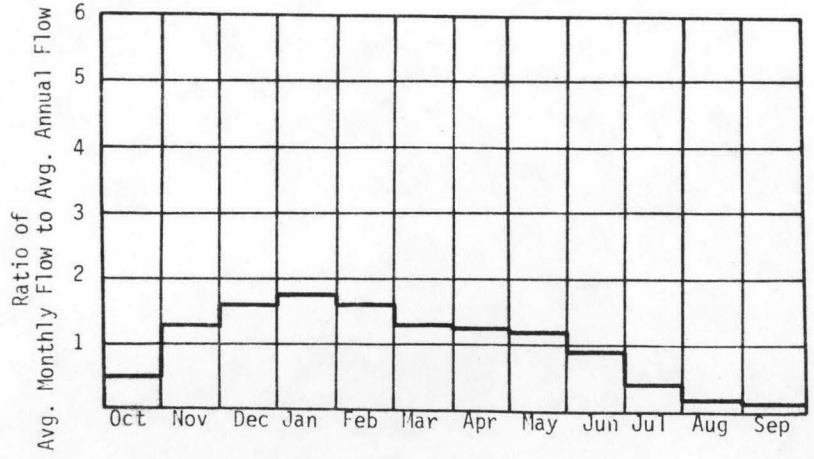
A. Upstream Elevation of Reach	50	Ft. MSL
B. Downstream Elevation of Reach	10	Ft. MSL
C. Total Available Head in Reach	40 + 66 = 106	Ft.
D. Average Slope in Reach	16	Ft./Mi.
E. Drainage Area above Reach Mouth	27	Sq.Mi.
F. Inflow Classification	Natural	

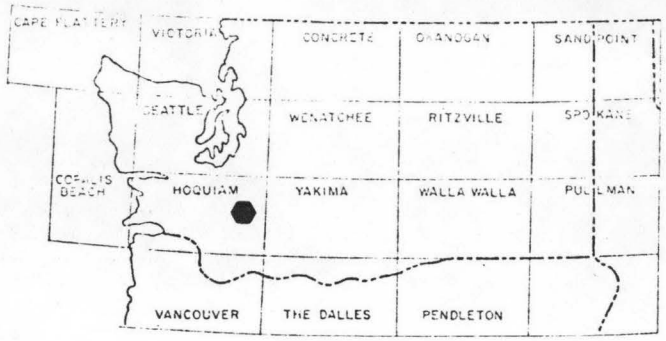
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.56	0.06	0.52	1.00
80	13.1	0.12	0.97	0.94
50	48.4	0.43	2.70	0.71
30	89.4	0.80	4.00	0.57
10	206	1.85	5.66	0.35

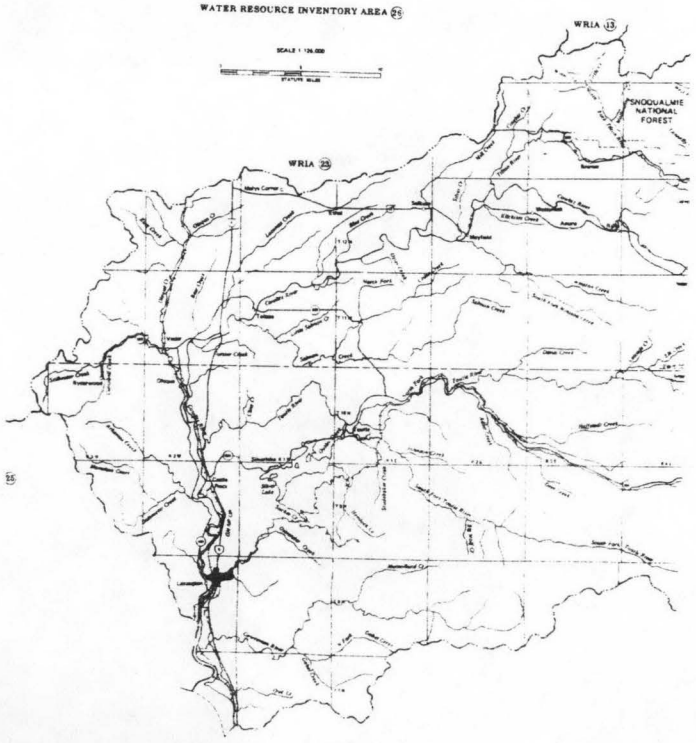
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 82 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0028

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T9N R2W	
D. Latitude, Longitude	46°16' 122°56'	
E. Stream Name	Arkansas Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/1.5	

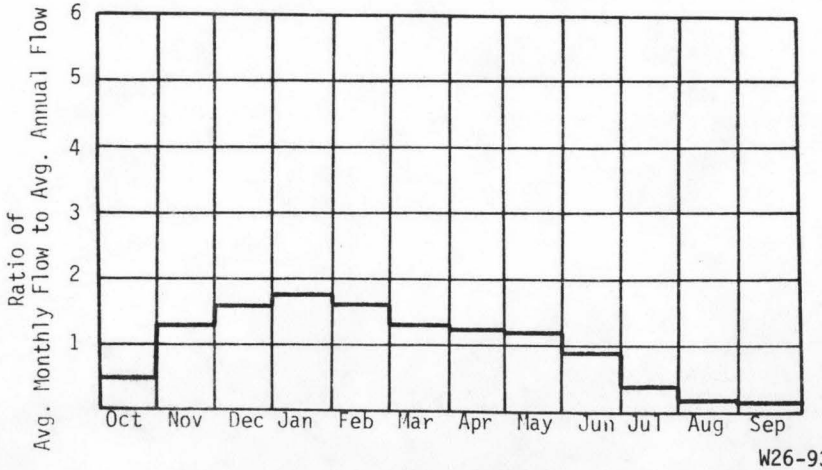
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	30	Ft. MSL
B. Downstream Elevation of Reach	20	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	6.7	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	7.72	0.01	0.06	1.00
80	17.4	0.01	0.12	0.93
50	98.4	0.08	0.50	0.68
30	218	0.18	0.86	0.53
10	486	0.41	1.23	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 193 cfs



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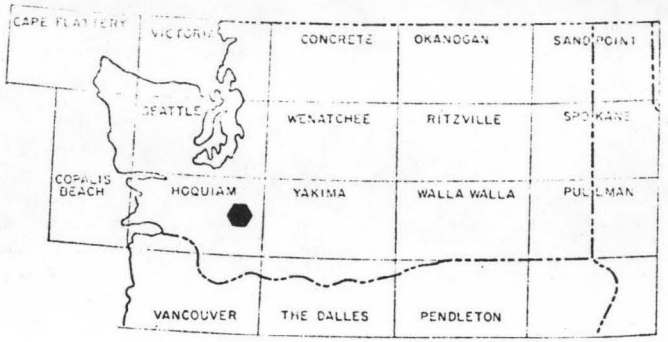
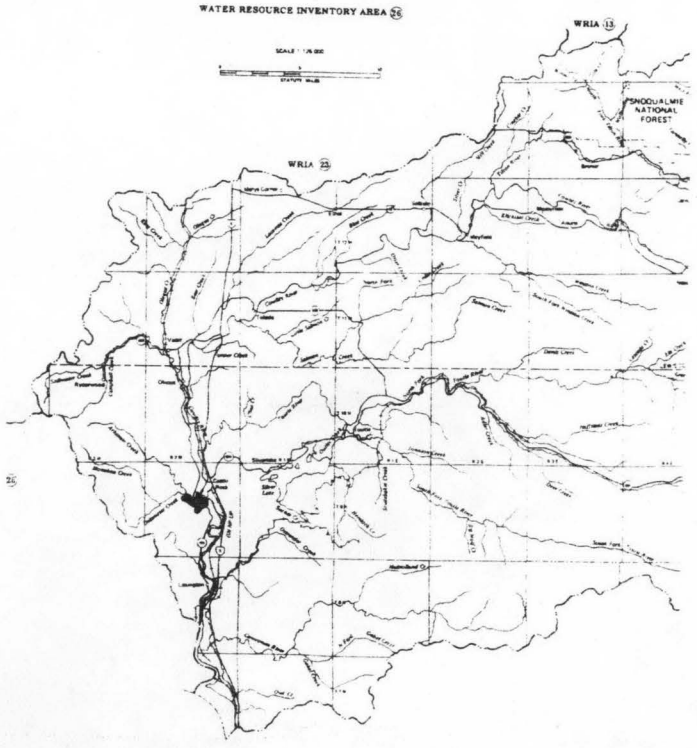


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0029

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R2W
D.	Latitude, Longitude	46°16' 122°57'
E.	Stream Name	Delameter Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	1.5/3.9

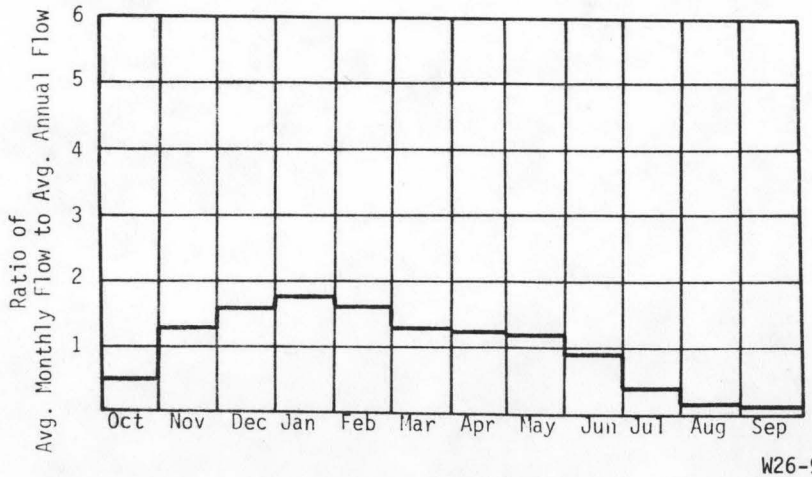
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	35	Ft. MSL
B.	Downstream Elevation of Reach	30	Ft. MSL
C.	Total Available Head in Reach	5 + 66 = 71	Ft.
D.	Average Slope in Reach	2.1	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	3.68	0.02	0.19	1.00
80	8.28	0.05	0.41	0.93
50	46.9	0.28	1.68	0.68
30	104	0.62	2.90	0.53
10	232	1.39	4.15	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 92 cfs



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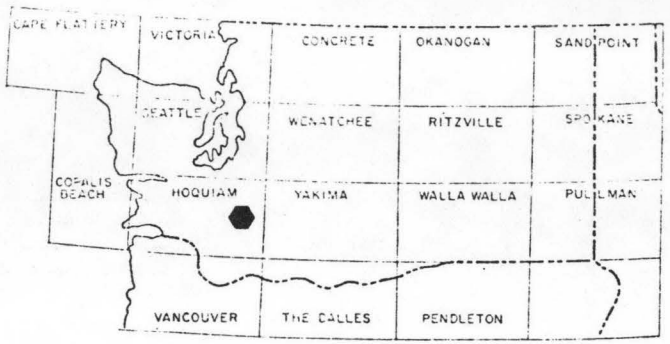
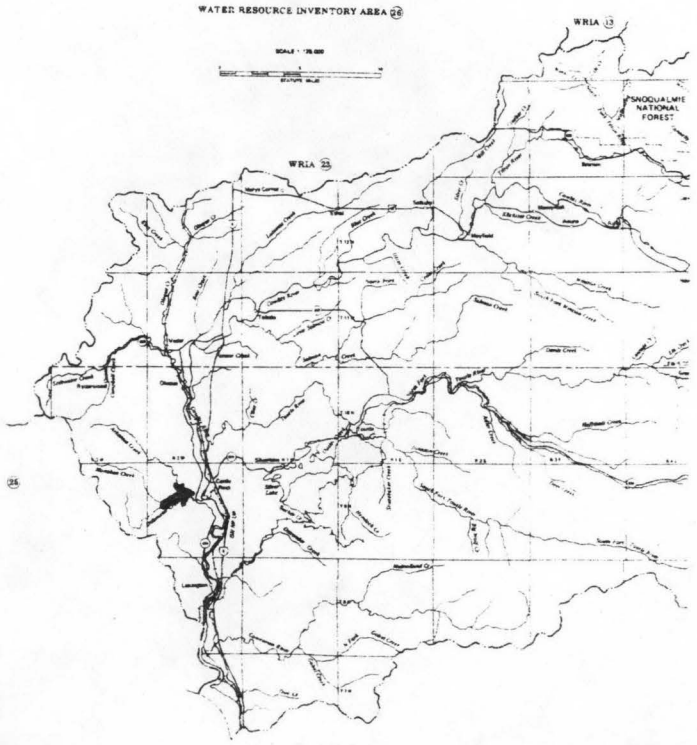


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0030

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R2W
D.	Latitude, Longitude	46°17' 122°57'
E.	Stream Name	Arkansas Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/4.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

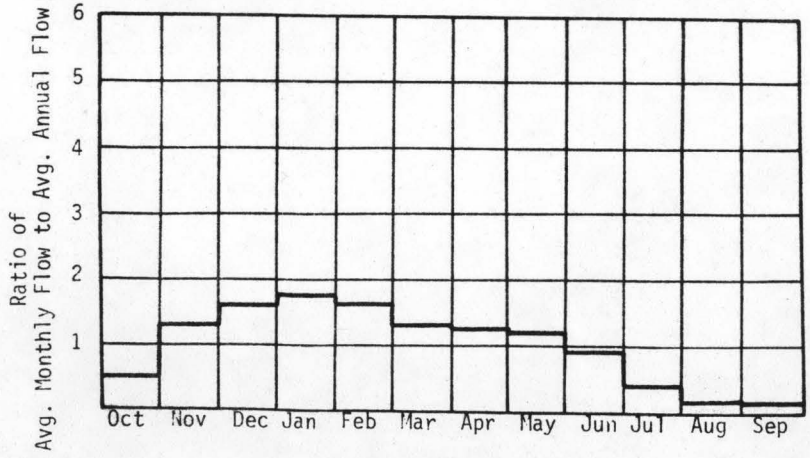
A.	Upstream Elevation of Reach	90	Ft. MSL
B.	Downstream Elevation of Reach	30	Ft. MSL
C.	Total Available Head in Reach	60 + 66 = 126	Ft.
D.	Average Slope in Reach	15	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

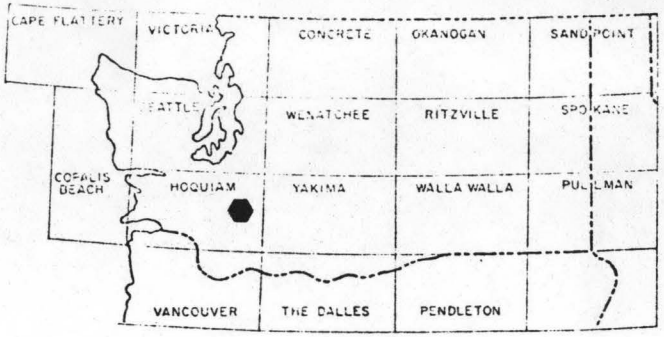
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3.36	0.04	0.31	1.00
80	7.56	0.08	0.66	0.93
50	42.8	0.46	2.72	0.68
30	94.9	1.01	4.70	0.53
10	212	2.26	6.72	0.34

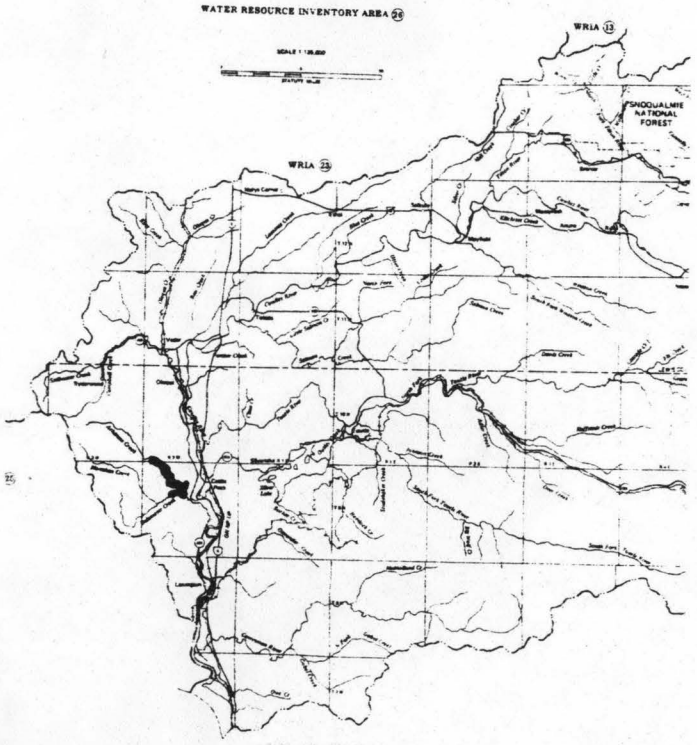
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 84 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0031

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T10N R1W
D.	Latitude, Longitude	46°21' 122°50'
E.	Stream Name	Toutle River
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/15.8

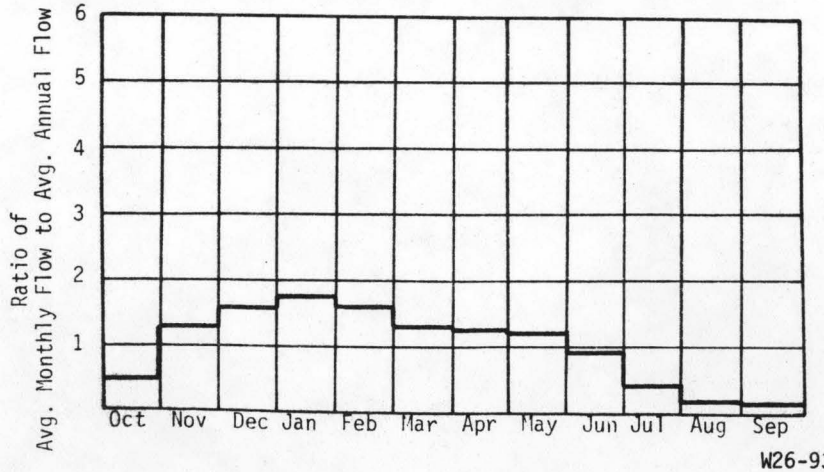
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	410	Ft. MSL
B.	Downstream Elevation of Reach	45	Ft. MSL
C.	Total Available Head in Reach	365	Ft.
D.	Average Slope in Reach	23.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	520	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	370	11.4	100	1.00
80	617	19.1	159	0.94
50	1580	48.9	326	0.76
30	2320	71.8	409	0.65
10	4050	125	493	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2056 cfs



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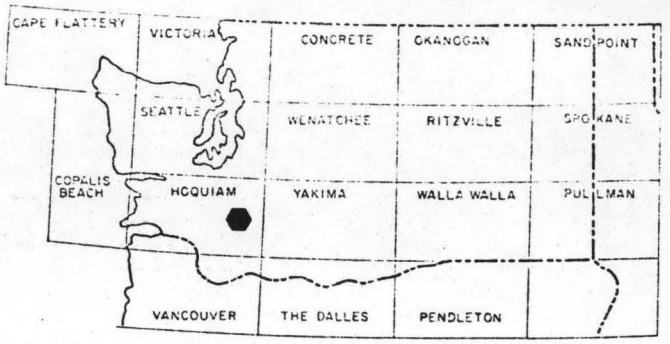
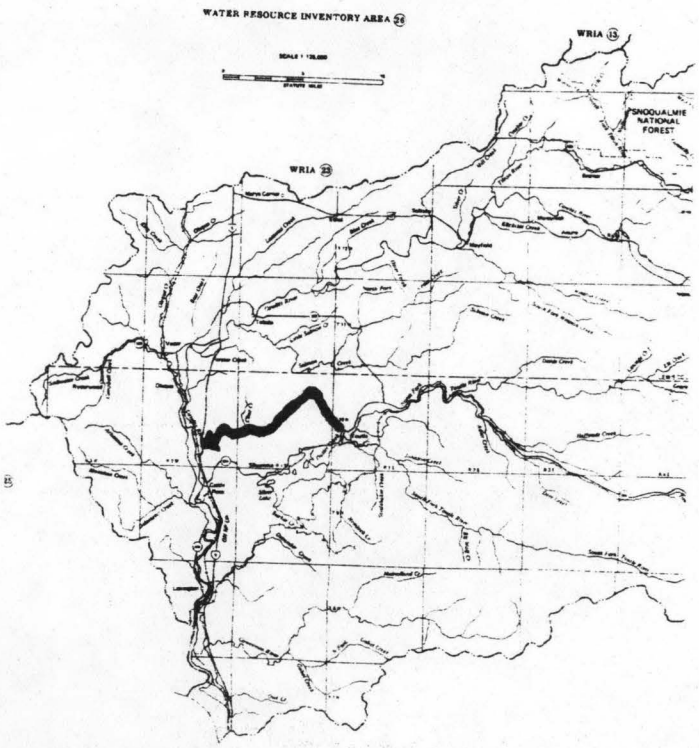


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0032

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R1W	
D. Latitude, Longitude	46°20' 122°44'	
E. Stream Name	Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	16.1/16.7	

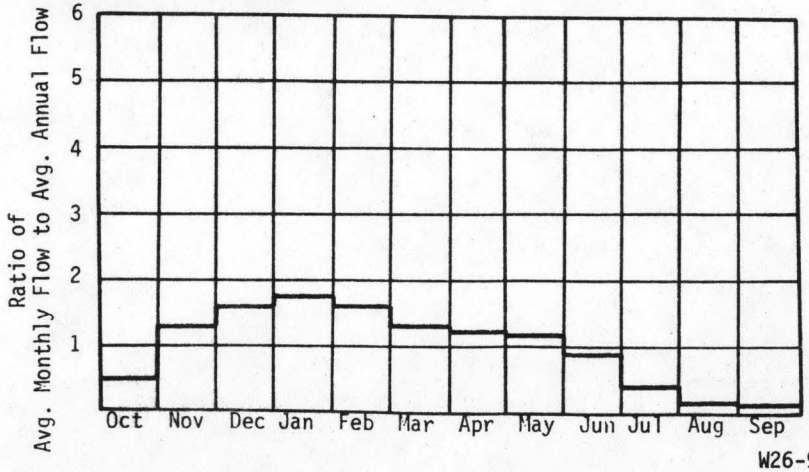
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	430	Ft. MSL
B. Downstream Elevation of Reach	420	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	16.7	Ft./Mi.
E. Drainage Area above Reach Mouth	440	Sq.Mi.
F. Inflow Classification	Natural	

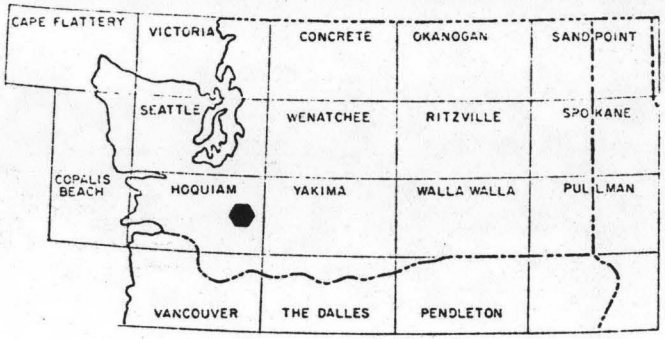
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	343	0.29	2.55	1.00
80	572	0.48	4.03	0.95
50	1470	1.24	8.28	0.76
30	2160	1.82	10.4	0.65
10	3760	3.18	12.5	0.45

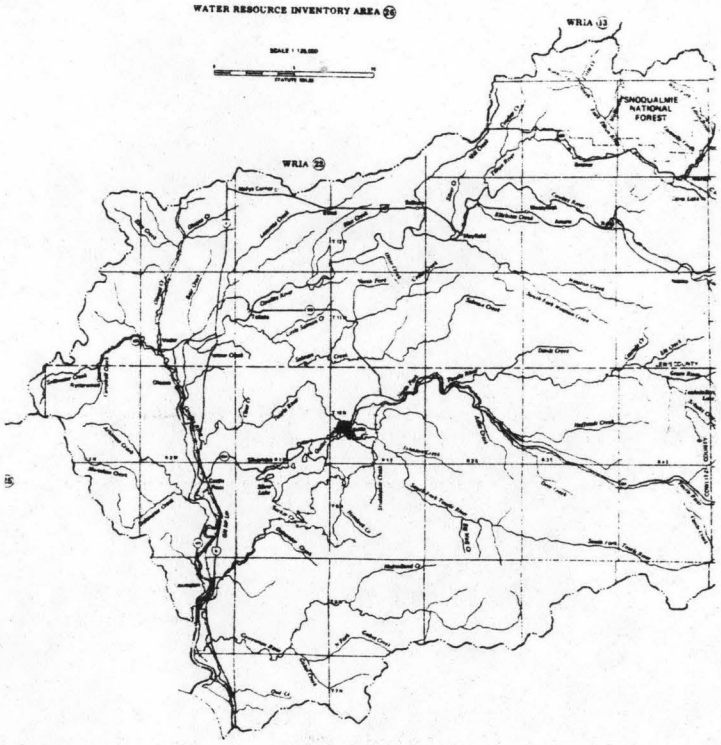
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1908 cfs



W26-935



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0033

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R1W
D.	Latitude, Longitude	46°19' 122°46'
E.	Stream Name	Outlet Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/2.7

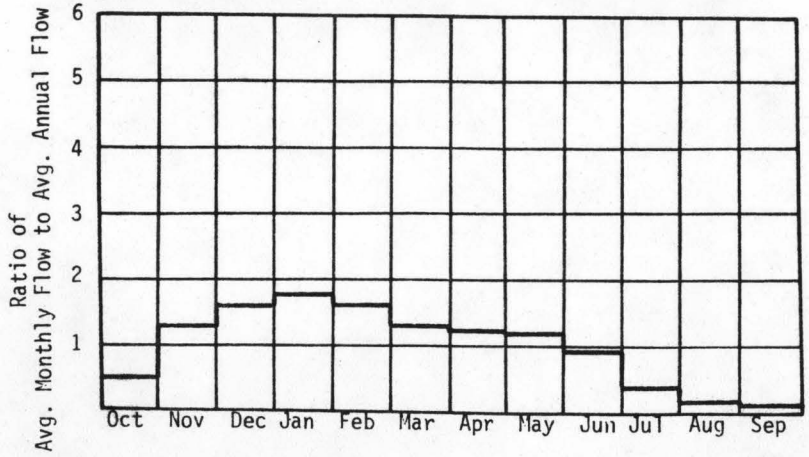
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

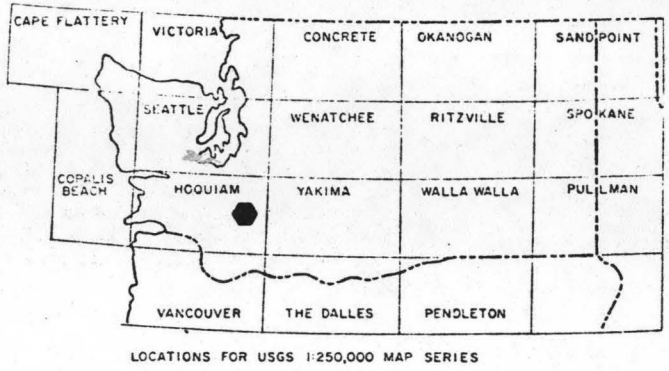
A.	Upstream Elevation of Reach	484	Ft. MSL
B.	Downstream Elevation of Reach	420	Ft. MSL
C.	Total Available Head in Reach	64 + 66 = 130	Ft.
D.	Average Slope in Reach	23.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	44	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

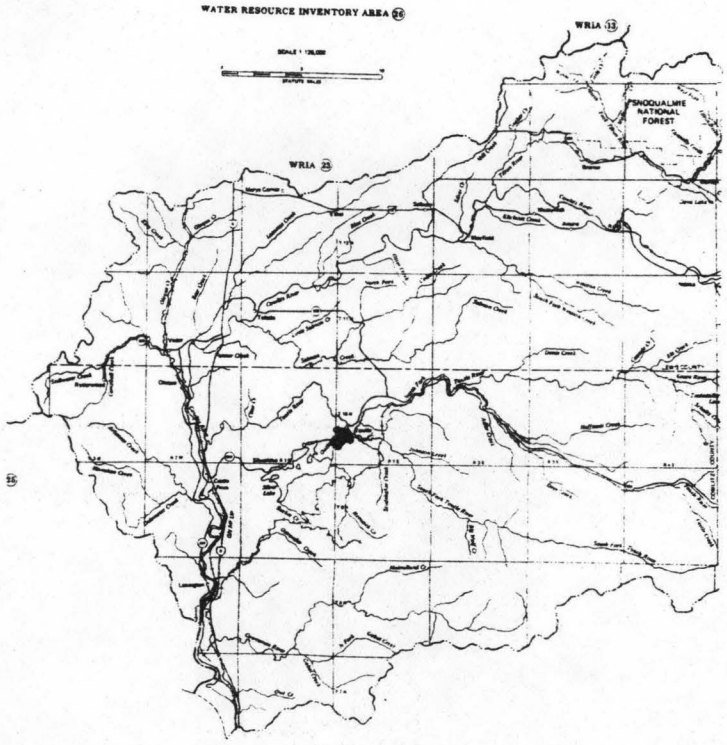
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	7.44	0.08	0.72	1.00
80	14.9	0.16	1.35	0.94
50	54.9	0.60	3.76	0.71
30	101	1.12	5.57	0.57
10	233	2.57	7.87	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 93 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-936

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0034

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T10N R1E
D.	Latitude, Longitude	46°19' 122°44'
E.	Stream Name	Toutle River
F.	Major Basin Name	Cowlitz
G.	River Mile	16.7/20.7

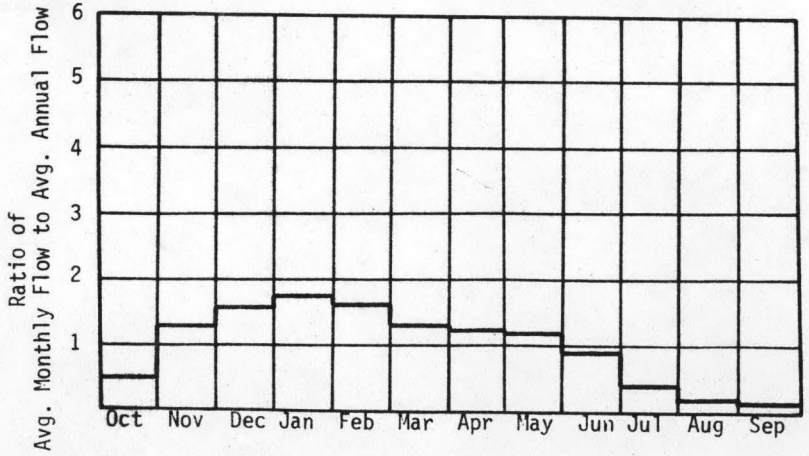
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

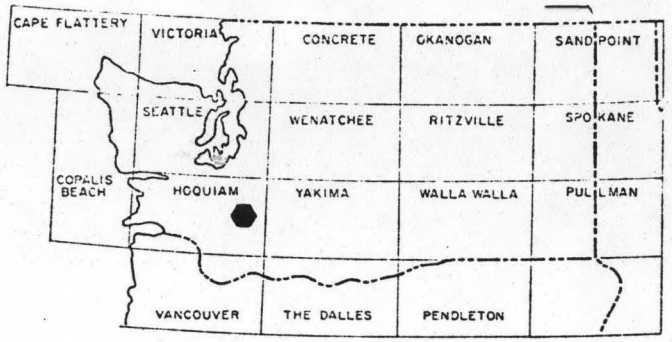
A.	Upstream Elevation of Reach	520	Ft. MSL
B.	Downstream Elevation of Reach	430	Ft. MSL
C.	Total Available Head in Reach	90	Ft.
D.	Average Slope in Reach	22.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	133	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

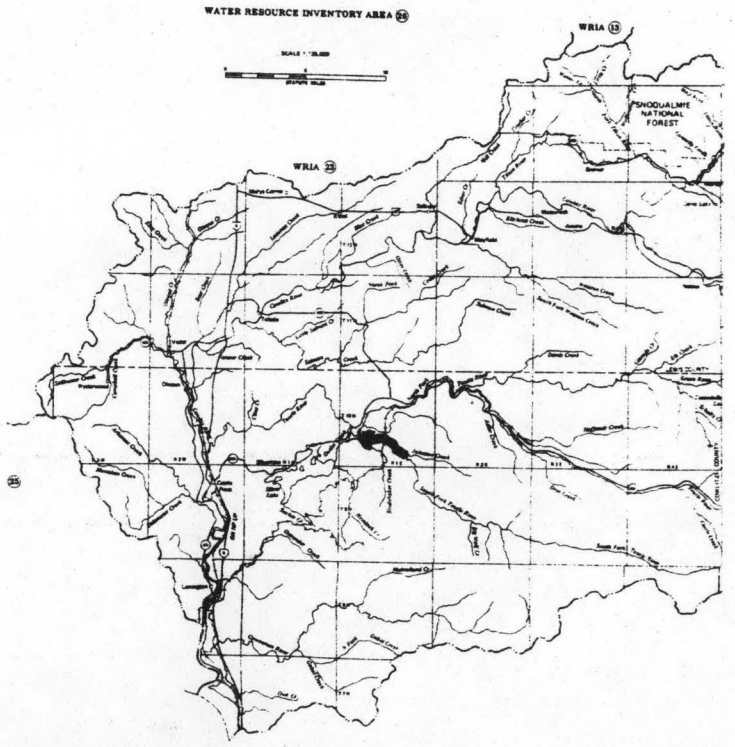
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	84.6	0.64	5.64	1.00
80	145	7.10	9.09	0.94
50	423	3.22	20.9	0.74
30	683	5.20	27.8	0.61
10	1270	9.71	35.7	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 604 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0035

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R1E
D.	Latitude, Longitude	46°16' 122°26'
E.	Stream Name	S.F. Toutle River
F.	Major Basin Name	Cowlitz
G.	River Mile	20.7/33.4

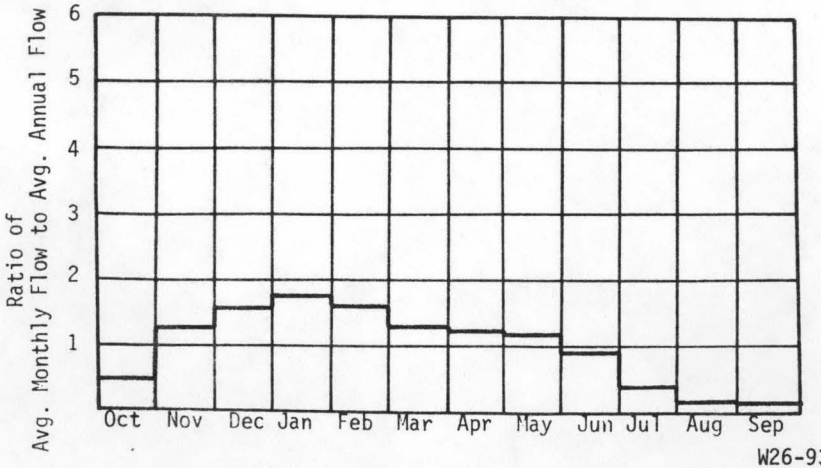
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1120	Ft. MSL
B.	Downstream Elevation of Reach	520	Ft. MSL
C.	Total Available Head in Reach	600	Ft.
D.	Average Slope in Reach	47.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	112	Sq.Mi.
F.	Inflow Classification	Natural	

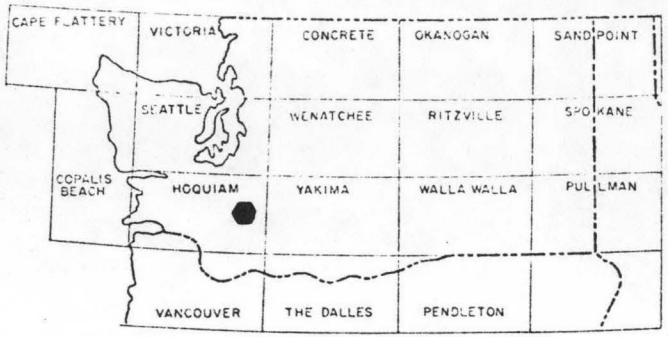
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	66.5	3.38	29.6	1.00
80	114	5.79	47.7	0.94
50	333	16.9	109	0.74
30	537	27.3	146	0.61
10	1000	50.9	187	0.42

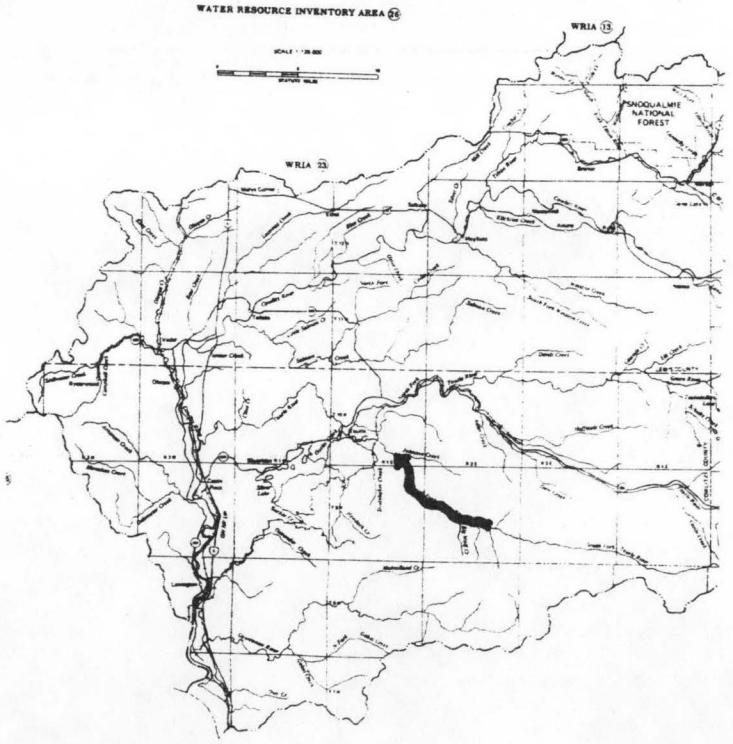
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 475 cfs



W26-938



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0036

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T9N R3E	
D. Latitude, Longitude	46°14' 122°25'	
E. Stream Name	S.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	34.5/40.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

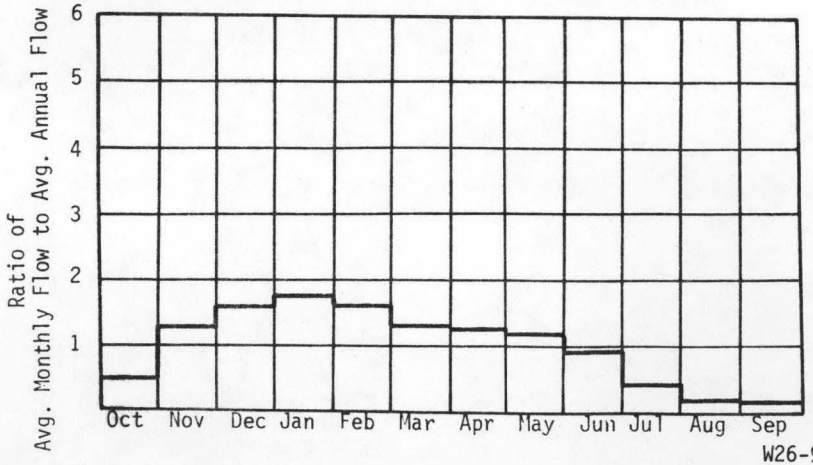
A. Upstream Elevation of Reach	1960	Ft. MSL
B. Downstream Elevation of Reach	1120	Ft. MSL
C. Total Available Head in Reach	840	Ft.
D. Average Slope in Reach	131	Ft./Mi.
E. Drainage Area above Reach Mouth	53	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	32.8	2.31	20.2	1.00
80	55.7	3.96	32.6	0.94
50	162	11.6	74.8	0.74
30	262	18.6	99.6	0.61
10	490	34.8	128	0.42

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 232 cfs



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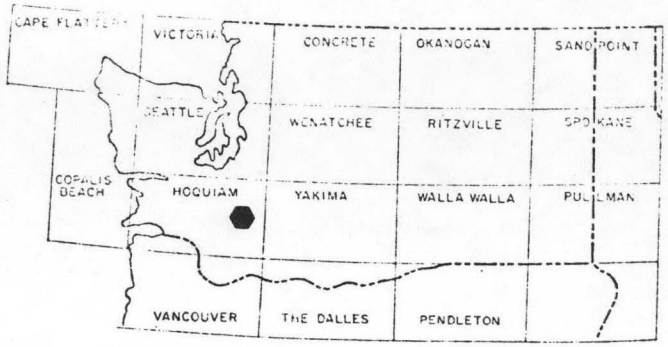
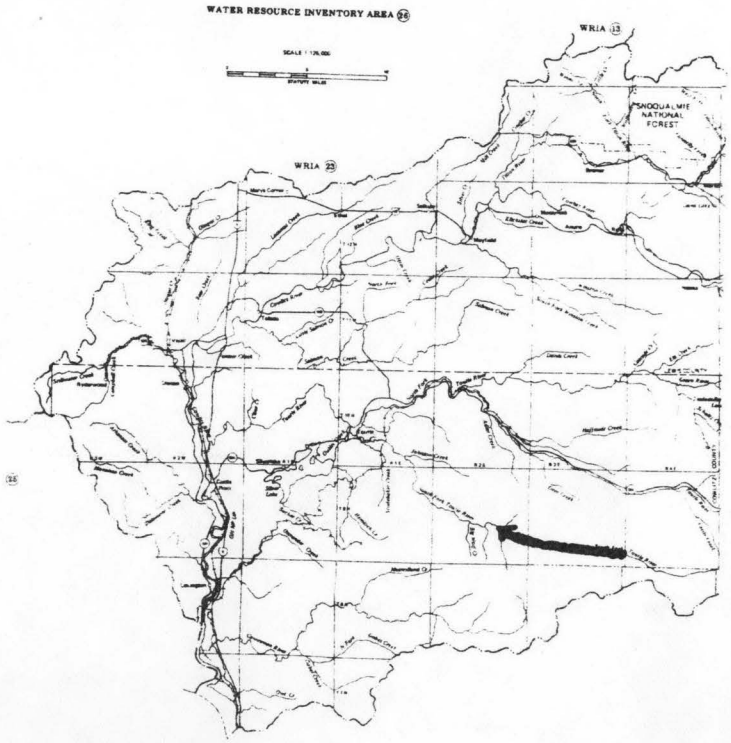


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0037

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T9N R4E	
D. Latitude, Longitude	46°12' 122°18'	
E. Stream Name	S.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	40.9/42.2	

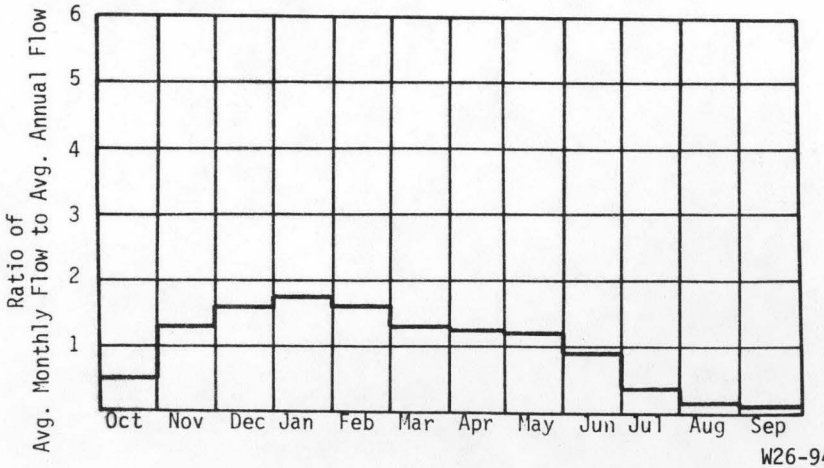
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2280	Ft. MSL
B. Downstream Elevation of Reach	1960	Ft. MSL
C. Total Available Head in Reach	320 + 66 = 388	Ft.
D. Average Slope in Reach	246	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	13.0	0.43	3.75	1.00
80	22.3	0.73	6.04	0.94
50	65.1	2.14	13.9	0.74
30	105	3.45	18.4	0.61
10	196	6.44	23.7	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 93 cfs



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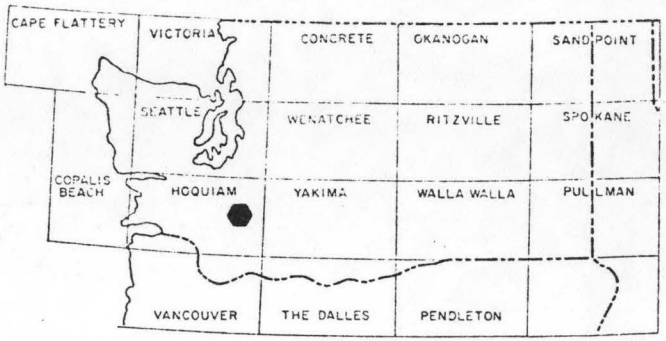
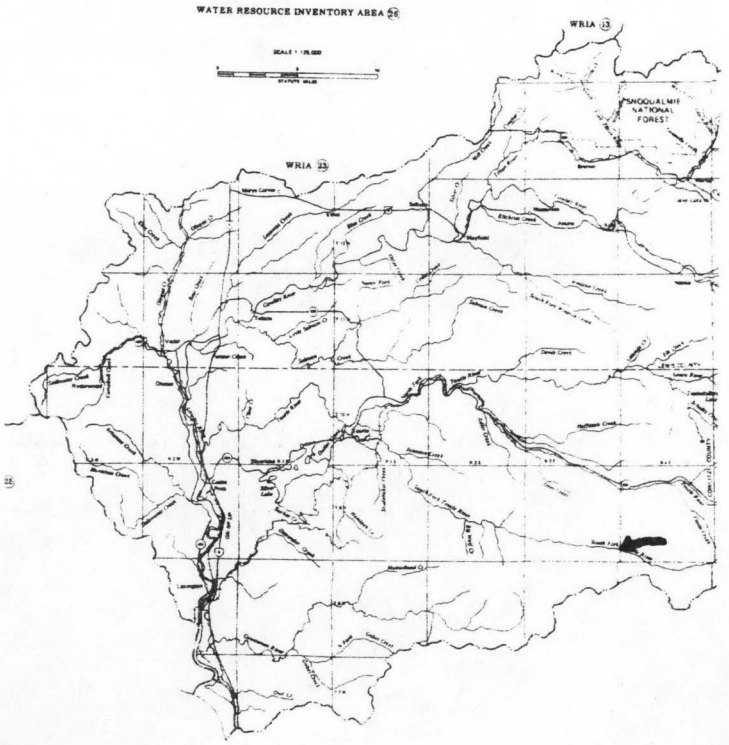


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0038

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T9N R3E	
D. Latitude, Longitude	46°14' 122°28'	
E. Stream Name	Bear Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/0.9	

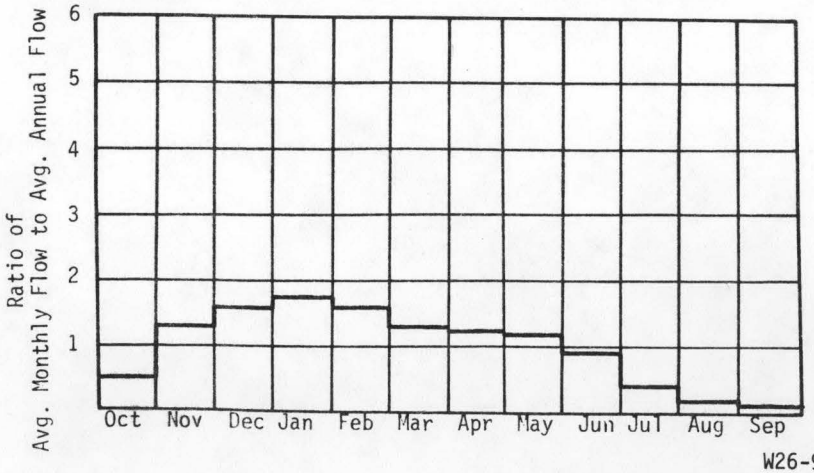
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

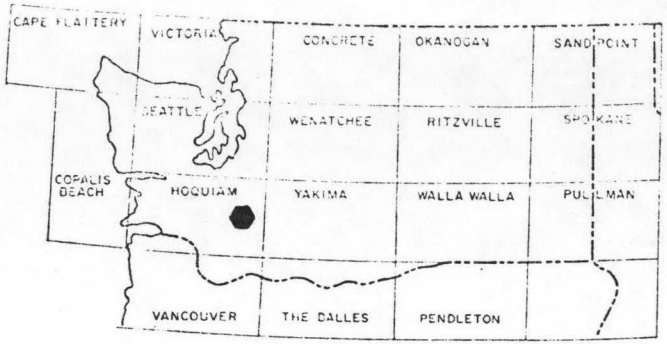
A. Upstream Elevation of Reach	1440	Ft. MSL
B. Downstream Elevation of Reach	1120	Ft. MSL
C. Total Available Head in Reach	320 + 66 = 388	Ft.
D. Average Slope in Reach	256	Ft./Mi.
E. Drainage Area above Reach Mouth	63	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

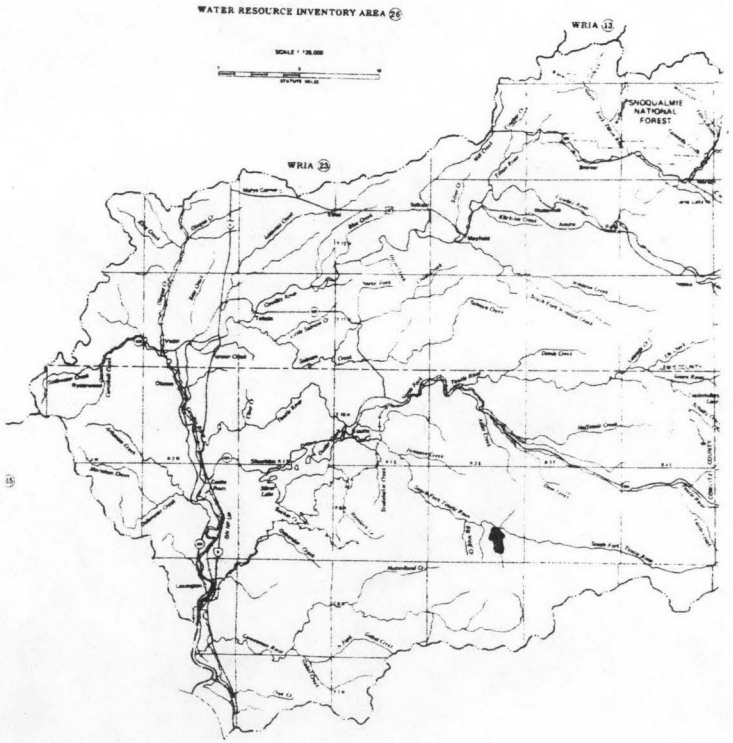
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.54	0.28	2.46	1.00
80	14.6	0.48	3.96	0.94
50	42.7	1.40	9.09	0.74
30	68.9	2.26	12.1	0.61
10	129	4.23	15.6	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 61 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0039

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T8N R4E	
D. Latitude, Longitude	46°12' 122°18'	
E. Stream Name	S.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	40.9/42.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

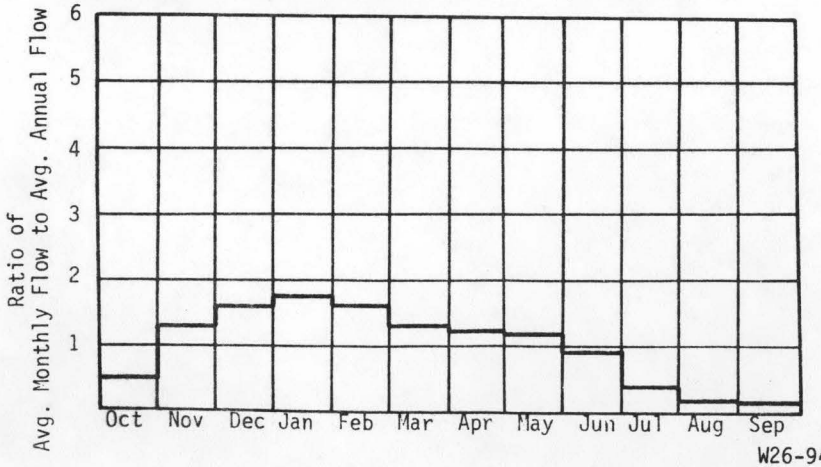
A. Upstream Elevation of Reach	2240	Ft. MSL
B. Downstream Elevation of Reach	1960	Ft. MSL
C. Total Available Head in Reach	280 + 66 = 346	Ft.
D. Average Slope in Reach	215	Ft./Mi.
E. Drainage Area above Reach Mouth	11	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

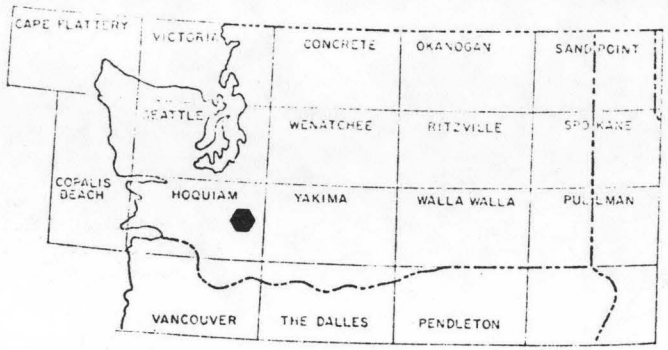
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.82	0.26	2.26	1.00
80	15.1	0.44	3.65	0.94
50	44.1	1.29	8.37	0.74
30	71.2	2.08	11.1	0.61
10	133	3.89	14.3	0.42

IV. TYPICAL ANNUAL HYDROGRAPH

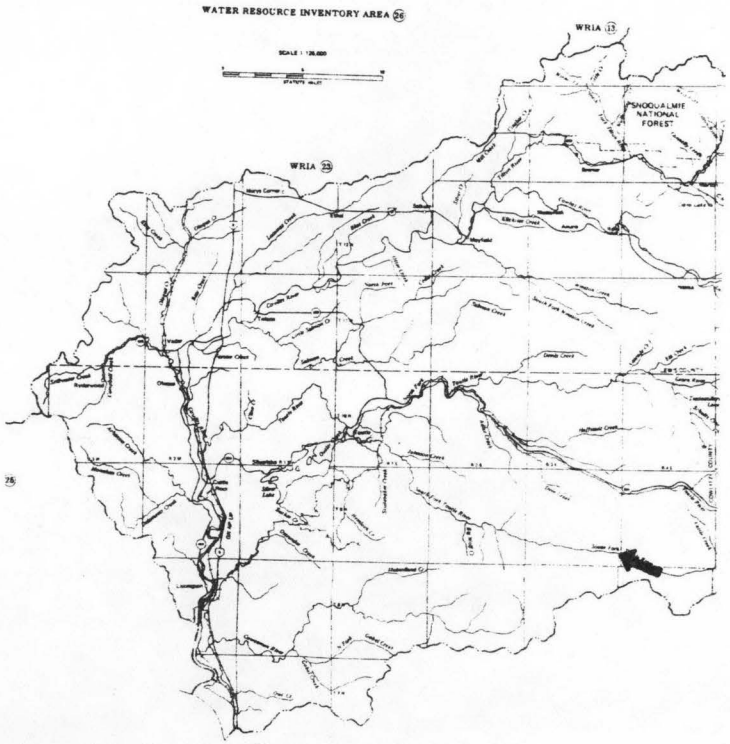
QMR = 63 cfs



W26-942



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0040

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T10N R1W
D.	Latitude, Longitude	46°20' 122°42'
E.	Stream Name	N.F. Toutle River
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/0.8

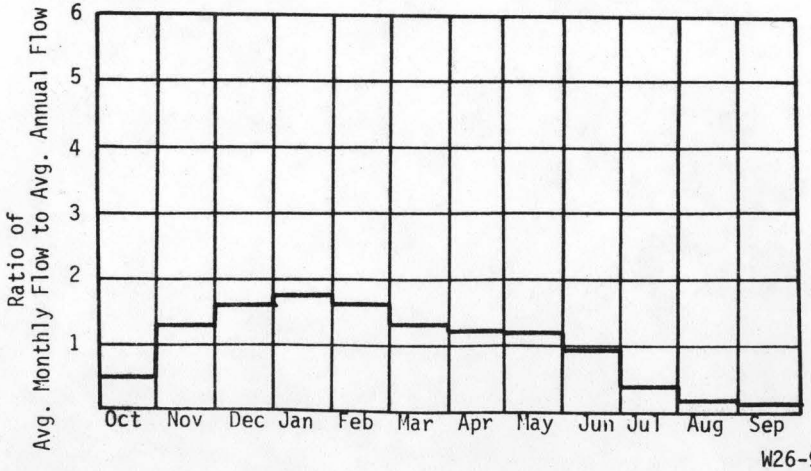
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	445	Ft. MSL
B.	Downstream Elevation of Reach	430	Ft. MSL
C.	Total Available Head in Reach	15	Ft.
D.	Average Slope in Reach	18.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	307	Sq.Mi.
F.	Inflow Classification	Natural	

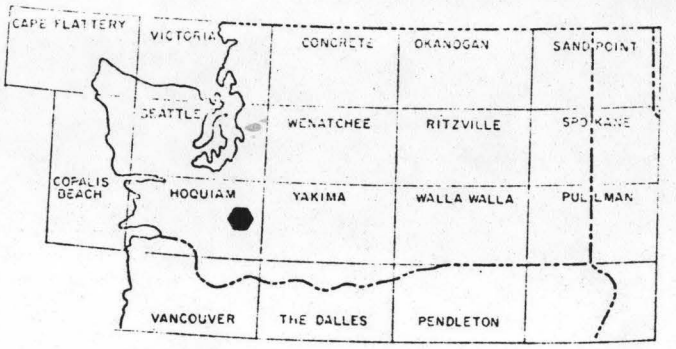
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	369	0.47	4.10	1.00
80	471	0.60	5.08	0.97
50	1060	1.34	9.28	0.79
30	1540	1.95	11.5	0.67
10	2440	3.10	13.3	0.49

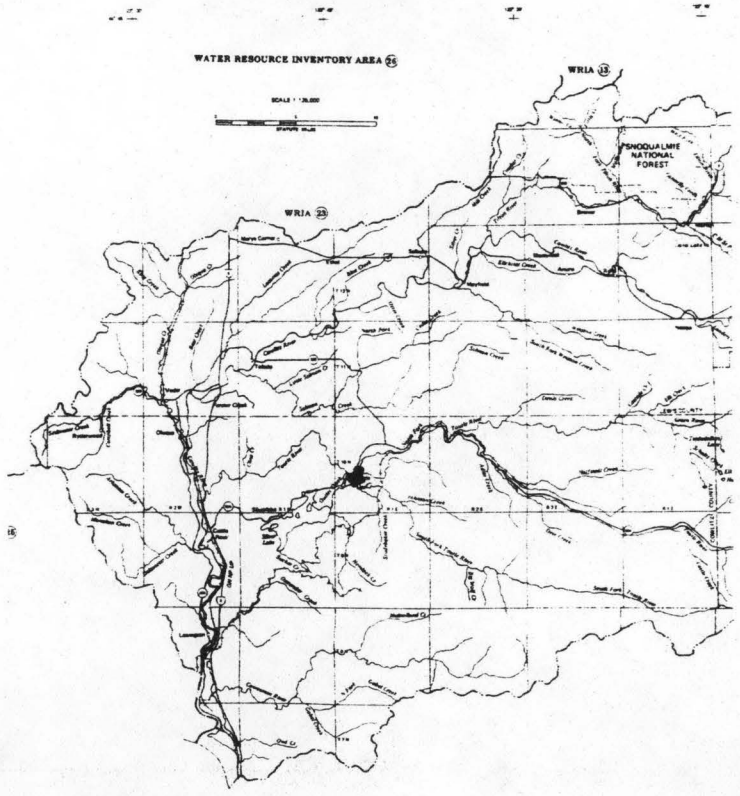
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1272 cfs



W26-943



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0041

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R1E	
D. Latitude, Longitude	46°22' 122°40'	
E. Stream Name	N.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	0.8/10.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

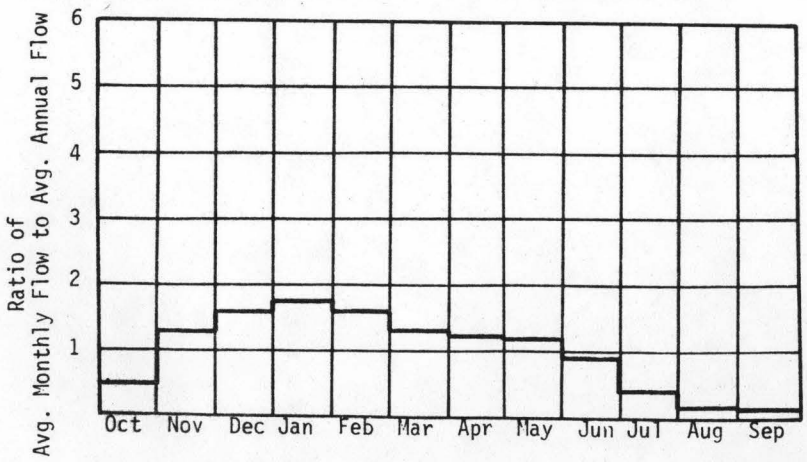
A. Upstream Elevation of Reach	720	Ft. MSL
B. Downstream Elevation of Reach	445	Ft. MSL
C. Total Available Head in Reach	275	Ft.
D. Average Slope in Reach	27.2	Ft./Mi.
E. Drainage Area above Reach Mouth	295	Sq.Mi.
F. Inflow Classification	Natural	

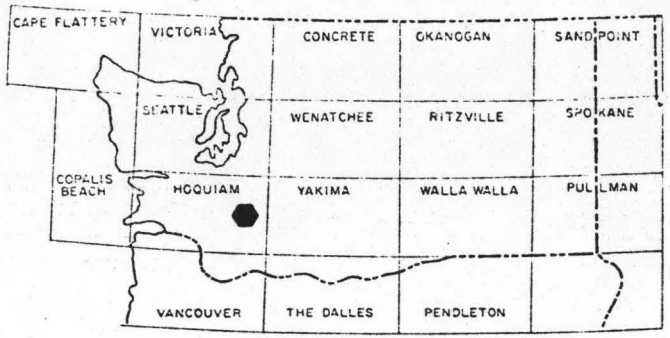
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	362	8.42	73.7	1.00
80	461	10.7	91.3	0.97
50	1040	24.1	167	0.79
30	1510	35.1	206	0.67
10	2390	55.7	239	0.49

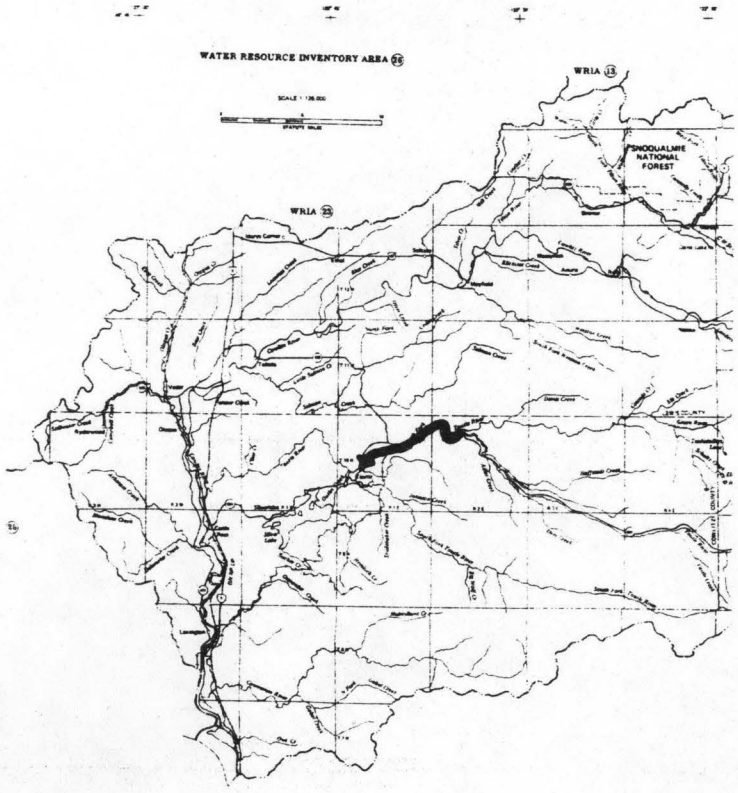
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1247 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0042

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R2E	
D. Latitude, Longitude	46°22' 122°34'	
E. Stream Name	N.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	10.9/14.0	

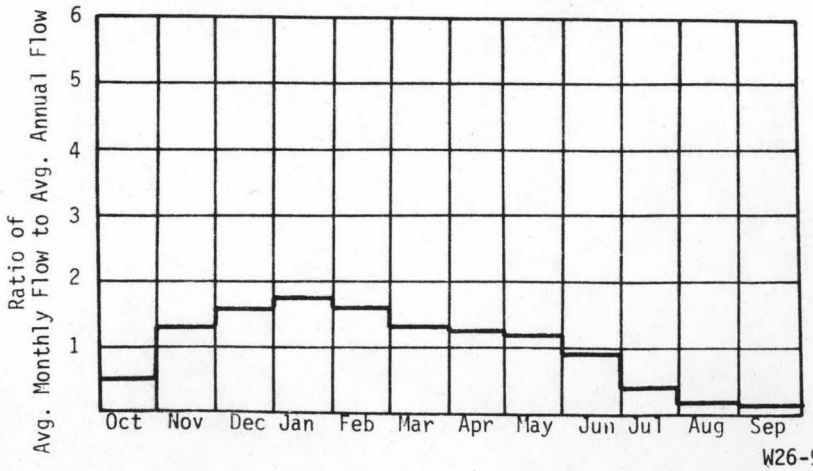
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	860	Ft. MSL
B. Downstream Elevation of Reach	720	Ft. MSL
C. Total Available Head in Reach	140	Ft.
D. Average Slope in Reach	45.2	Ft./Mi.
E. Drainage Area above Reach Mouth	148	Sq.Mi.
F. Inflow Classification	Natural	

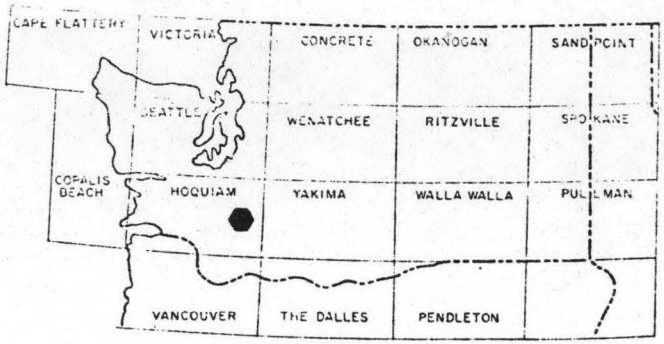
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	202	2.40	21.0	1.00
80	258	3.06	26.0	0.97
50	579	6.86	47.5	0.79
30	845	10.0	58.7	0.67
10	1340	15.9	68.2	0.49

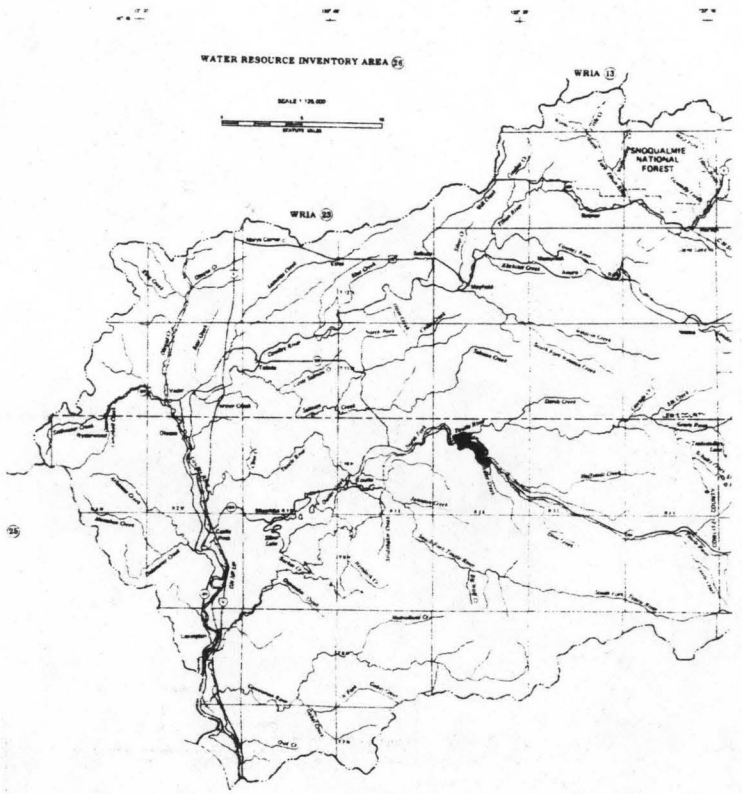
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 698 cfs



W26-945



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0043

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R2E	
D. Latitude, Longitude	46°20' 122°32'	
E. Stream Name	N.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	14.0/15.3	

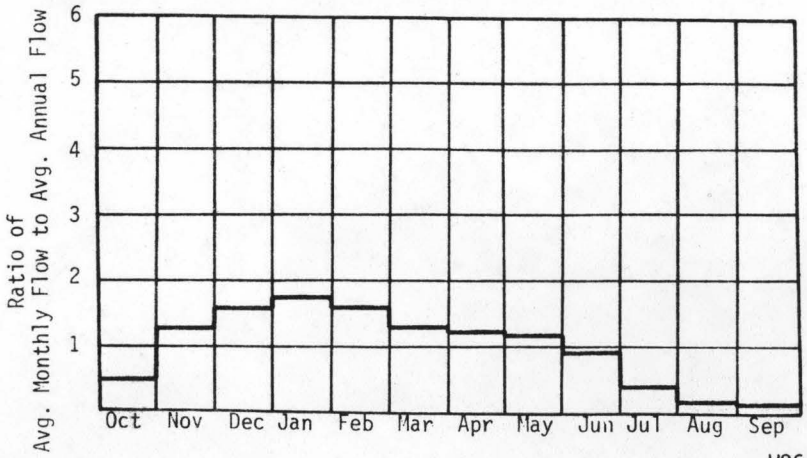
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	920	Ft. MSL
B. Downstream Elevation of Reach	860	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	46.2	Ft./Mi.
E. Drainage Area above Reach Mouth	128	Sq.Mi.
F. Inflow Classification	Natural	

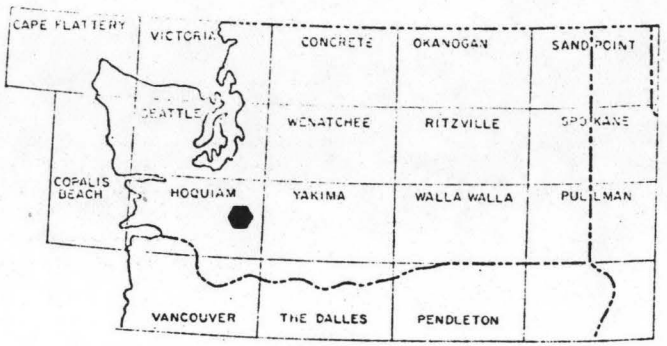
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	190	0.97	8.5	1.00
80	243	1.23	10.5	0.97
50	544	2.77	19.1	0.79
30	794	4.03	23.7	0.67
10	1260	6.40	27.5	0.49

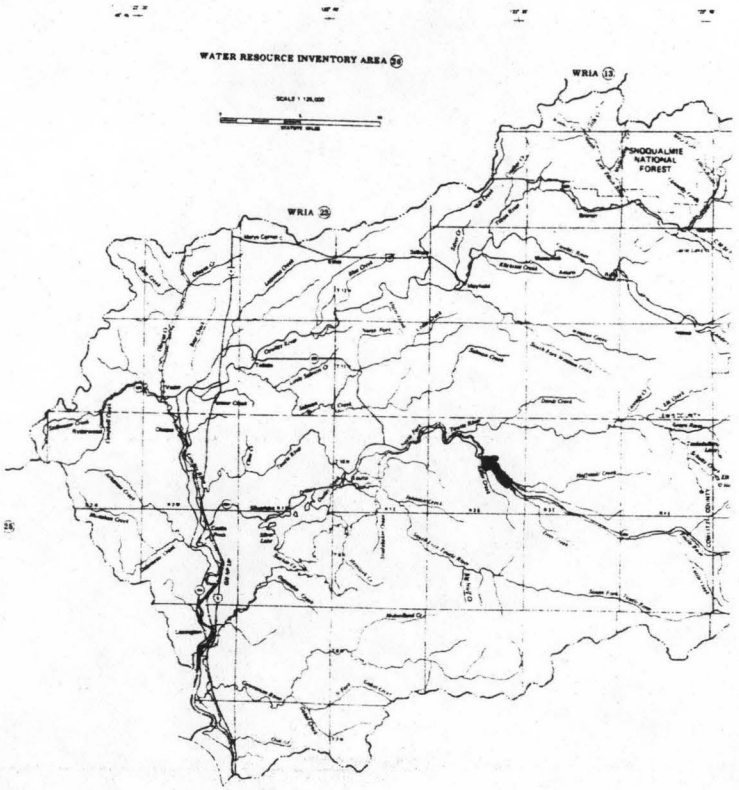
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 656 cfs



W26-946



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0044

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R3E	
D. Latitude, Longitude	46°17' 122°26'	
E. Stream Name	N.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	15.3/25.3	

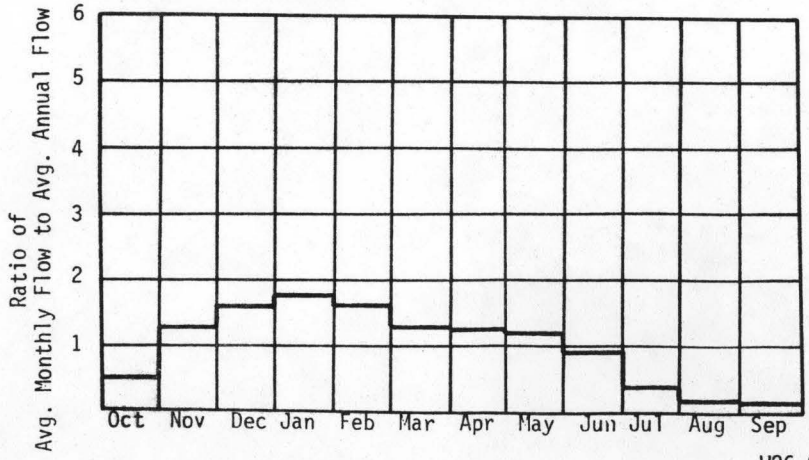
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1060	Ft. MSL
B. Downstream Elevation of Reach	920	Ft. MSL
C. Total Available Head in Reach	140	Ft.
D. Average Slope in Reach	14	Ft./Mi.
E. Drainage Area above Reach Mouth	98	Sq.Mi.
F. Inflow Classification	Natural	

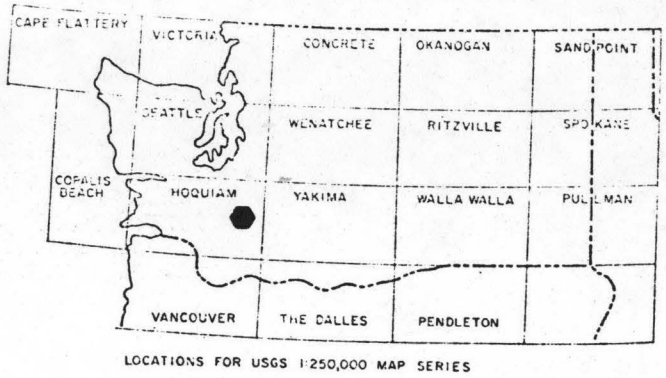
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	141	1.67	14.6	1.00
80	179	2.13	18.1	0.97
50	403	4.77	33.0	0.79
30	587	6.95	40.8	0.67
10	931	11.0	47.4	0.49

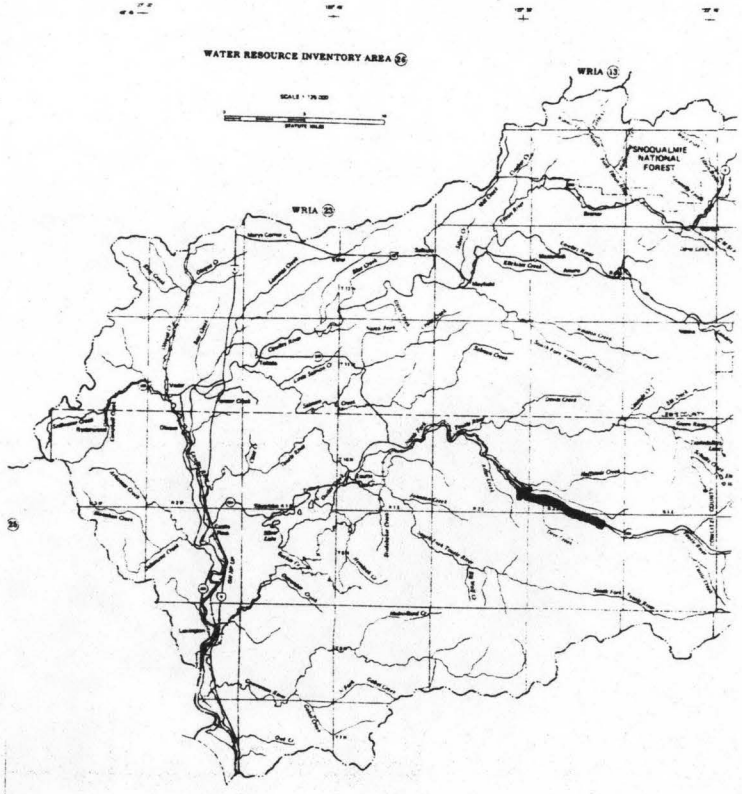
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 485 cfs



W26-947



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0045

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T9N R4E	
D. Latitude, Longitude	46°17' 122°20'	
E. Stream Name	N.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	25.3/29.1	

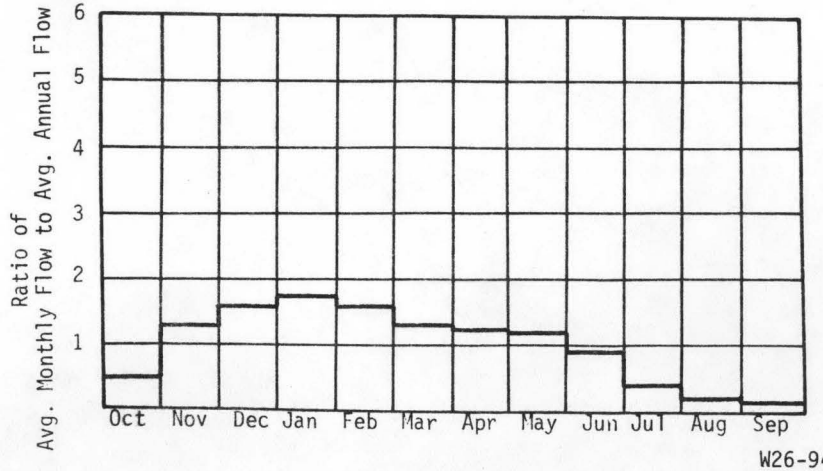
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1960	Ft. MSL
B. Downstream Elevation of Reach	1580	Ft. MSL
C. Total Available Head in Reach	380	Ft.
D. Average Slope in Reach	100	Ft./Mi.
E. Drainage Area above Reach Mouth	73	Sq.Mi.
F. Inflow Classification	Natural	

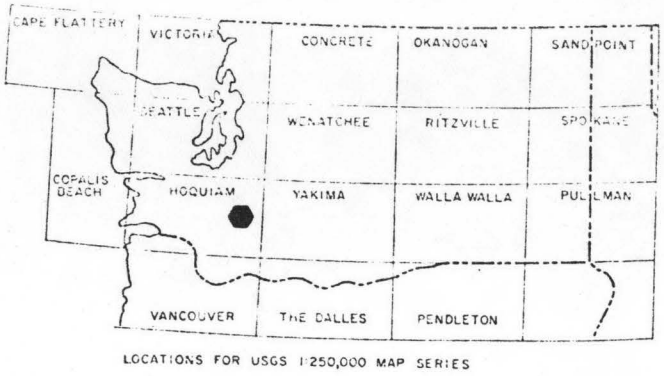
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	115	3.69	32.4	1.00
80	147	4.71	40.0	0.97
50	329	10.6	73.2	0.79
30	479	15.4	90.5	0.67
10	760	24.5	105	0.49

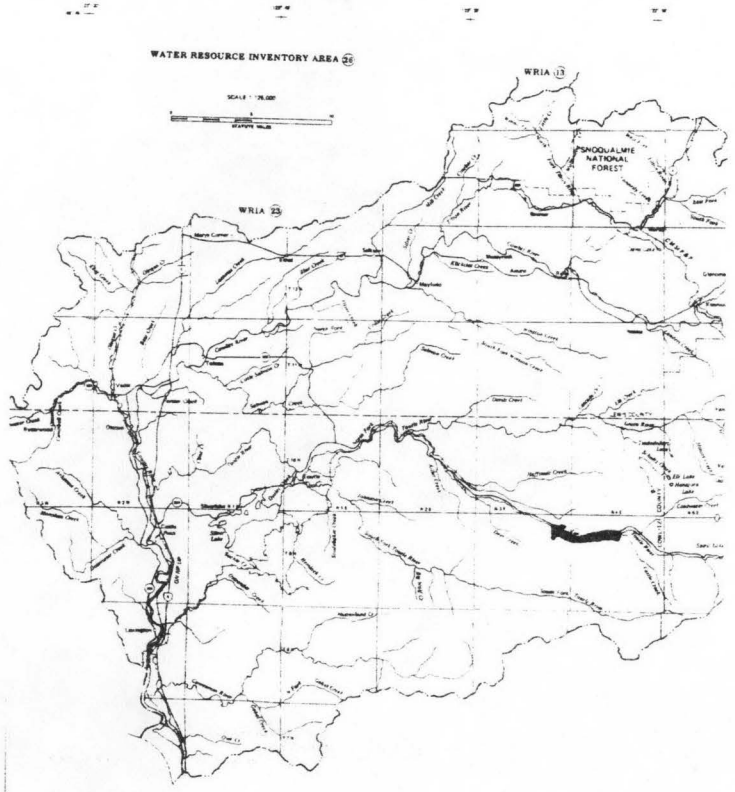
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 396 cfs



W26-948



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0046

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T9N R4E	
D. Latitude, Longitude	46°17' 122°16'	
E. Stream Name	N.F. Toutle River	
F. Major Basin Name	Cowlitz	
G. River Mile	29.1/30.5	

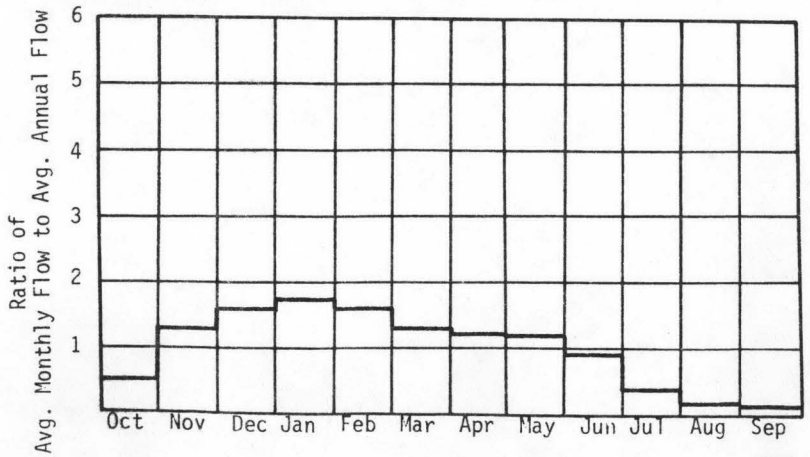
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

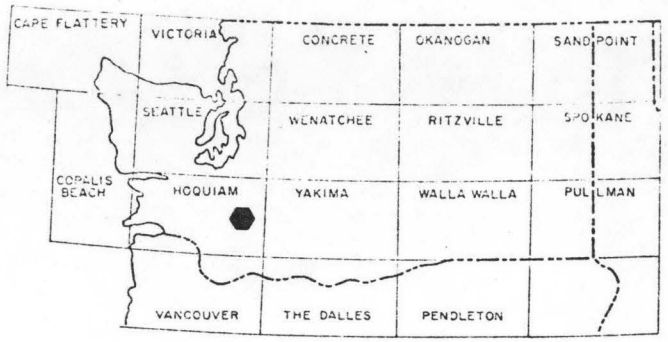
A. Upstream Elevation of Reach	2160	Ft. MSL
B. Downstream Elevation of Reach	1960	Ft. MSL
C. Total Available Head in Reach	200	Ft.
D. Average Slope in Reach	143	Ft./Mi.
E. Drainage Area above Reach Mouth	34	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

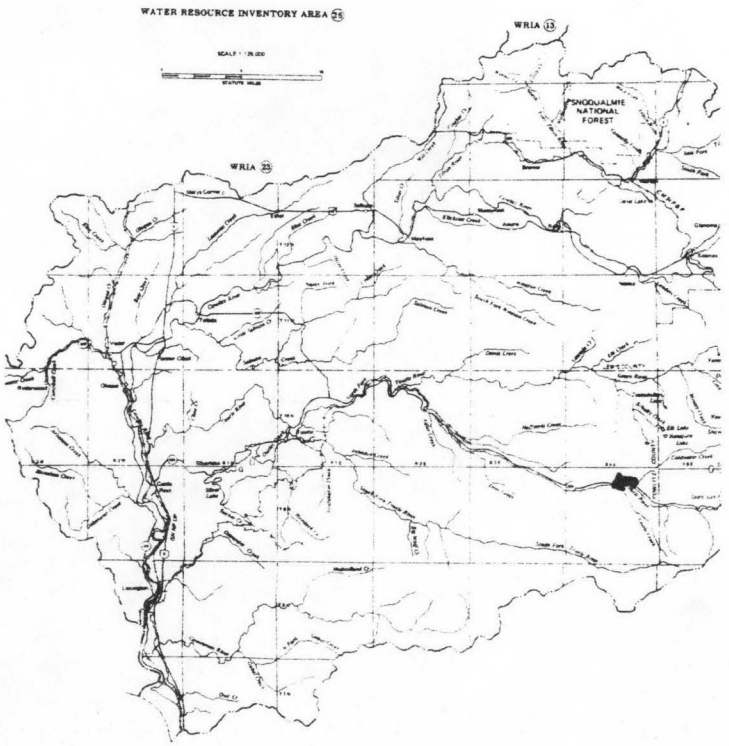
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	90.5	1.53	13.4	1.00
80	115	1.95	16.6	0.97
50	259	4.38	30.3	0.79
30	378	6.39	37.5	0.67
10	599	10.1	43.5	0.49

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 312 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



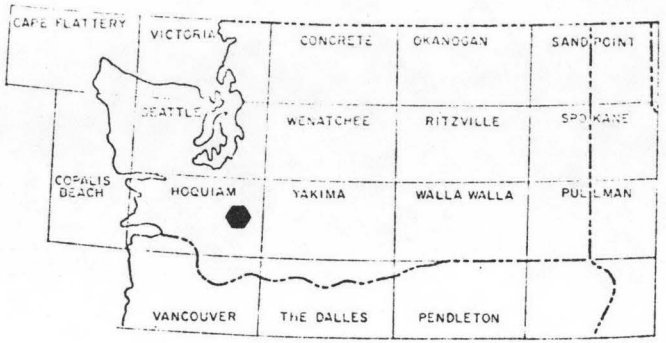
W26-949

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0047

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T9N R4E
D.	Latitude, Longitude	46°16' 122°14'
E.	Stream Name	N.F. Toutle River
F.	Major Basin Name	Cowlitz
G.	River Mile	30.5/37.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

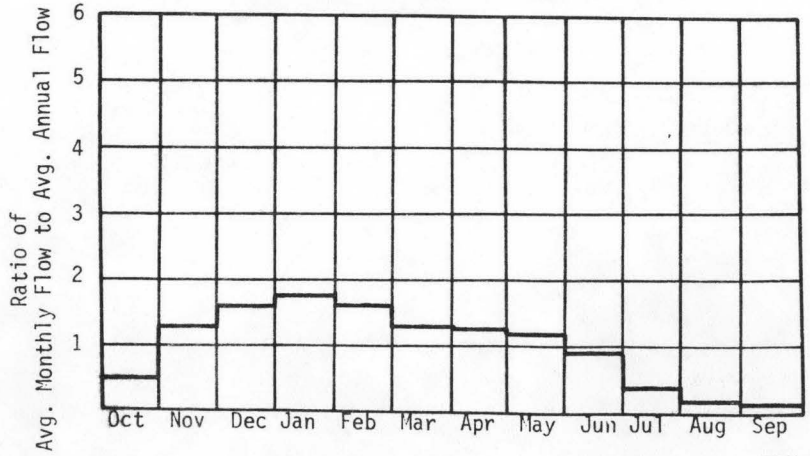
A.	Upstream Elevation of Reach	3198	Ft. MSL
B.	Downstream Elevation of Reach	2160	Ft. MSL
C.	Total Available Head in Reach	1038 + 66 = 1104	Ft.
D.	Average Slope in Reach	150	Ft./Mi.
E.	Drainage Area above Reach Mouth	34	Sq.Mi.
F.	Inflow Classification	Natural	

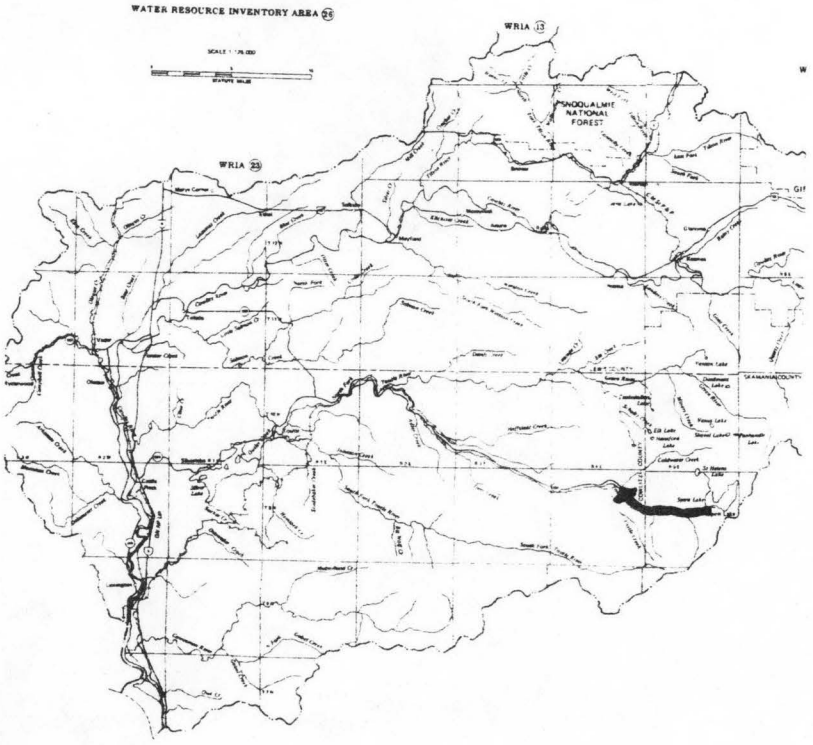
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	42.3	3.96	34.7	1.00
80	54.0	5.05	42.9	0.97
50	121	11.3	78.4	0.79
30	177	16.5	96.9	0.67
10	280	26.2	112	0.49

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 146 cfs





W26-950

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0048

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R2E	
D. Latitude, Longitude	46°20' 122°31'	
E. Stream Name	Bear Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/0.6	

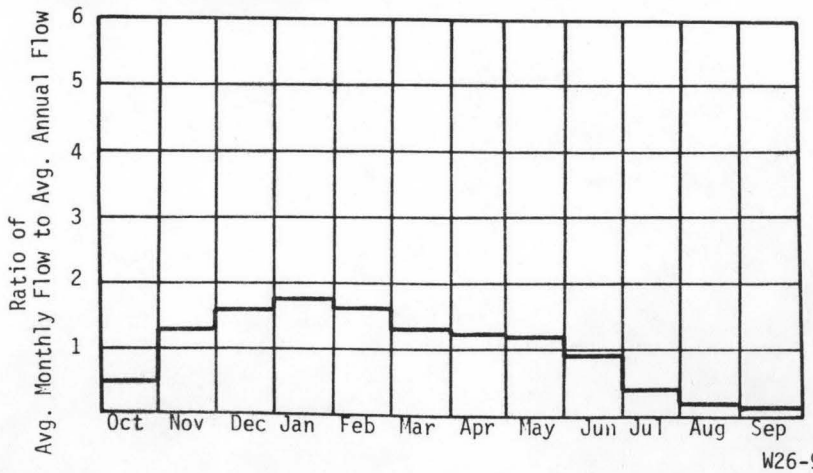
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	950	Ft. MSL
B. Downstream Elevation of Reach	920	Ft. MSL
C. Total Available Head in Reach	30	Ft.
D. Average Slope in Reach	50	Ft./Mi.
E. Drainage Area above Reach Mouth	28	Sq.Mi.
F. Inflow Classification	Natural	

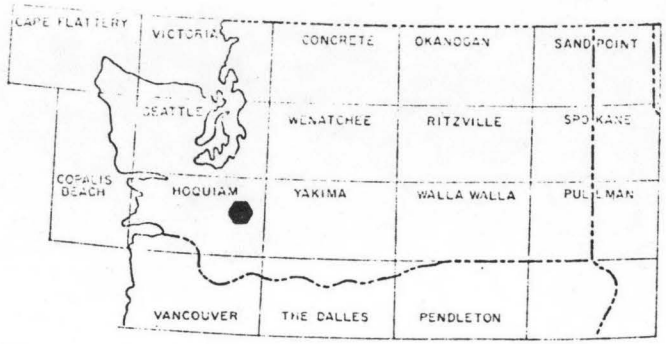
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	34.2	0.09	0.76	1.00
80	43.7	0.11	0.94	0.97
50	97.9	0.25	1.72	0.79
30	143	0.36	2.13	0.67
10	227	0.58	2.47	0.49

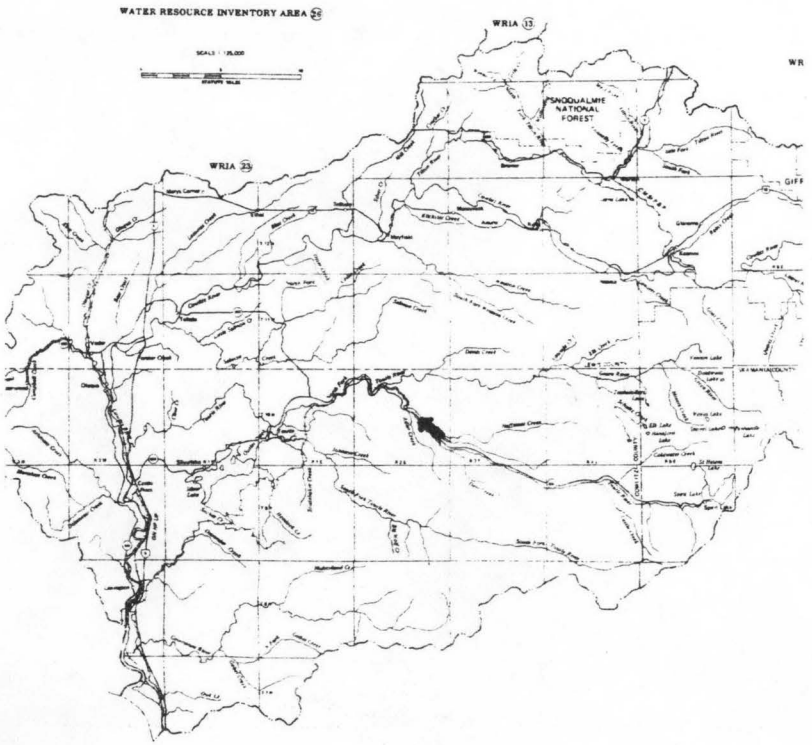
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 118 cfs



W26-951



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0049

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T10N R3E
D.	Latitude, Longitude	46°20' 122°25'
E.	Stream Name	Hoffstadt Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.6/7.9

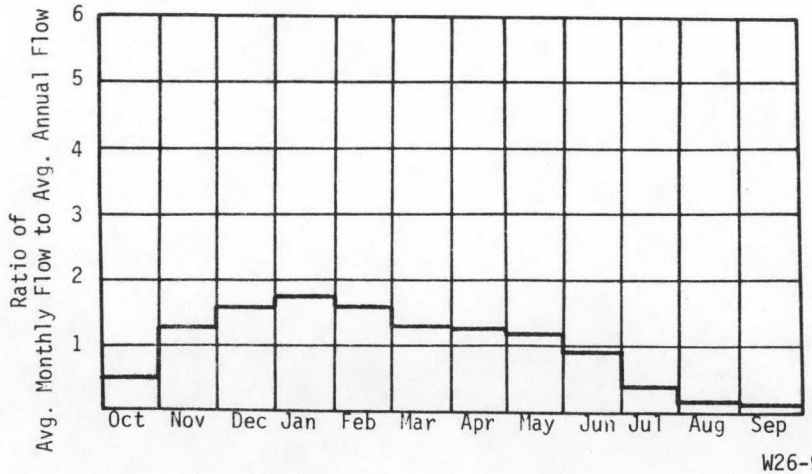
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1920	Ft. MSL
B.	Downstream Elevation of Reach	950	Ft. MSL
C.	Total Available Head in Reach	970 + 66 = 1036	Ft.
D.	Average Slope in Reach	133	Ft./Mi.
E.	Drainage Area above Reach Mouth	22	Sq.Mi.
F.	Inflow Classification	Natural	

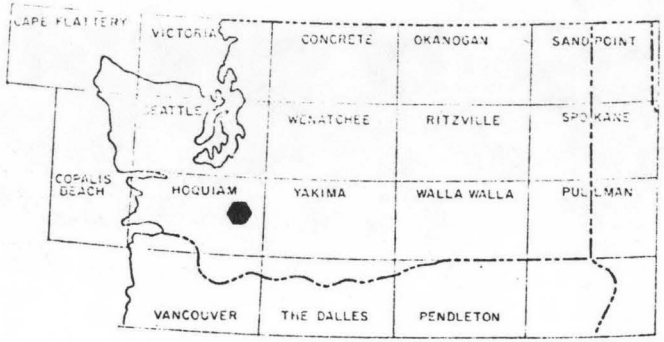
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.4	1.70	14.9	1.00
80	24.8	2.17	18.5	0.97
50	55.6	4.88	33.8	0.79
30	81.1	7.11	41.7	0.67
10	129	11.3	48.4	0.49

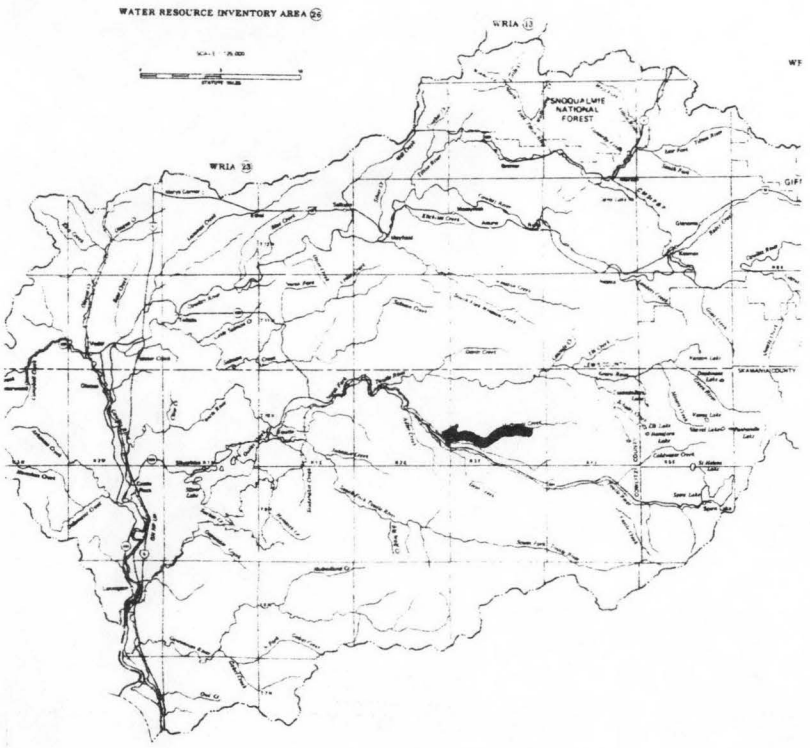
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 67 cfs



W26-952



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

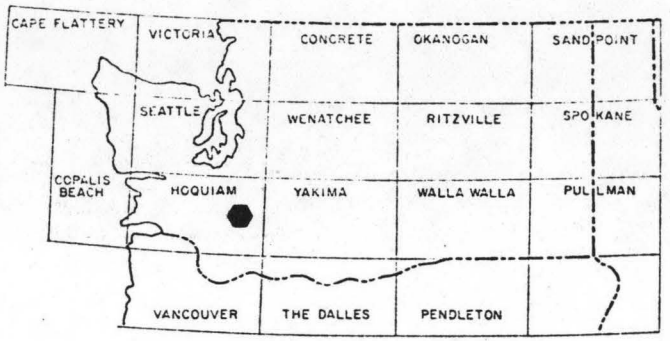
REACH # 01-500-020-000-000-R0050

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T9N R4E	
D. Latitude, Longitude	46°17' 122°18'	
E. Stream Name	Castle Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/1.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2320	Ft. MSL
B. Downstream Elevation of Reach	1960	Ft. MSL
C. Total Available Head in Reach	360 + 66 = 426	Ft.
D. Average Slope in Reach	189	Ft./Mi.
E. Drainage Area above Reach Mouth	8.7	Sq.Mi.
F. Inflow Classification	Natural	

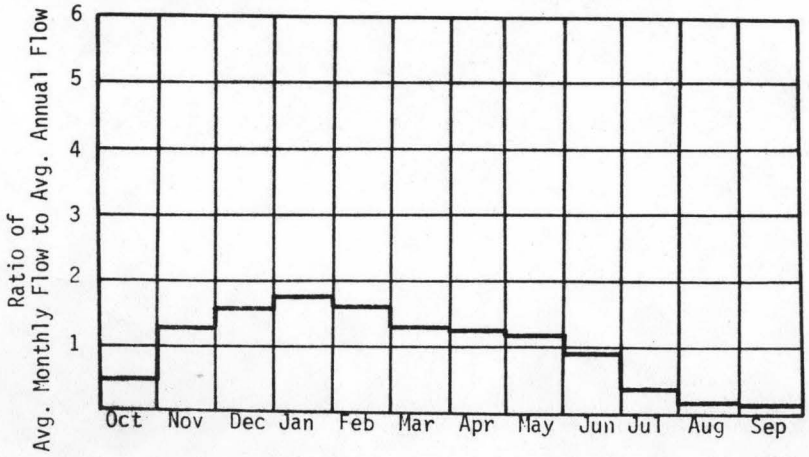


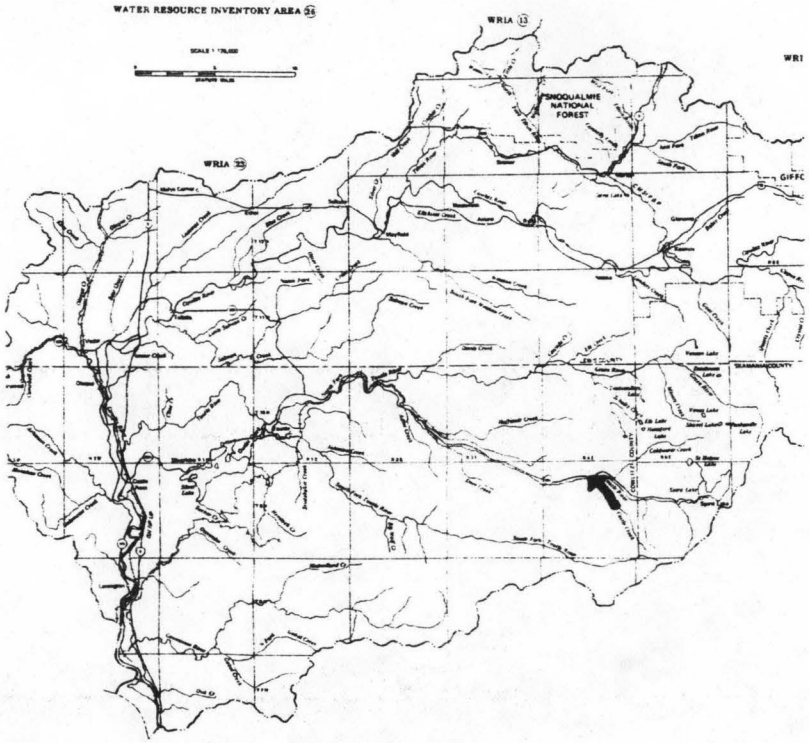
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.9	0.50	4.40	1.00
80	17.8	0.64	5.44	0.97
50	39.8	1.44	9.94	0.79
30	58.1	2.09	12.7	0.69
10	92.2	3.32	14.3	0.49

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 48 cfs





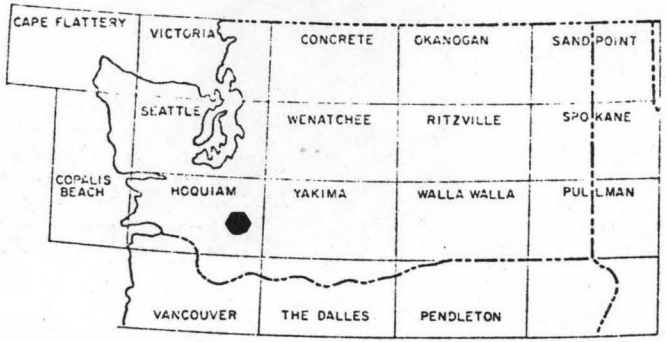
W26-953

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0051

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R4E
D.	Latitude, Longitude	46°17' 122°16'
E.	Stream Name	Cold Water Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/0.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

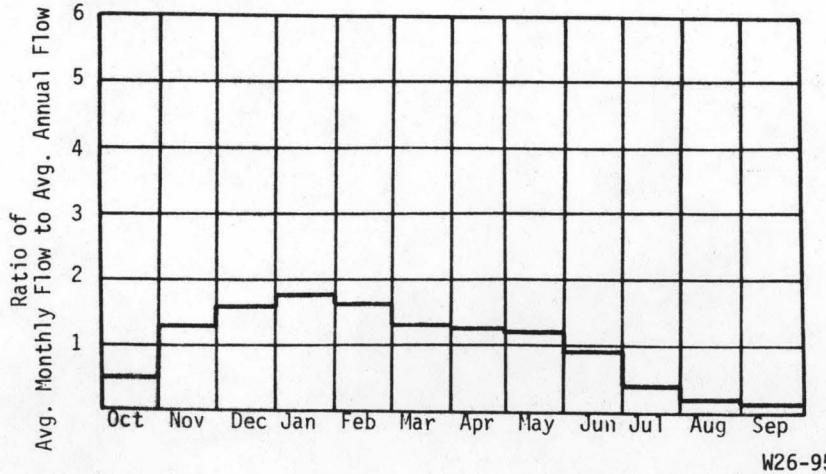
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

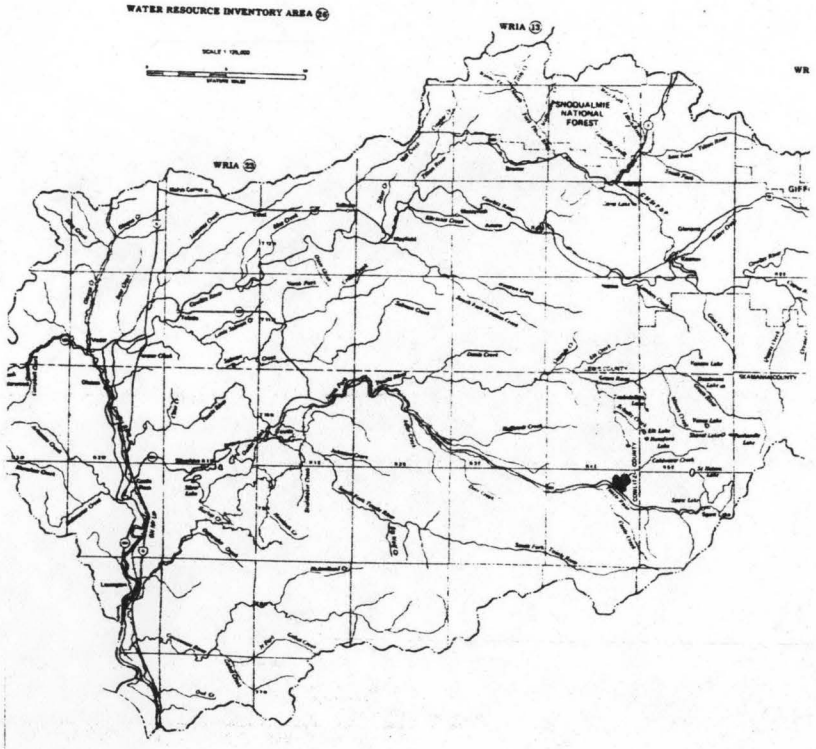
A.	Upstream Elevation of Reach	2200	Ft. MSL
B.	Downstream Elevation of Reach	2160	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	50	Ft./Mi.
E.	Drainage Area above Reach Mouth	18	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.4	0.09	0.78	1.00
80	33.7	0.11	0.97	0.97
50	75.5	0.26	1.77	0.79
30	110	0.37	2.25	0.69
10	175	0.59	2.54	0.49

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 91 cfs





W26-954

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0052

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T9N R4E
D.	Latitude, Longitude	46°17' 122°15'
E.	Stream Name	Cold Water Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.8/2.4

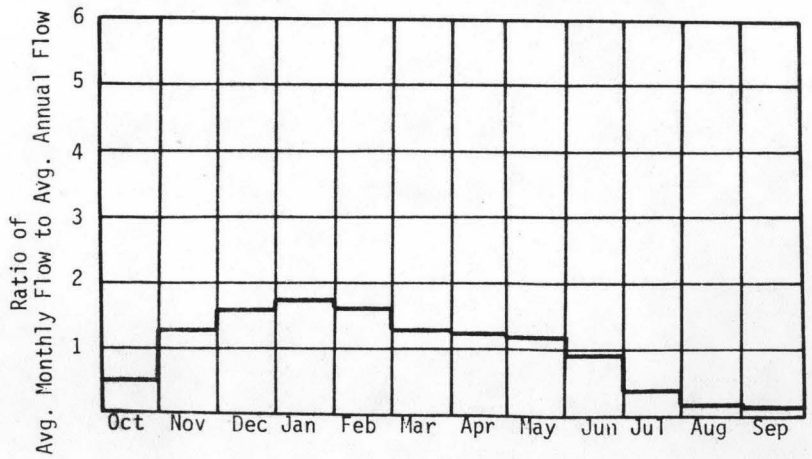
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

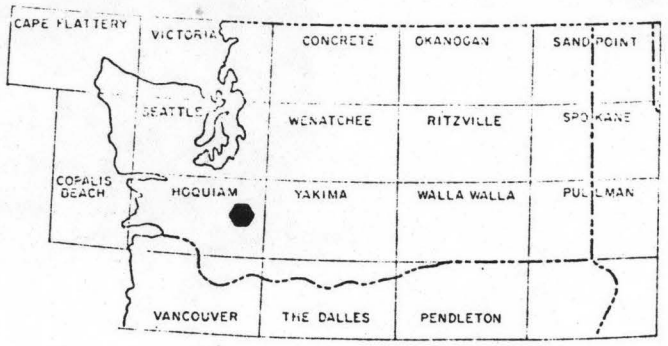
A.	Upstream Elevation of Reach	2270	Ft. MSL
B.	Downstream Elevation of Reach	2160	Ft. MSL
C.	Total Available Head in Reach	110 + 66 = 176	Ft.
D.	Average Slope in Reach	68.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

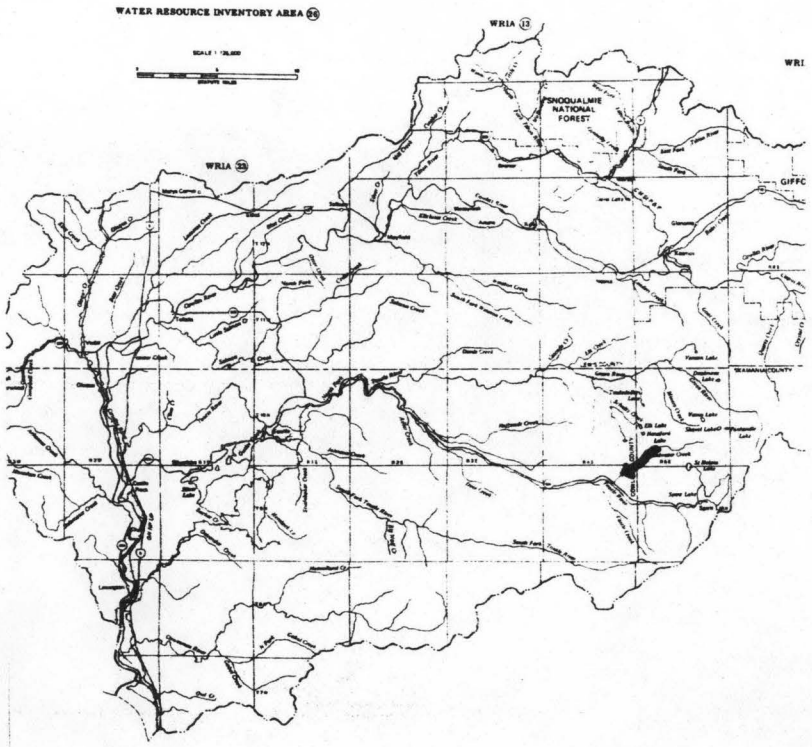
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.8	0.22	1.93	1.00
80	18.9	0.28	2.39	0.97
50	42.3	0.63	4.36	0.79
30	61.7	0.92	5.56	0.69
10	97.9	1.46	6.26	0.49

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 51 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-955

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0053

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R2E	
D. Latitude, Longitude	46°22' 122°32'	
E. Stream Name	Green River	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/4.7	

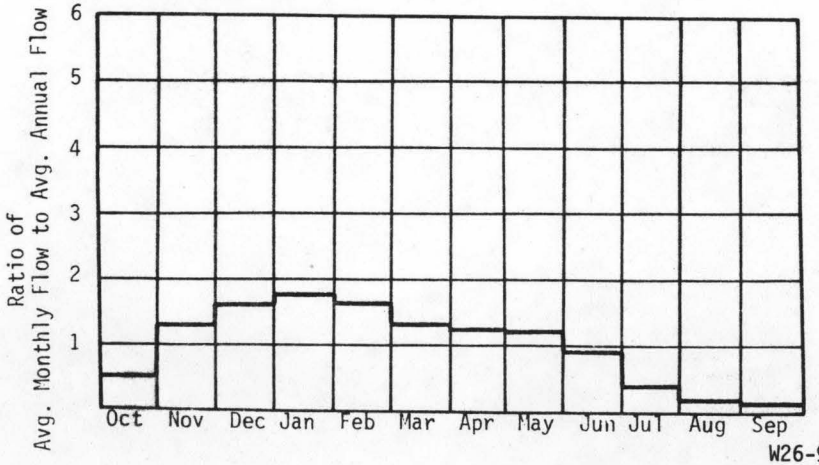
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	840	Ft. MSL
B. Downstream Elevation of Reach	720	Ft. MSL
C. Total Available Head in Reach	120	Ft.
D. Average Slope in Reach	25.5	Ft./Mi.
E. Drainage Area above Reach Mouth	133	Sq.Mi.
F. Inflow Classification	Natural	

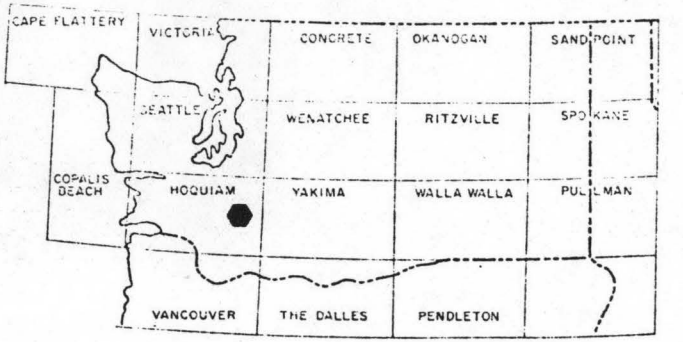
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	54.8	0.56	4.87	1.00
80	129	1.32	10.7	0.93
50	374	3.79	24.9	0.75
30	588	5.97	32.4	0.62
10	1020	10.3	39.8	0.44

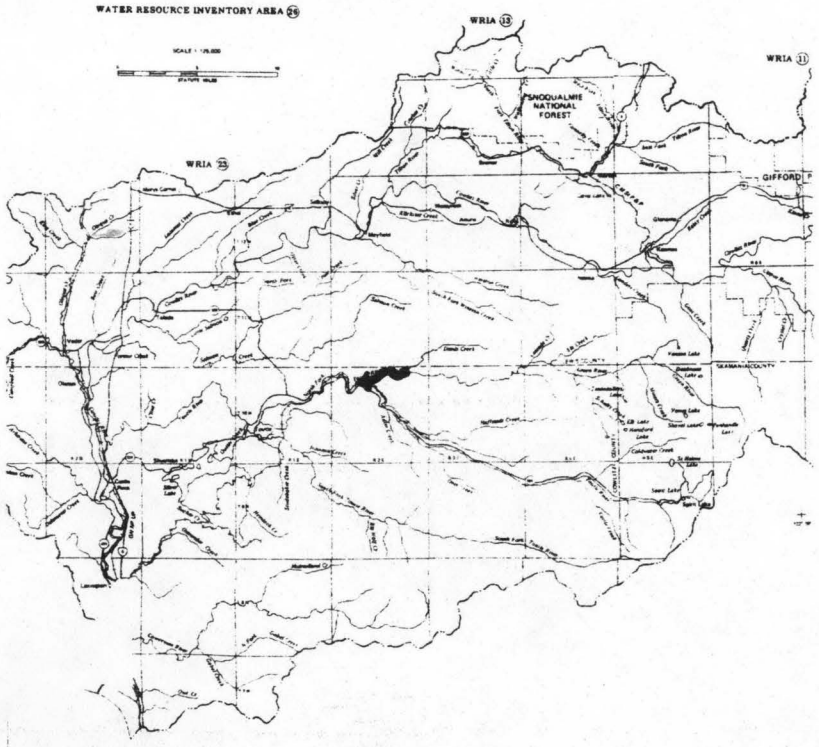
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 498 cfs



W26-956



LOCATIONS FOR USGS 1:250,000 MAP SERIES

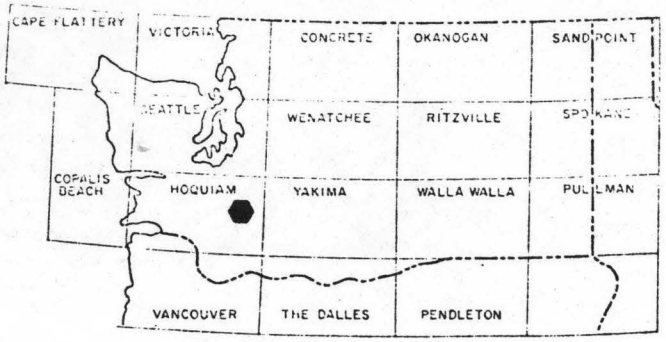


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0054

I. LOCATION

A.	State	Washington	
B.	County	Cowlitz	
C.	Township, Range	T10N R4E	?Range
D.	Latitude, Longitude	46°22' 122°25'	
E.	Stream Name	Green River	
F.	Major Basin Name	Cowlitz	
G.	River Mile	4.7/15.6	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

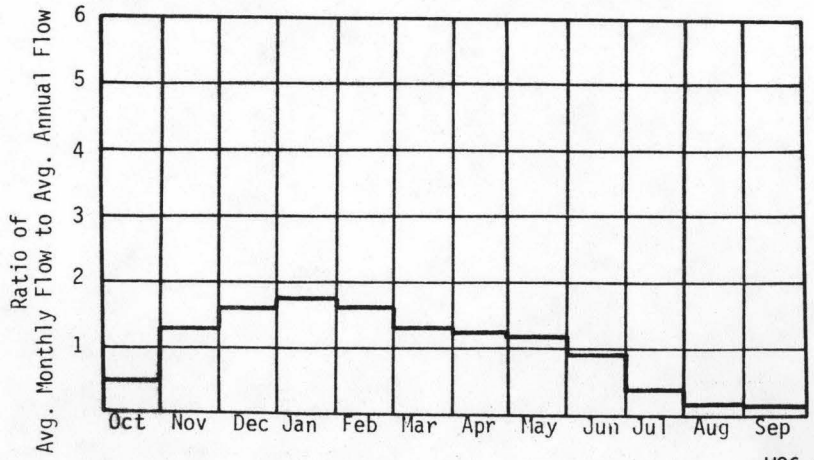
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

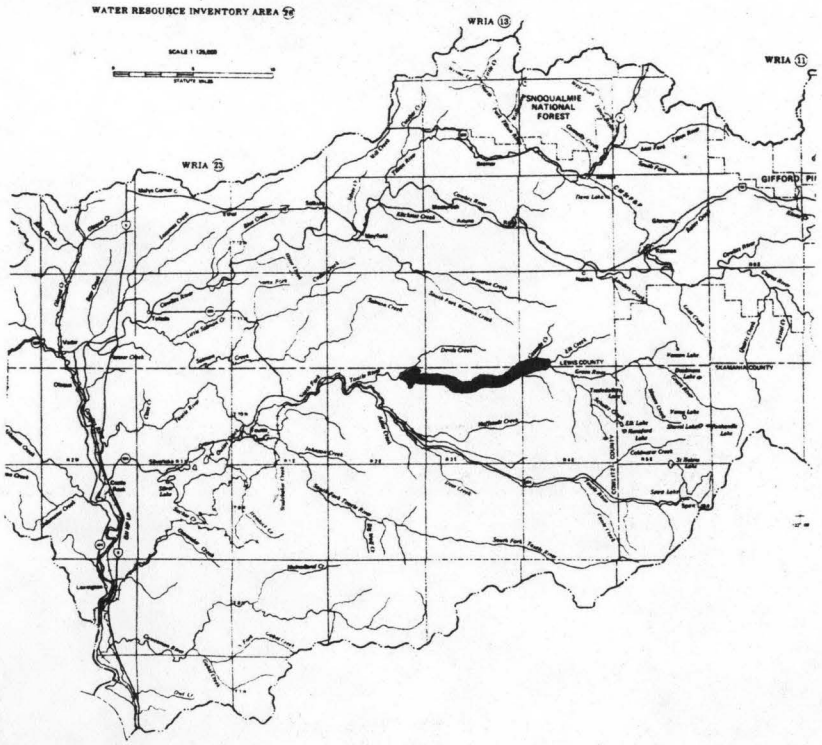
A.	Upstream Elevation of Reach	1450	Ft. MSL
B.	Downstream Elevation of Reach	840	Ft. MSL
C.	Total Available Head in Reach	610	Ft.
D.	Average Slope in Reach	56	Ft./Mi.
E.	Drainage Area above Reach Mouth	110	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	41.5	2.14	18.8	1.00
80	98.0	5.06	41.2	0.93
50	283	14.6	95.9	0.75
30	445	23.0	125	0.62
10	769	39.7	153	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 377 cfs





W26-957

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0055

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R4E	
D. Latitude, Longitude	46°22' 122°17'	
E. Stream Name	Green River	
F. Major Basin Name	Cowlitz	
G. River Mile	15.6/17.3	

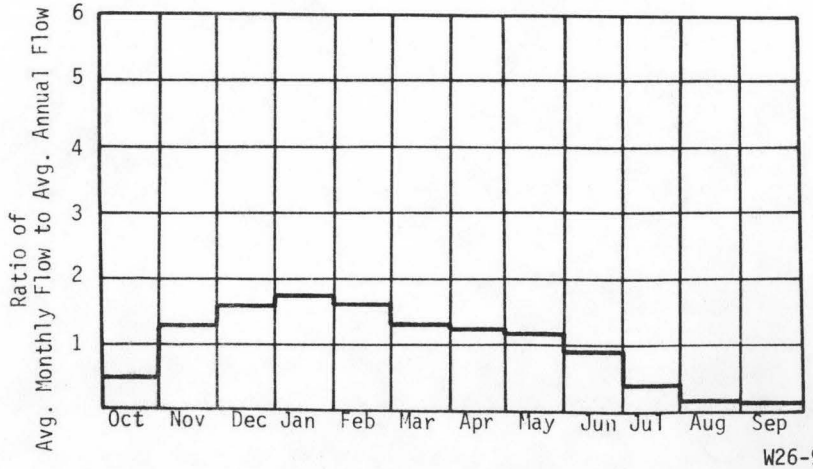
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1520	Ft. MSL
B. Downstream Elevation of Reach	1450	Ft. MSL
C. Total Available Head in Reach	70	Ft.
D. Average Slope in Reach	41.2	Ft./Mi.
E. Drainage Area above Reach Mouth	62	Sq.Mi.
F. Inflow Classification	Natural	

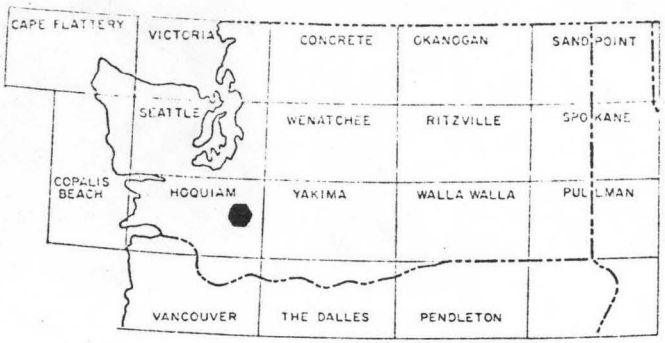
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29.5	0.17	1.53	1.00
80	69.7	0.41	3.36	0.93
50	201	1.19	7.82	0.75
30	316	1.87	10.2	0.62
10	547	3.24	12.5	0.44

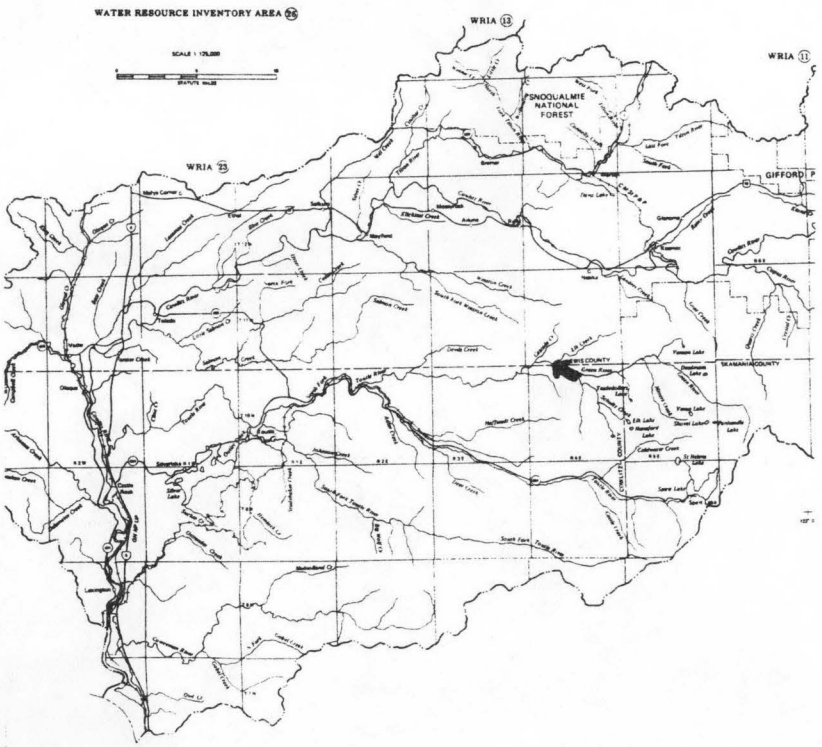
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 268 cfs



W26-958



LOCATIONS FOR USGS 1:250,000 MAP SERIES

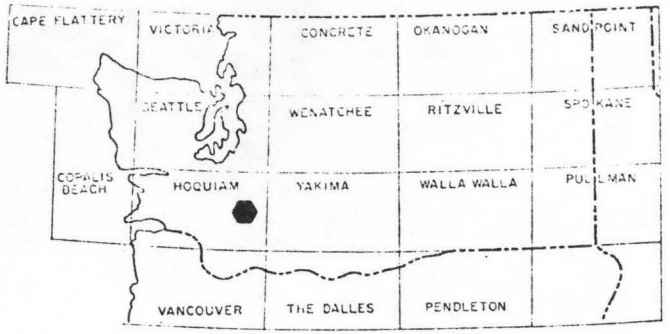


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0056

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T10N R4E
D.	Latitude, Longitude	46°22' 122°15'
E.	Stream Name	Green River
F.	Major Basin Name	Cowlitz
G.	River Mile	17.3/22.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

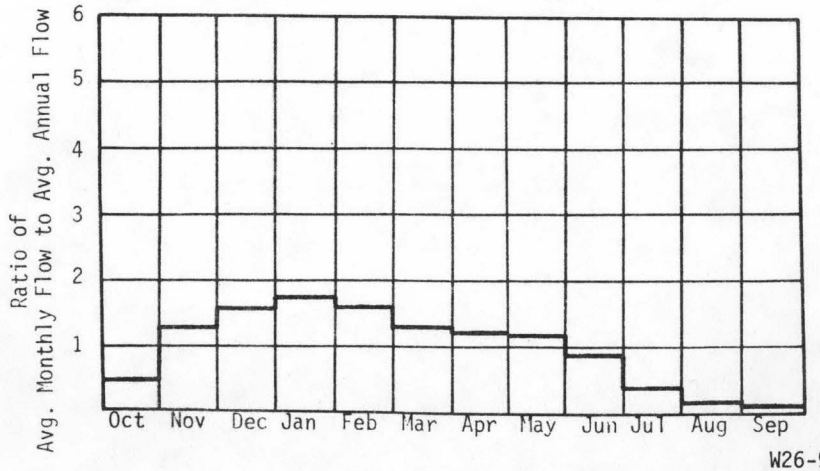
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

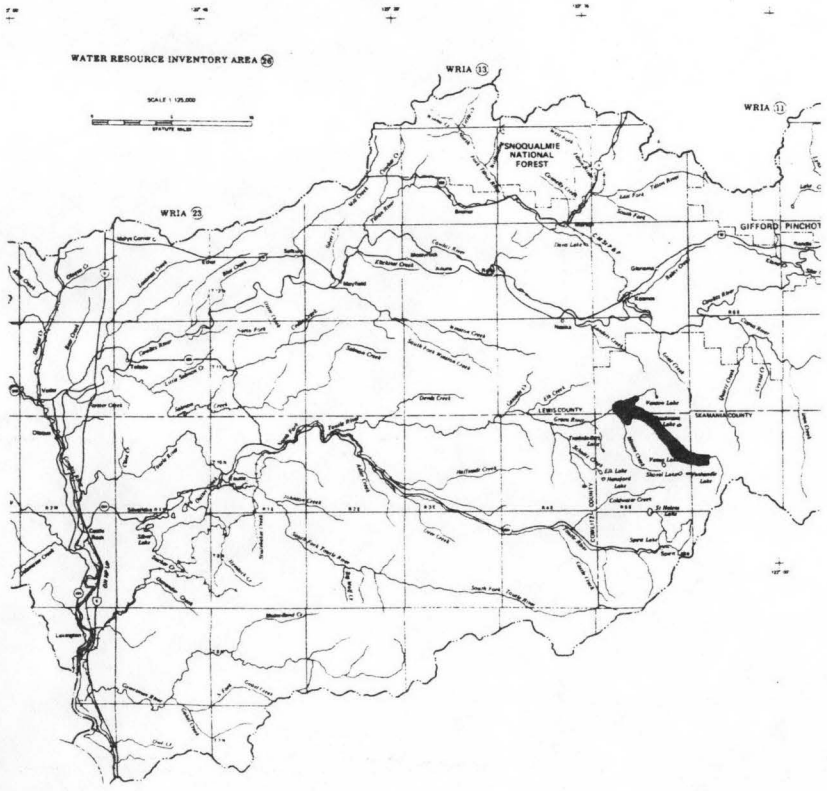
A.	Upstream Elevation of Reach	1980	Ft. MSL
B.	Downstream Elevation of Reach	1520	Ft. MSL
C.	Total Available Head in Reach	460	Ft.
D.	Average Slope in Reach	89.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	48	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.7	0.81	7.05	1.00
80	48.9	1.90	15.5	0.93
50	141	5.49	36.1	0.75
30	221	8.64	46.9	0.62
10	384	14.9	57.6	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 188 cfs





W26-959

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0057

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T10N R5E	
D. Latitude, Longitude	46°23' 122°10'	
E. Stream Name	Green River	
F. Major Basin Name	Cowlitz	
G. River Mile	22.2/28.9	

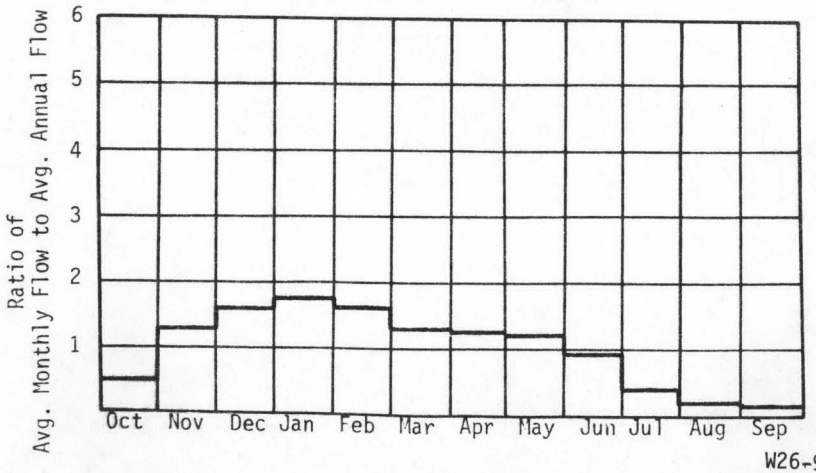
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2720	Ft. MSL
B. Downstream Elevation of Reach	2000	Ft. MSL
C. Total Available Head in Reach	720 + 66 = 786	Ft.
D. Average Slope in Reach	107	Ft./Mi.
E. Drainage Area above Reach Mouth	29.0	Sq.Mi.
F. Inflow Classification	Natural	

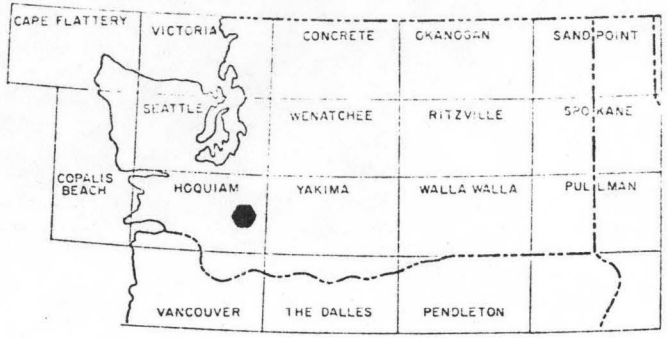
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.68	0.64	5.64	1.00
80	22.9	1.52	12.4	0.93
50	66.0	4.39	28.9	0.75
30	104	6.91	37.5	0.62
10	180	11.9	46.0	0.44

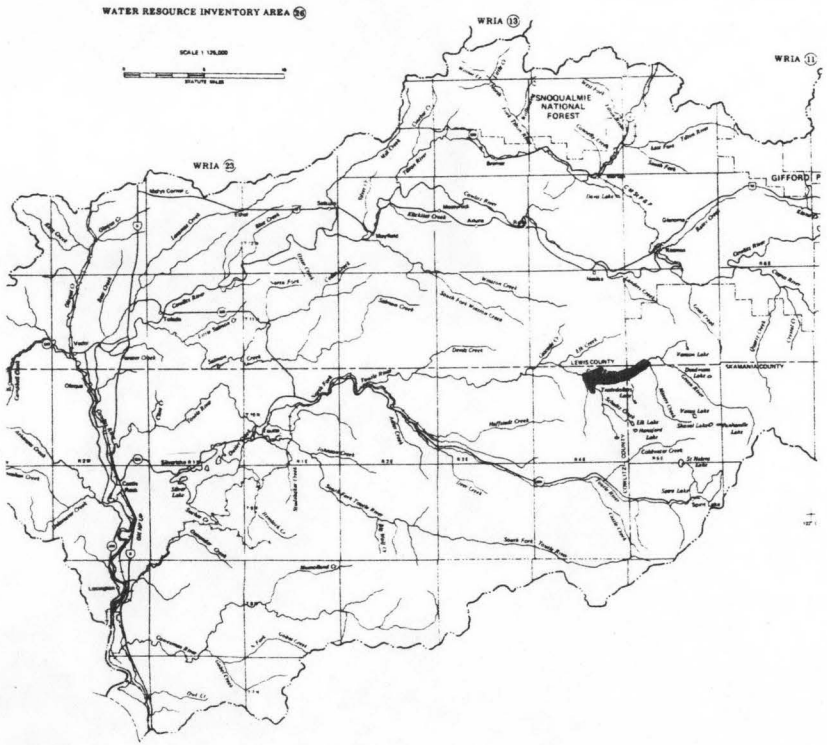
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 88 cfs



W26-960



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0058

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T10N R4E
D.	Latitude, Longitude	46°22' 122°15
E.	Stream Name	Shultz Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/0.7

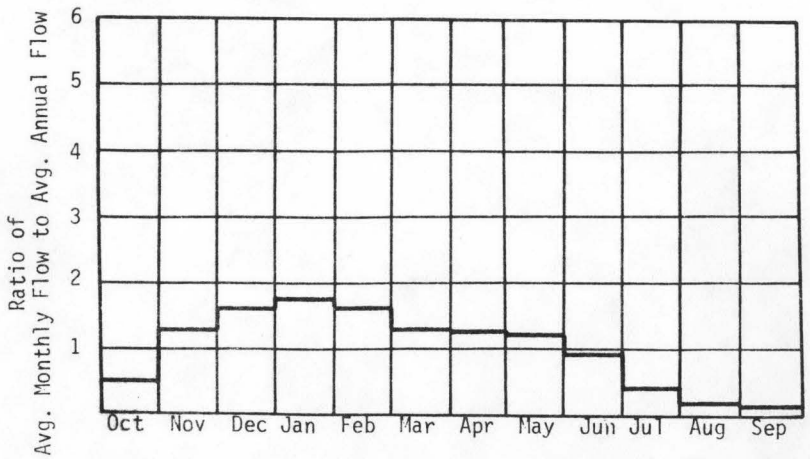
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

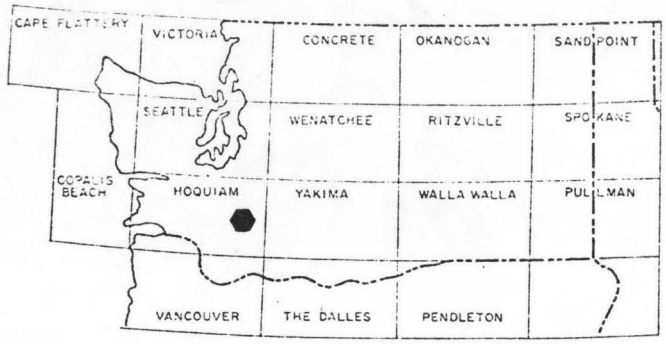
A.	Upstream Elevation of Reach	1760	Ft. MSL
B.	Downstream Elevation of Reach	1520	Ft. MSL
C.	Total Available Head in Reach	240 + 66 = 306	Ft.
D.	Average Slope in Reach	343	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

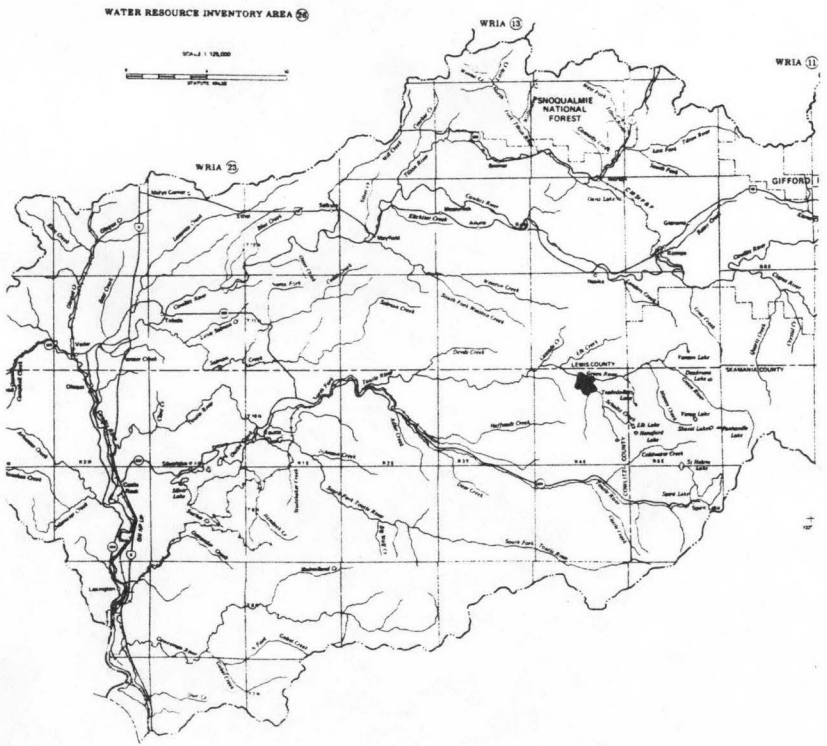
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.94	0.15	1.35	1.00
80	14.0	0.36	2.96	0.93
50	40.5	1.05	6.89	0.75
30	63.7	1.65	8.96	0.62
10	110	2.85	11.0	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 54 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-961

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0059

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T10N R2W	
D. Latitude, Longitude	46°22' 122°56'	
E. Stream Name	Olequa Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/3.5	

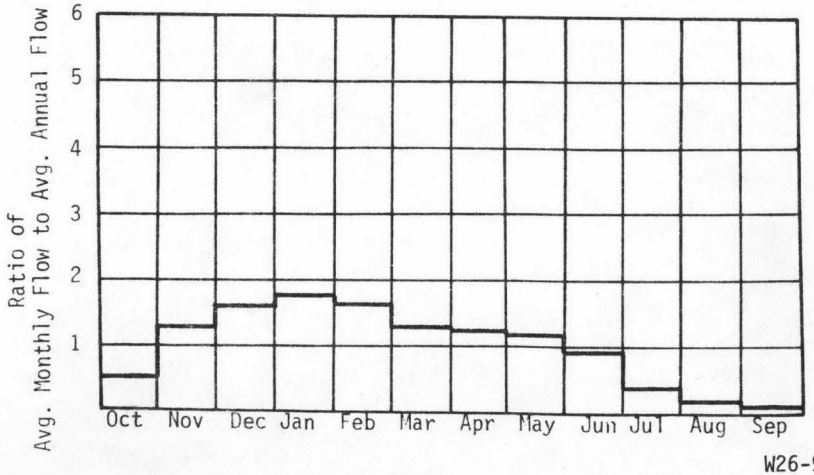
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

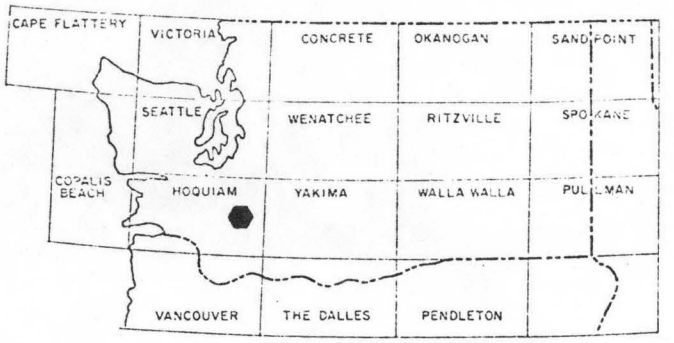
A. Upstream Elevation of Reach	100	Ft. MSL
B. Downstream Elevation of Reach	50	Ft. MSL
C. Total Available Head in Reach	50 + 66 = 116	Ft.
D. Average Slope in Reach	14.3	Ft./Mi.
E. Drainage Area above Reach Mouth	83	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

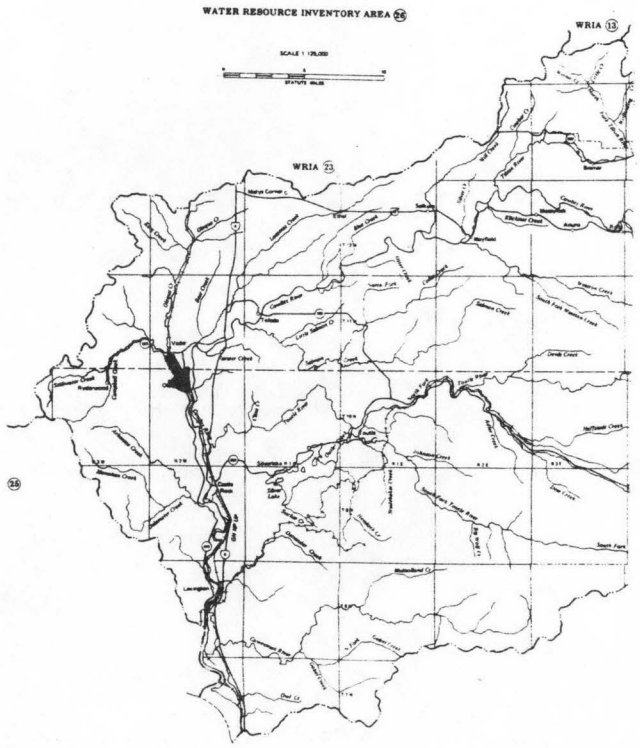
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.60	0.09	0.83	1.00
80	21.6	0.21	1.73	0.93
50	122	1.20	7.16	0.68
30	271	2.66	12.4	0.53
10	605	5.94	17.7	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 240 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-962

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0060

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R2W
D.	Latitude, Longitude	46°27' 122°56'
E.	Stream Name	Olequa Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	3.5/10.9

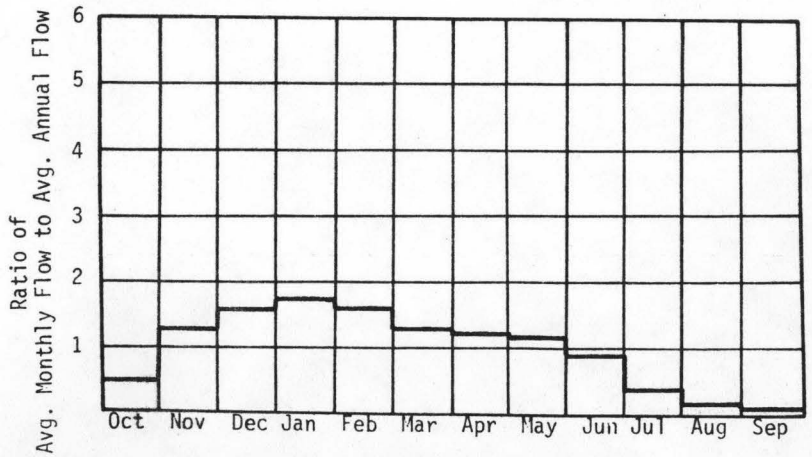
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

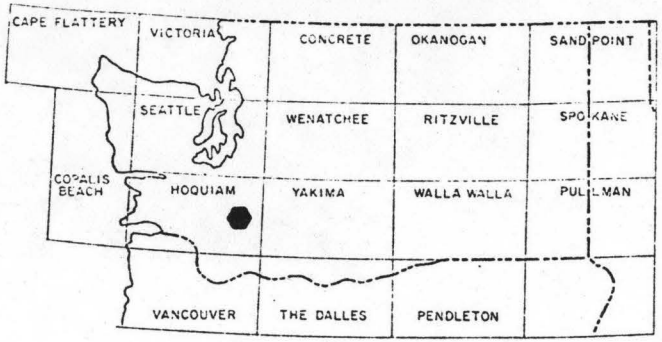
A.	Upstream Elevation of Reach	280	Ft. MSL
B.	Downstream Elevation of Reach	100	Ft. MSL
C.	Total Available Head in Reach	180 + 66 = 246	Ft.
D.	Average Slope in Reach	24.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	37	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

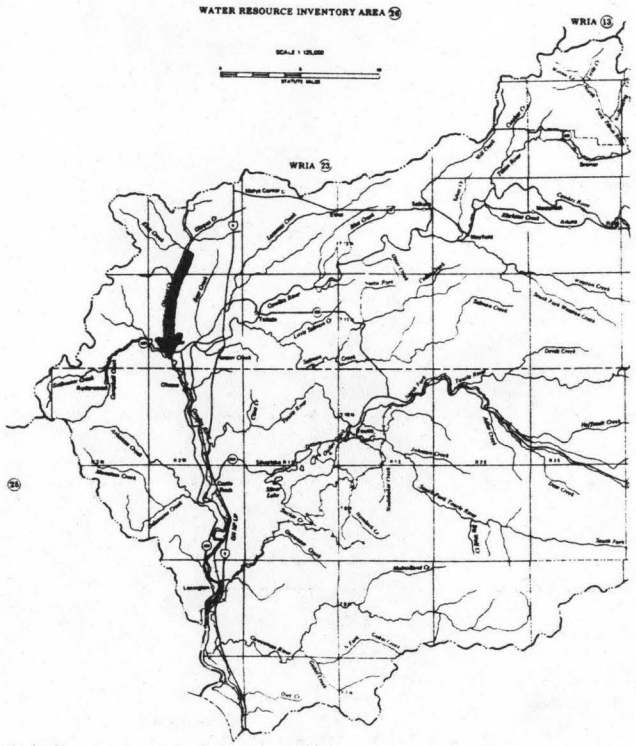
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3.44	0.07	0.63	1.00
80	7.74	0.16	1.31	0.93
50	43.9	0.91	5.44	0.68
30	97.2	2.02	9.39	0.53
10	217	5.41	13.4	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 86 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0061

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R3W
D.	Latitude, Longitude	46°25' 122°59'
E.	Stream Name	Stillwater Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/1.2

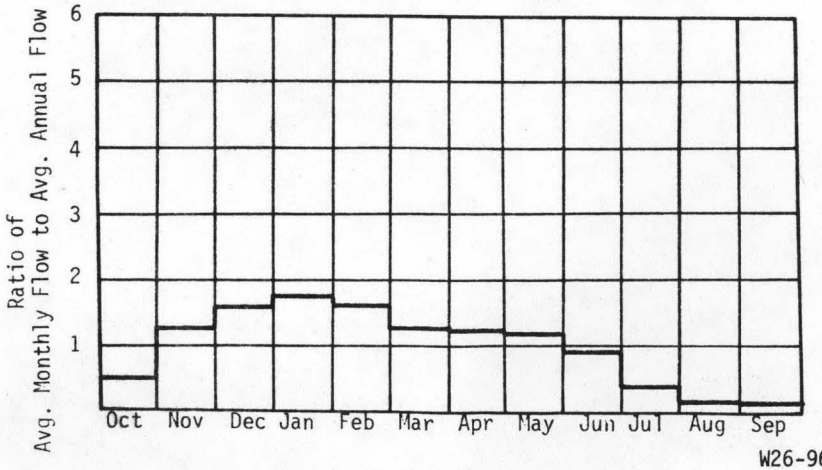
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	120	Ft. MSL
B.	Downstream Elevation of Reach	100	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	16.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	78	Sq.Mi.
F.	Inflow Classification	Natural	

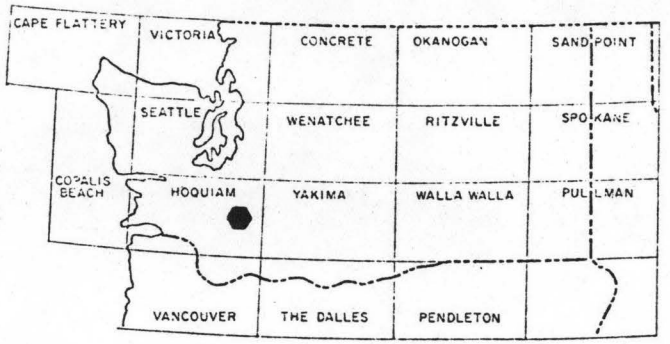
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.52	0.01	0.08	1.00
80	12.4	0.02	0.17	0.93
50	70.4	0.12	0.71	0.68
30	156	0.26	1.23	0.53
10	311	0.53	1.57	0.34

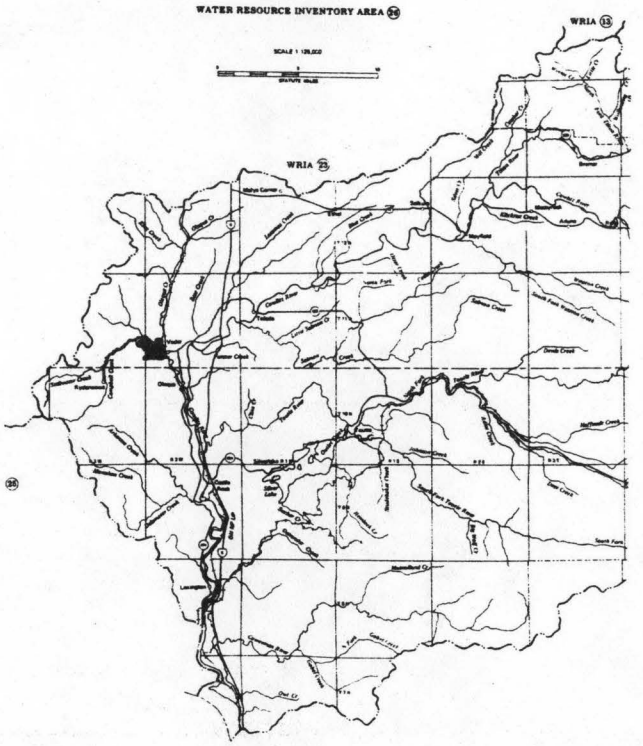
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 138 cfs



W26-964



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0062

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T11N R3W	
D. Latitude, Longitude	46°24' 123°01'	
E. Stream Name	Clearwater Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/7.0	

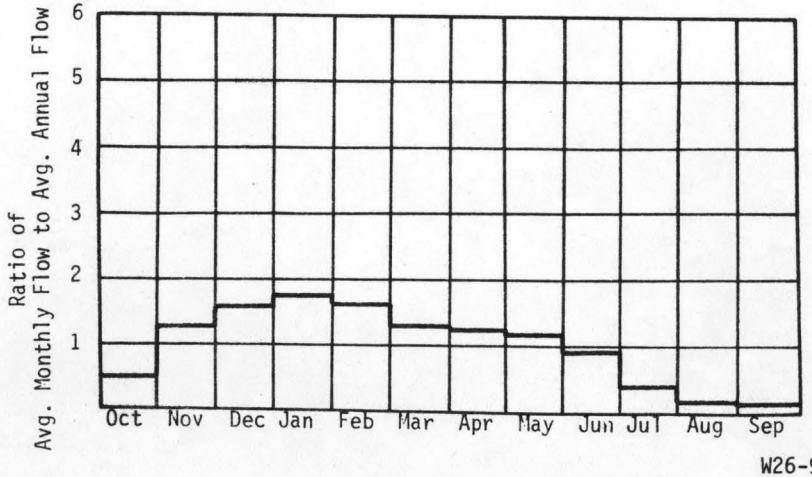
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

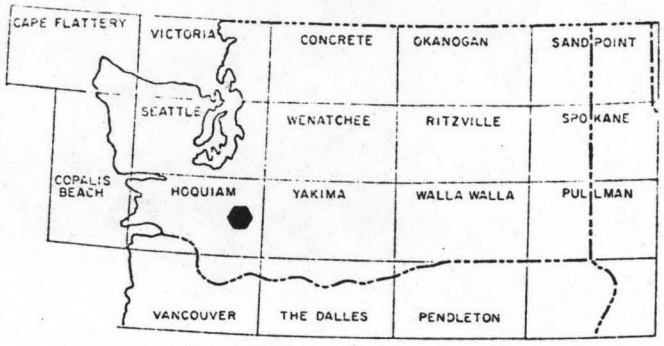
A. Upstream Elevation of Reach	170	Ft. MSL
B. Downstream Elevation of Reach	140	Ft. MSL
C. Total Available Head in Reach	30 + 66 = 96	Ft.
D. Average Slope in Reach	4.3	Ft./Mi.
E. Drainage Area above Reach Mouth	63	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

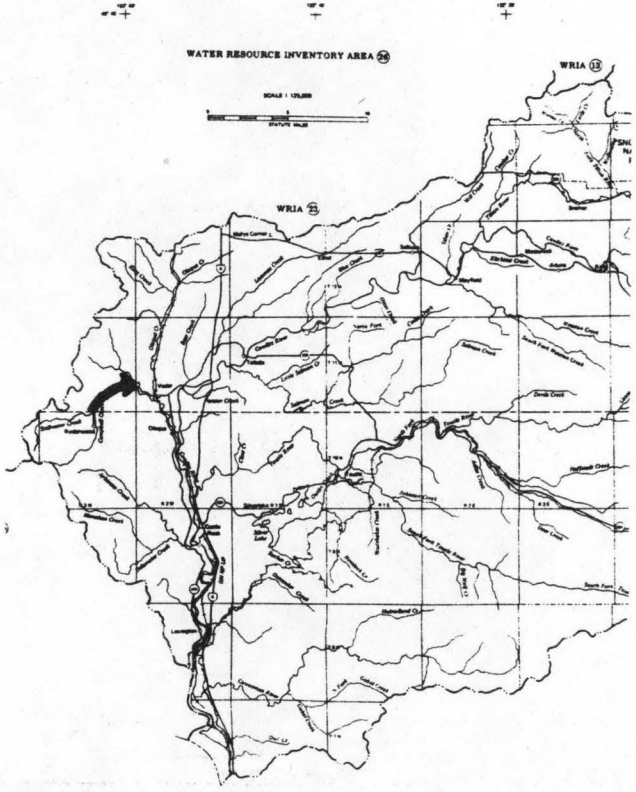
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3.48	0.03	0.25	1.00
80	7.83	0.06	0.52	0.93
50	44.4	0.36	2.15	0.68
30	98.3	0.80	3.71	0.53
10	219	1.78	5.31	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 87 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-965

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0063

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R2W
D.	Latitude, Longitude	46°27' 122°55'
E.	Stream Name	Lacamas Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/5.0

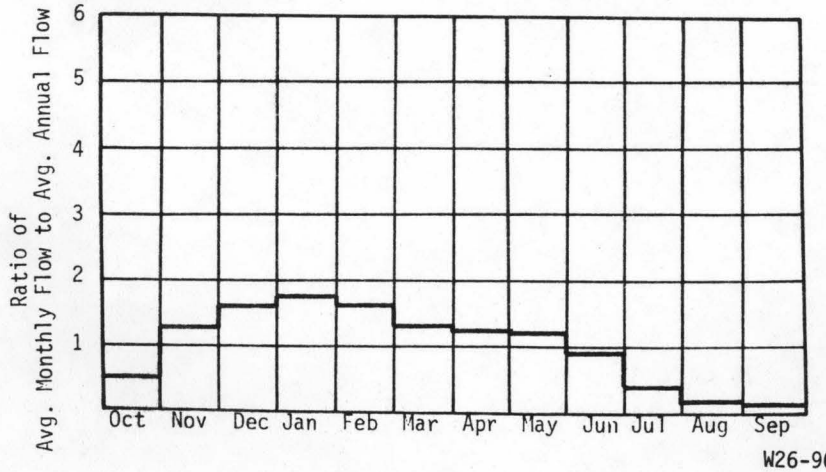
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	250	Ft. MSL
B.	Downstream Elevation of Reach	65	Ft. MSL
C.	Total Available Head in Reach	185 + 66 = 251	Ft.
D.	Average Slope in Reach	37	Ft./Mi.
E.	Drainage Area above Reach Mouth	43	Sq.Mi.
F.	Inflow Classification	Natural	

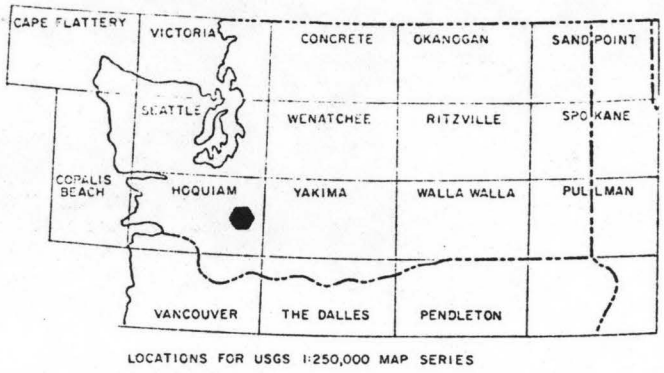
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.00	0.19	1.67	1.00
80	17.0	0.36	2.99	0.94
50	61.2	1.30	8.20	0.72
30	102	2.16	11.2	0.59
10	204	4.34	14.8	0.39

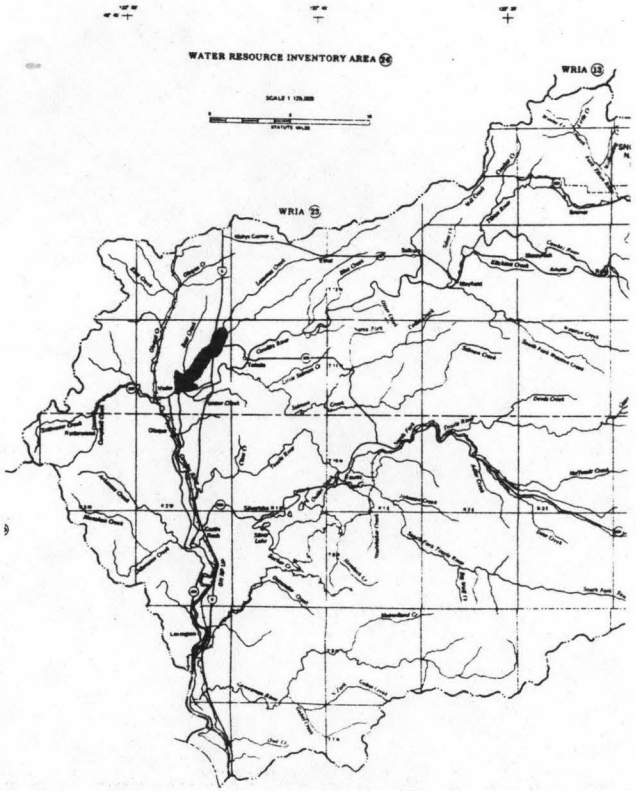
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 180 cfs



W26-966



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0064

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T11N R1W	
D. Latitude, Longitude	46°27' 122°53'	
E. Stream Name	Salmon Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/3.9	

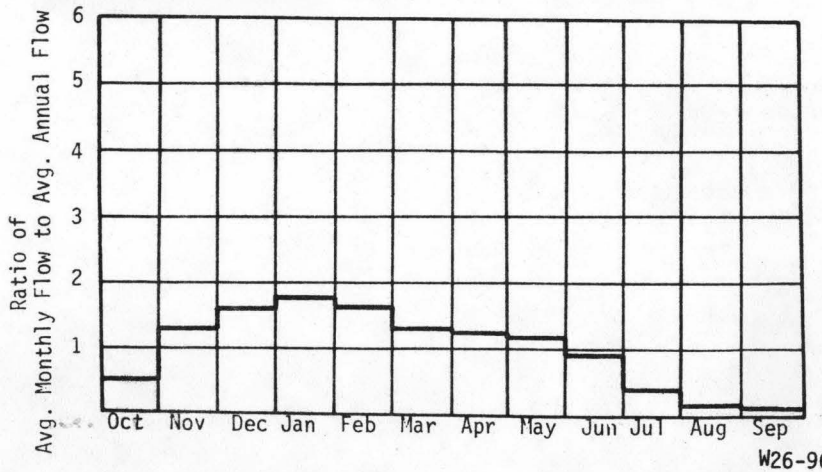
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	130	Ft. MSL
B. Downstream Elevation of Reach	85	Ft. MSL
C. Total Available Head in Reach	45	Ft.
D. Average Slope in Reach	11.5	Ft./Mi.
E. Drainage Area above Reach Mouth	82	Sq.Mi.
F. Inflow Classification	Natural	

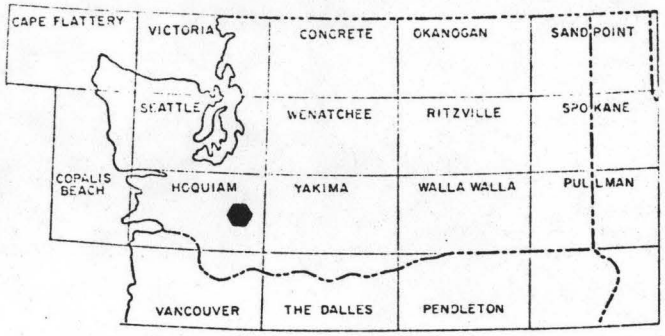
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1.70	0.01	0.06	1.00
80	6.80	0.03	0.20	0.89
50	59.5	0.23	1.31	0.66
30	151	0.58	2.52	0.50
10	428	1.63	4.29	0.30

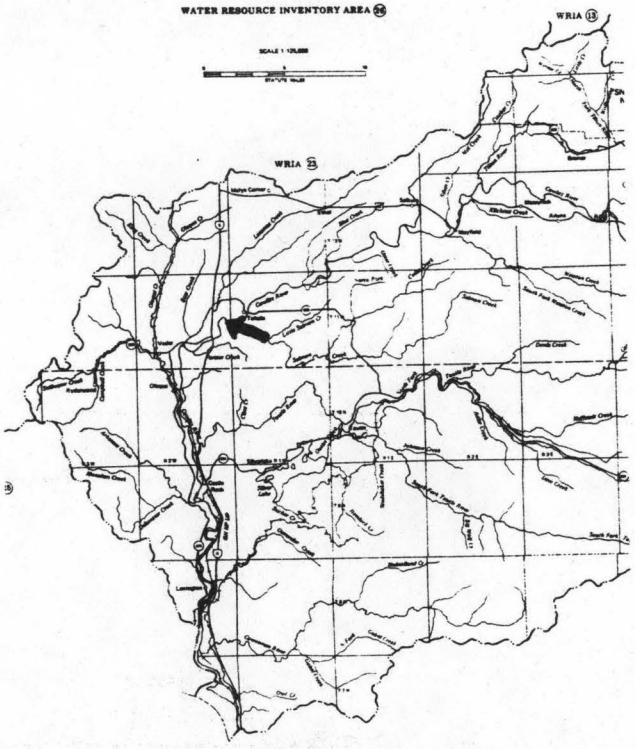
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 170 cfs



W26-967



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0065

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	46°25' 122°50'	
D. Latitude, Longitude	Salmon Creek	
E. Stream Name	Cowlitz	
F. Major Basin Name	3.9/11.9	
G. River Mile		

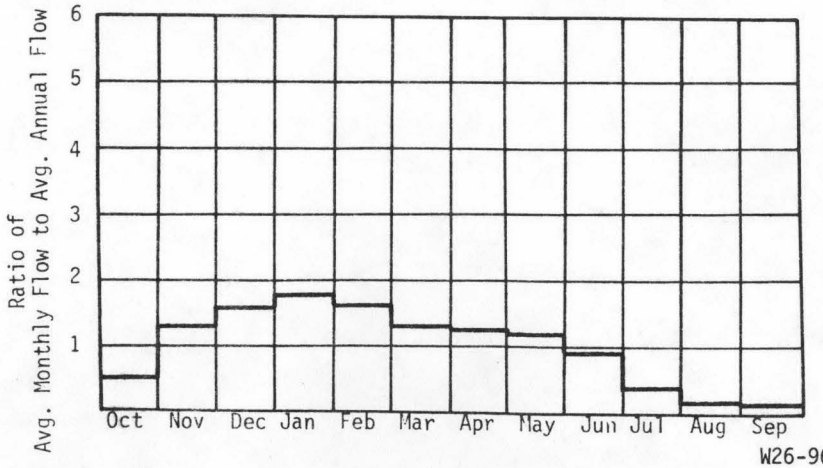
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	240	Ft. MSL
B. Downstream Elevation of Reach	130	Ft. MSL
C. Total Available Head in Reach	110 + 66 = 176	Ft.
D. Average Slope in Reach	13.8	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	1.39	0.02	0.18	1.00
80	5.56	0.08	0.65	0.89
50	48.7	0.72	4.19	0.66
30	124	1.84	8.07	0.50
10	350	5.22	13.7	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 139 cfs



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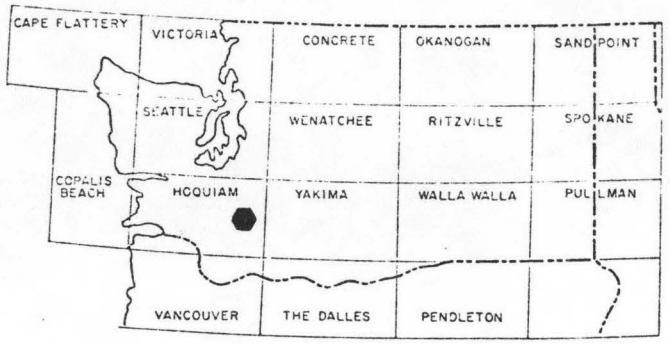
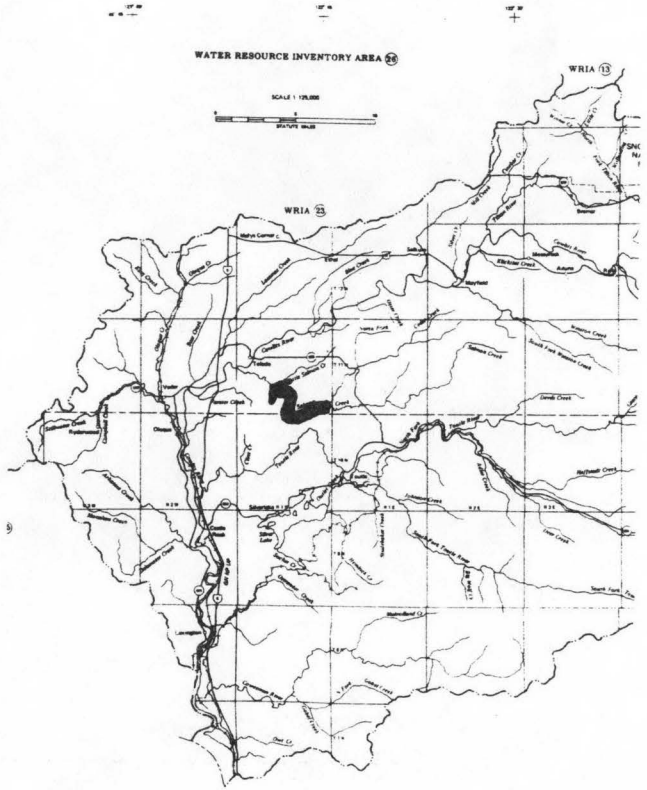


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0066

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R1E	
D. Latitude, Longitude	46°32' 122°37'	
E. Stream Name	Mill Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/3.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

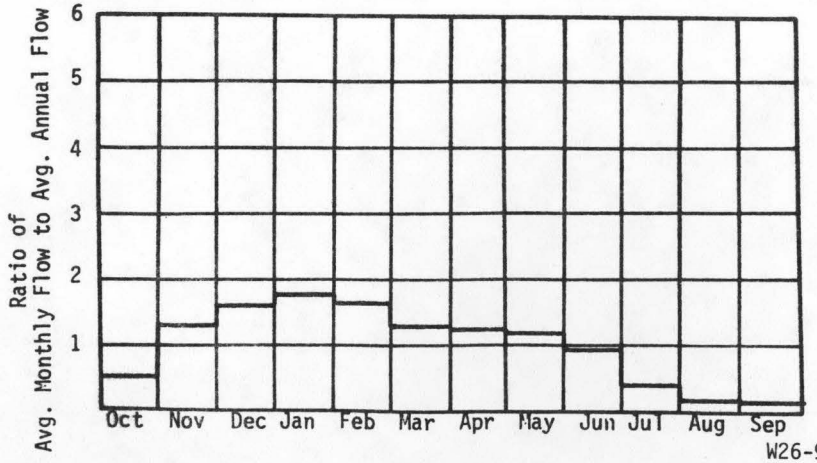
A. Upstream Elevation of Reach	575	Ft. MSL
B. Downstream Elevation of Reach	210	Ft. MSL
C. Total Available Head in Reach	65 + 66 = 131	Ft.
D. Average Slope in Reach	16.7	Ft./Mi.
E. Drainage Area above Reach Mouth	20	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

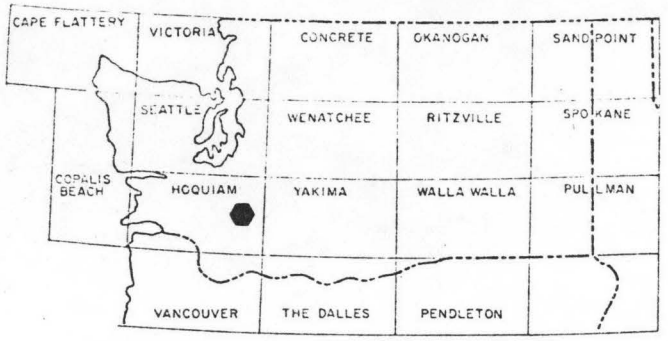
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2.00	0.02	0.19	1.00
80	5.00	0.06	0.45	0.93
50	27.0	0.30	1.78	0.68
30	66.0	0.73	3.27	0.51
10	126	1.39	4.39	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

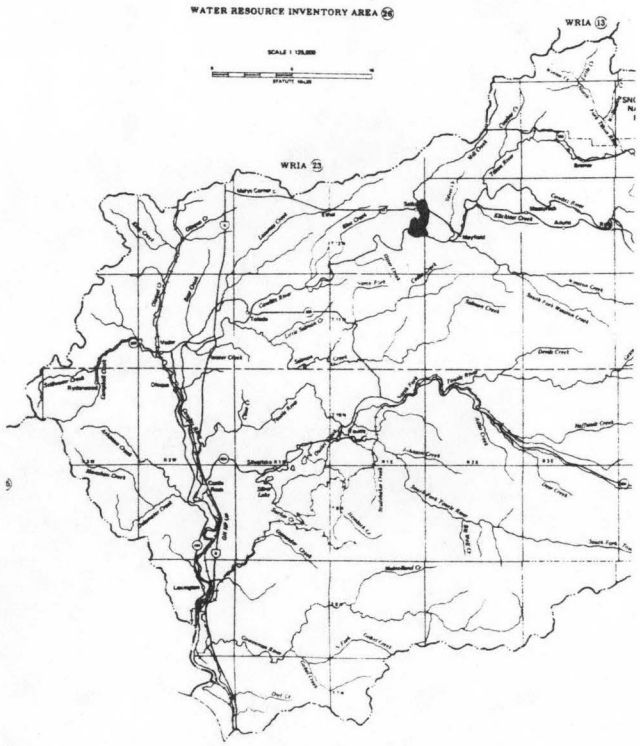
QMR = 50 cfs



W26-969



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0067

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R2E	
D. Latitude, Longitude	46°28' 122°32'	
E. Stream Name	Niston Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/5.4	

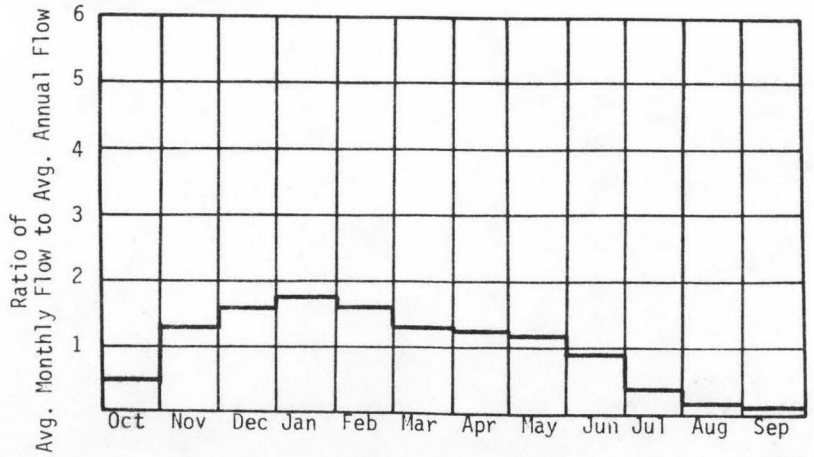
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

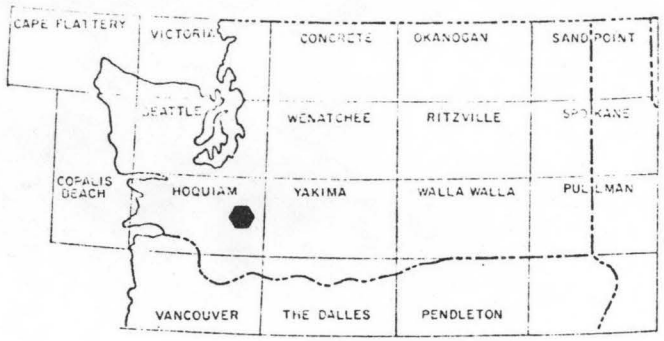
A. Upstream Elevation of Reach	620	Ft. MSL
B. Downstream Elevation of Reach	220	Ft. MSL
C. Total Available Head in Reach	400 + 66 = 466	Ft.
D. Average Slope in Reach	74.1	Ft./Mi.
E. Drainage Area above Reach Mouth	36	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

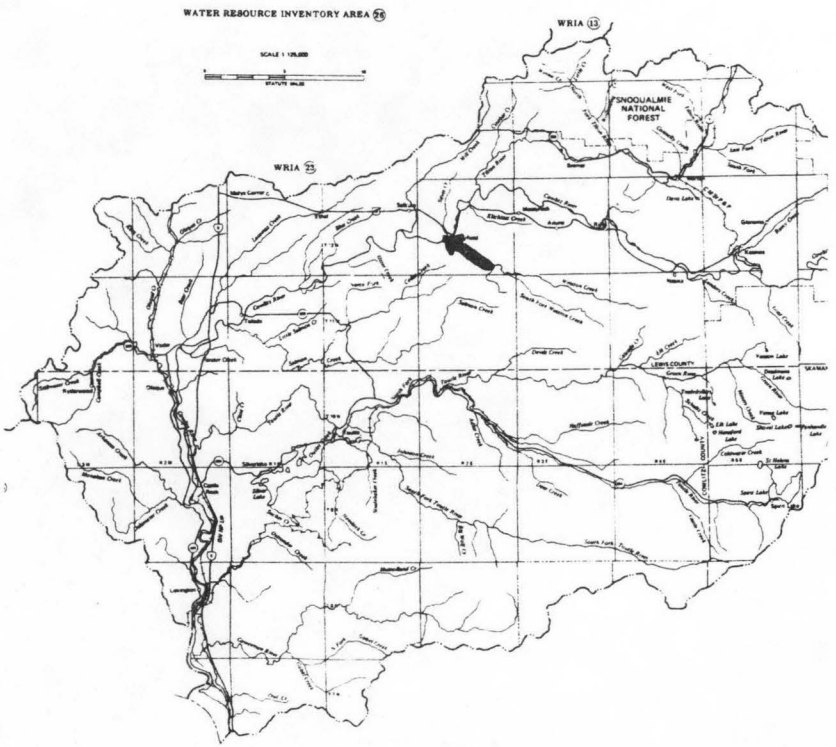
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3.76	0.15	1.30	1.00
80	12.2	0.48	3.84	0.91
50	60.2	2.37	14.3	0.69
30	112	4.41	21.3	0.55
10	227	8.94	29.0	0.37

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 94 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-970

REACH HYDRO POTENTIAL CHARACTERISTICS

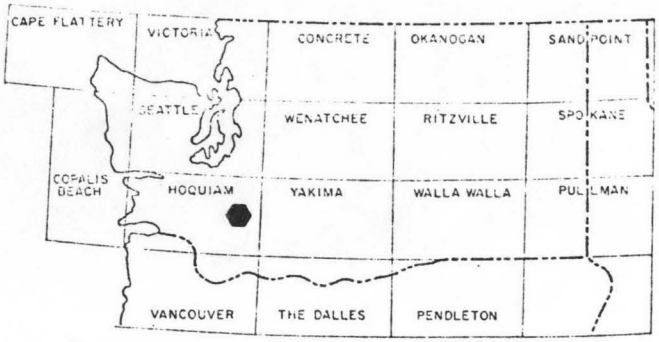
REACH # 01-500-020-000-000-R0068

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R2E	
D. Latitude, Longitude	46°34' 122°32'	
E. Stream Name	Tilton	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/2.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	390	Ft. MSL
B. Downstream Elevation of Reach	300	Ft. MSL
C. Total Available Head in Reach	90	Ft.
D. Average Slope in Reach	31	Ft./Mi.
E. Drainage Area above Reach Mouth	160	Sq.Mi.
F. Inflow Classification	Natural	

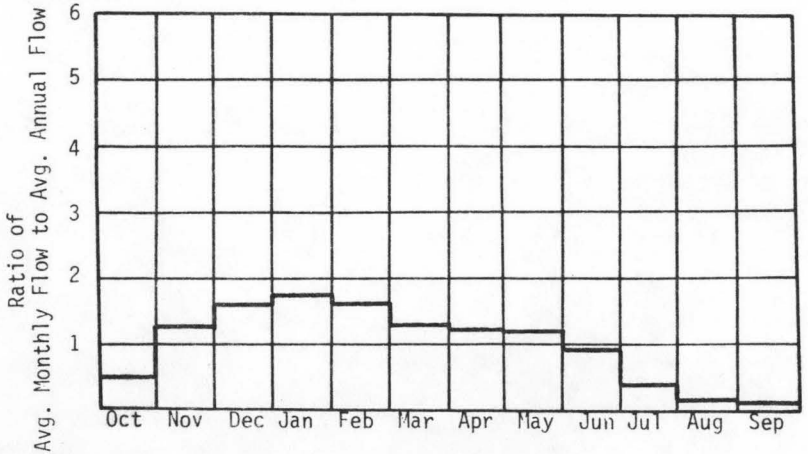


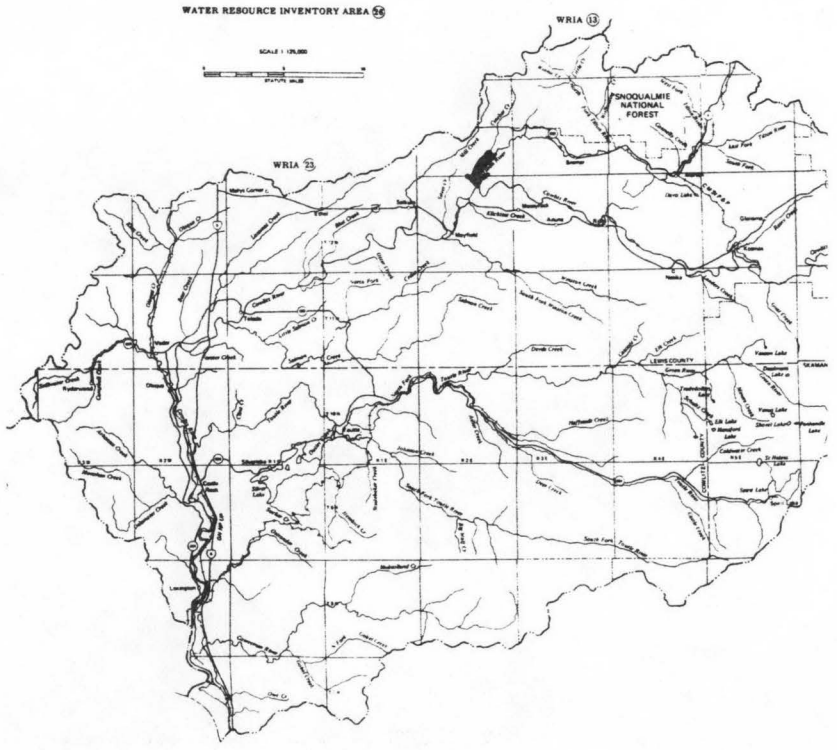
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	Reach eliminated by Mayfield Lake			
80				
50				
30				
10				

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 877 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0069

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R3E	
D. Latitude, Longitude	46°36' 122°27'	
E. Stream Name	Tilton River	
F. Major Basin Name	Cowlitz	
G. River Mile	2.9/13.2	

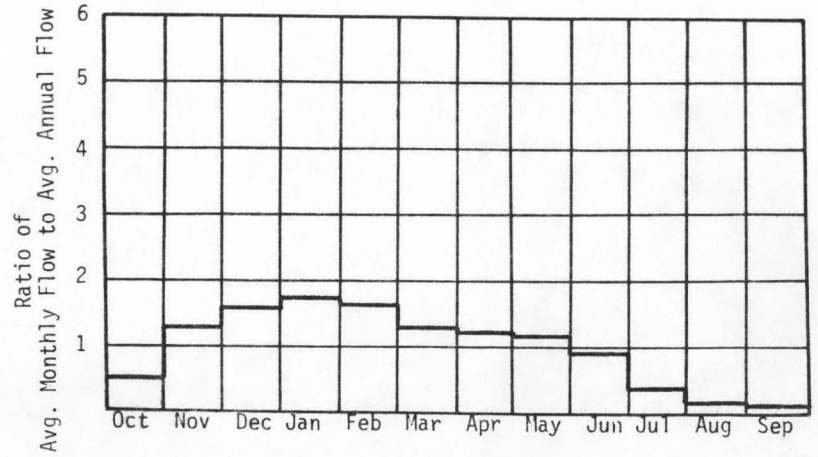
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

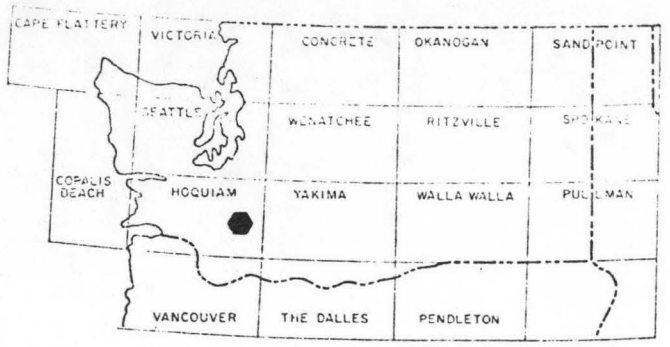
A. Upstream Elevation of Reach	790	Ft. MSL
B. Downstream Elevation of Reach	390	Ft. MSL
C. Total Available Head in Reach	400	Ft.
D. Average Slope in Reach	38.8	Ft./Mi.
E. Drainage Area above Reach Mouth	150	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

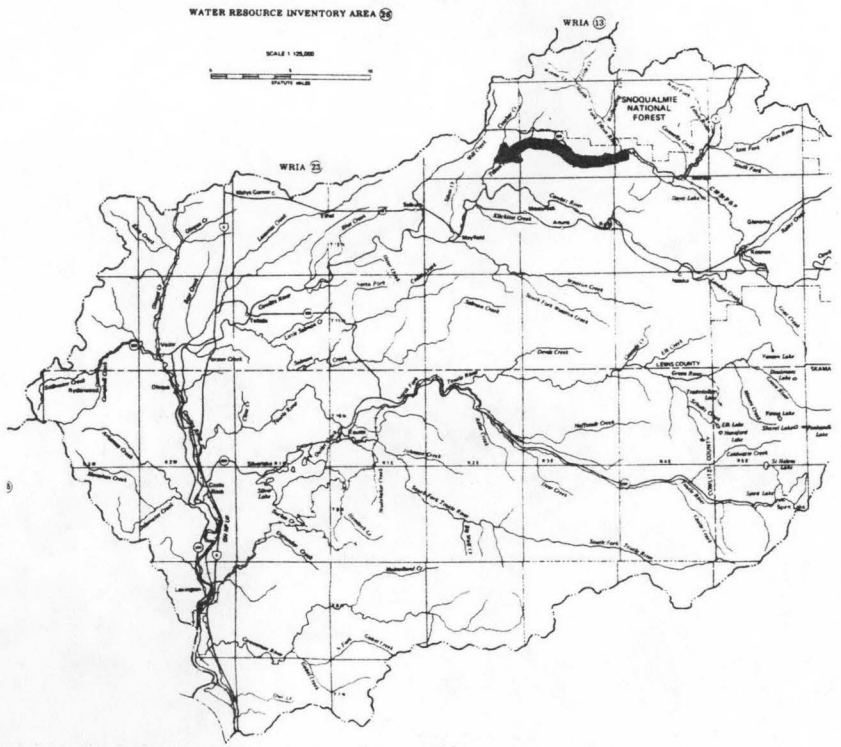
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	79.9	2.71	23.7	1.00
80	144	4.87	40.1	0.94
50	535	18.1	114	0.72
30	903	30.6	158	0.59
10	1730	58.7	206	0.40

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 799 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-972

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0070

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R4E	
D. Latitude, Longitude	46°34' 122°18'	
E. Stream Name	Tilton River	
F. Major Basin Name	Cowlitz	
G. River Mile	13.2/17.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

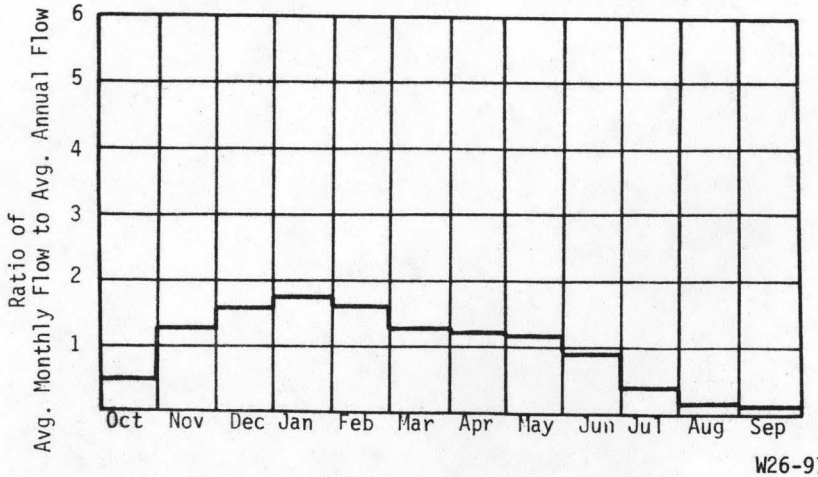
A. Upstream Elevation of Reach	890	Ft. MSL
B. Downstream Elevation of Reach	790	Ft. MSL
C. Total Available Head in Reach	100	Ft.
D. Average Slope in Reach	22.2	Ft./Mi.
E. Drainage Area above Reach Mouth	94	Sq.Mi.
F. Inflow Classification	Natural	

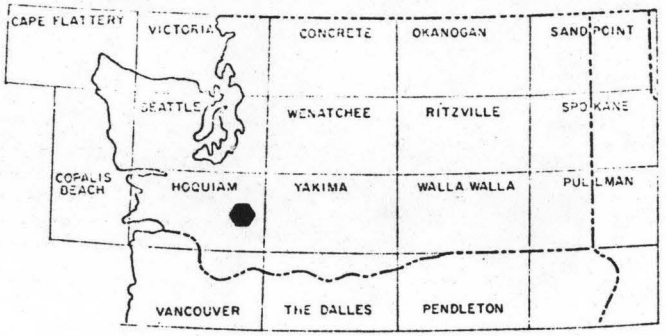
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	54.8	0.46	4.06	1.00
80	98.6	0.83	6.87	0.94
50	367	3.11	19.6	0.72
30	619	5.24	27.1	0.59
10	1190	10.1	32.3	0.40

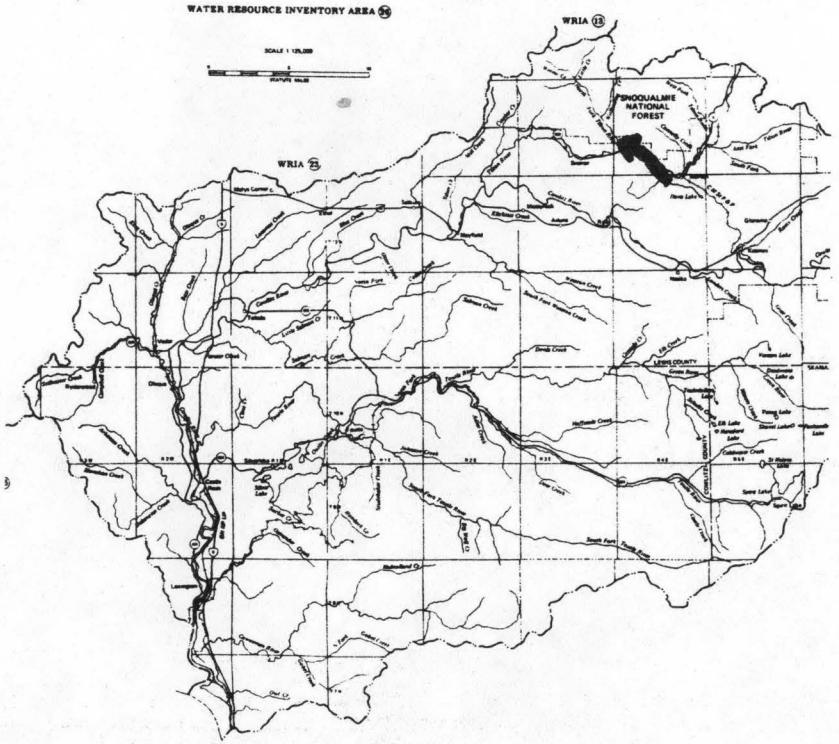
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 548 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-973

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0071

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R4E	
D. Latitude, Longitude	46°32' 122°17'	
E. Stream Name	Tilton River	
F. Major Basin Name	Cowlitz	
G. River Mile	17.7/19.3	

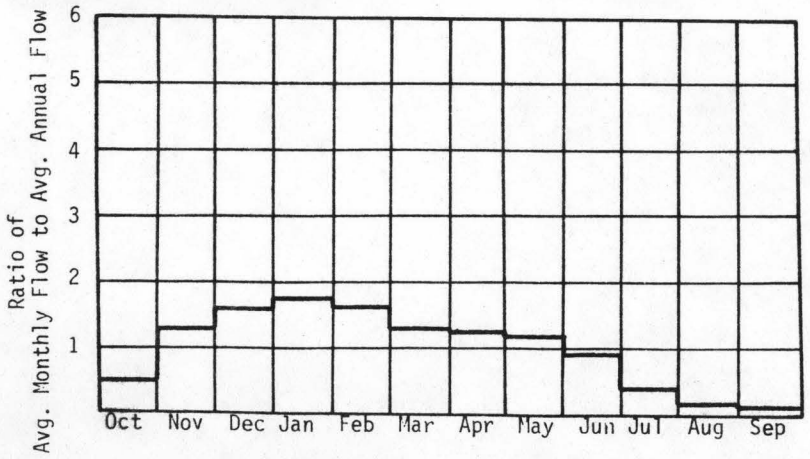
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

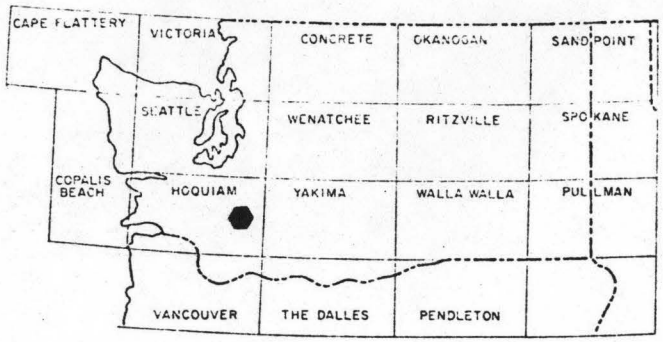
A. Upstream Elevation of Reach	940	Ft. MSL
B. Downstream Elevation of Reach	890	Ft. MSL
C. Total Available Head in Reach	50	Ft.
D. Average Slope in Reach	31.3	Ft./Mi.
E. Drainage Area above Reach Mouth	72	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

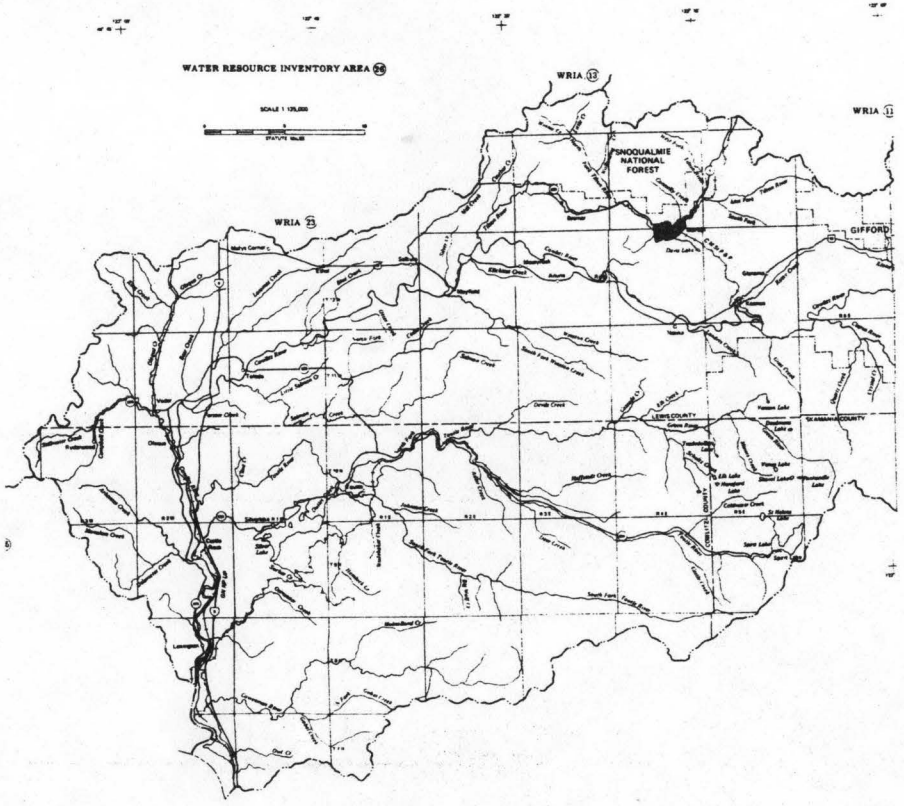
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	40.4	0.17	1.50	1.00
80	72.7	0.31	2.53	0.94
50	271	1.15	7.23	0.72
30	457	1.93	8.80	0.52
10	877	3.71	13.0	0.40

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 404 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

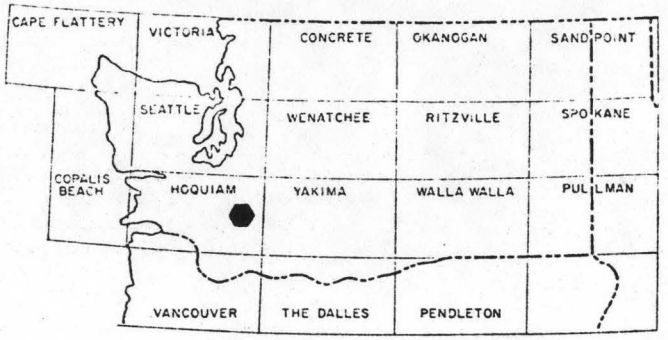
REACH # 01-500-020-000-000-R0072

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R4E	
D. Latitude, Longitude	46°35' 122°15'	
E. Stream Name	Tilton River	
F. Major Basin Name	Cowlitz	
G. River Mile	19.3/21.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1000	Ft. MSL
B. Downstream Elevation of Reach	940	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	19	Ft./Mi.
E. Drainage Area above Reach Mouth	64	Sq.Mi.
F. Inflow Classification	Natural	

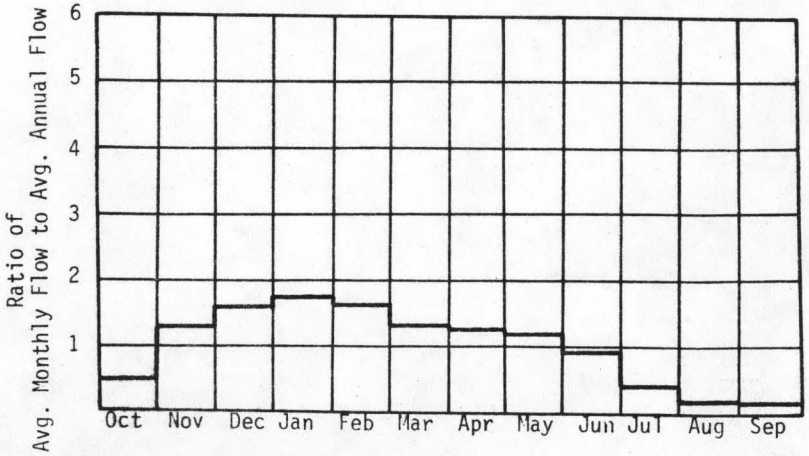


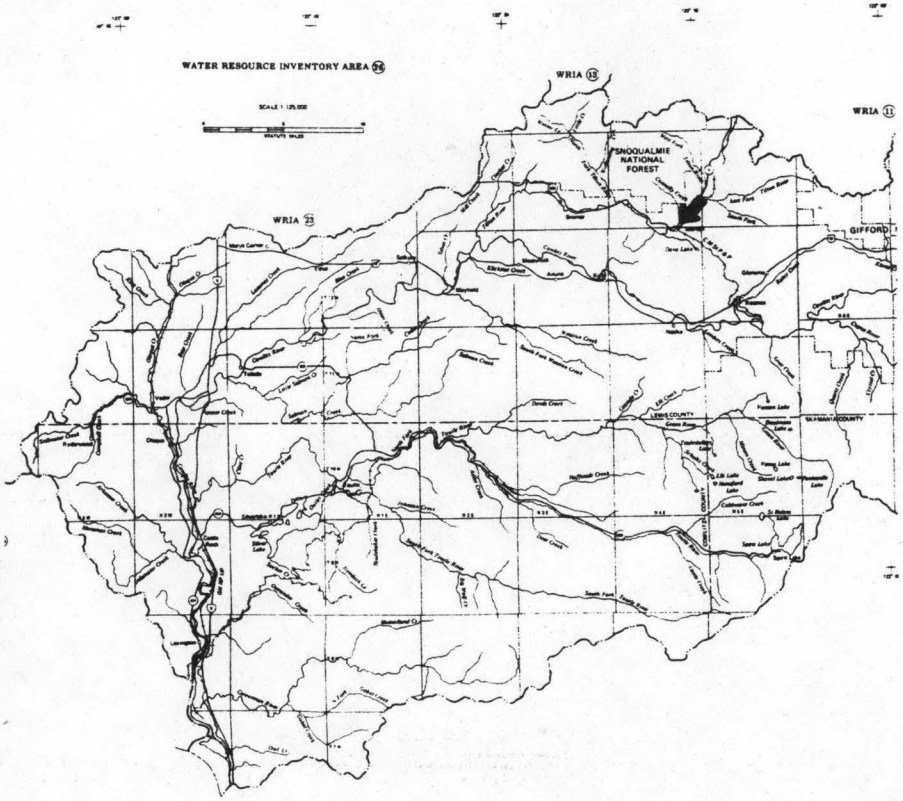
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	35.7	0.18	1.59	1.00
80	64.3	0.33	2.69	0.94
50	239	1.21	7.66	0.72
30	403	2.05	9.33	0.52
10	775	3.93	13.8	0.40

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 357 cfs





W26-975

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0073

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R4E	
D. Latitude, Longitude	46°36' 122°15'	
E. Stream Name	Tilton River	
F. Major Basin Name	Cowlitz	
G. River Mile	21.4/22.4	

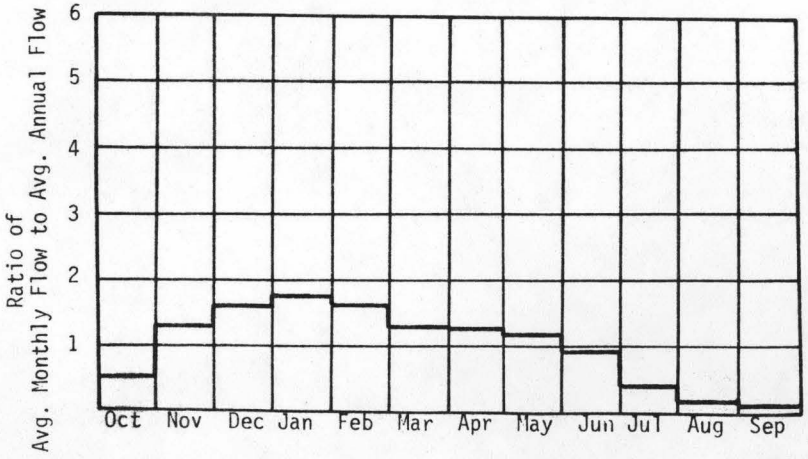
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

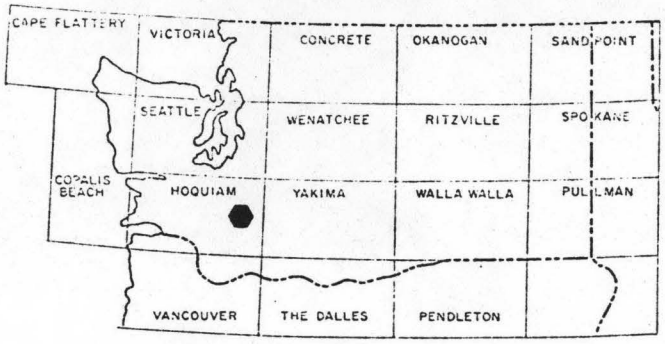
A. Upstream Elevation of Reach	1090	Ft. MSL
B. Downstream Elevation of Reach	1000	Ft. MSL
C. Total Available Head in Reach	90	Ft.
D. Average Slope in Reach	90	Ft./Mi.
E. Drainage Area above Reach Mouth	32.4	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

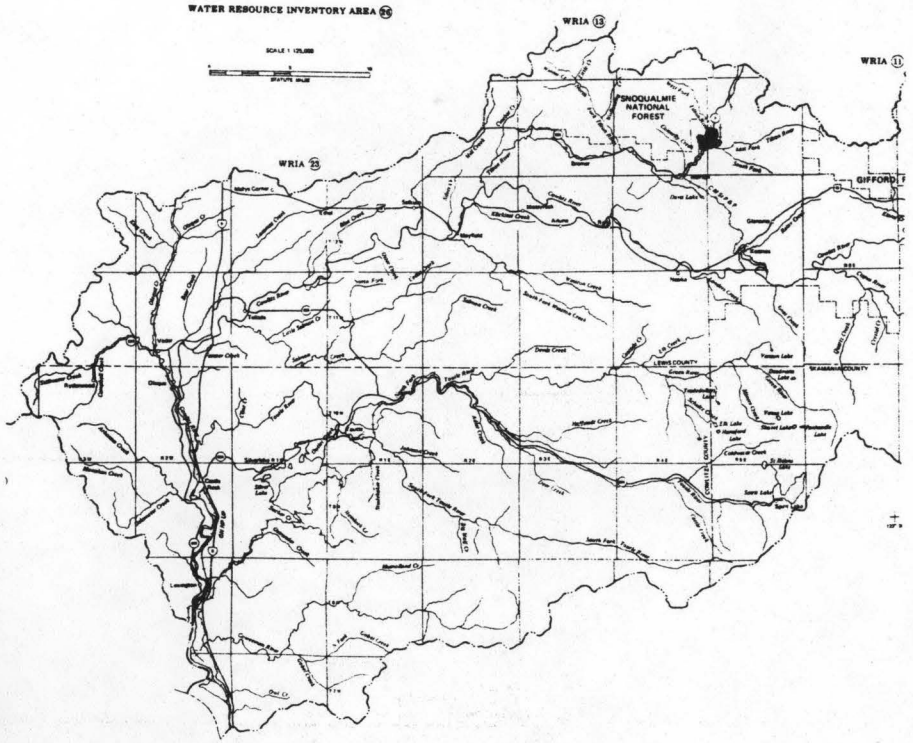
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.5	0.14	1.25	1.00
80	33.3	0.25	2.09	0.94
50	124	0.94	5.96	0.72
30	209	1.59	7.25	0.52
10	401	3.06	10.7	0.40

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 185 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

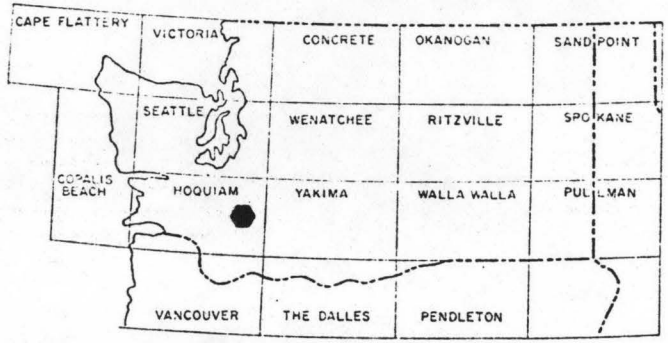


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0074

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R4E	
D. Latitude, Longitude	46°35' 122°15'	
E. Stream Name	Tilton River	
F. Major Basin Name	Cowlitz	
G. River Mile	22.4/23.5	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

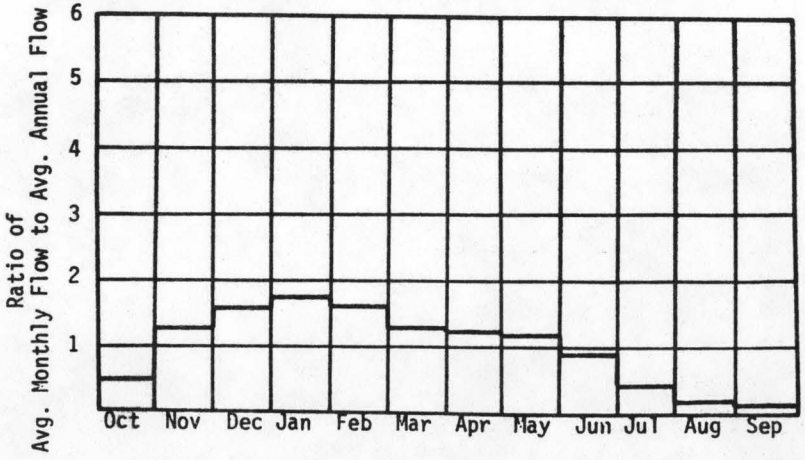
A. Upstream Elevation of Reach	1120	Ft. MSL
B. Downstream Elevation of Reach	1090	Ft. MSL
C. Total Available Head in Reach	30 + 66 = 96	Ft.
D. Average Slope in Reach	27.3	Ft./Mi.
E. Drainage Area above Reach Mouth	28	Sq.Mi.
F. Inflow Classification	Natural	

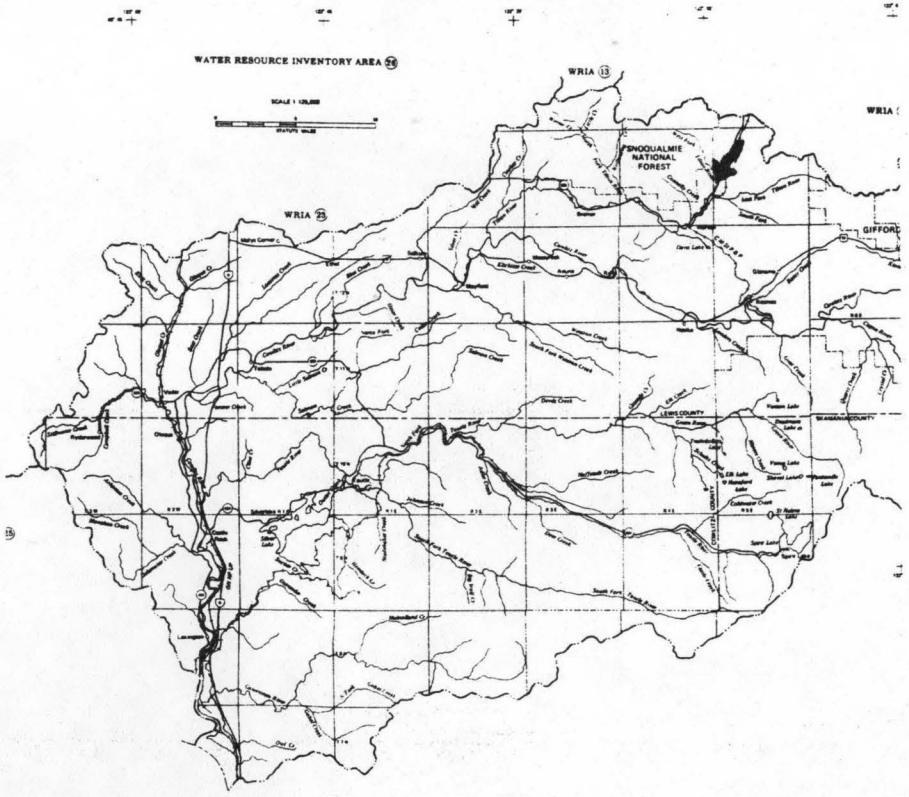
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.6	0.09	0.83	1.00
80	22.0	0.18	1.47	0.94
50	78.9	0.64	4.04	0.72
30	131	1.07	5.50	0.59
10	263	2.14	7.31	0.39

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 116 cfs





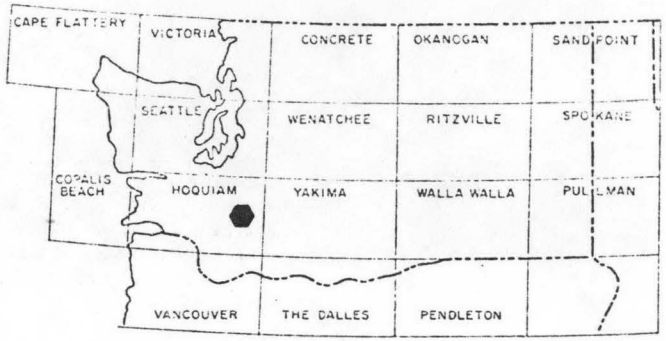
W26-977

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0075

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R3E
D.	Latitude, Longitude	46°36' 122°22'
E.	Stream Name	North Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/2.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

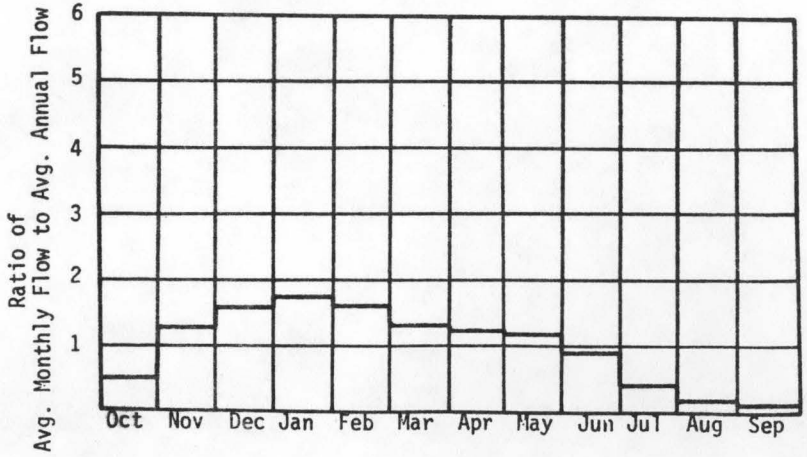
A.	Upstream Elevation of Reach	1110	Ft. MSL
B.	Downstream Elevation of Reach	790	Ft. MSL
C.	Total Available Head in Reach	320	Ft.
D.	Average Slope in Reach	114	Ft./Mi.
E.	Drainage Area above Reach Mouth	33	Sq.Mi.
F.	Inflow Classification	Natural	

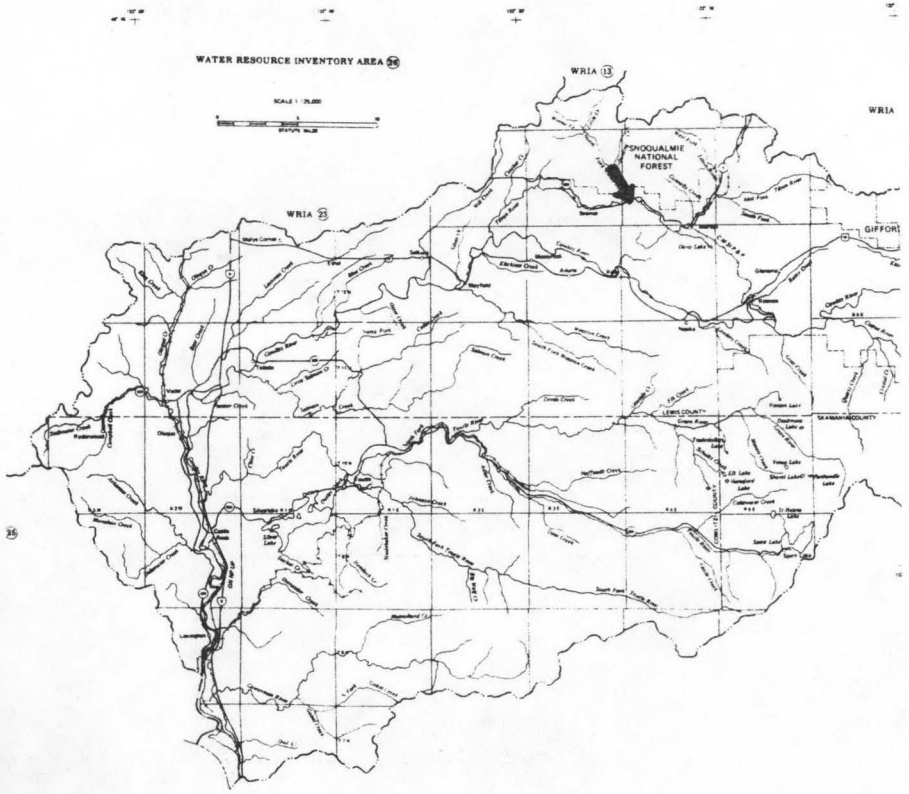
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.0	0.46	4.03	1.00
80	30.6	0.83	6.82	0.94
50	114	3.08	19.5	0.72
30	192	5.20	23.7	0.52
10	369	9.99	35.0	0.40

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 170 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

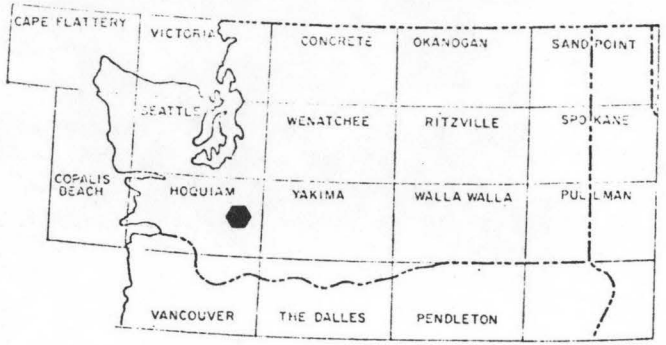
REACH # 01-500-020-000-000-R0076

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R3E	
D. Latitude, Longitude	46°37' 122°24'	
E. Stream Name	North Fork	
F. Major Basin Name	Cowlitz	
G. River Mile	2.8/6.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1440	Ft. MSL
B. Downstream Elevation of Reach	1110	Ft. MSL
C. Total Available Head in Reach	330 + 66 = 396	Ft.
D. Average Slope in Reach	100	Ft./Mi.
E. Drainage Area above Reach Mouth	29	Sq.Mi.
F. Inflow Classification	Natural	



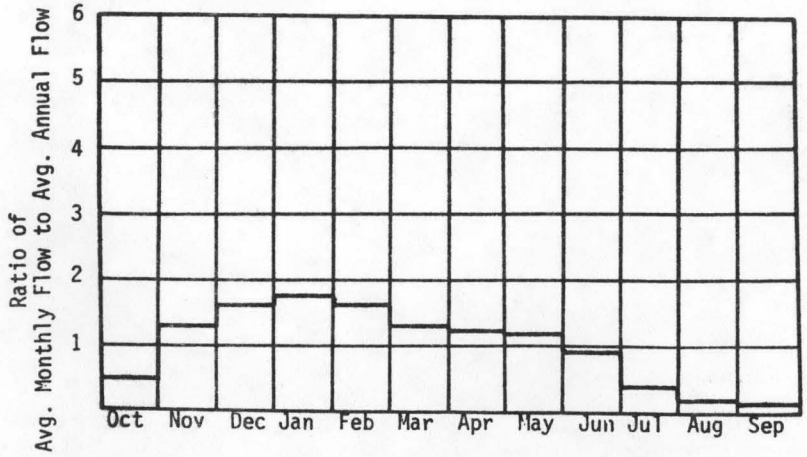
LOCATIONS FOR USGS 1:250,000 MAP SERIES

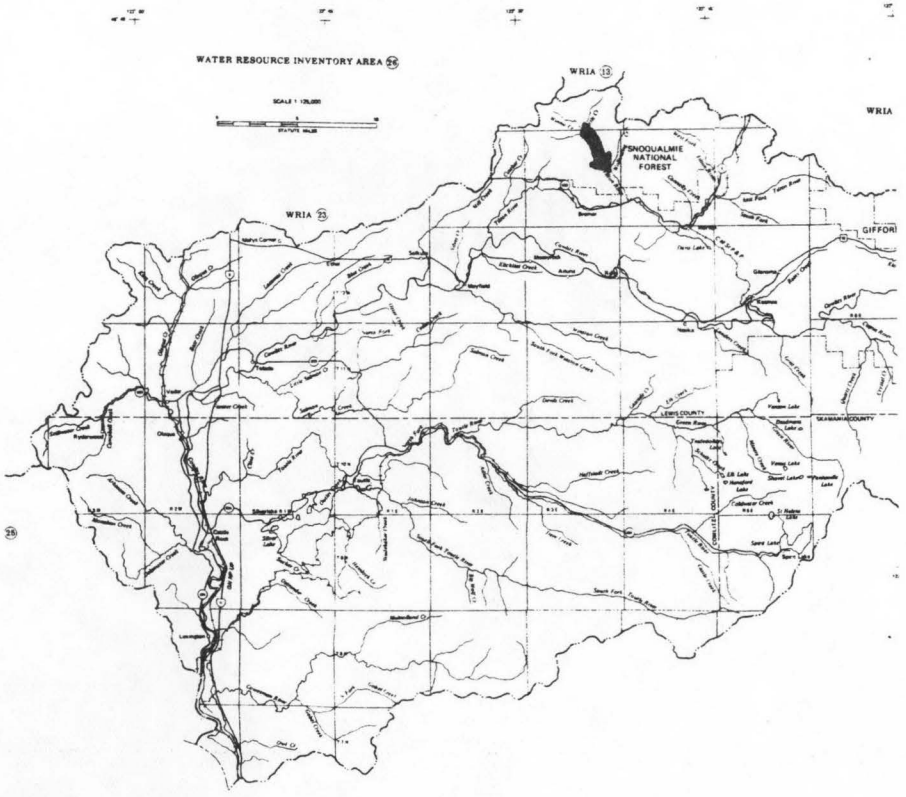
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.9	0.37	3.20	1.00
80	19.6	0.66	5.42	0.94
50	73.0	2.45	15.4	0.72
30	123	4.13	18.8	0.52
10	237	7.93	27.8	0.40

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 109 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

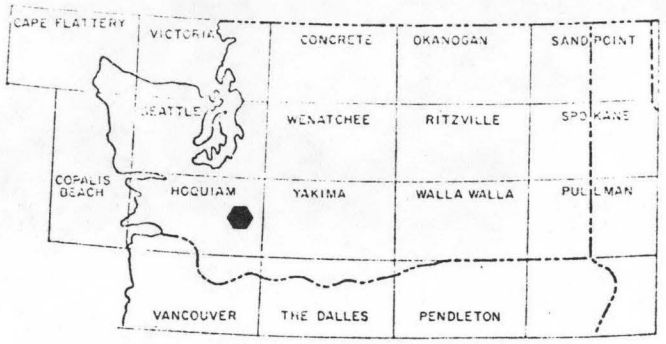
REACH # 01-500-020-000-000-R0077

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R4E	
D. Latitude, Longitude	46°35' 122°15'	
E. Stream Name	South Fork	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/1.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1100	Ft. MSL
B. Downstream Elevation of Reach	1000	Ft. MSL
C. Total Available Head in Reach	100	Ft.
D. Average Slope in Reach	90.9	Ft./Mi.
E. Drainage Area above Reach Mouth	27	Sq.Mi.
F. Inflow Classification	Natural	

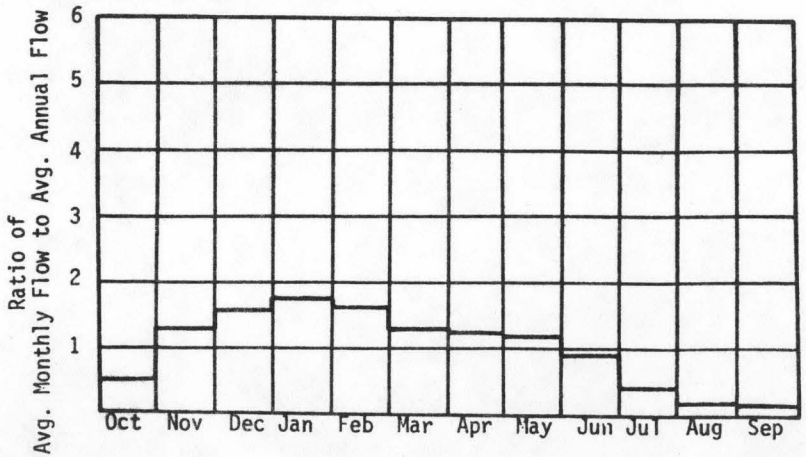


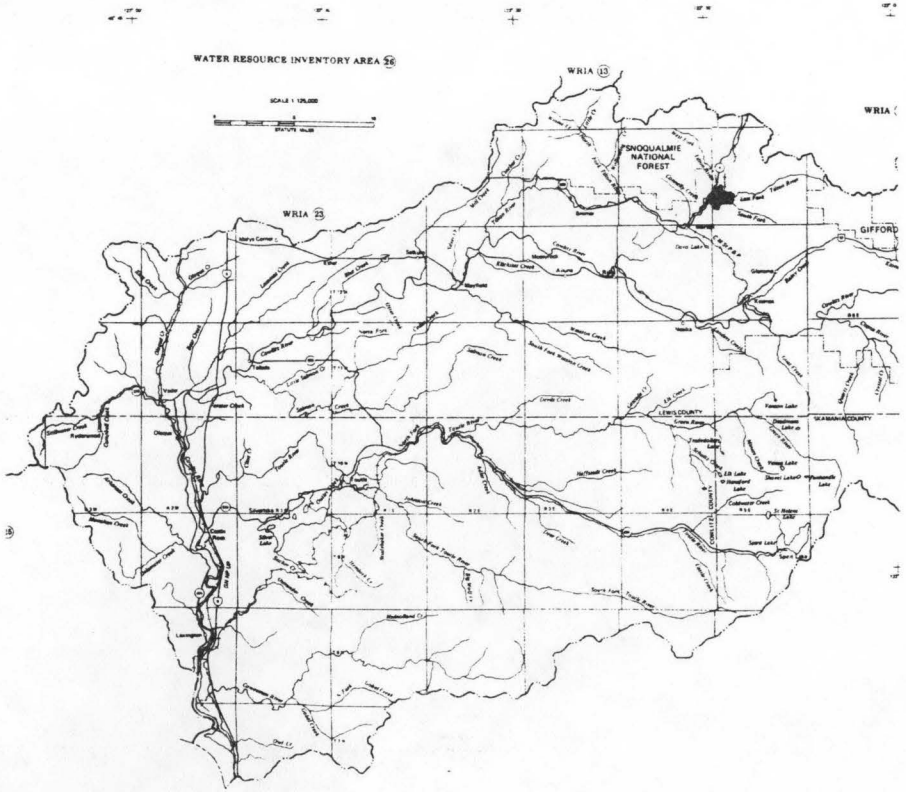
LOCATIONS FOR USGS 1:250,000 MAP SERIES

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	0.13	1.12	1.00
80	27.2	0.23	1.89	0.94
50	101	0.86	5.40	0.72
30	171	1.44	6.58	0.52
10	328	2.77	9.72	0.40

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 151 cfs



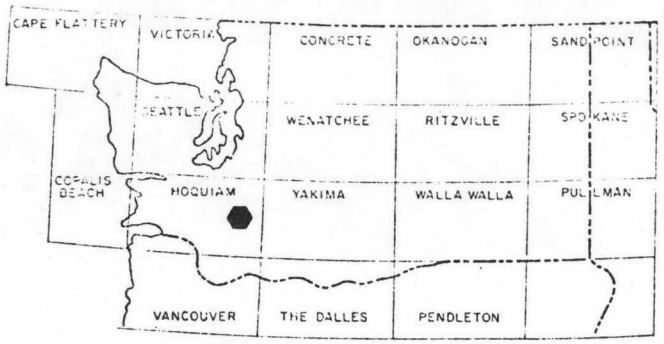


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0078

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R5E
D.	Latitude, Longitude	46°35' 122°10'
E.	Stream Name	East Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	1.3/5.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

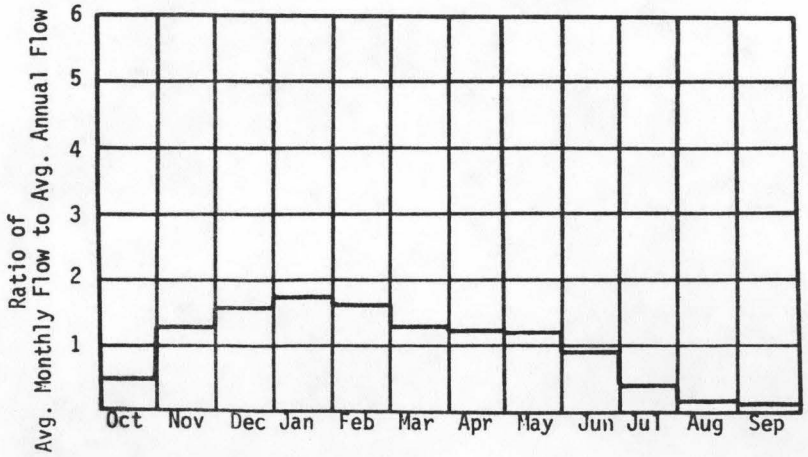
A.	Upstream Elevation of Reach	1760	Ft. MSL
B.	Downstream Elevation of Reach	1120	Ft. MSL
C.	Total Available Head in Reach	640	Ft.
D.	Average Slope in Reach	156	Ft./Mi.
E.	Drainage Area above Reach Mouth	19	Sq.Mi.
F.	Inflow Classification	Natural	

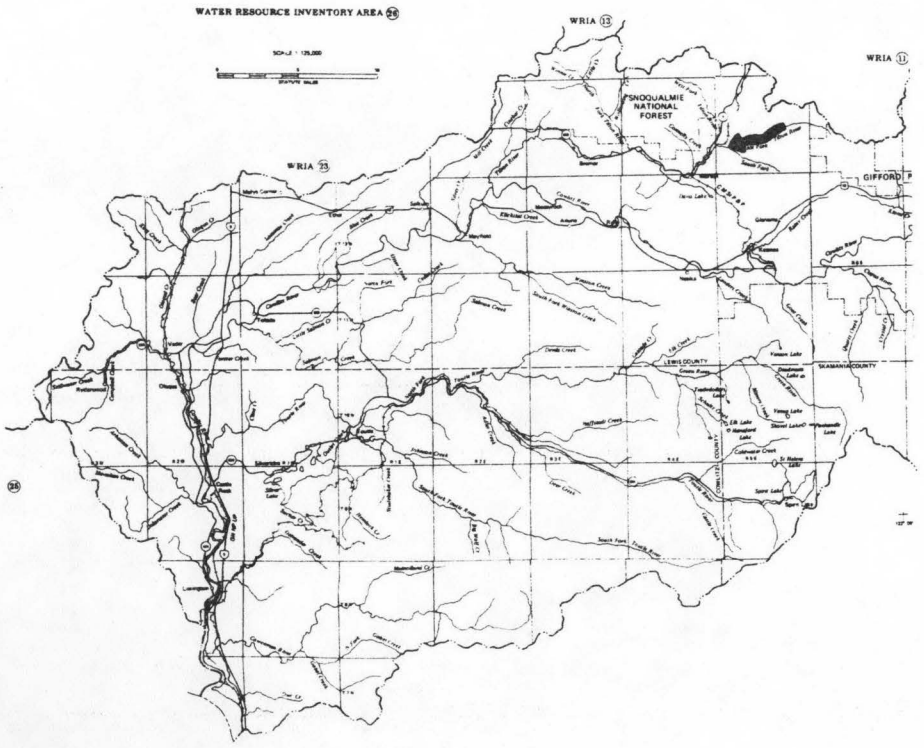
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.70	0.47	4.13	1.00
80	15.7	0.85	6.99	0.94
50	58.3	3.16	19.9	0.72
30	98.3	5.33	24.3	0.52
10	189	10.2	35.8	0.40

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 87 cfs





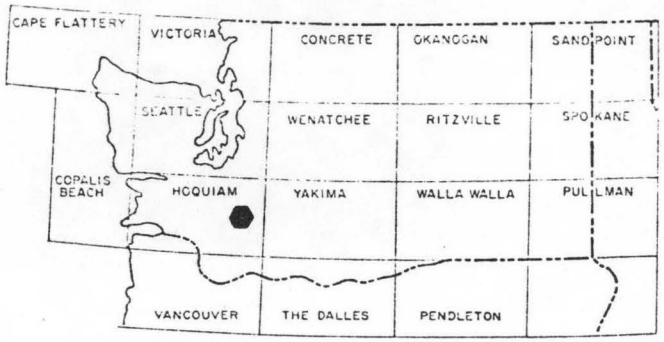
W26-981

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0079

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R4E	
D. Latitude, Longitude	46°37' 122°15'	
E. Stream Name	West Fork	
F. Major Basin Name	Cowlitz	
G. River Mile	22.4/24.4	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

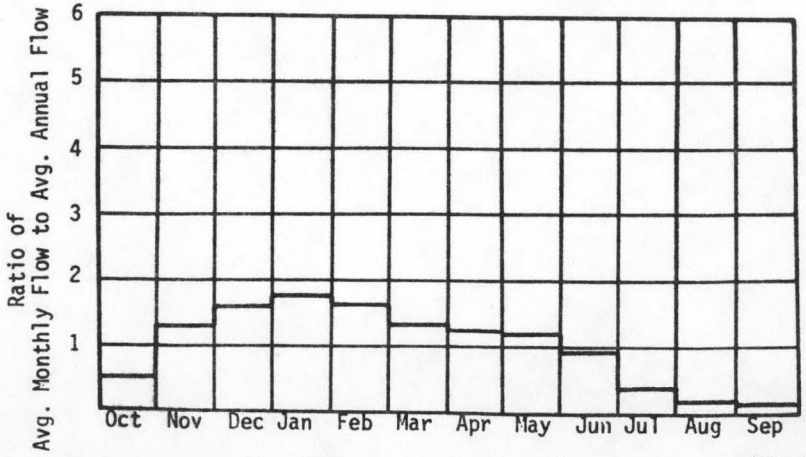
A. Upstream Elevation of Reach	1240	Ft. MSL
B. Downstream Elevation of Reach	1090	Ft. MSL
C. Total Available Head in Reach	150	Ft.
D. Average Slope in Reach	75	Ft./Mi.
E. Drainage Area above Reach Mouth	18	Sq.Mi.
F. Inflow Classification	Natural	

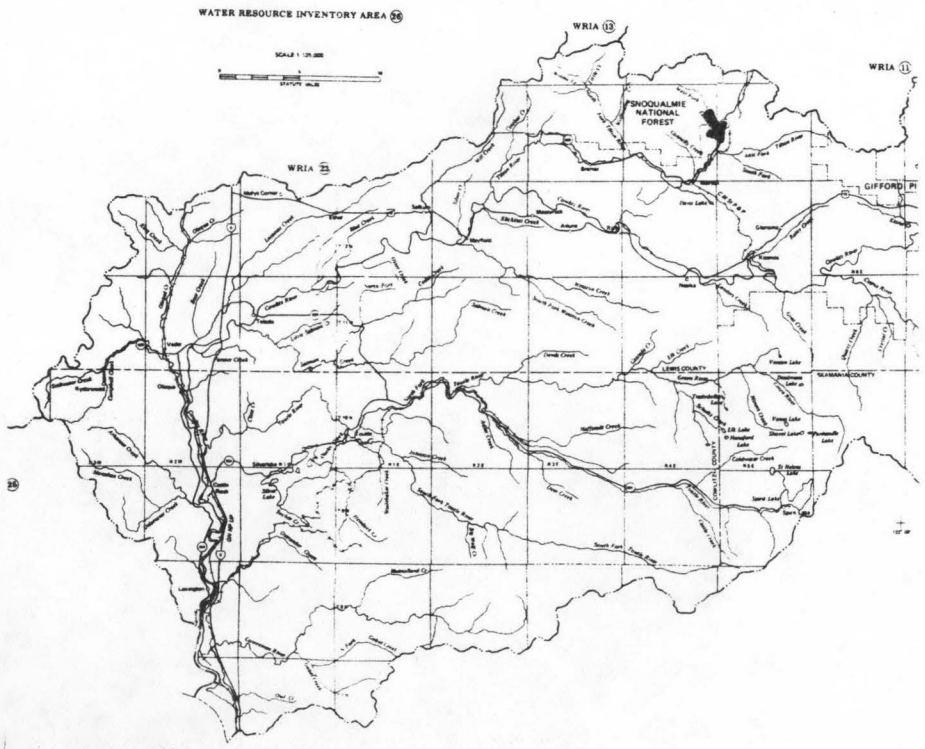
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.84	0.09	0.76	1.00
80	17.1	0.22	1.75	0.92
50	68.4	0.87	5.40	0.71
30	122	1.55	7.23	0.57
10	257	3.26	10.6	0.37

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 114 cfs





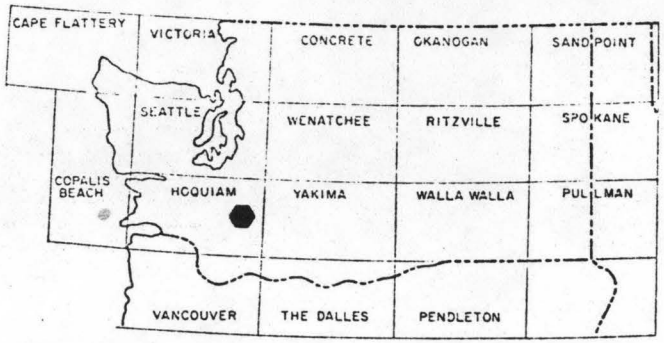
W26-982

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0080

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R4E
D.	Latitude, Longitude	46°37' 122°15'
E.	Stream Name	Tilton River
F.	Major Basin Name	Cowlitz
G.	River Mile	24.4/26.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

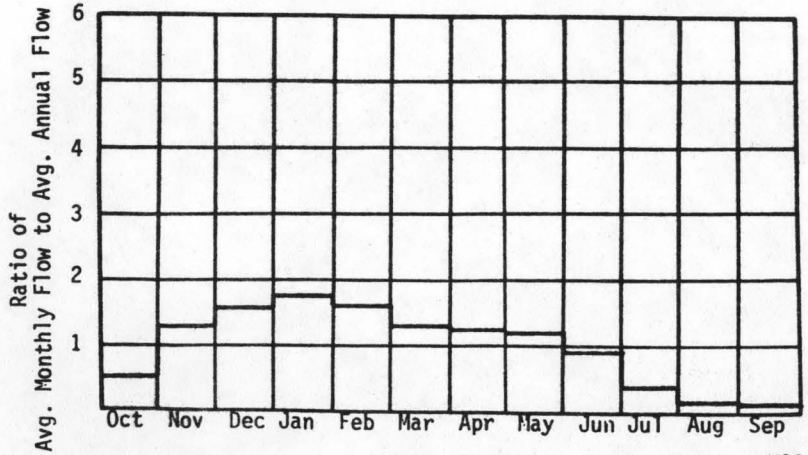
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

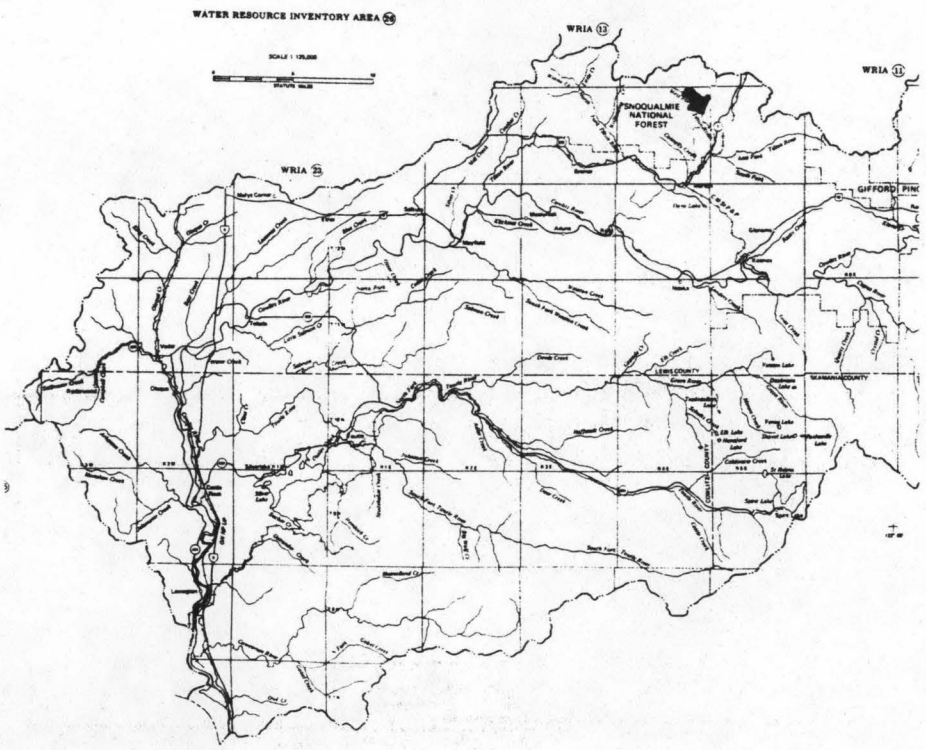
A.	Upstream Elevation of Reach	1480	Ft. MSL
B.	Downstream Elevation of Reach	1240	Ft. MSL
C.	Total Available Head in Reach	240 + 66 = 306	Ft.
D.	Average Slope in Reach	141	Ft./Mi.
E.	Drainage Area above Reach Mouth	11	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4.14	0.11	0.94	1.00
80	10.4	0.27	2.28	0.92
50	41.4	1.07	6.67	0.71
30	73.8	1.91	9.55	0.57
10	155	4.02	13.0	0.37

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 69 cfs





W26-983

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0081

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R4E
D.	Latitude, Longitude	46°27' 122°15'
E.	Stream Name	Landers Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/1.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

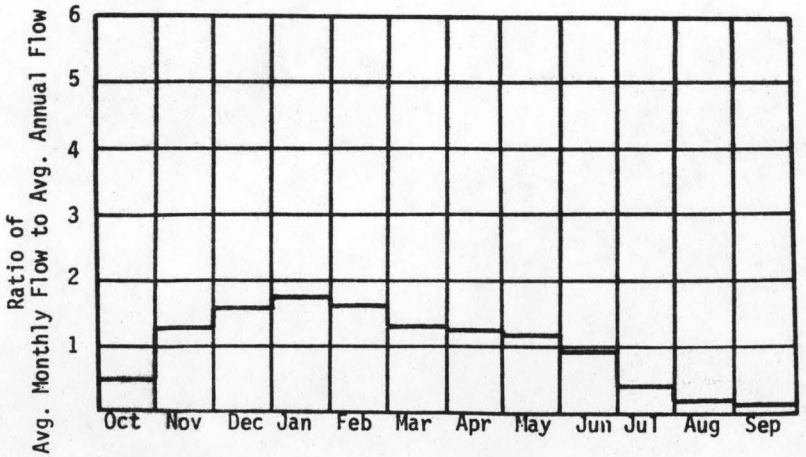
A.	Upstream Elevation of Reach	1100	Ft. MSL
B.	Downstream Elevation of Reach	600	Ft. MSL
C.	Total Available Head in Reach	500 + 66 = 566	Ft.
D.	Average Slope in Reach	278	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

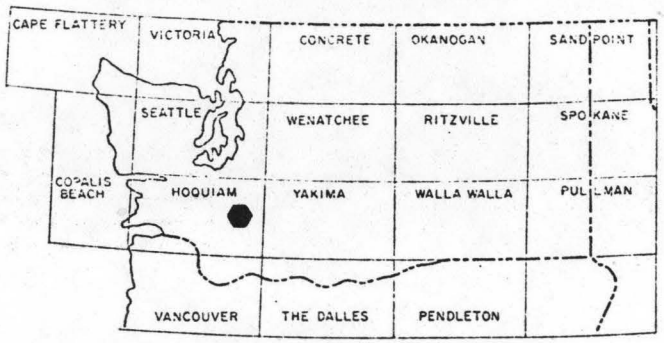
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	Reach eliminated by Davisson Lake			
80				
50				
30				
10				

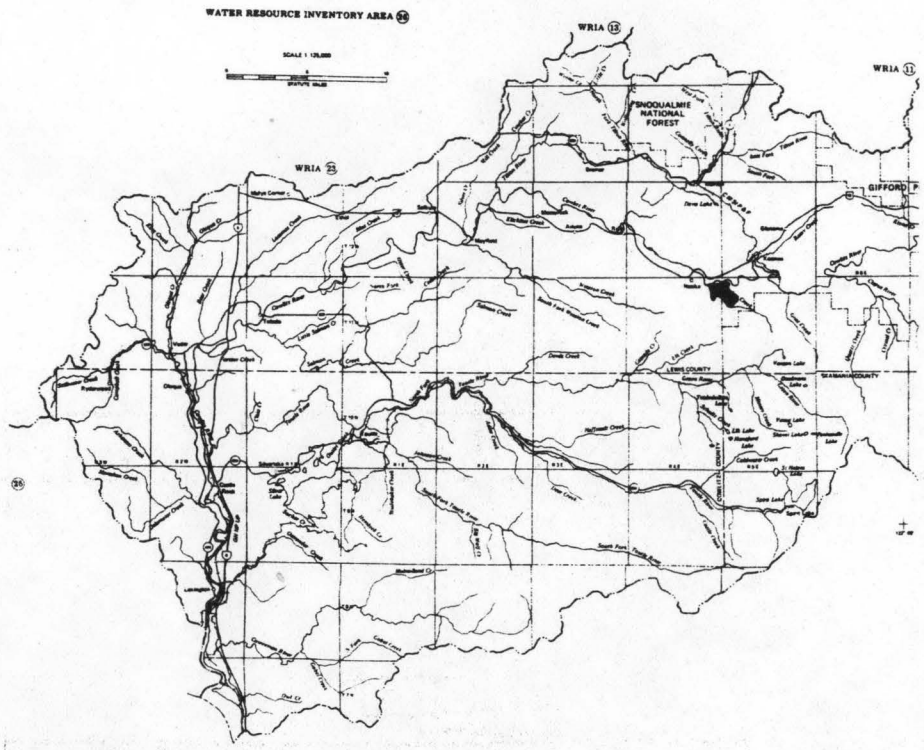
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 45 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0082

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R5E	
D. Latitude, Longitude	46°31' 122°07'	
E. Stream Name	Rainy Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/7.3	

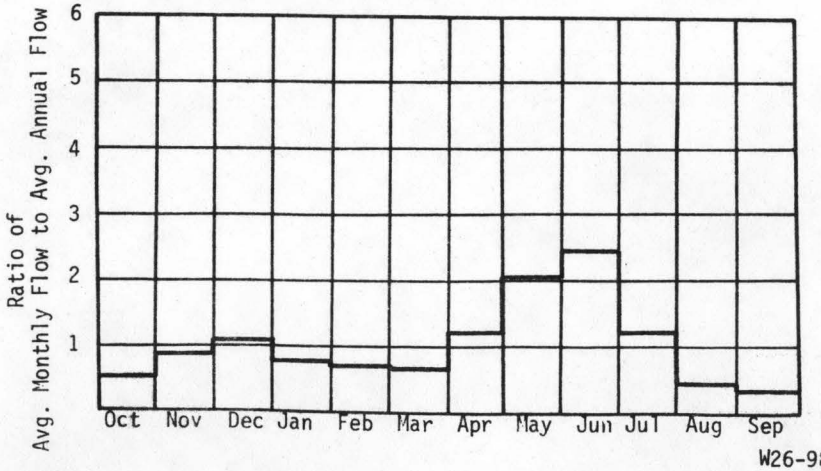
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	960	Ft. MSL
B. Downstream Elevation of Reach	670	Ft. MSL
C. Total Available Head in Reach	290 + 66 = 356	Ft.
D. Average Slope in Reach	39.7	Ft./Mi.
E. Drainage Area above Reach Mouth	28	Sq.Mi.
F. Inflow Classification	Natural	

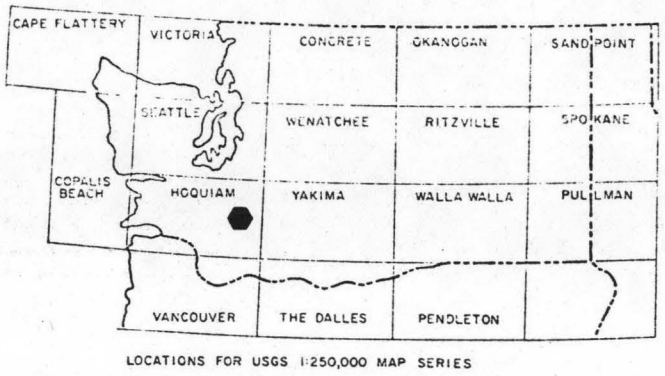
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	0.54	0.02	0.14	1.00
80	4.86	0.15	1.14	0.89
50	41.0	1.24	7.15	0.66
30	63.2	1.90	9.51	0.57
10	127	3.84	12.8	0.38

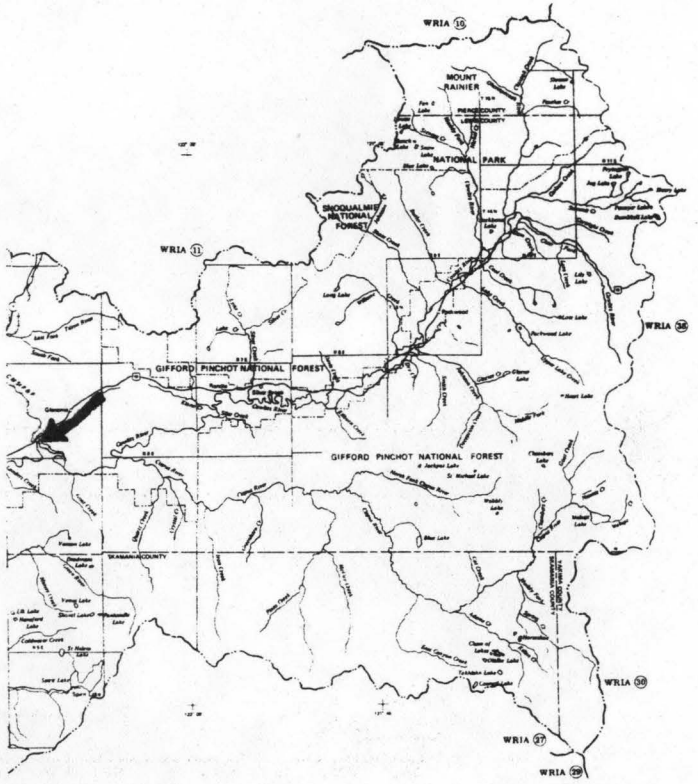
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 54 cfs



W26-985



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0083

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R6E	
D. Latitude, Longitude	46°28' 122°02'	
E. Stream Name	Cispus River	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/3.9	

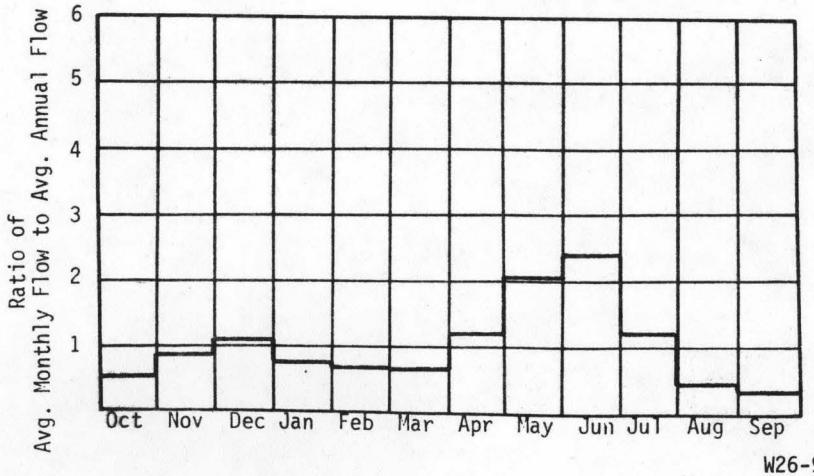
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

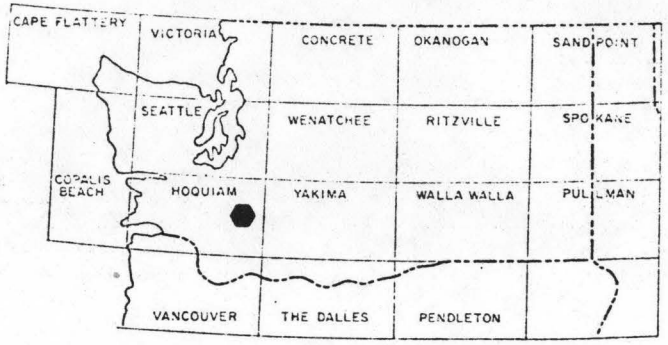
A. Upstream Elevation of Reach	940	Ft. MSL
B. Downstream Elevation of Reach	810	Ft. MSL
C. Total Available Head in Reach	130	Ft.
D. Average Slope in Reach	33.3	Ft./Mi.
E. Drainage Area above Reach Mouth	417	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

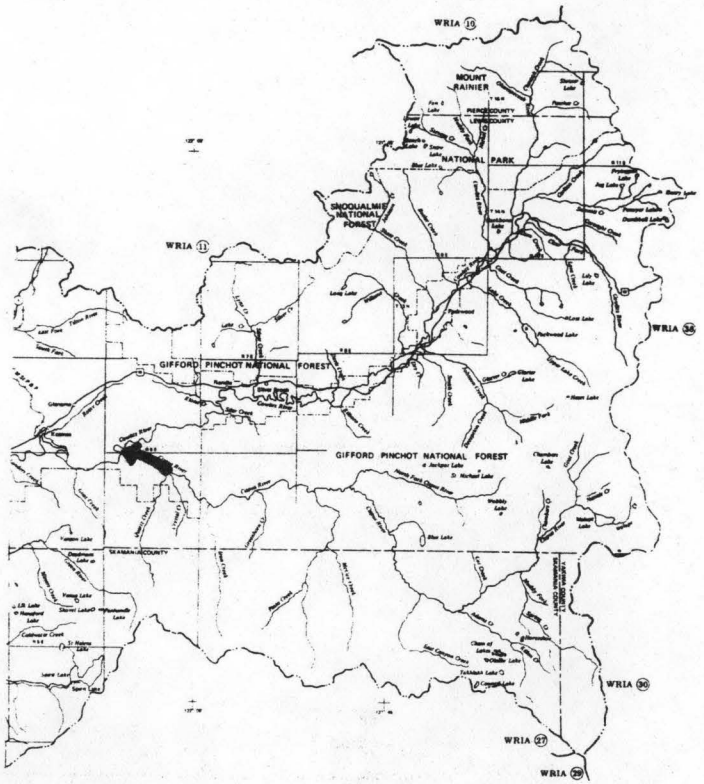
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	430	4.73	41.5	1.00
80	654	7.19	60.5	0.96
50	1270	14.0	98.2	0.80
30	2000	22.0	127	0.66
10	3560	39.2	154	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1720 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



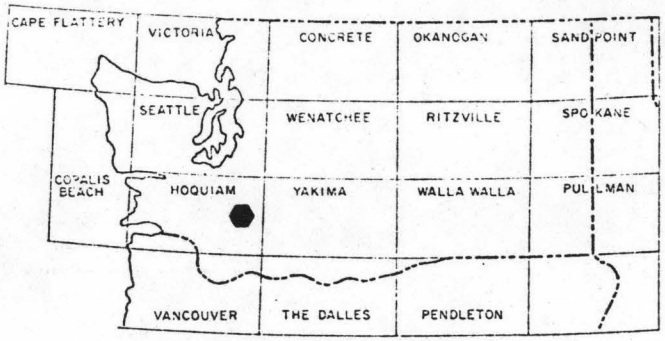
W26-986

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0084

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R6E
D.	Latitude, Longitude	46°27' 122°02'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	3.9/5.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

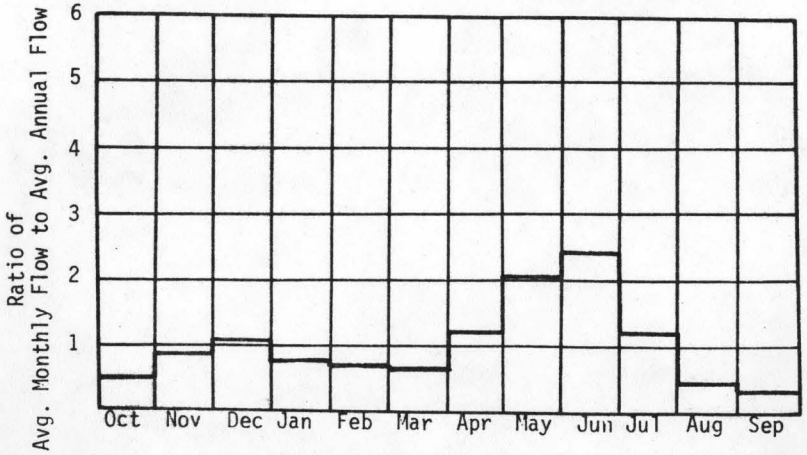
A.	Upstream Elevation of Reach	980	Ft. MSL
B.	Downstream Elevation of Reach	940	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	28.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	389	Sq.Mi.
F.	Inflow Classification	Natural	

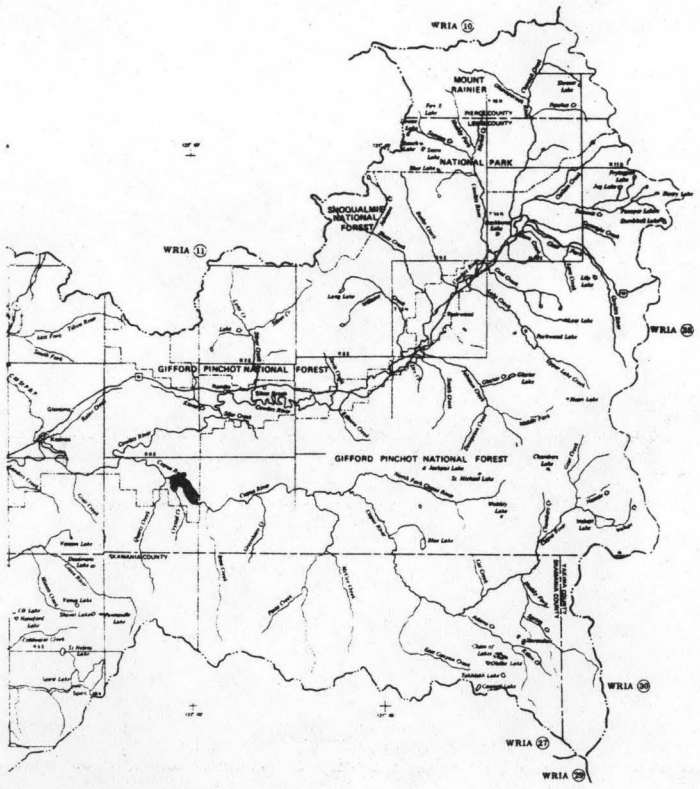
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	405	1.37	12.0	1.00
80	615	2.08	17.5	0.96
50	1200	4.05	28.4	0.80
30	1880	6.35	36.7	0.66
10	3330	11.3	44.5	0.45

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1618 cfs





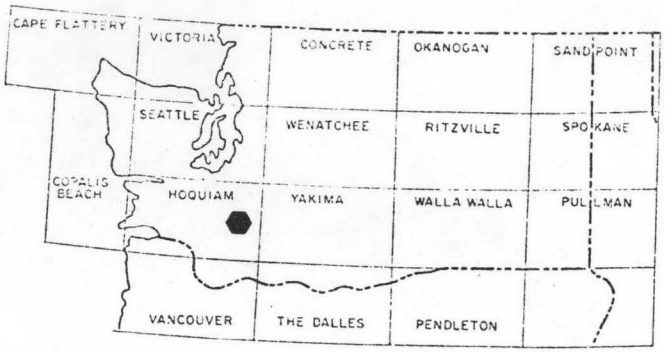
W26-987

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0085

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R6E
D.	Latitude, Longitude	46°26' 121°59'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	5.3/8.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

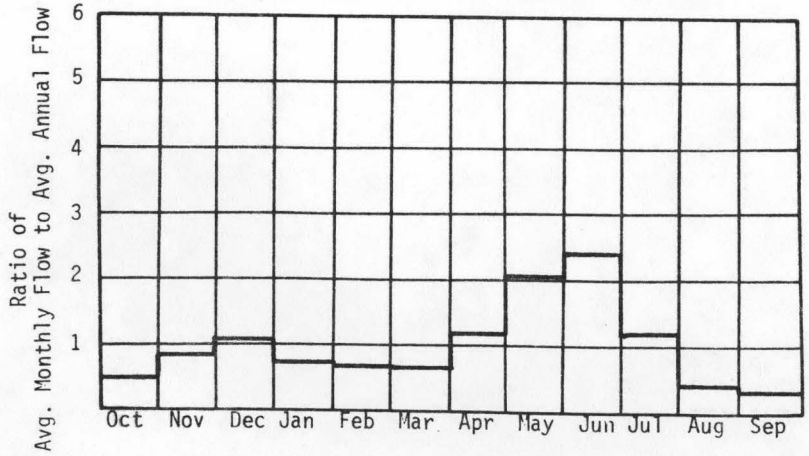
A.	Upstream Elevation of Reach	1060	Ft. MSL
B.	Downstream Elevation of Reach	980	Ft. MSL
C.	Total Available Head in Reach	80	Ft.
D.	Average Slope in Reach	28.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	371	Sq.Mi.
F.	Inflow Classification	Natural	

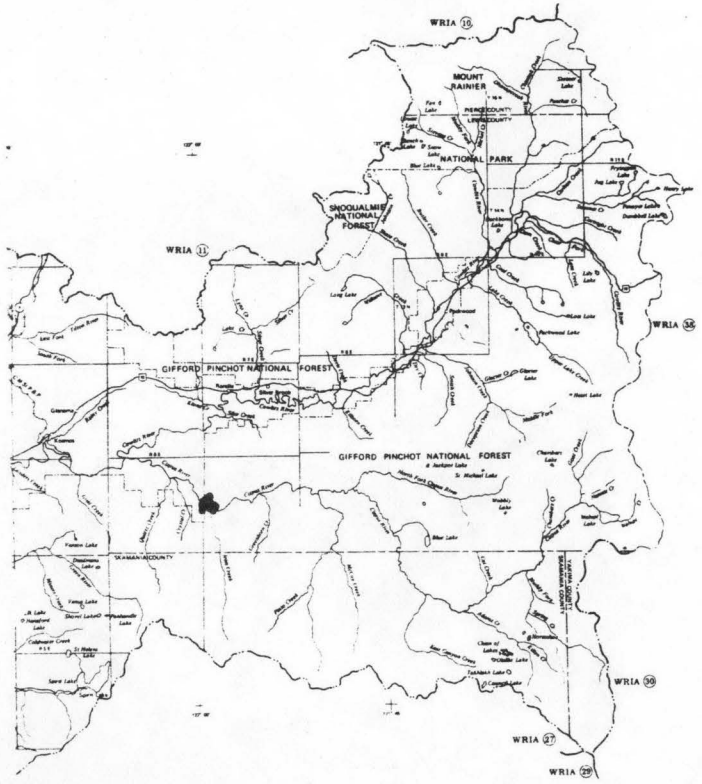
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	392	2.65	23.2	1.00
80	595	4.03	33.9	0.96
50	1160	7.85	55.0	0.80
30	1820	12.3	71.1	0.66
10	3230	21.8	86.1	0.45

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1566 cfs



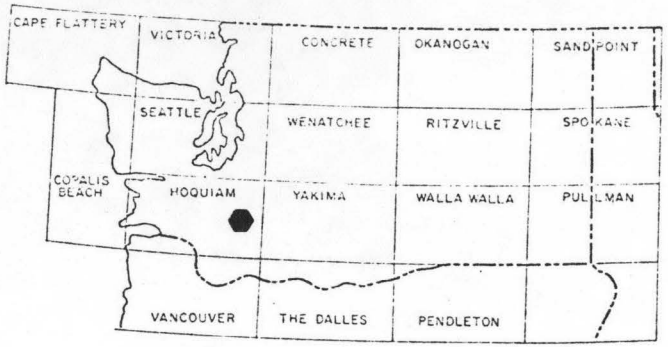


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0086

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R7E
D.	Latitude, Longitude	46°26' 121°57'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	8.1/11.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

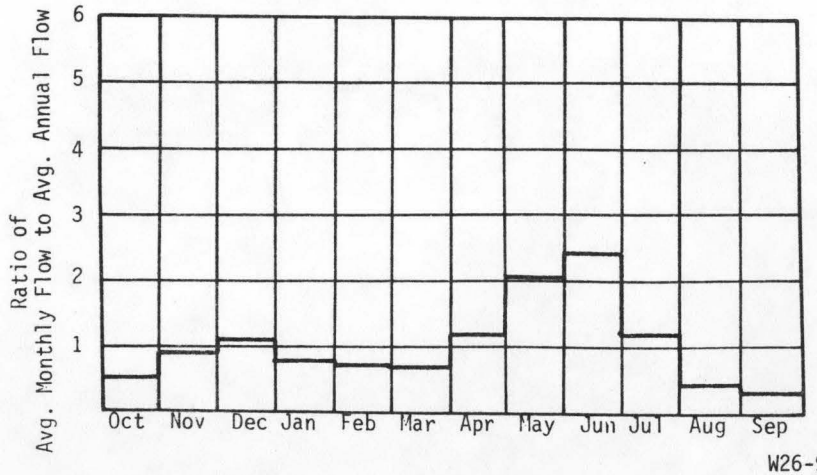
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

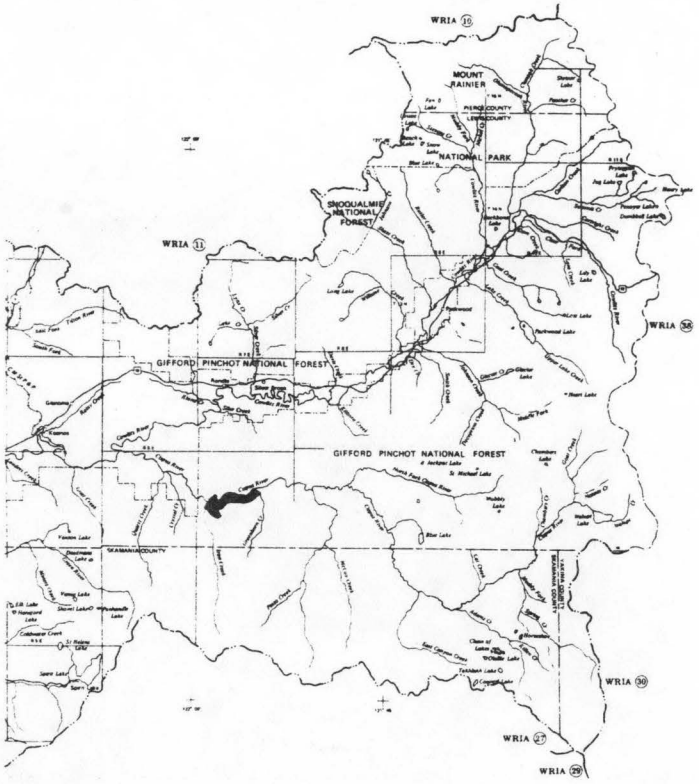
A.	Upstream Elevation of Reach	1140	Ft. MSL
B.	Downstream Elevation of Reach	1060	Ft. MSL
C.	Total Available Head in Reach	80	Ft.
D.	Average Slope in Reach	21.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	331	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	349	2.36	20.7	1.00
80	530	3.59	30.2	0.96
50	1030	6.99	49.0	0.80
30	1620	11.0	63.4	0.66
10	2880	19.5	76.8	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1396 cfs





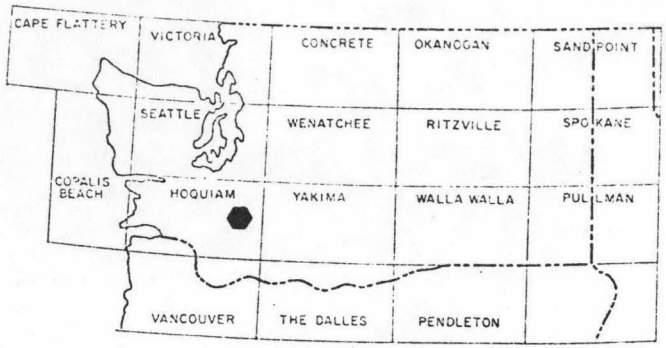
W26-989

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0087

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R7E
D.	Latitude, Longitude	46°27' 121°52'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	11.9/17.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

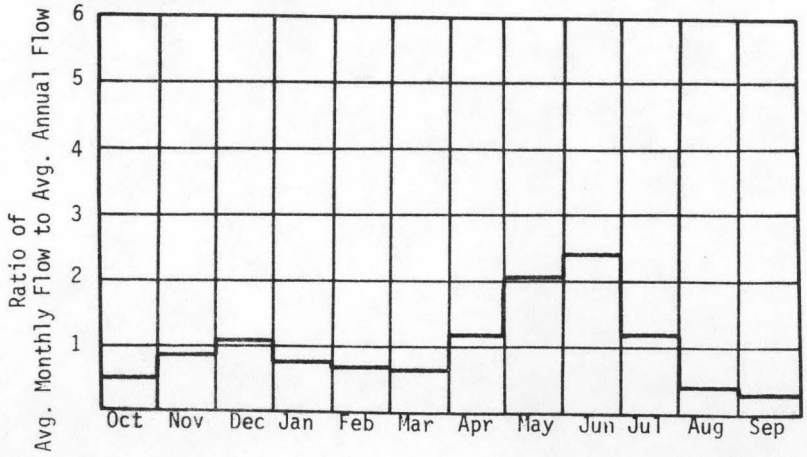
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

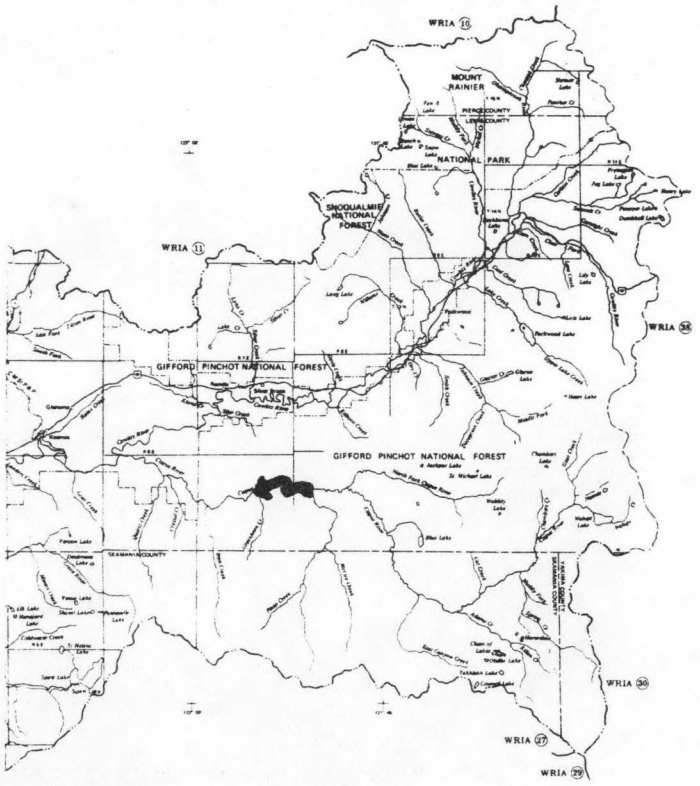
A.	Upstream Elevation of Reach	1255	Ft. MSL
B.	Downstream Elevation of Reach	1140	Ft. MSL
C.	Total Available Head in Reach	115	Ft.
D.	Average Slope in Reach	21.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	310	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	327	4.18	27.8	1.00
80	496	4.83	40.6	0.96
50	966	9.41	62.9	0.80
30	1510	14.8	85.3	0.66
10	2690	26.2	103	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1306 cfs



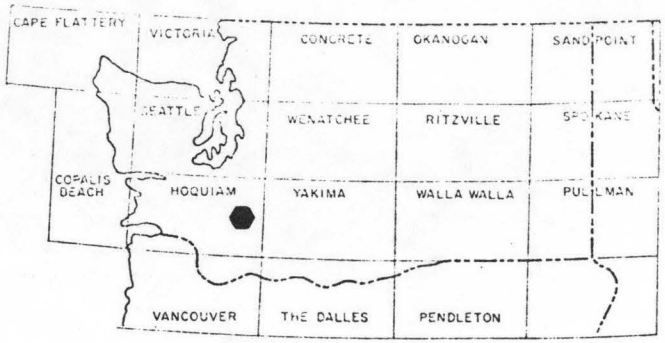


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0088

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°27' 121°50'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	17.2/20.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

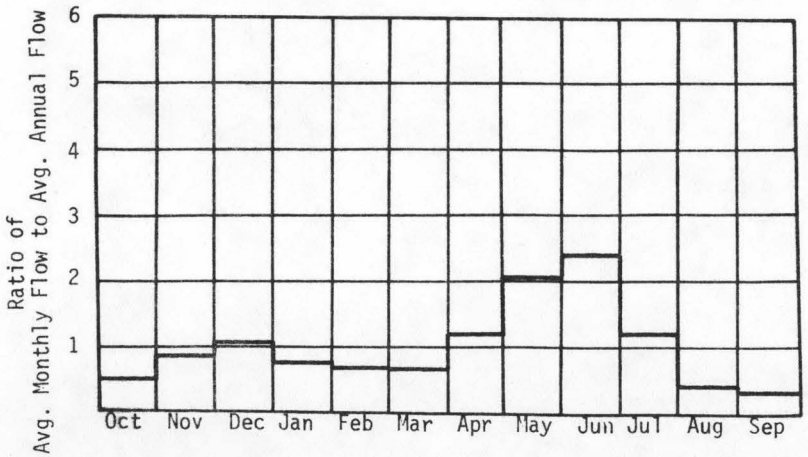
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

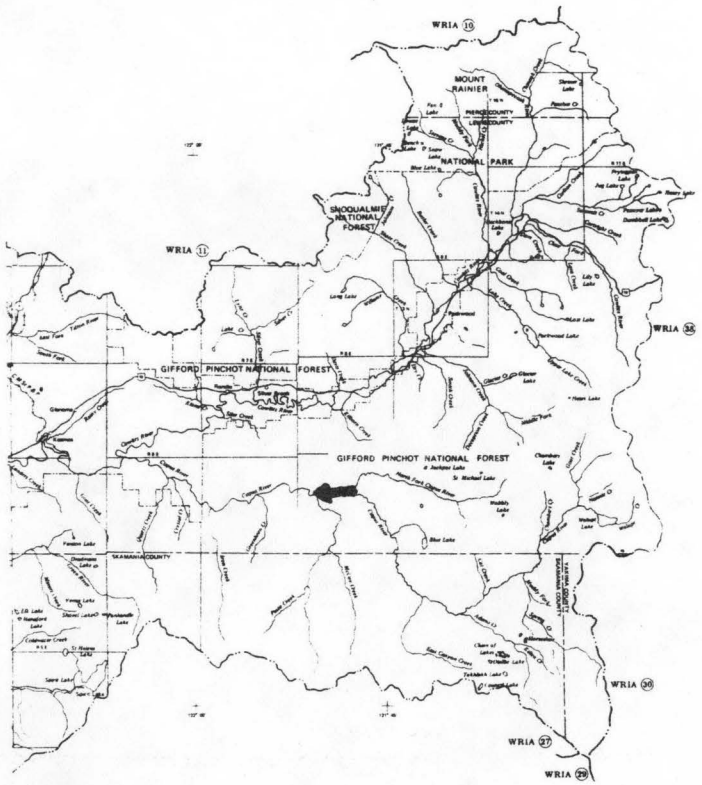
A.	Upstream Elevation of Reach	1350	Ft. MSL
B.	Downstream Elevation of Reach	1255	Ft. MSL
C.	Total Available Head in Reach	95	Ft.
D.	Average Slope in Reach	33.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	233	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	244	1.96	17.2	1.00
80	370	2.98	25.0	0.96
50	721	5.80	43.7	0.80
30	1130	9.08	52.5	0.66
10	2001	16.1	63.6	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 974 cfs





W26-991

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0089

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°25' 121°44'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	20.0/30.4

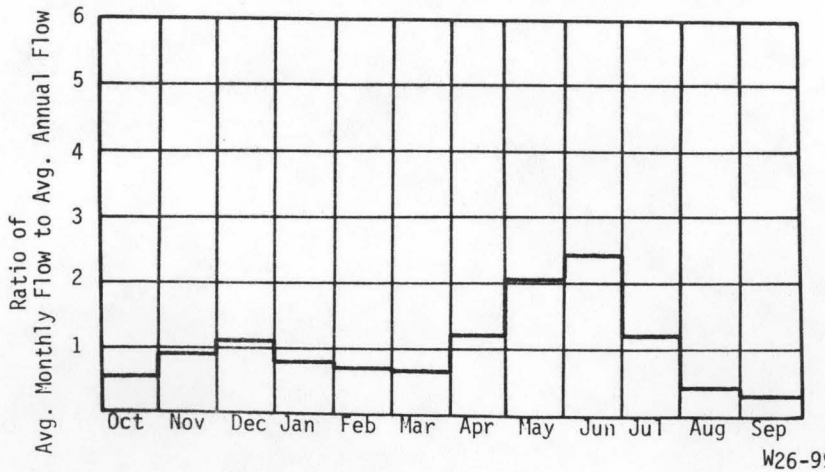
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1950	Ft. MSL
B.	Downstream Elevation of Reach	1350	Ft. MSL
C.	Total Available Head in Reach	600	Ft.
D.	Average Slope in Reach	57.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	183	Sq.Mi.
F.	Inflow Classification	Natural	

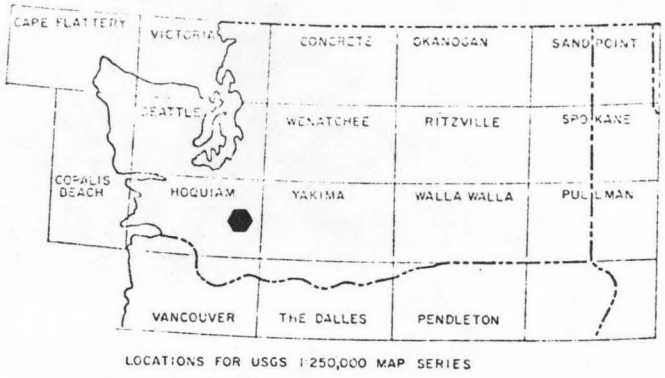
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	181	9.20	80.6	1.00
80	276	14.0	118	0.96
50	537	27.3	205	0.86
30	841	42.7	247	0.66
10	1490	75.9	299	0.45

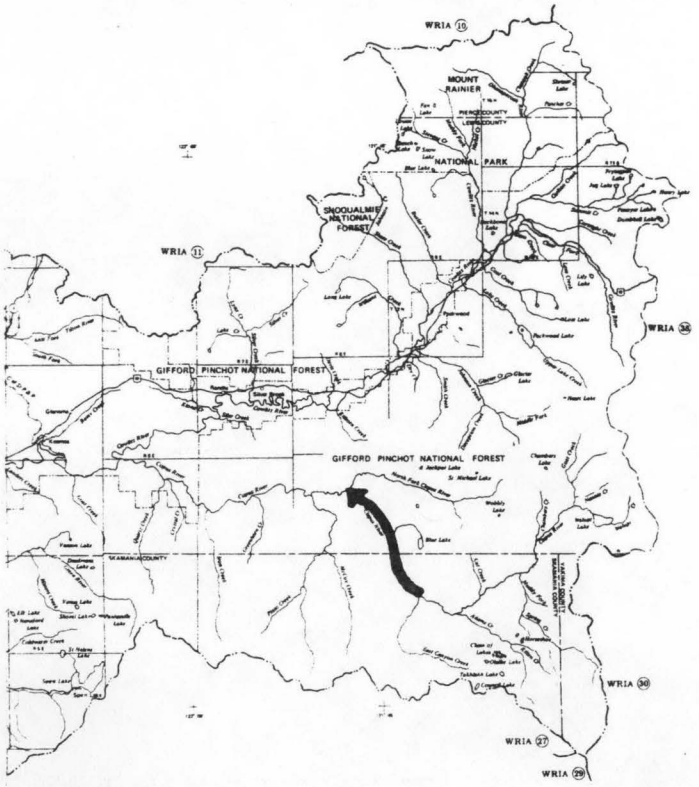
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 725 cfs



W26-992



LOCATIONS FOR USGS 1:250,000 MAP SERIES

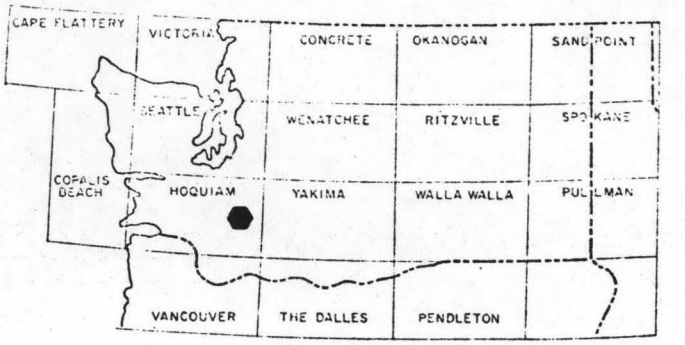


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0090

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°20' 121°40'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	30.4/33.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

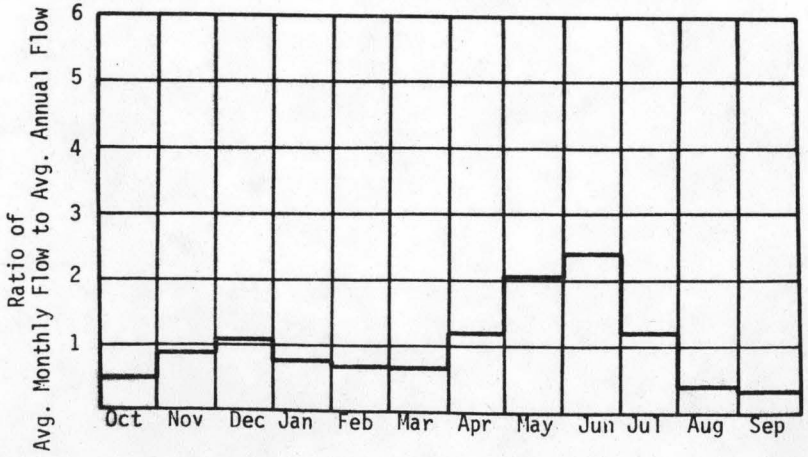
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

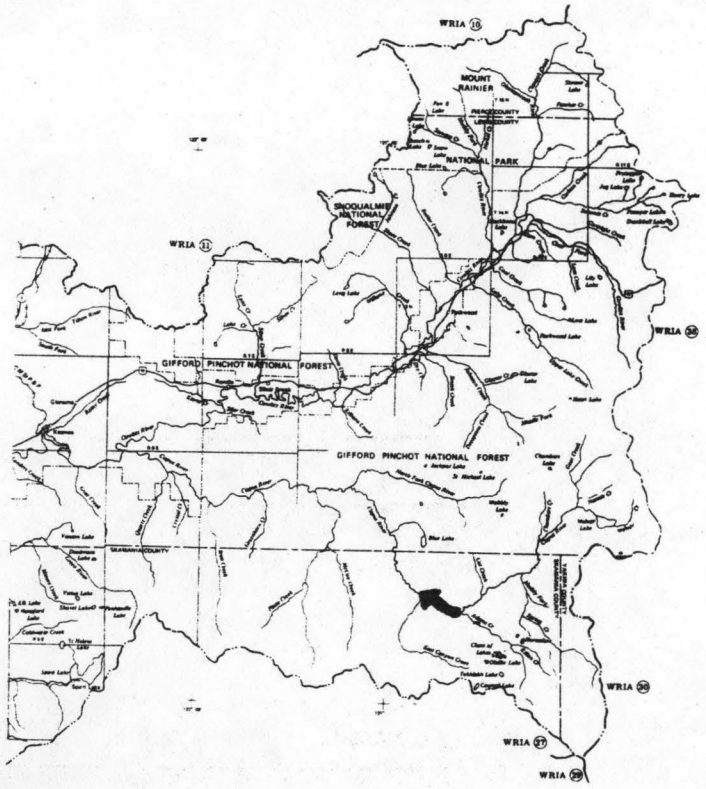
A.	Upstream Elevation of Reach	2425	Ft. MSL
B.	Downstream Elevation of Reach	1950	Ft. MSL
C.	Total Available Head in Reach	475	Ft.
D.	Average Slope in Reach	144	Ft./Mi.
E.	Drainage Area above Reach Mouth	125	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	113	4.53	39.7	1.00
80	171	6.89	57.9	0.96
50	333	13.4	101	0.86
30	523	21.0	122	0.66
10	929	37.4	147	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 451 cfs





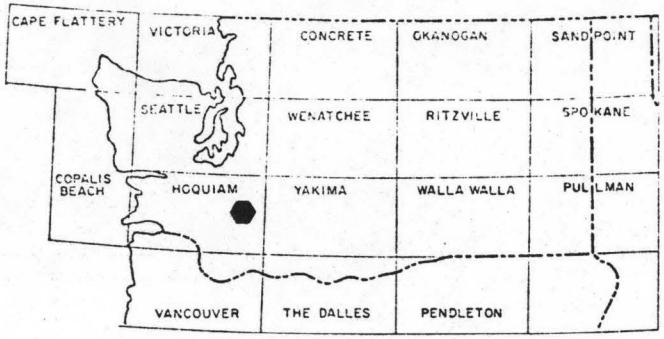
W26-993

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0091

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°20' 121°38'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	33.7/35.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

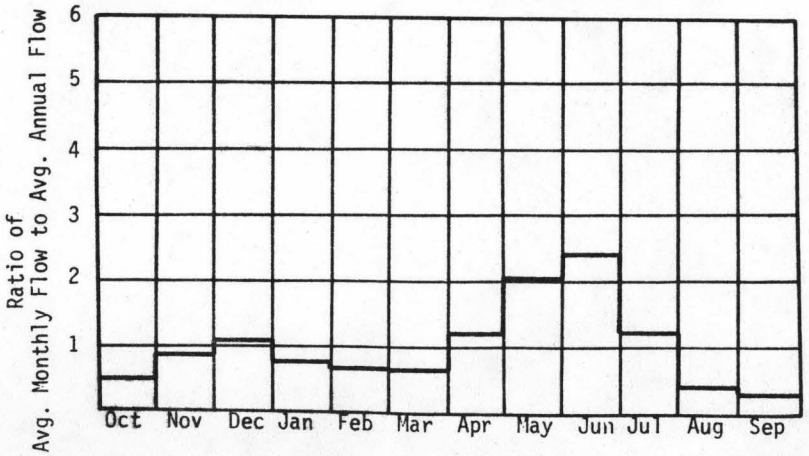
A.	Upstream Elevation of Reach	2680	Ft. MSL
B.	Downstream Elevation of Reach	2425	Ft. MSL
C.	Total Available Head in Reach	255	Ft.
D.	Average Slope in Reach	121	Ft./Mi.
E.	Drainage Area above Reach Mouth	94	Sq.Mi.
F.	Inflow Classification	Natural	

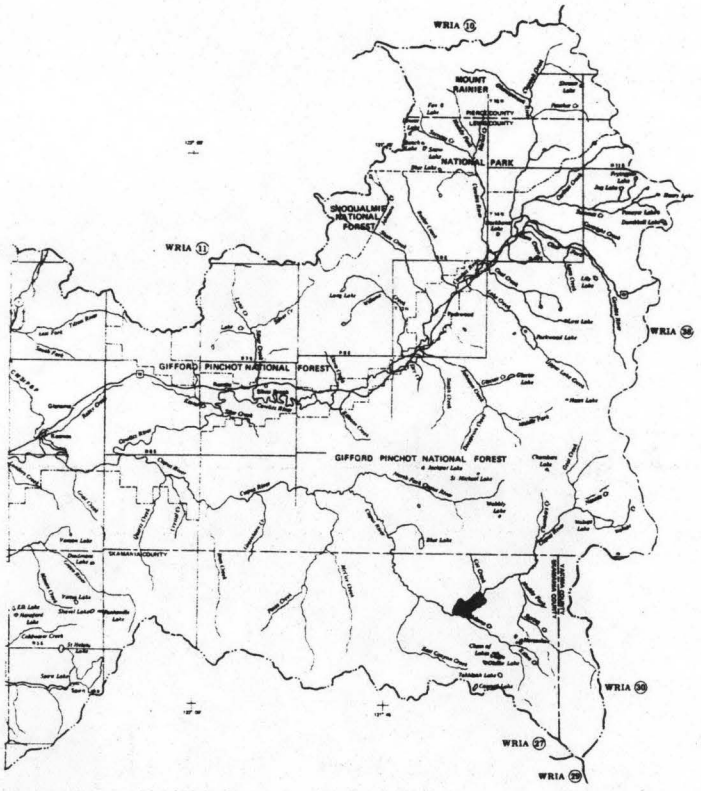
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	79.8	1.72	15.1	1.00
80	121	2.62	22.0	0.96
50	236	5.09	38.4	0.86
30	370	7.99	46.2	0.66
10	657	14.2	55.9	0.45

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 319 cfs





W26-994

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0092

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T11N R8E	
D. Latitude, Longitude	46°21' 121°36'	
E. Stream Name	Cispus River	
F. Major Basin Name	Cowlitz	
G. River Mile	35.8/39.3	

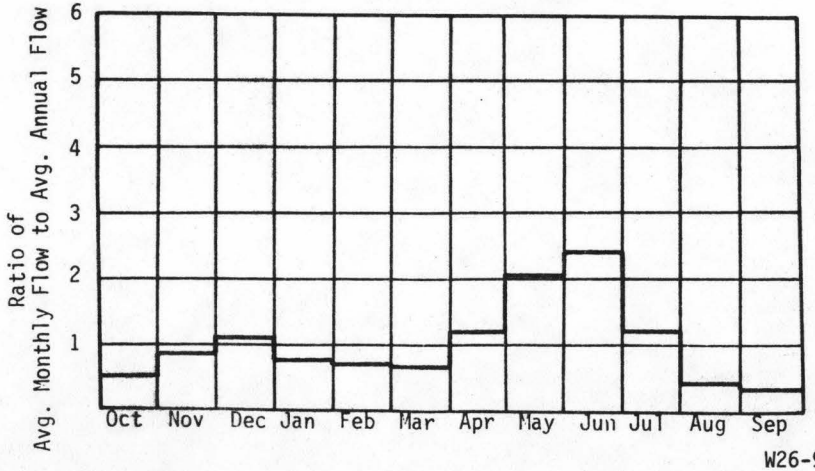
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

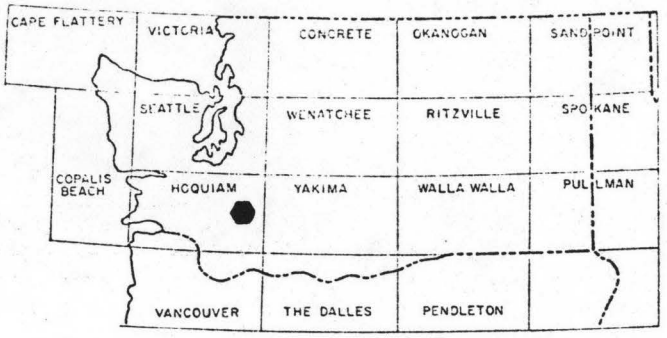
A. Upstream Elevation of Reach	3035	Ft. MSL
B. Downstream Elevation of Reach	2680	Ft. MSL
C. Total Available Head in Reach	355	Ft.
D. Average Slope in Reach	101	Ft./Mi.
E. Drainage Area above Reach Mouth	79	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

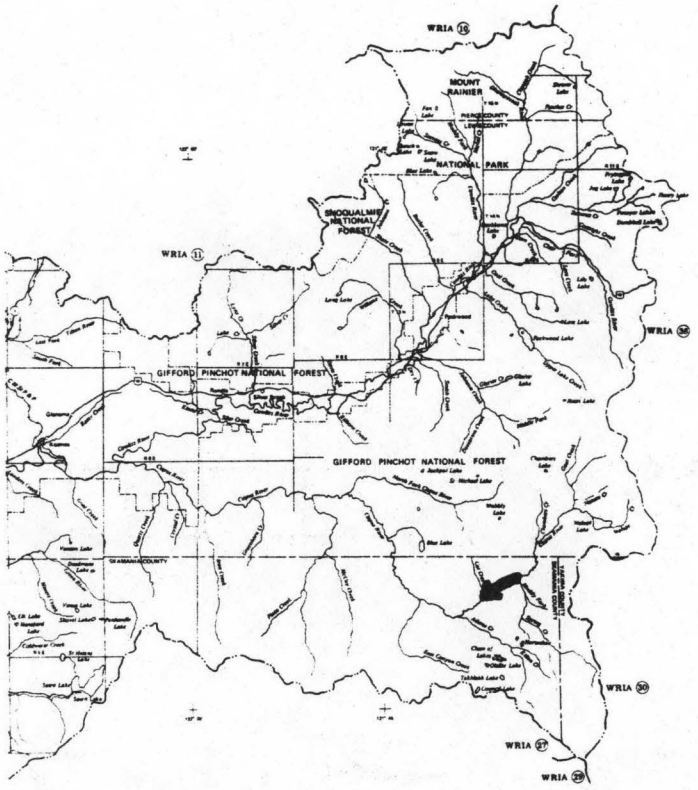
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	65.8	1.98	17.3	1.00
80	99.9	3.00	25.3	0.96
50	195	5.85	44.1	0.86
30	305	9.17	53.0	0.66
10	542	16.3	64.2	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 263 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



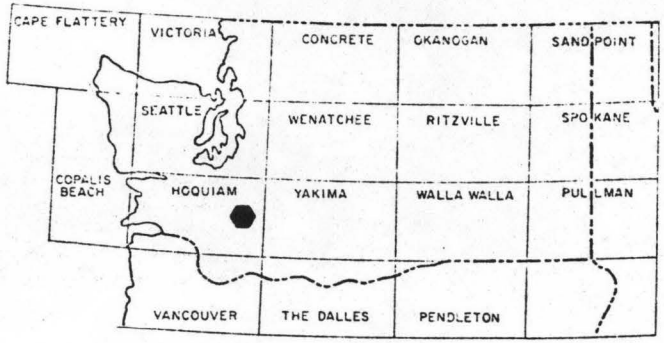
W26-995

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0093

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T9N R11E
D.	Latitude, Longitude	46°25' 121°33'
E.	Stream Name	Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	39.3/46.2



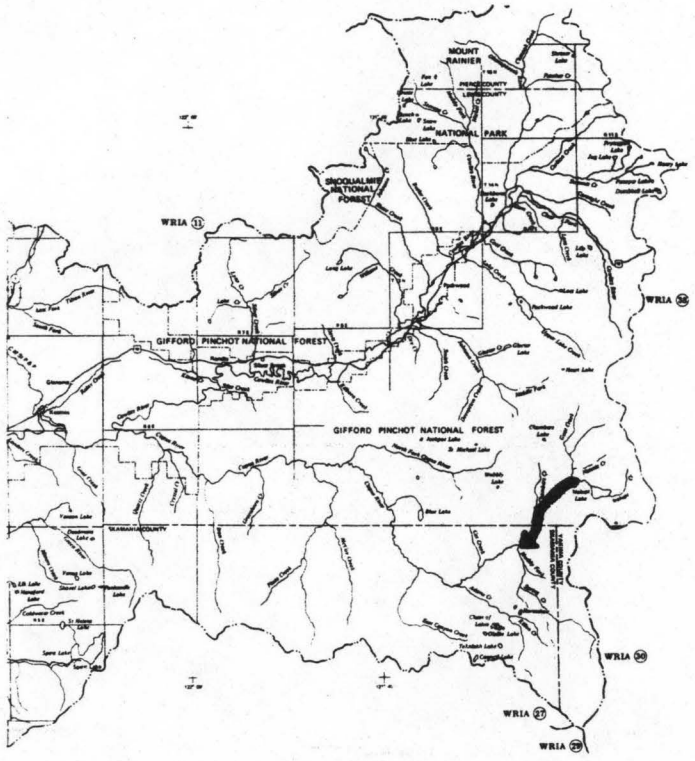
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	3400	Ft. MSL
B.	Downstream Elevation of Reach	3035	Ft. MSL
C.	Total Available Head in Reach	265 + 66 = 431	Ft.
D.	Average Slope in Reach	52.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	21.0	Sq.Mi.
F.	Inflow Classification	Natural	

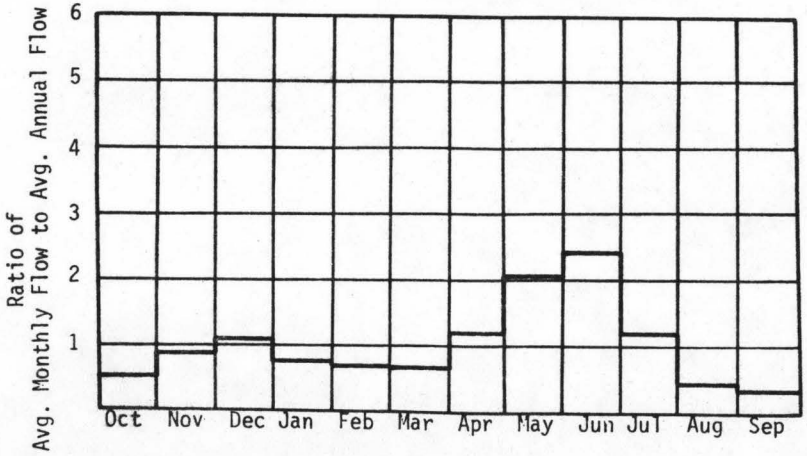
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	36.5	1.33	11.7	1.00
80	55.5	2.02	17.0	0.96
50	108	3.94	29.7	0.86
30	169	6.18	35.7	0.66
10	301	11.0	43.3	0.45



IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 146 cfs



W26-996

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0094

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R6E
D.	Latitude, Longitude	46°25' 122°05'
E.	Stream Name	Quartz Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/5.7

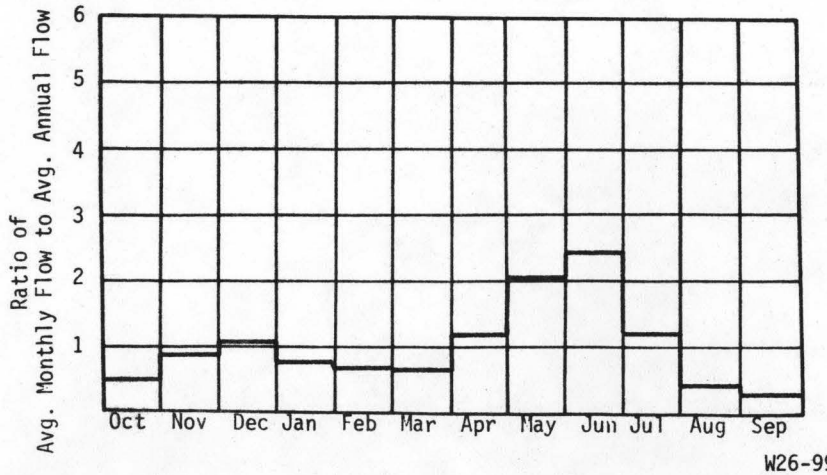
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1980	Ft. MSL
B.	Downstream Elevation of Reach	940	Ft. MSL
C.	Total Available Head in Reach	1040 + 66 = 1106	Ft.
D.	Average Slope in Reach	182	Ft./Mi.
E.	Drainage Area above Reach Mouth	21	Sq.Mi.
F.	Inflow Classification	Natural	

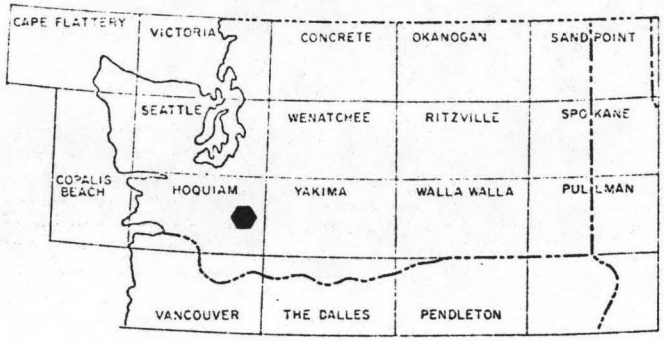
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15.3	1.43	12.5	1.00
80	23.2	2.17	18.3	0.96
50	45.1	4.23	31.8	0.86
30	70.7	6.62	38.3	0.66
10	126	11.8	46.4	0.45

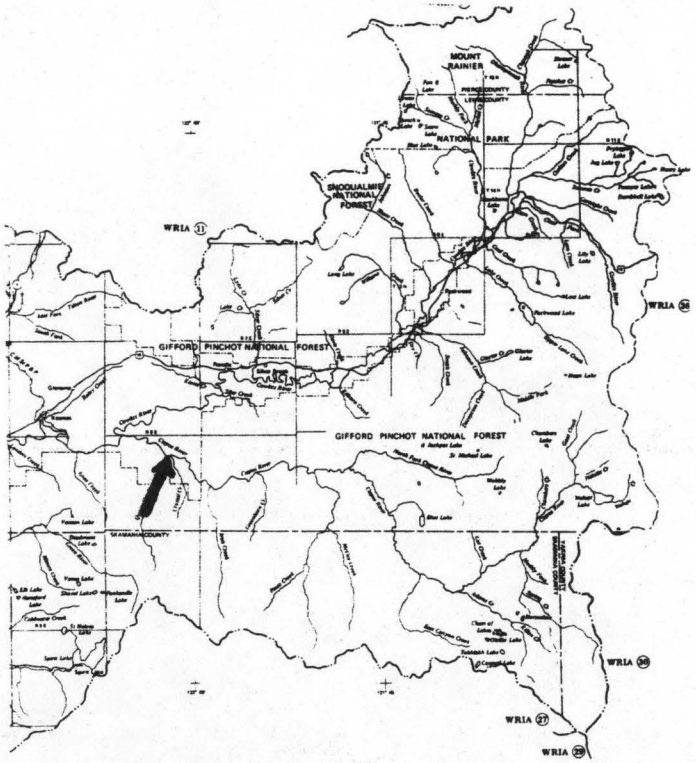
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 61 cfs



W26-997



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0095

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T10N R6E	
D. Latitude, Longitude	46°21' 121°57'	
E. Stream Name	Iron Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/6.5	

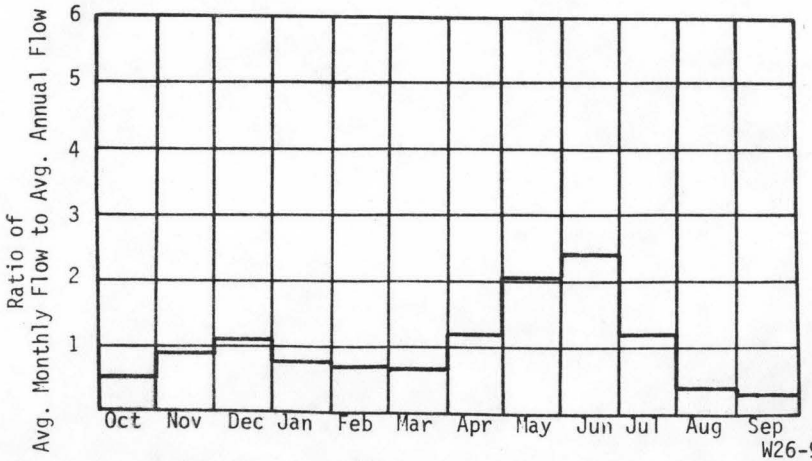
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2530	Ft. MSL
B. Downstream Elevation of Reach	1060	Ft. MSL
C. Total Available Head in Reach	1470	Ft.
D. Average Slope in Reach	226	Ft./Mi.
E. Drainage Area above Reach Mouth	36	Sq.Mi.
F. Inflow Classification	Natural	

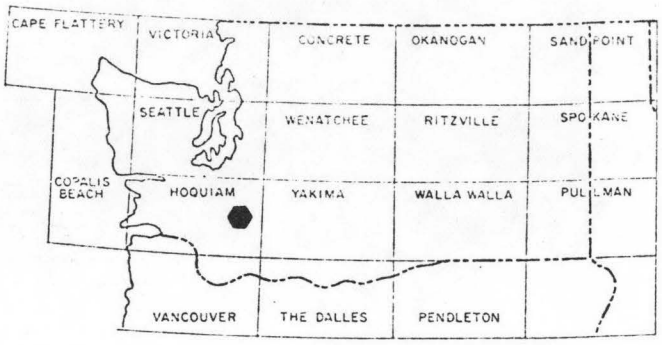
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29.0	3.61	31.6	1.00
80	44.1	5.48	46.1	0.96
50	85.4	10.7	80.5	0.86
30	135	16.7	96.8	0.66
10	239	29.7	117	0.45

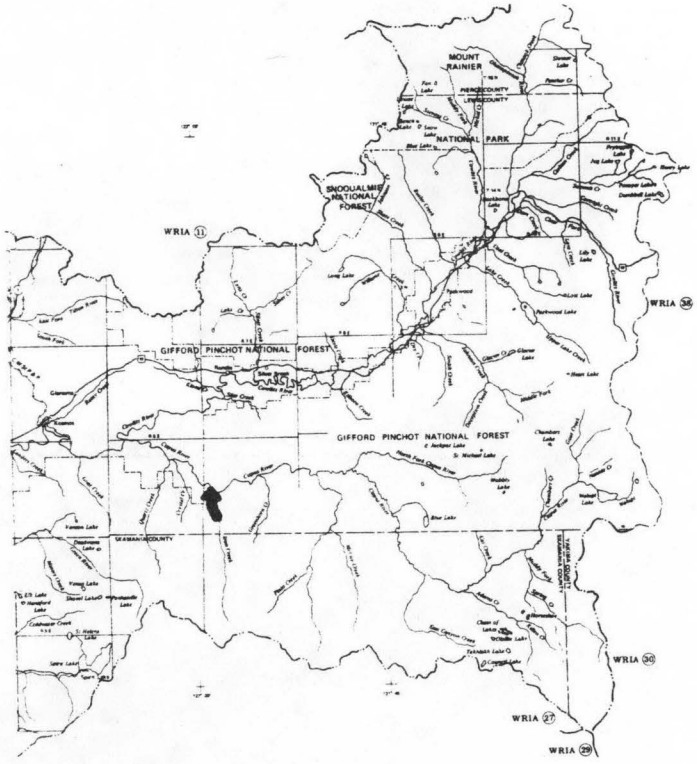
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 116 cfs



W26-998



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0096

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T10N R6E	
D. Latitude, Longitude	46°20' 121°57'	
E. Stream Name	Iron Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	6.5/7.6	

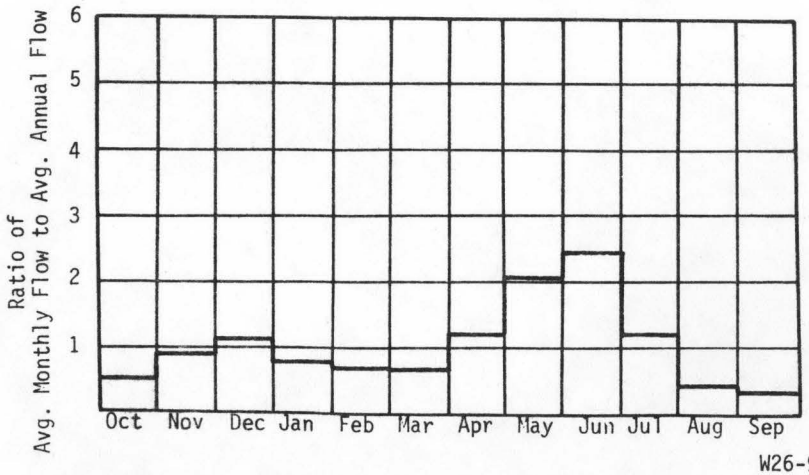
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

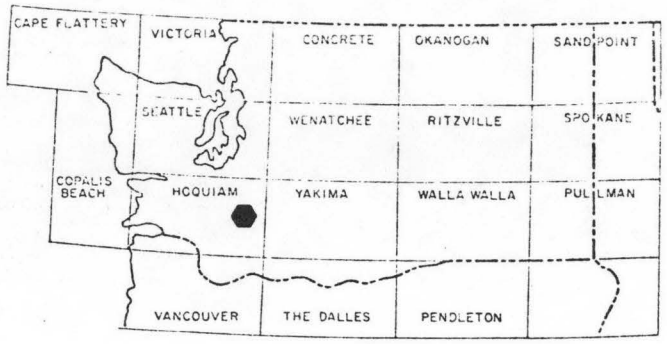
A. Upstream Elevation of Reach	2680	Ft. MSL
B. Downstream Elevation of Reach	2530	Ft. MSL
C. Total Available Head in Reach	150 + 66 = 216	Ft.
D. Average Slope in Reach	136	Ft./Mi.
E. Drainage Area above Reach Mouth	18	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

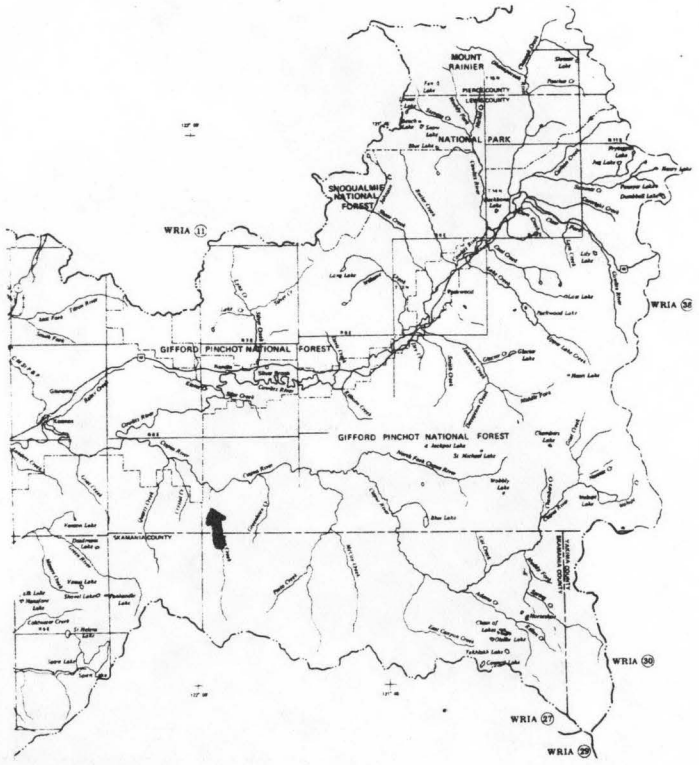
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.8	0.23	2.04	1.00
80	19.4	0.35	2.98	0.96
50	37.7	0.69	5.20	0.86
30	59.2	1.08	6.25	0.66
10	105	1.92	7.57	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 51 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



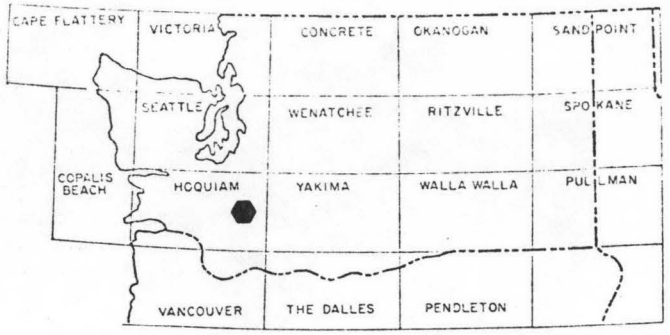
W26-999

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0097

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R7E
D.	Latitude, Longitude	46°25' 121°53'
E.	Stream Name	Green Horn
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/1.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

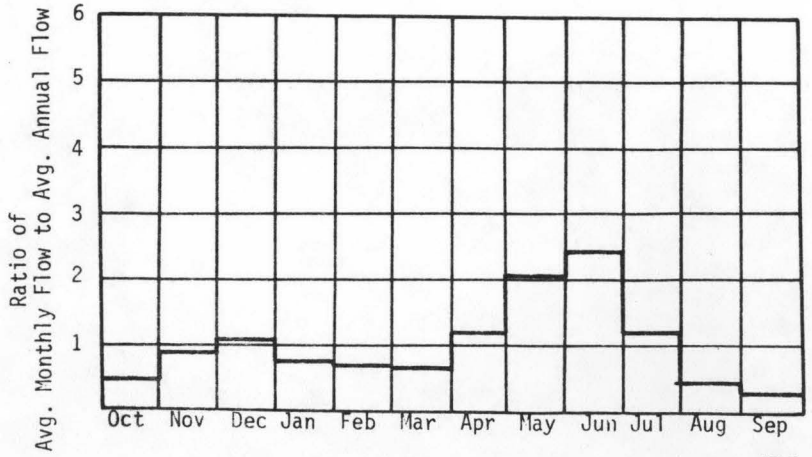
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

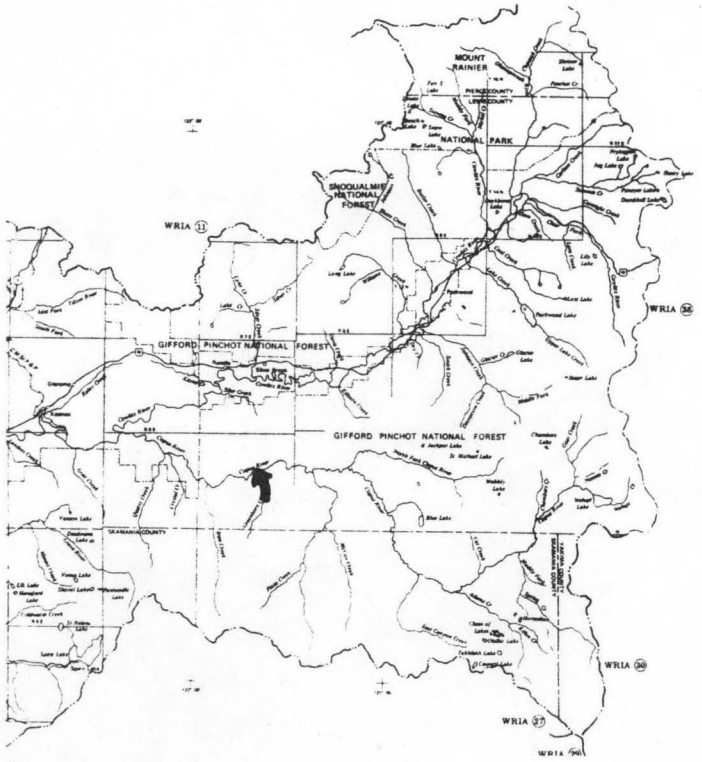
A.	Upstream Elevation of Reach	1720	Ft. MSL
B.	Downstream Elevation of Reach	1140	Ft. MSL
C.	Total Available Head in Reach	580 + 66 = 646	Ft.
D.	Average Slope in Reach	327	Ft./Mi.
E.	Drainage Area above Reach Mouth	6.3	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.50	0.46	4.07	1.00
80	12.9	0.71	5.94	0.96
50	25.2	1.38	10.4	0.86
30	39.4	2.16	12.5	0.66
10	70.0	3.83	15.1	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 34 cfs





W26-1000

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0098

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°25' 121°50'
E.	Stream Name	McCoy Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/5.0

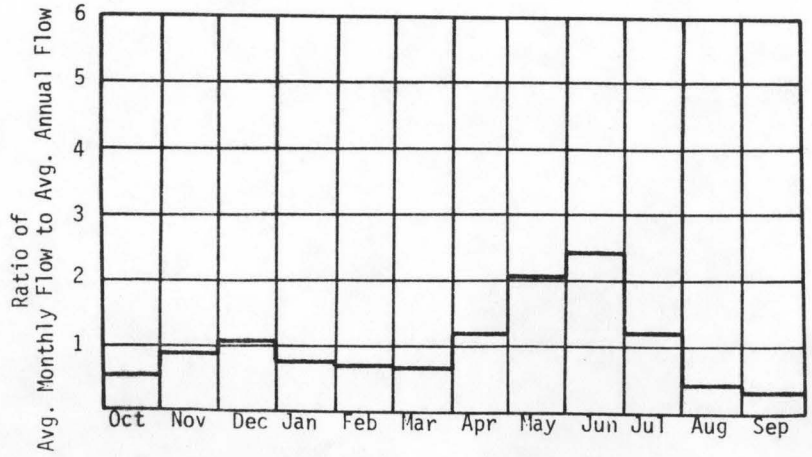
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

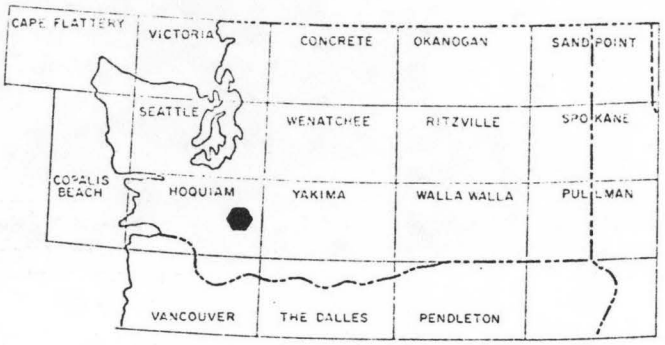
A.	Upstream Elevation of Reach	1670	Ft. MSL
B.	Downstream Elevation of Reach	1055	Ft. MSL
C.	Total Available Head in Reach	415	Ft.
D.	Average Slope in Reach	83	Ft./Mi.
E.	Drainage Area above Reach Mouth	66	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

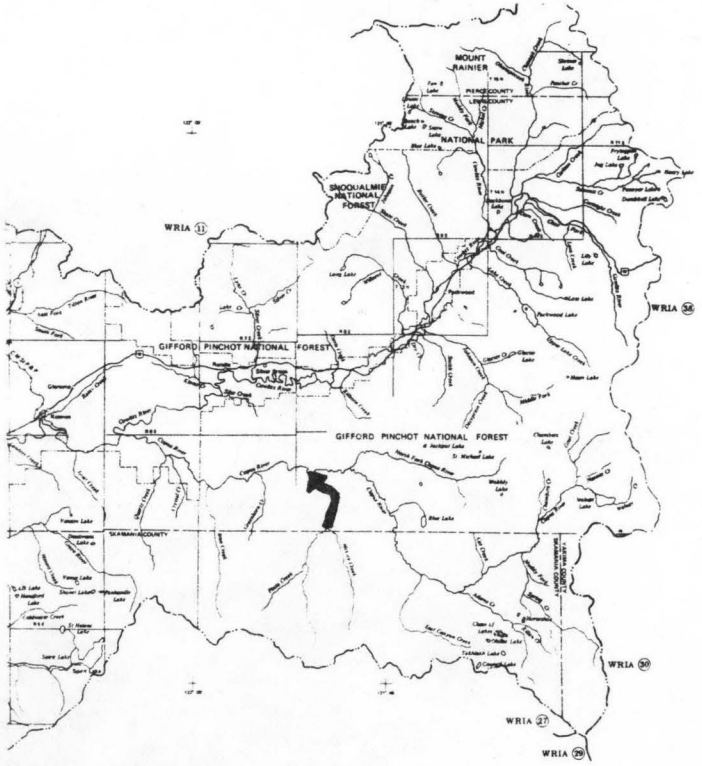
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	69.5	2.44	21.4	1.00
80	106	3.71	31.2	0.96
50	206	7.23	54.4	0.86
30	322	11.3	65.5	0.66
10	573	20.1	79.3	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 278 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1001

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0099

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T11N R6E	
D. Latitude, Longitude	46°22' 121°51'	
E. Stream Name	E.F. McCoy Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	5.0/7.7	

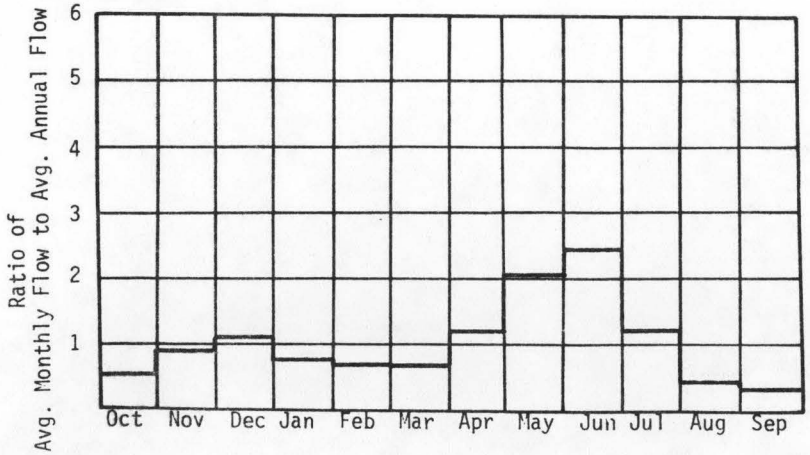
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

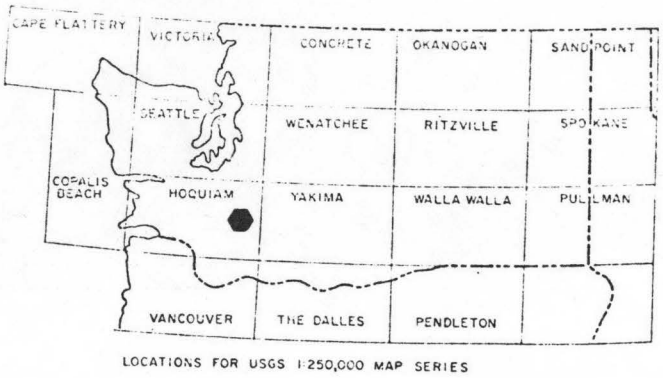
A. Upstream Elevation of Reach	2060	Ft. MSL
B. Downstream Elevation of Reach	1670	Ft. MSL
C. Total Available Head in Reach	390	Ft.
D. Average Slope in Reach	744	Ft./Mi.
E. Drainage Area above Reach Mouth	55	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

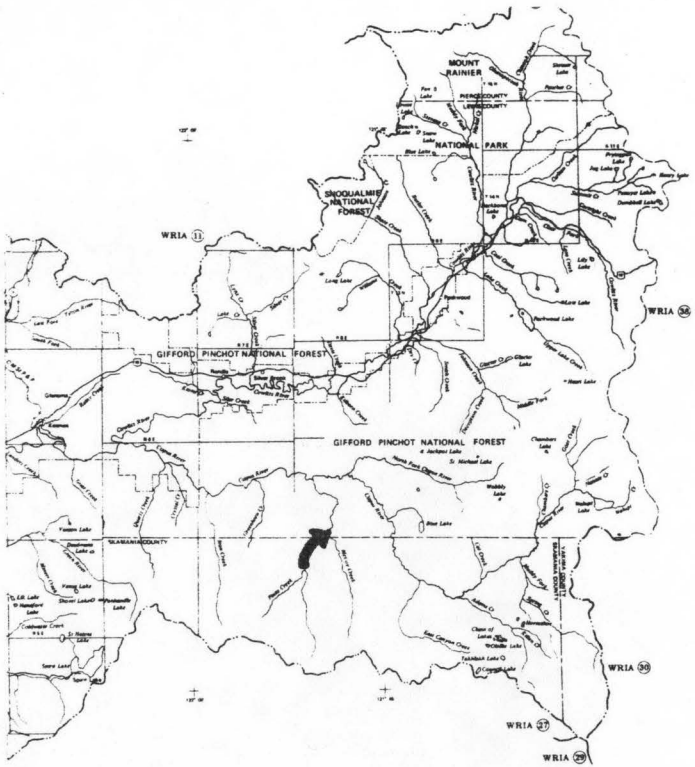
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.76	0.29	2.53	1.00
80	21.9	0.72	5.83	0.92
50	87.6	2.89	18.0	0.71
30	156	5.16	25.8	0.59
10	329	10.8	35.2	0.37

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 146 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1002

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0100

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T11N R6E	
D. Latitude, Longitude	46°20' 121°51'	
E. Stream Name	E.F. McCoy Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	7.7/11.3	

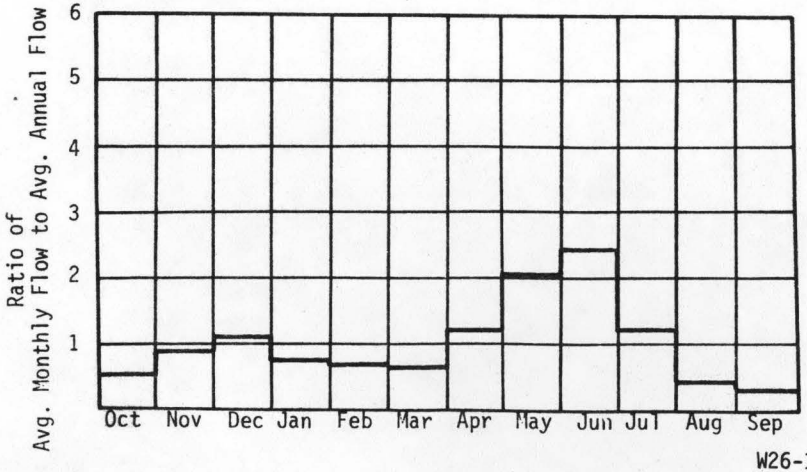
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

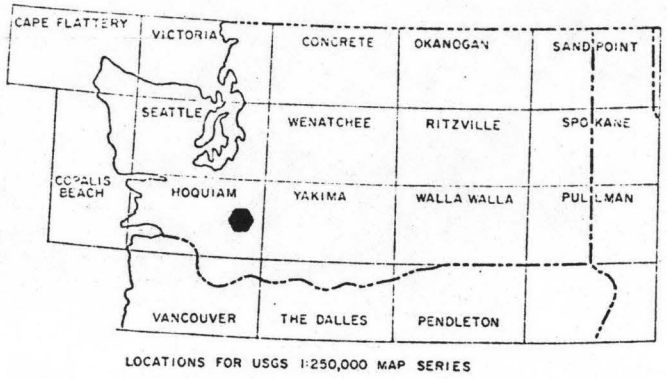
A. Upstream Elevation of Reach	2640	Ft. MSL
B. Downstream Elevation of Reach	2060	Ft. MSL
C. Total Available Head in Reach	580 + 66 = 646	Ft.
D. Average Slope in Reach	161	Ft./Mi.
E. Drainage Area above Reach Mouth	16	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

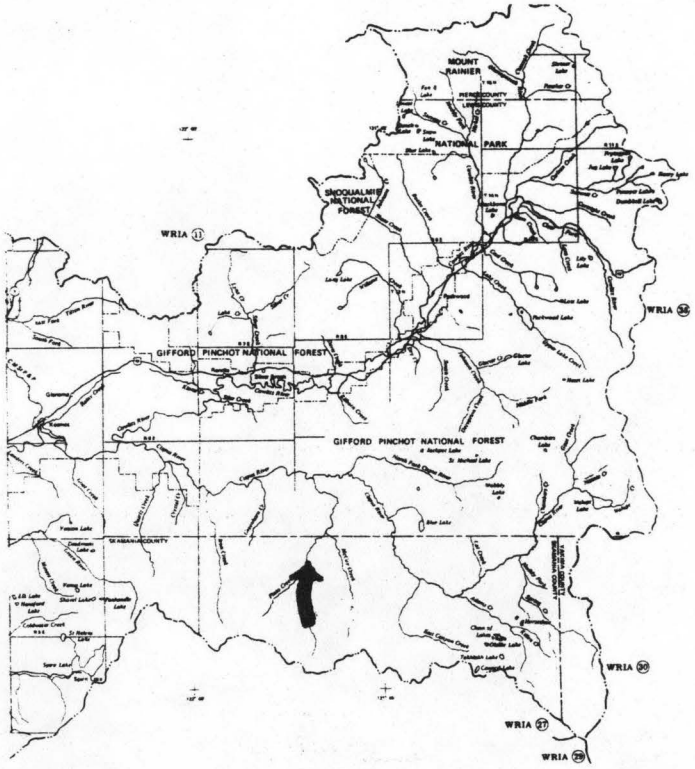
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.3	0.94	8.26	1.00
80	26.2	1.43	12.1	0.96
50	51.1	2.79	21.0	0.86
30	80.0	4.38	25.3	0.66
10	142	7.77	30.6	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 69 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1003

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0101

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T11N R6E
D.	Latitude, Longitude	46°21' 121°47'
E.	Stream Name	McCoy Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/4.3

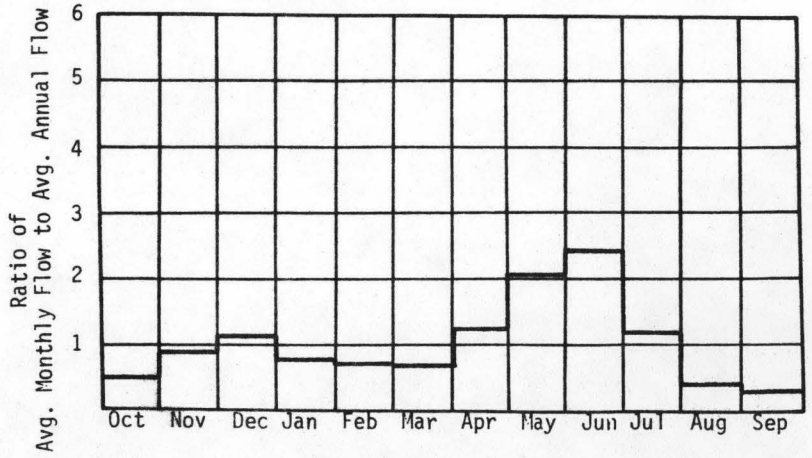
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

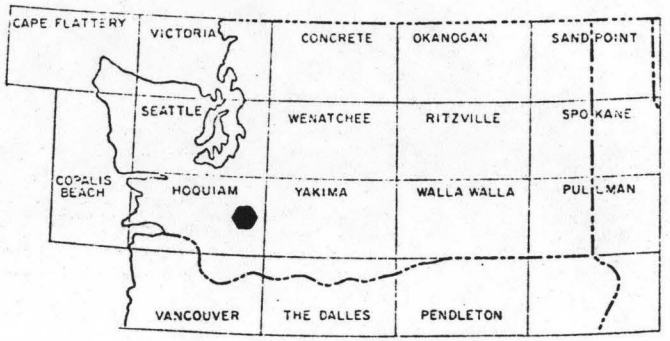
A.	Upstream Elevation of Reach	2540	Ft. MSL
B.	Downstream Elevation of Reach	1670	Ft. MSL
C.	Total Available Head in Reach	870 + 66 = 936	Ft.
D.	Average Slope in Reach	202	Ft./Mi.
E.	Drainage Area above Reach Mouth	55	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

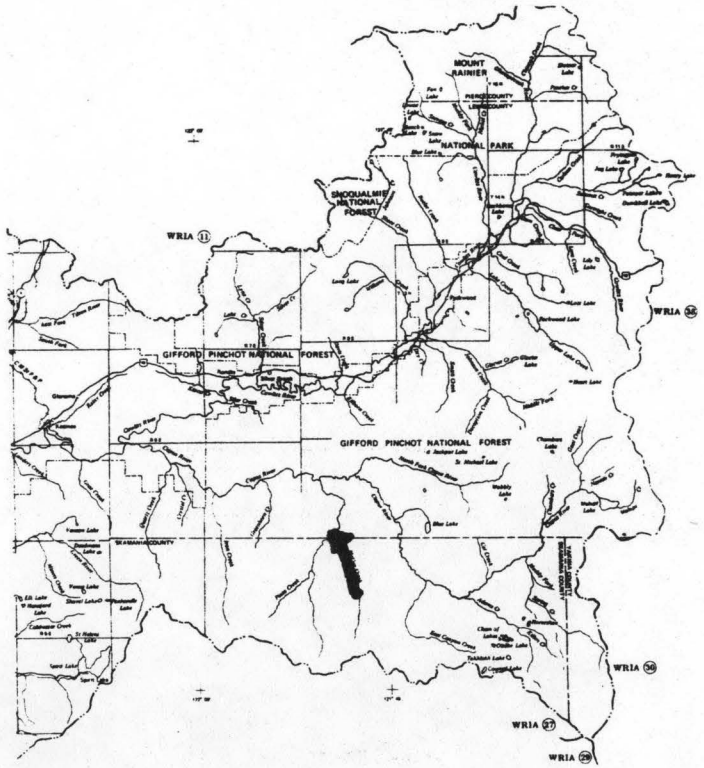
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.8	1.41	12.3	1.00
80	27.0	2.14	18.0	0.96
50	52.5	4.16	31.4	0.86
30	82.4	6.52	37.7	0.66
10	146	11.6	45.7	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 71 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1004

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0102

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T11N R6E
D.	Latitude, Longitude	46°21' 121°52'
E.	Stream Name	Pinto Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/2.3

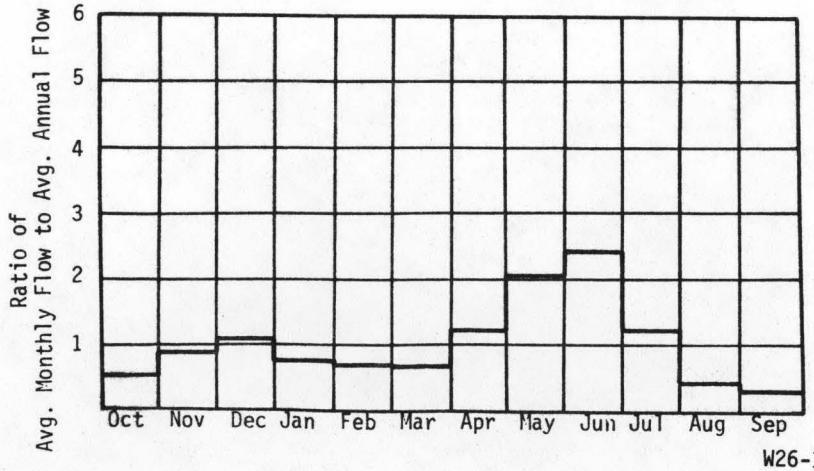
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

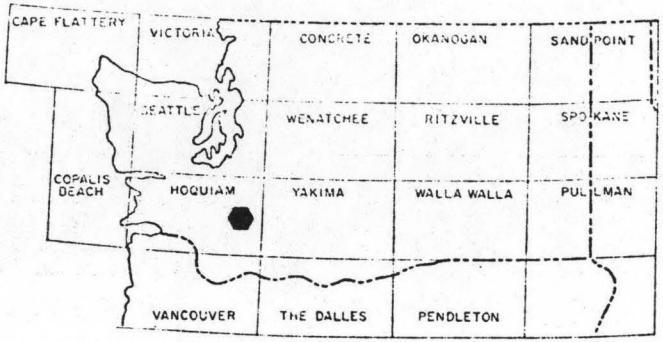
A.	Upstream Elevation of Reach	2700	Ft. MSL
B.	Downstream Elevation of Reach	2060	Ft. MSL
C.	Total Available Head in Reach	640 + 66 = 706	Ft.
D.	Average Slope in Reach	278	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

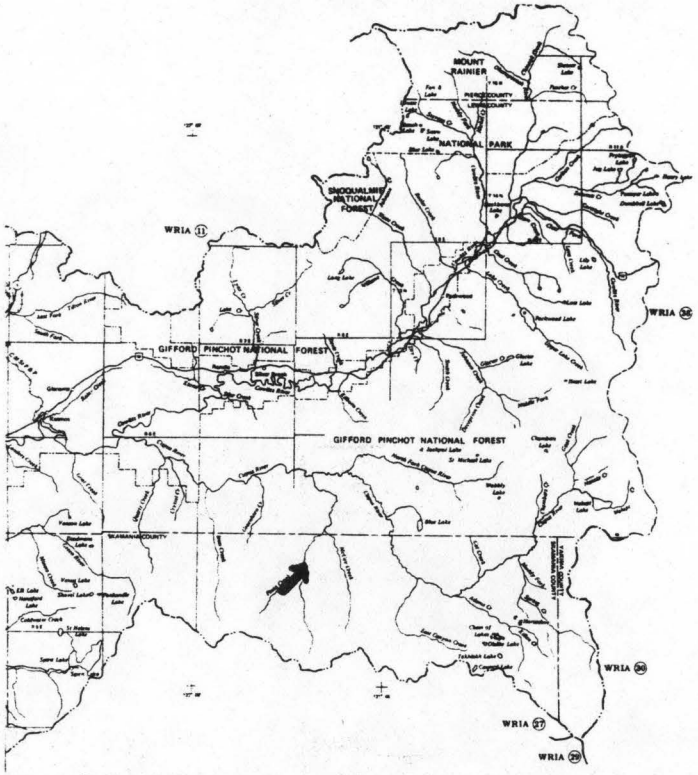
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.3	0.73	6.41	1.00
80	18.6	1.11	9.36	0.96
50	36.3	2.17	16.3	0.86
30	56.8	3.40	19.6	0.66
10	101	6.03	23.8	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 49 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1005

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0103

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°27' 121°42'
E.	Stream Name	N.F. N. Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/8.8

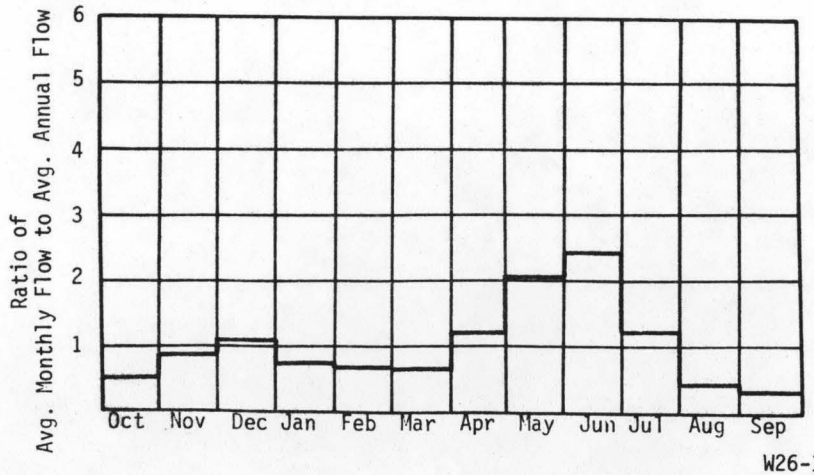
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2370	Ft. MSL
B.	Downstream Elevation of Reach	1350	Ft. MSL
C.	Total Available Head in Reach	1020	Ft.
D.	Average Slope in Reach	116	Ft./Mi.
E.	Drainage Area above Reach Mouth	43	Sq.Mi.
F.	Inflow Classification	Natural	

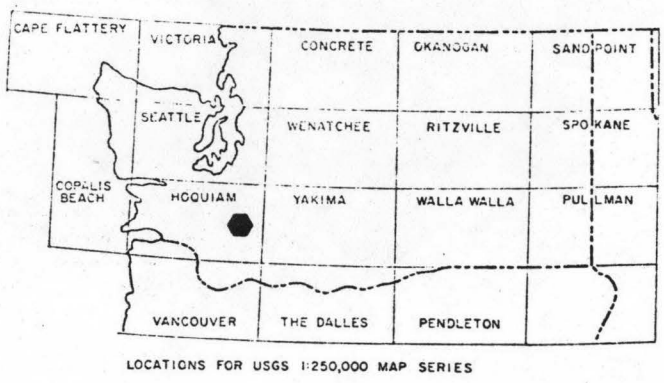
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	34.0	2.94	25.7	1.00
80	51.7	4.46	37.5	0.96
50	101	8.69	65.5	0.86
30	158	13.6	78.7	0.66
10	280	24.2	95.4	0.45

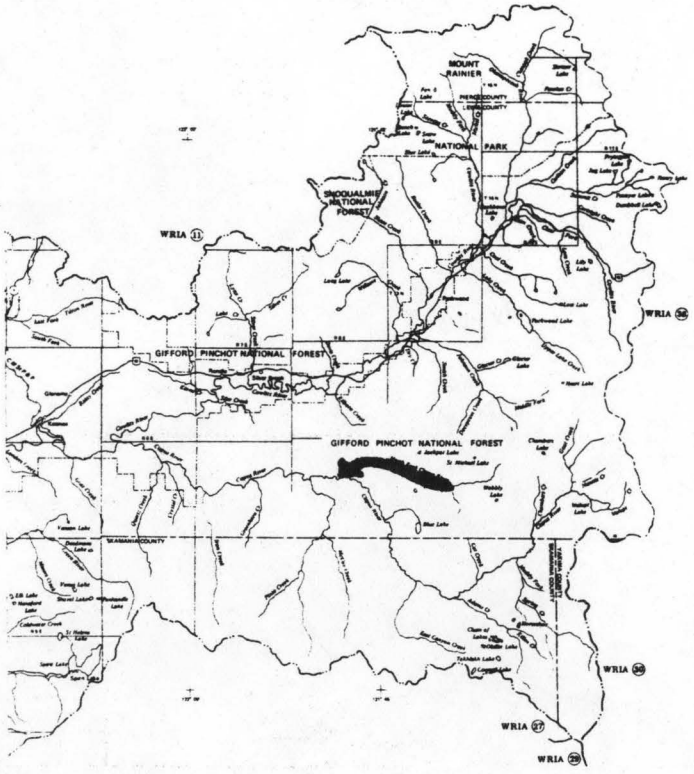
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 136 cfs



W26-1006



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0104

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°27' 121°37'
E.	Stream Name	N.F. Cispus River
F.	Major Basin Name	Cowlitz
G.	River Mile	8.8/11.3

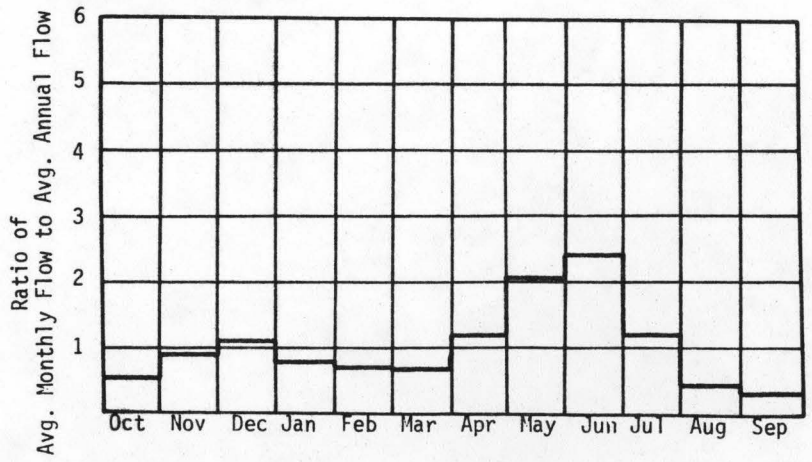
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

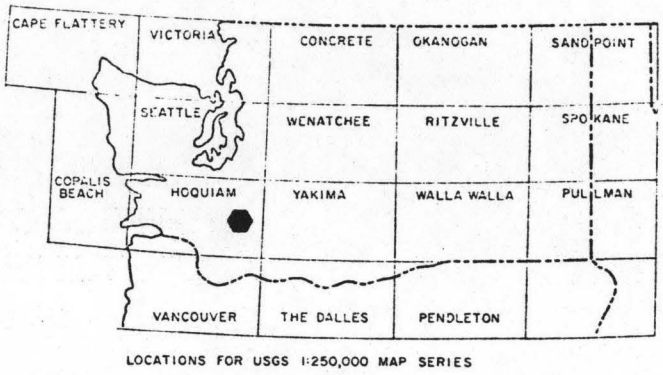
A.	Upstream Elevation of Reach	2780	Ft. MSL
B.	Downstream Elevation of Reach	2370	Ft. MSL
C.	Total Available Head in Reach	410 + 66 = 476	Ft.
D.	Average Slope in Reach	164	Ft./Mi.
E.	Drainage Area above Reach Mouth	18	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

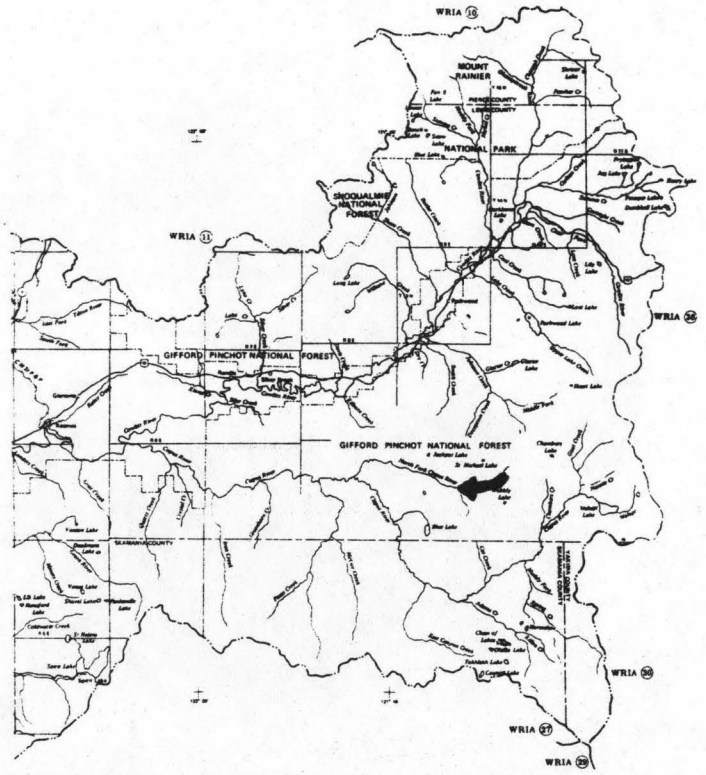
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15.5	0.62	5.47	1.00
80	23.6	0.95	7.98	0.96
50	45.9	1.85	13.9	0.86
30	71.9	2.90	16.8	0.66
10	128	5.15	20.3	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 62 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



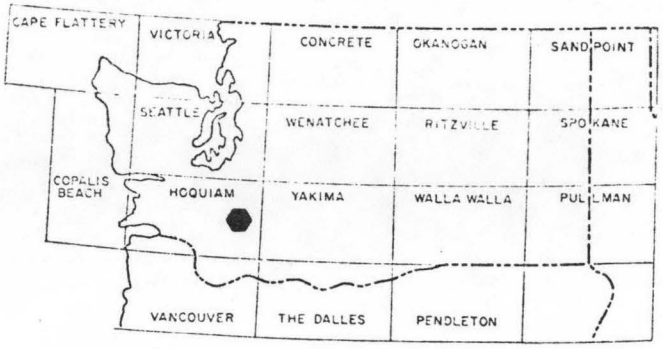
W26-1007

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0105

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°19' 121°43'
E.	Stream Name	East Canyon Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/4.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

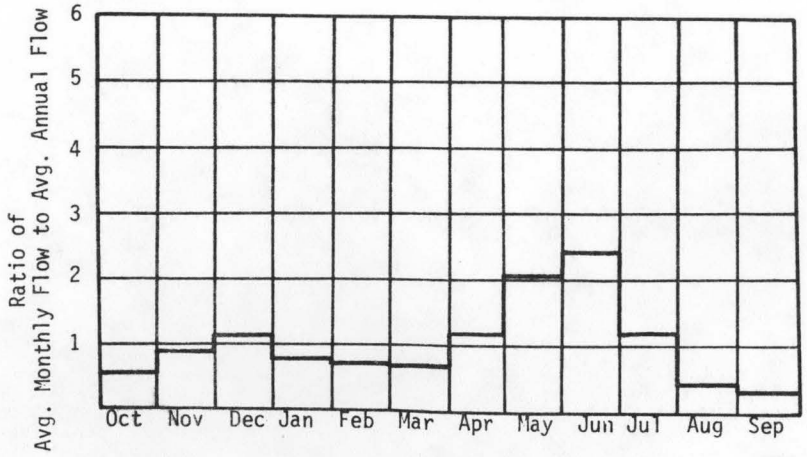
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

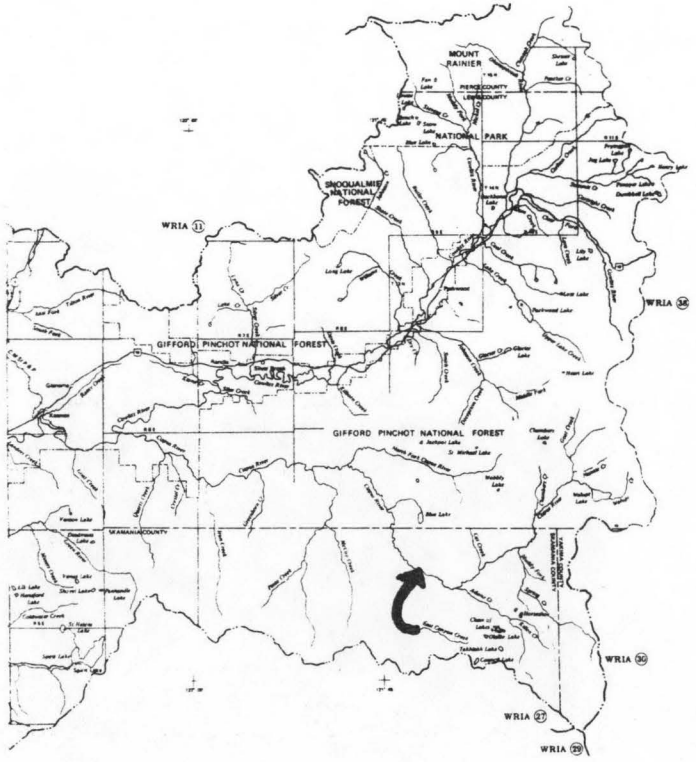
A.	Upstream Elevation of Reach	2620	Ft. MSL
B.	Downstream Elevation of Reach	1950	Ft. MSL
C.	Total Available Head in Reach	670 + 66 = 736	Ft.
D.	Average Slope in Reach	163	Ft./Mi.
E.	Drainage Area above Reach Mouth	29	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23.5	1.46	12.8	1.00
80	35.7	2.23	18.7	0.96
50	69.6	4.33	32.6	0.86
30	109	6.79	39.3	0.66
10	194	12.1	47.6	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 94 cfs





W26-1008

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0106

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T11N R8E	
D. Latitude, Longitude	46°19' 121°37'	
E. Stream Name	Adams Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/3.9	

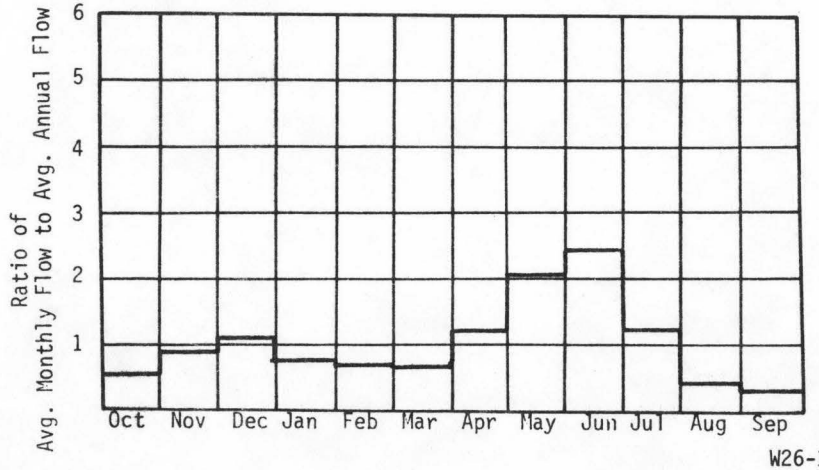
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3280	Ft. MSL
B. Downstream Elevation of Reach	2430	Ft. MSL
C. Total Available Head in Reach	850 + 66 = 916	Ft.
D. Average Slope in Reach	218	Ft./Mi.
E. Drainage Area above Reach Mouth	25	Sq.Mi.
F. Inflow Classification	Natural	

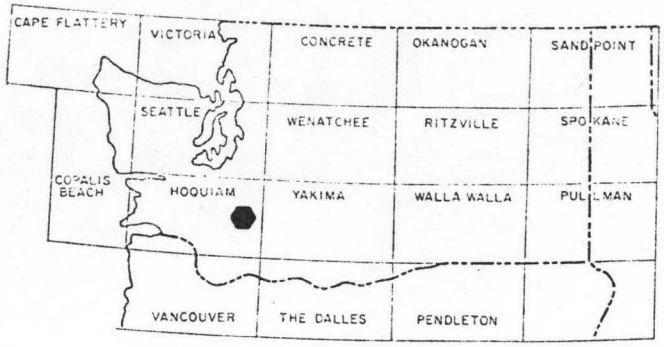
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23.8	1.84	16.1	1.00
80	36.1	2.80	23.5	0.96
50	70.3	5.45	41.1	0.86
30	110	8.54	49.4	0.66
10	198	15.2	59.8	0.45

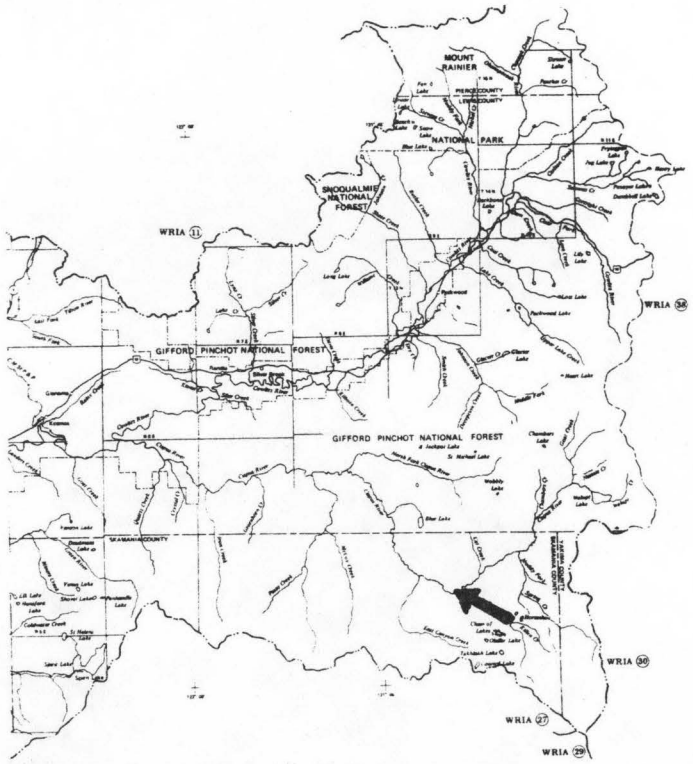
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 95 cfs



W26-1009



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0107

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T11N R8E
D.	Latitude, Longitude	46°20' 121°34'
E.	Stream Name	Muddy Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/5.6

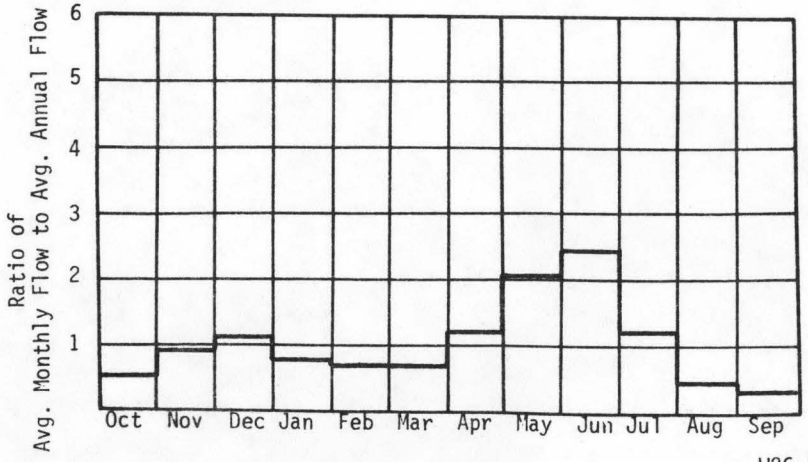
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

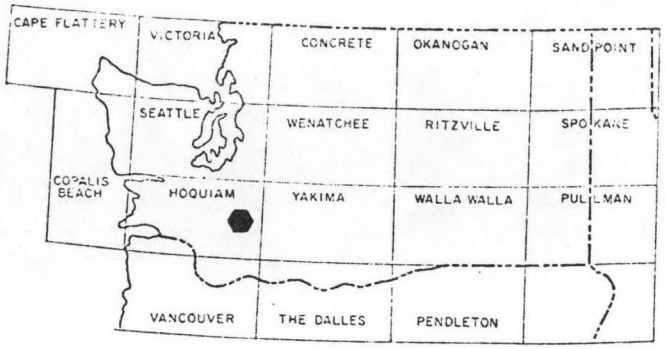
A.	Upstream Elevation of Reach	4400	Ft. MSL
B.	Downstream Elevation of Reach	3035	Ft. MSL
C.	Total Available Head in Reach	1365 + 66 = 1431	Ft.
D.	Average Slope in Reach	244	Ft./Mi.
E.	Drainage Area above Reach Mouth	26	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

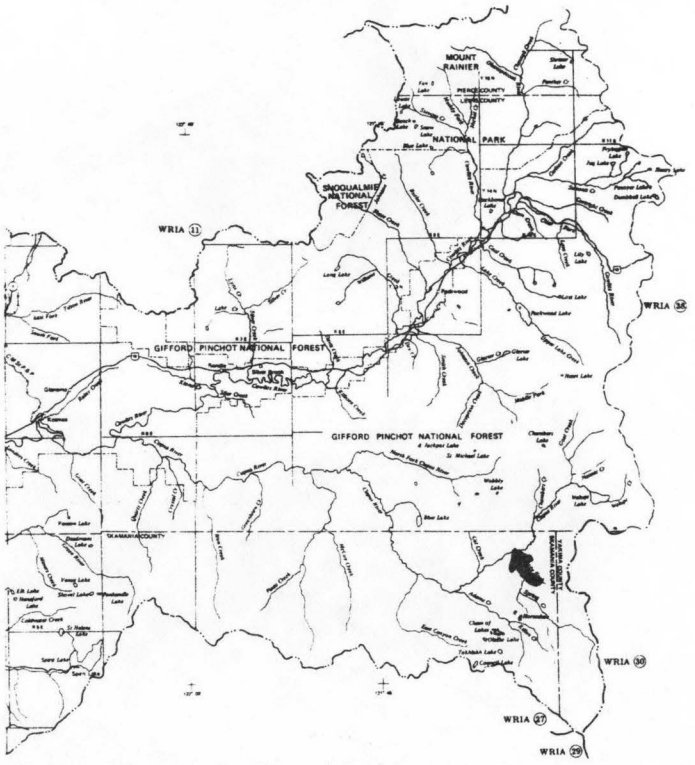
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.0	2.18	19.1	1.00
80	27.4	3.31	27.9	0.96
50	53.3	6.45	48.6	0.86
30	83.5	10.1	58.5	0.66
10	148	18.0	70.8	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 72 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1010

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0108

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R7E	
D. Latitude, Longitude	46°32' 121°55'	
E. Stream Name	Silver Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/4.9	

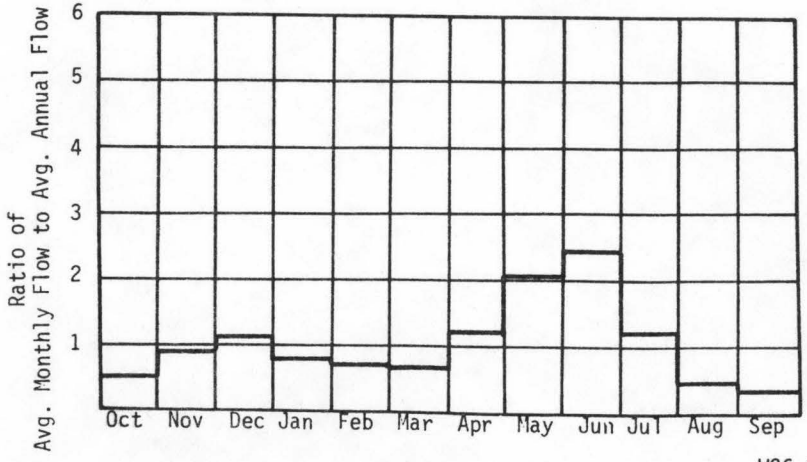
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

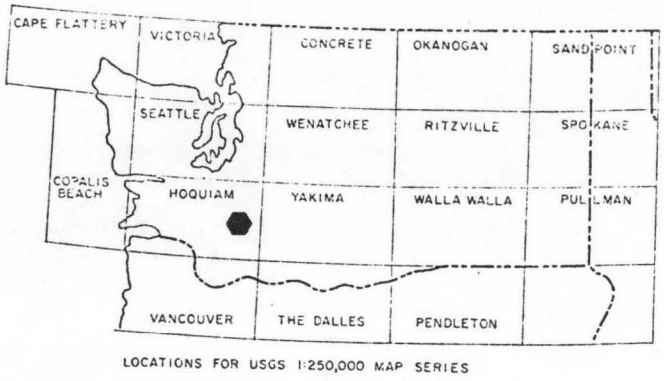
A. Upstream Elevation of Reach	1420	Ft. MSL
B. Downstream Elevation of Reach	885	Ft. MSL
C. Total Available Head in Reach	535	Ft.
D. Average Slope in Reach	109	Ft./Mi.
E. Drainage Area above Reach Mouth	53	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

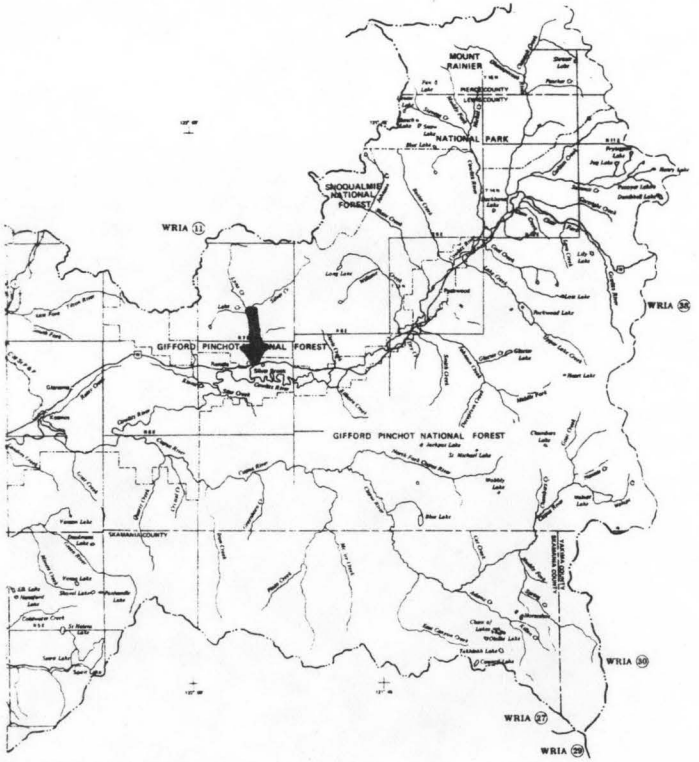
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	59.0	2.67	23.4	1.00
80	99.0	4.49	37.4	0.95
50	189	8.55	59.9	0.80
30	281	12.7	74.6	0.67
10	505	22.9	92.2	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 236 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1011

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0109

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R7E	
D. Latitude, Longitude	46°36' 121°54'	
E. Stream Name	Silver Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	5.2/8.8	

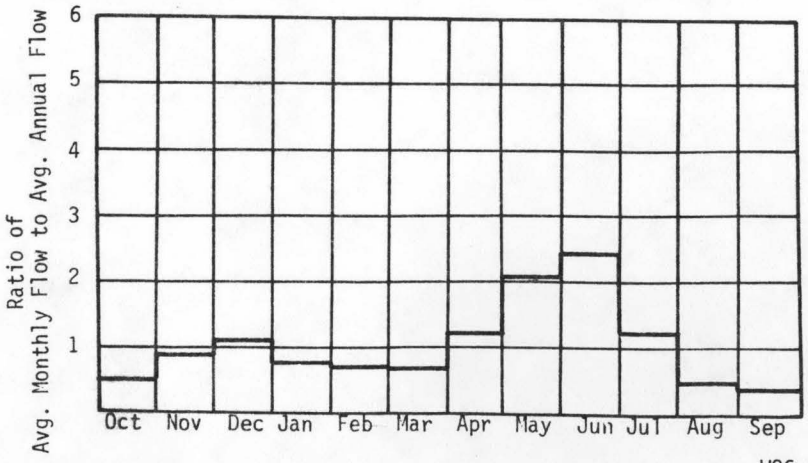
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

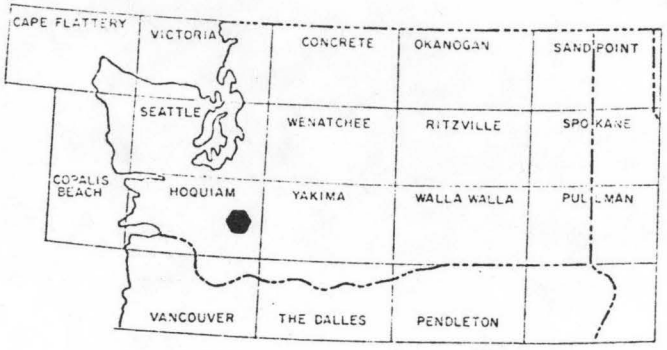
A. Upstream Elevation of Reach	2240	Ft. MSL
B. Downstream Elevation of Reach	1500	Ft. MSL
C. Total Available Head in Reach	740 + 66 = 806	Ft.
D. Average Slope in Reach	206	Ft./Mi.
E. Drainage Area above Reach Mouth	21	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

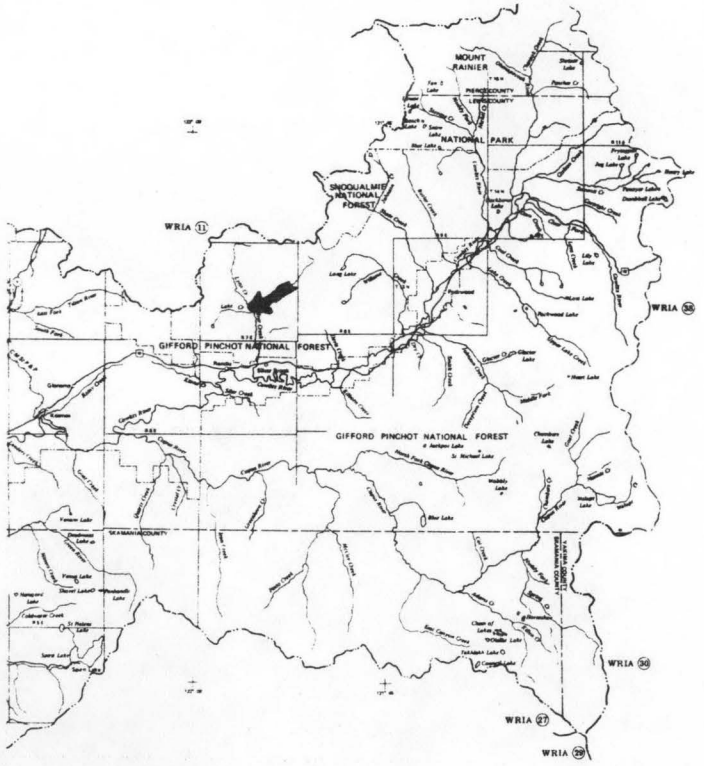
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.3	1.38	12.1	1.00
80	34.0	2.32	19.3	0.95
50	64.8	4.42	31.0	0.80
30	96.4	6.58	34.6	0.60
10	173	11.8	47.7	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 81 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1012

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0110

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R7E	
D. Latitude, Longitude	46°37' 121°57'	
E. Stream Name	Lynx Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/3.0	

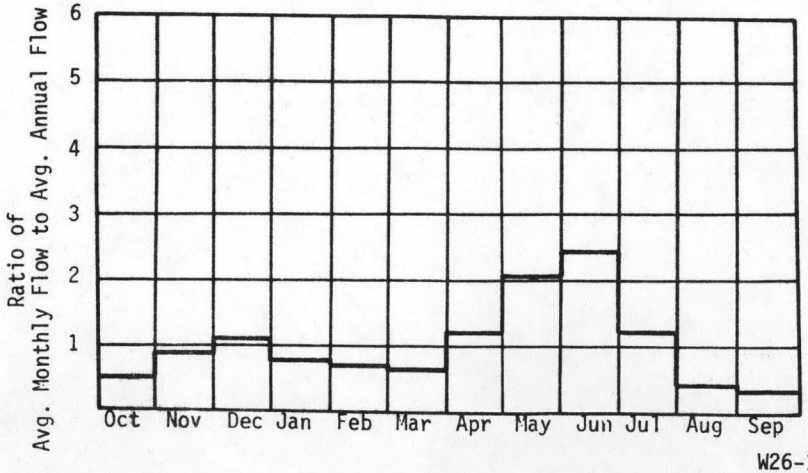
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

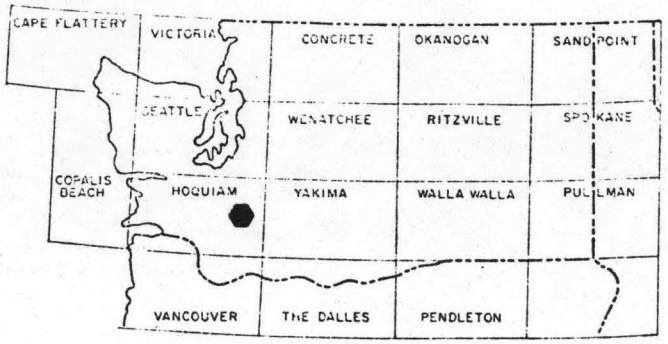
A. Upstream Elevation of Reach	2160	Ft. MSL
B. Downstream Elevation of Reach	1500	Ft. MSL
C. Total Available Head in Reach	660	Ft.
D. Average Slope in Reach	220	Ft./Mi.
E. Drainage Area above Reach Mouth	17	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

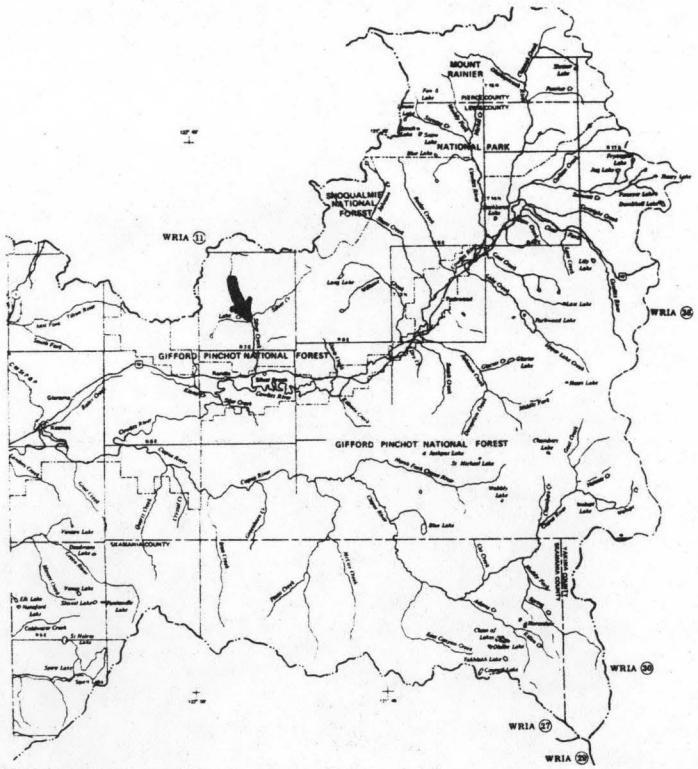
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.8	1.10	9.66	1.00
80	32.2	1.85	15.4	0.95
50	63.2	3.53	24.7	0.80
30	94.0	5.25	27.6	0.60
10	169	9.44	38.1	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 79 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



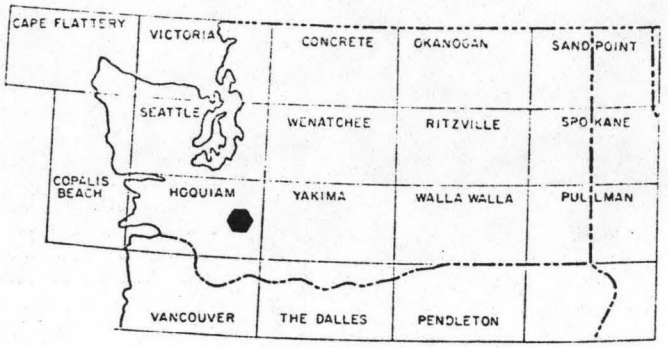
W26-1013

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0111

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T12N R8E
D.	Latitude, Longitude	46°32' 121°49'
E.	Stream Name	Davis Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/1.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

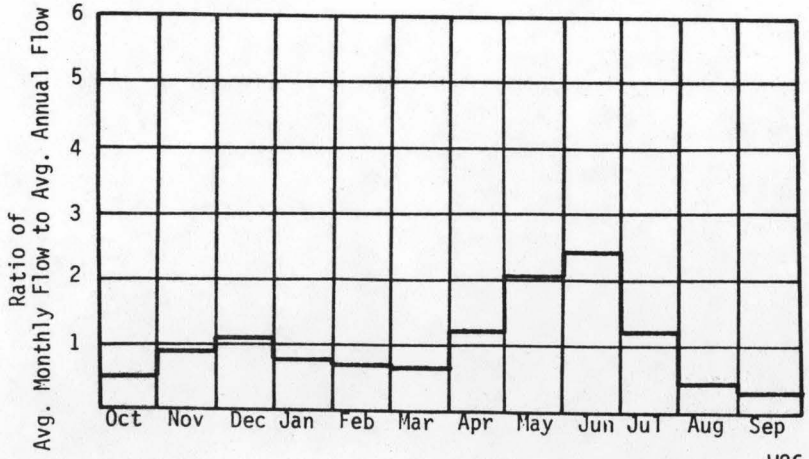
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

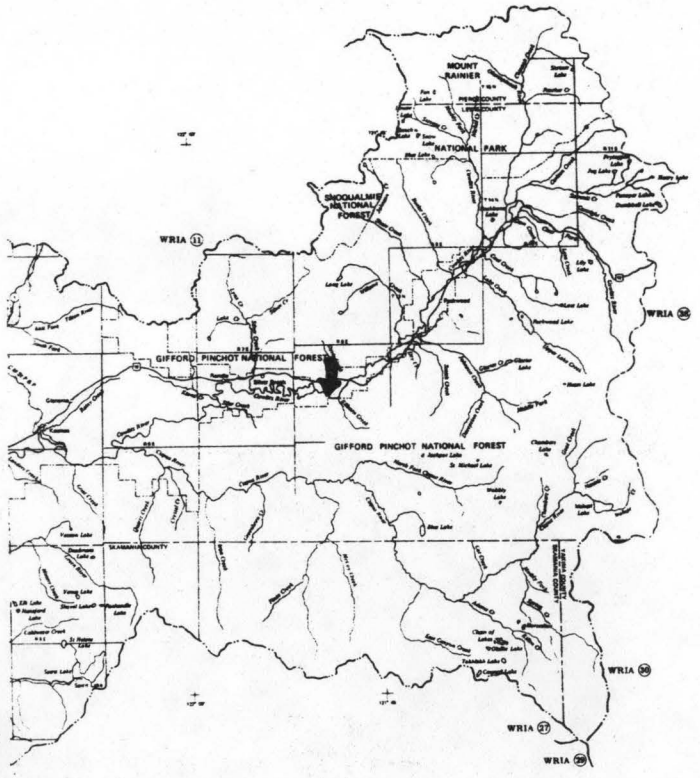
A.	Upstream Elevation of Reach	1200	Ft. MSL
B.	Downstream Elevation of Reach	910	Ft. MSL
C.	Total Available Head in Reach	490 + 66 = 556	Ft.
D.	Average Slope in Reach	350	Ft./Mi.
E.	Drainage Area above Reach Mouth	19	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.3	0.67	5.87	1.00
80	23.9	1.13	9.38	0.95
50	45.6	2.15	15.0	0.80
30	67.8	3.19	18.7	0.67
10	122	5.74	23.1	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 57 cfs





W26-1014

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0112

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R9E	
D. Latitude, Longitude	46°35' 121°44'	
E. Stream Name	Williame Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/1.3	

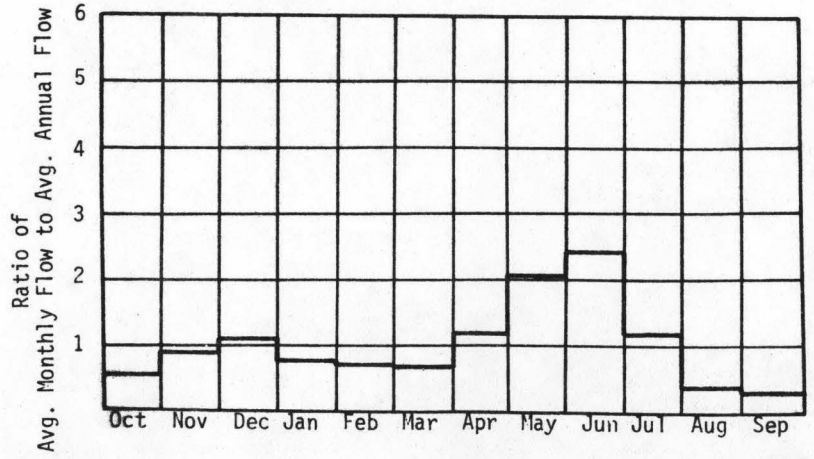
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

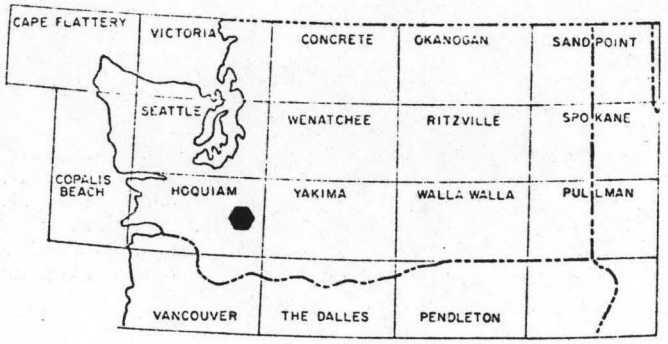
A. Upstream Elevation of Reach	1200	Ft. MSL
B. Downstream Elevation of Reach	980	Ft. MSL
C. Total Available Head in Reach	220	Ft.
D. Average Slope in Reach	169	Ft./Mi.
E. Drainage Area above Reach Mouth	19	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

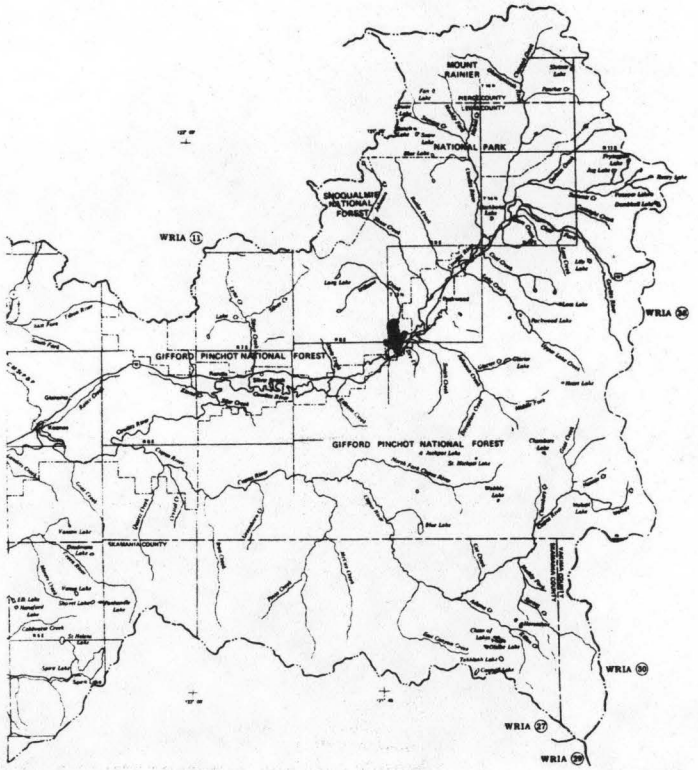
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.8	0.35	3.07	1.00
80	30.1	0.56	4.66	0.95
50	65.8	1.23	8.37	0.78
30	105	1.96	11.0	0.64
10	206	3.83	14.1	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 94 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



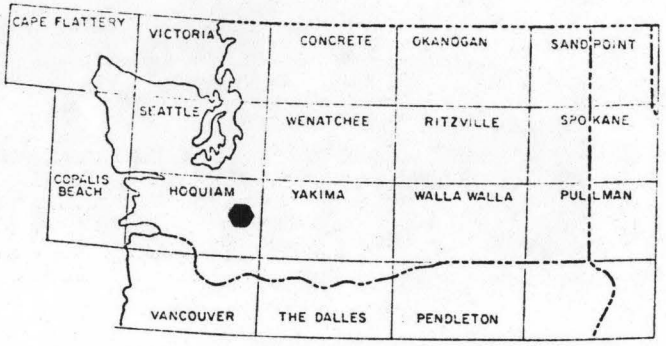
W26-1015

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0113

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T13N R9E	
D. Latitude, Longitude	46°36' 121°44'	
E. Stream Name	Williame Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	1.3/5.3	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

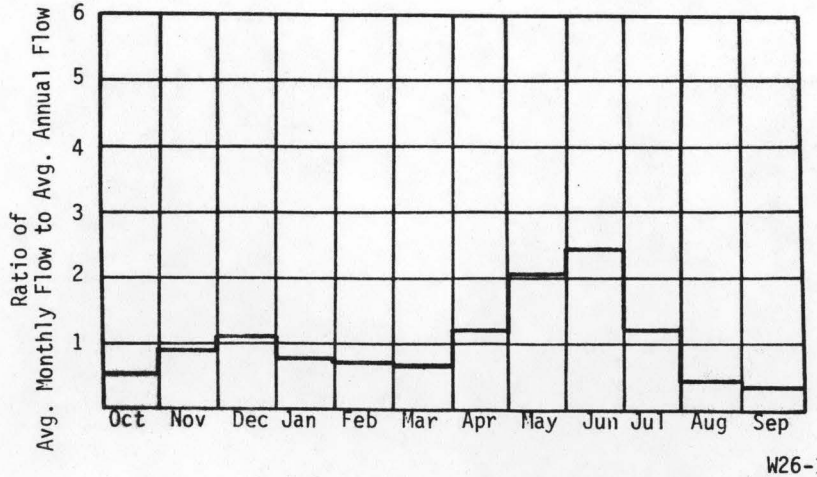
A. Upstream Elevation of Reach	2390	Ft. MSL
B. Downstream Elevation of Reach	1200	Ft. MSL
C. Total Available Head in Reach	1190 + 66 = 1256	Ft.
D. Average Slope in Reach	298	Ft./Mi.
E. Drainage Area above Reach Mouth	16	Sq.Mi.
F. Inflow Classification	Natural	

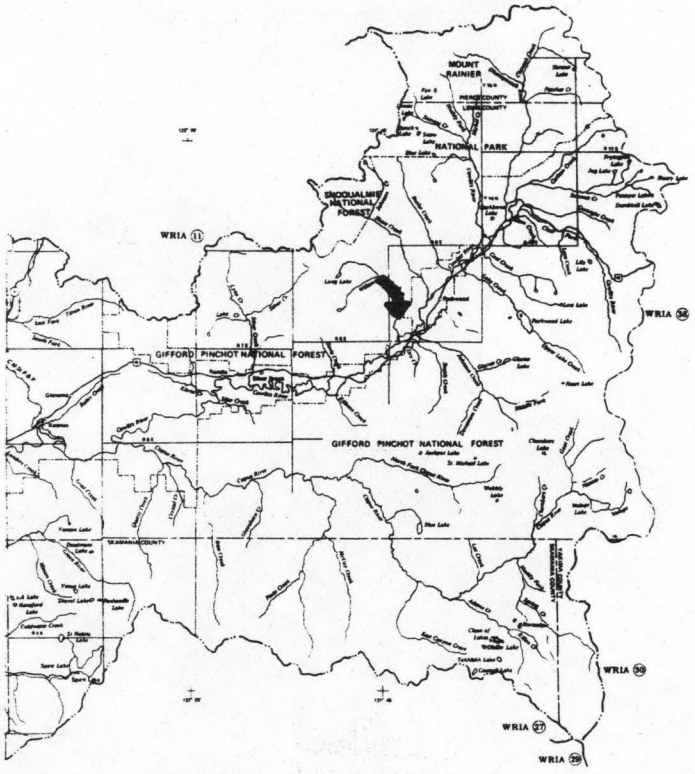
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.0	1.28	11.2	1.00
80	19.2	2.04	17.0	0.95
50	42.0	4.46	30.5	0.78
30	67.2	7.14	40.1	0.64
10	131	14.0	51.4	0.42

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 60 cfs





W26-1016

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0114

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T12N R9E
D.	Latitude, Longitude	46°32' 121°40'
E.	Stream Name	Smith Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/4.5

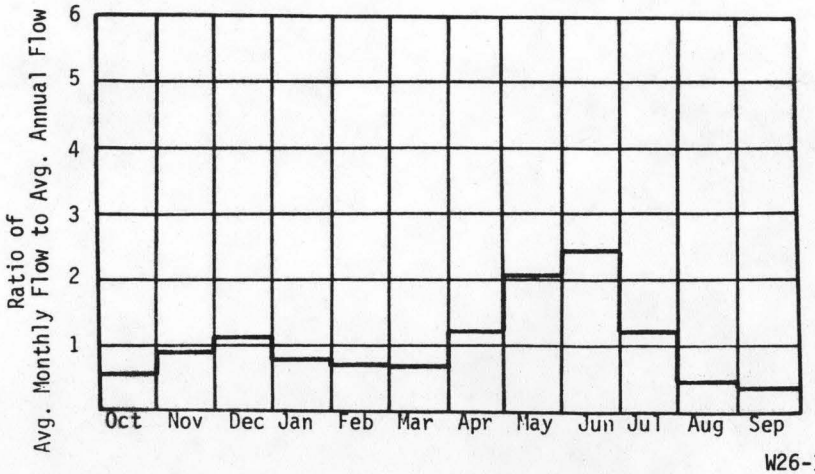
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

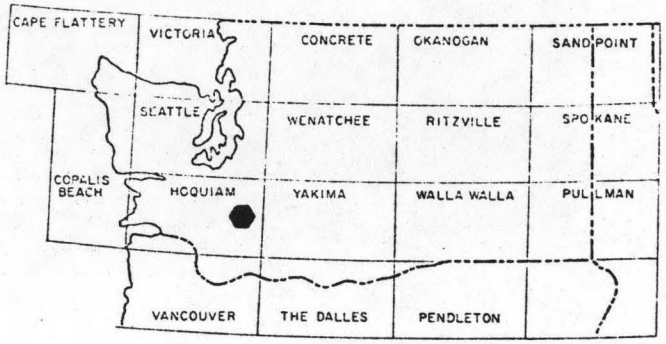
A.	Upstream Elevation of Reach	2720	Ft. MSL
B.	Downstream Elevation of Reach	990	Ft. MSL
C.	Total Available Head in Reach	1730 + 66 = 1796	Ft.
D.	Average Slope in Reach	384	Ft./Mi.
E.	Drainage Area above Reach Mouth	16	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

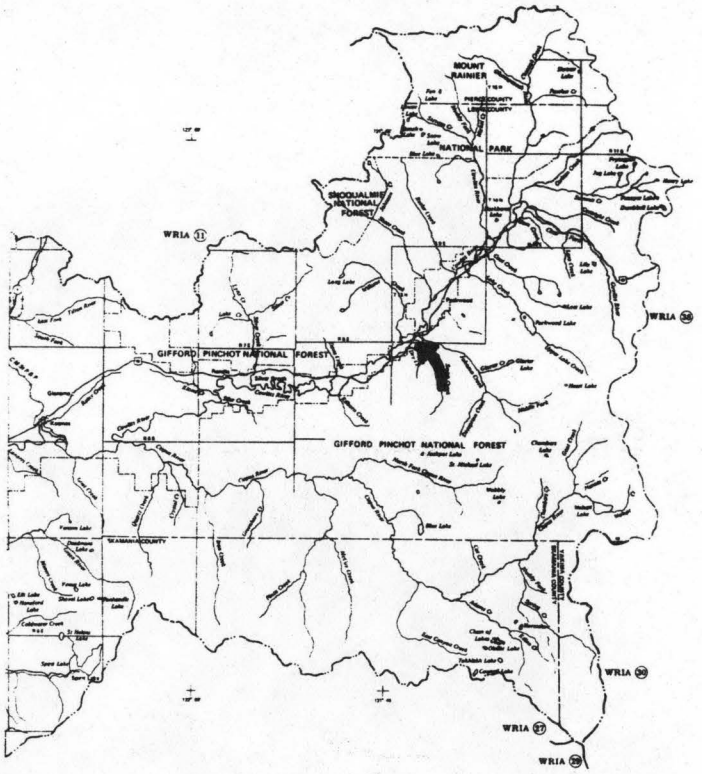
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.6	1.92	16.8	1.00
80	20.2	3.06	25.5	0.95
50	44.1	6.70	45.8	0.78
30	70.6	10.7	60.1	0.64
10	138	21.0	77.2	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 63 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1017

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0115

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R9E	
D. Latitude, Longitude	46°33' 121°38'	
E. Stream Name	Johnson Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	0.0/5.2	

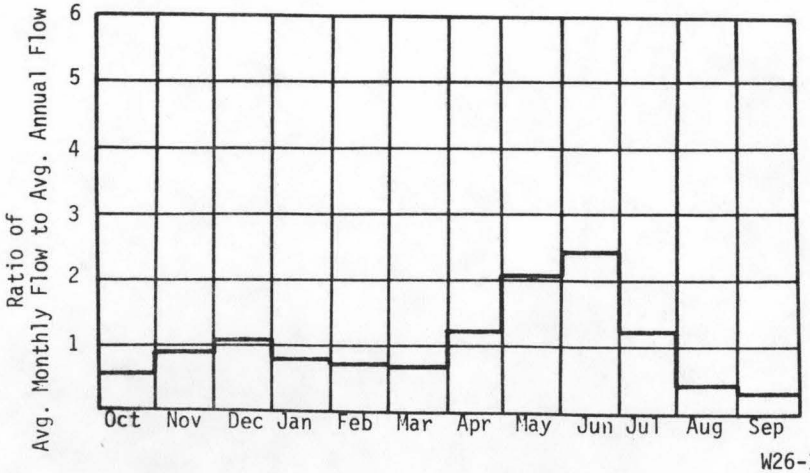
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1720	Ft. MSL
B. Downstream Elevation of Reach	995	Ft. MSL
C. Total Available Head in Reach	725	Ft.
D. Average Slope in Reach	139	Ft./Mi.
E. Drainage Area above Reach Mouth	49	Sq.Mi.
F. Inflow Classification	Natural	

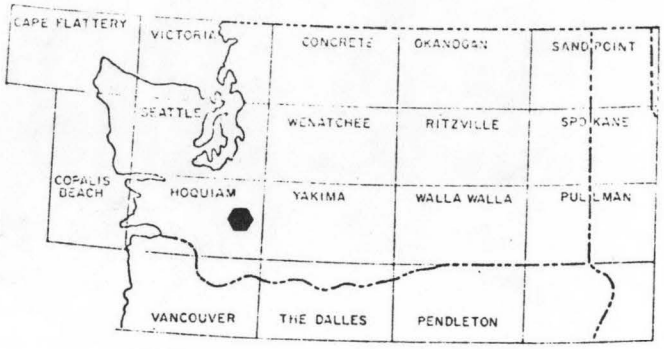
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	37.2	2.28	20.0	1.00
80	59.5	3.65	30.4	0.95
50	130	7.99	54.6	0.78
30	208	12.8	71.7	0.64
10	407	25.0	92.0	0.42

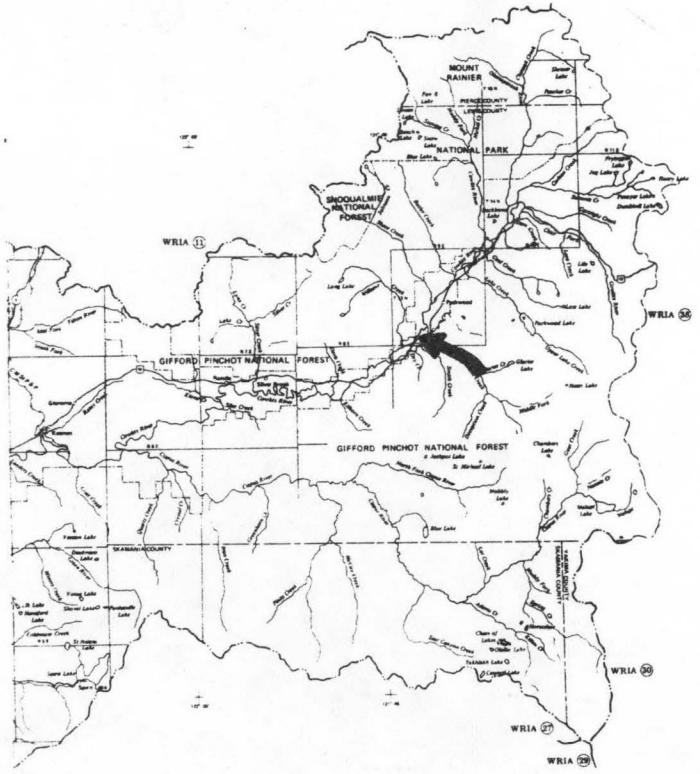
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 186 cfs



W26-1018



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0116

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R9E	
D. Latitude, Longitude	46°32' 121°35'	
E. Stream Name	Johnson Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	5.2/7.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

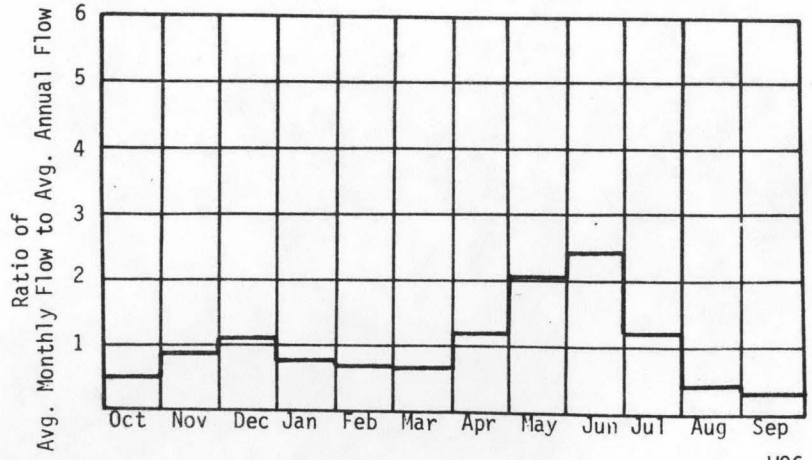
A. Upstream Elevation of Reach	2080	Ft. MSL
B. Downstream Elevation of Reach	1720	Ft. MSL
C. Total Available Head in Reach	360	Ft.
D. Average Slope in Reach	180	Ft./Mi.
E. Drainage Area above Reach Mouth	34	Sq.Mi.
F. Inflow Classification	Natural	

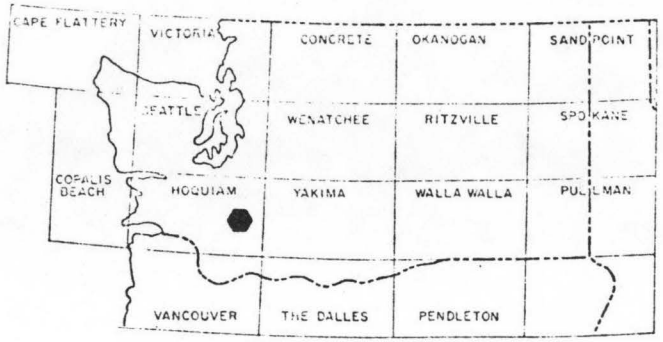
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.8	0.82	7.15	1.00
80	42.9	1.31	10.9	0.95
50	93.8	2.86	19.5	0.78
30	150	4.57	25.6	0.64
10	293	8.94	32.9	0.42

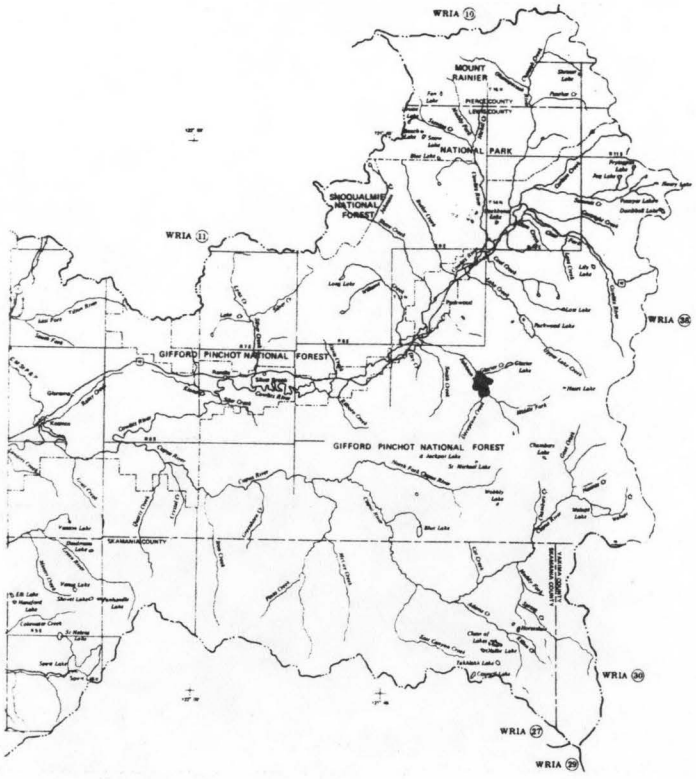
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 134 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1019

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0117

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R9E	
D. Latitude, Longitude	46°31' 121°35'	
E. Stream Name	Johnson Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	7.2/8.3	

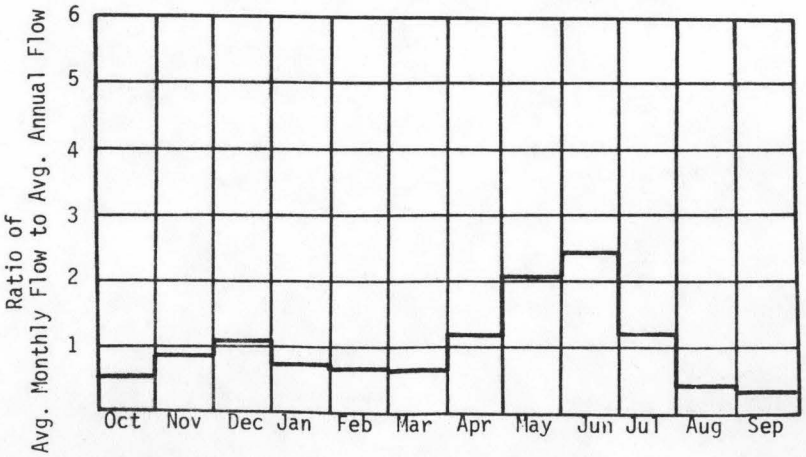
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

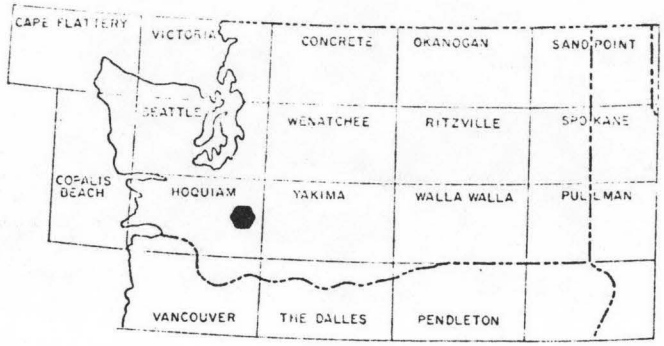
A. Upstream Elevation of Reach	2270	Ft. MSL
B. Downstream Elevation of Reach	2080	Ft. MSL
C. Total Available Head in Reach	190	Ft.
D. Average Slope in Reach	173	Ft./Mi.
E. Drainage Area above Reach Mouth	22	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

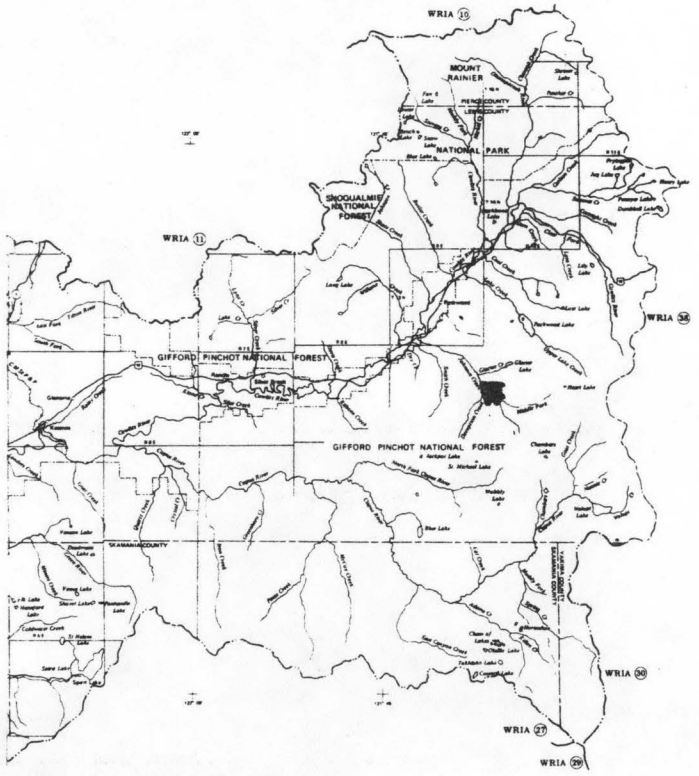
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.4	0.28	2.45	1.00
80	27.8	0.45	3.73	0.95
50	60.9	0.98	6.69	0.78
30	97.4	1.57	8.79	0.64
10	191	3.06	11.3	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 87 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1020

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0118

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T12N R10E	
D. Latitude, Longitude	46°31' 121°35'	
E. Stream Name	Johnson Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	8.5/9.6	

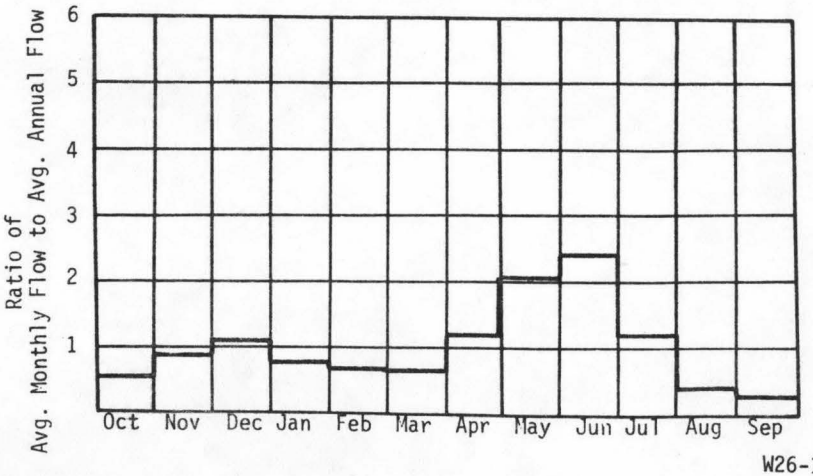
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

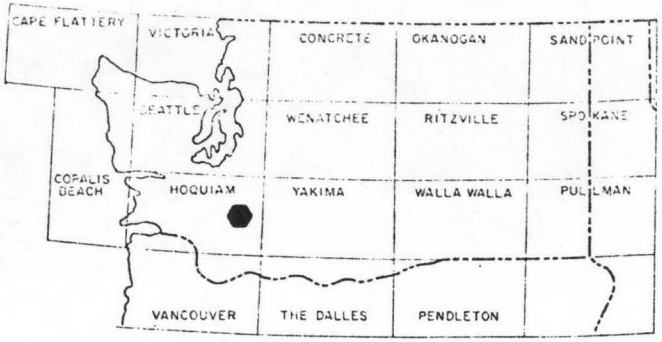
A. Upstream Elevation of Reach	2480	Ft. MSL
B. Downstream Elevation of Reach	2270	Ft. MSL
C. Total Available Head in Reach	210 + 66 = 276	Ft.
D. Average Slope in Reach	191	Ft./Mi.
E. Drainage Area above Reach Mouth	14	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

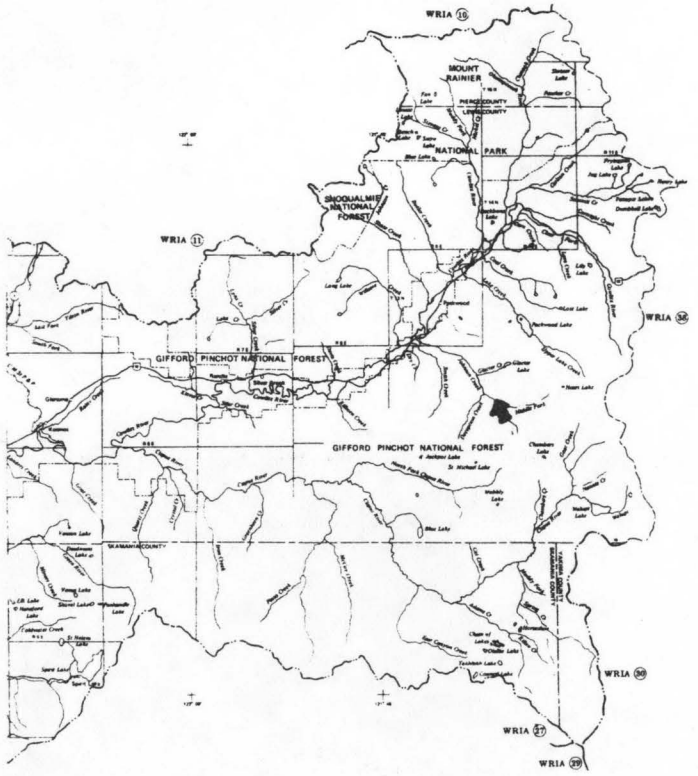
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.0	0.26	2.25	1.00
80	17.6	0.41	3.42	0.95
50	38.5	0.90	6.15	0.78
30	61.6	1.44	8.07	0.64
10	120	2.81	10.4	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 55 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1021

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0119

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R9E
D.	Latitude, Longitude	46°39' 121°42'
E.	Stream Name	Skate Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/5.3

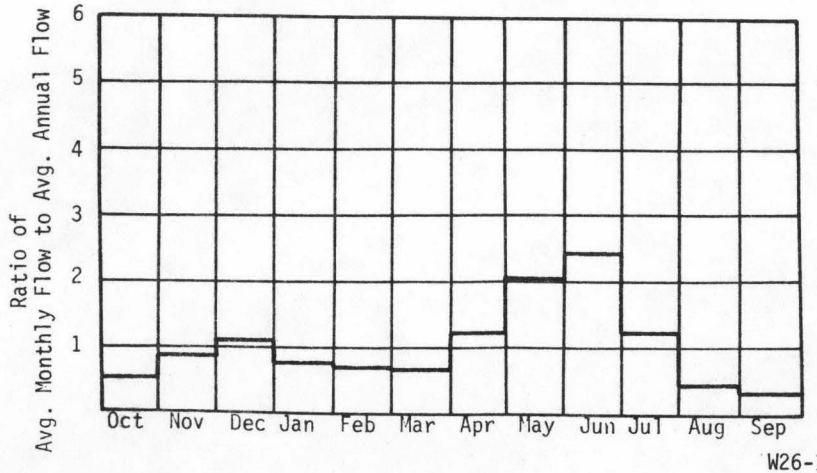
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1840	Ft. MSL
B.	Downstream Elevation of Reach	1035	Ft. MSL
C.	Total Available Head in Reach	800 + 66 = 866	Ft.
D.	Average Slope in Reach	151	Ft./Mi.
E.	Drainage Area above Reach Mouth	35	Sq.Mi.
F.	Inflow Classification	Natural	

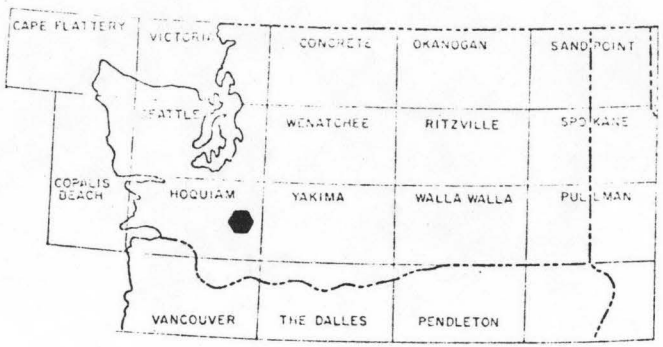
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.8	1.08	9.50	1.00
80	28.1	2.06	17.0	0.94
50	101	7.38	46.5	0.72
30	167	12.3	63.4	0.59
10	336	24.6	84.1	0.39

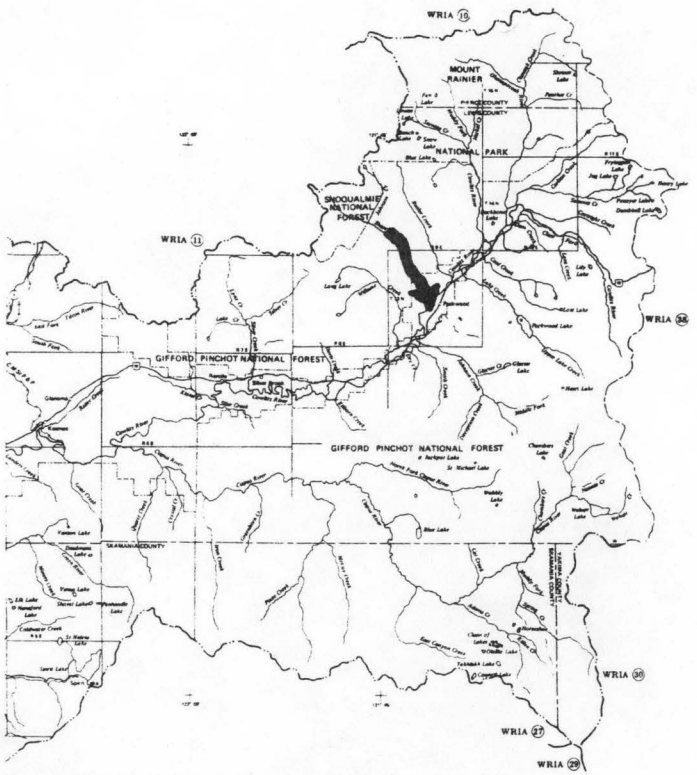
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 148 cfs



W26-1022



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0120

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R9E
D.	Latitude, Longitude	46°40' 121°42'
E.	Stream Name	Butter Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/7.3

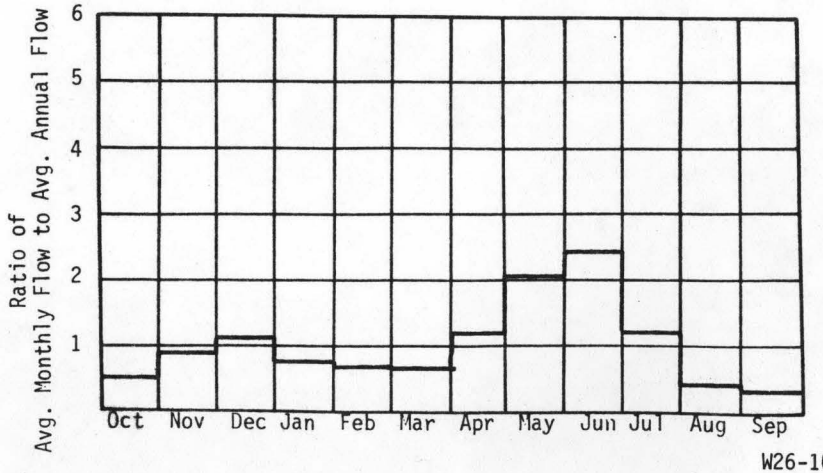
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2640	Ft. MSL
B.	Downstream Elevation of Reach	1060	Ft. MSL
C.	Total Available Head in Reach	1580 + 66 = 1646	Ft.
D.	Average Slope in Reach	216	Ft./Mi.
E.	Drainage Area above Reach Mouth	19	Sq.Mi.
F.	Inflow Classification	Natural	

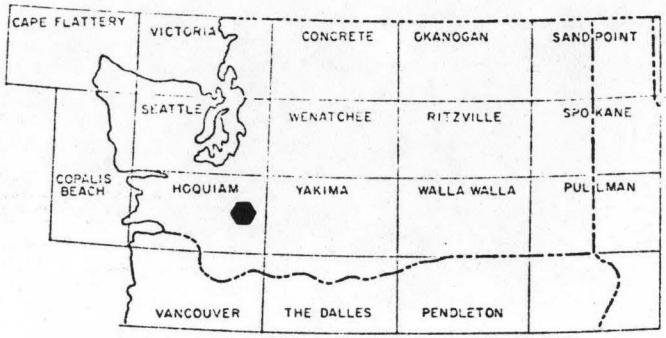
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.8	1.50	13.2	1.00
80	20.5	2.86	23.5	0.94
50	73.4	10.2	64.5	0.72
30	122	17.0	87.9	0.59
10	245	34.2	117	0.39

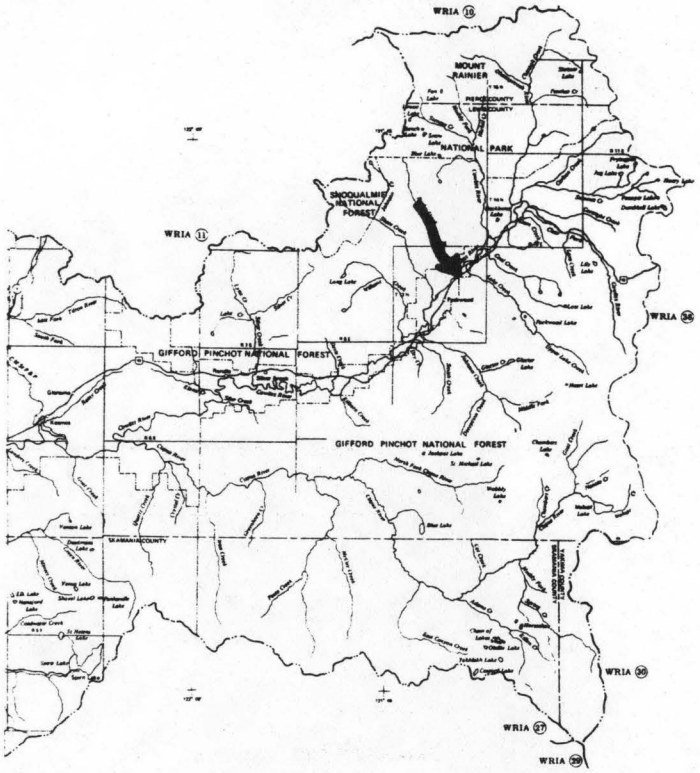
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 108 cfs



W26-1023



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0121

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R10E
D.	Latitude, Longitude	46°37' 121°35'
E.	Stream Name	Lake Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/5.5

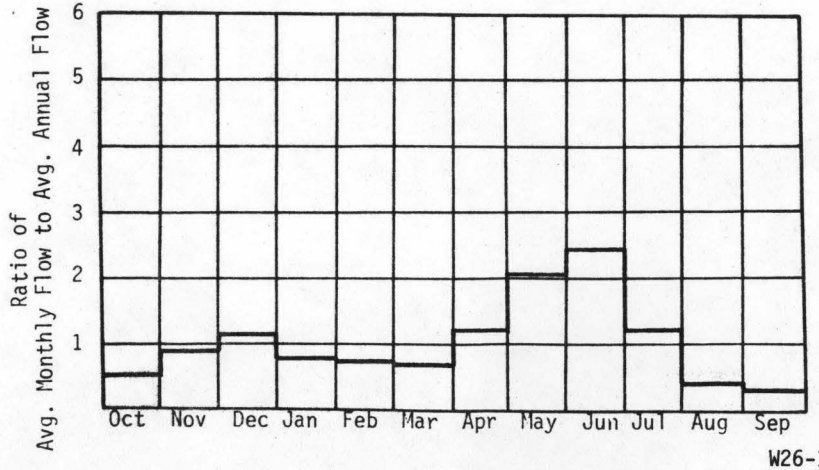
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2857	Ft. MSL
B.	Downstream Elevation of Reach	1100	Ft. MSL
C.	Total Available Head in Reach	1757 + 66 = 1823	Ft.
D.	Average Slope in Reach	319	Ft./Mi.
E.	Drainage Area above Reach Mouth	26	Sq.Mi.
F.	Inflow Classification	Regulated	

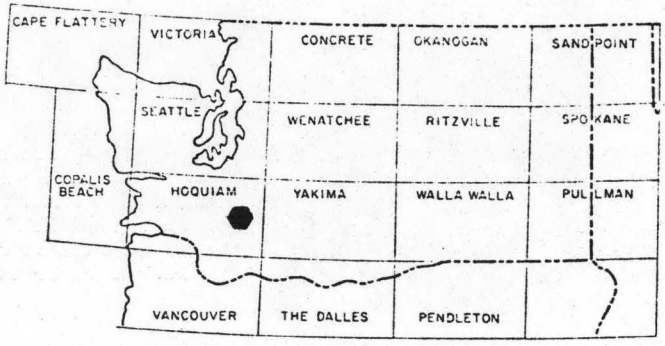
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2.60	0.40	3.51	1.00
80	3.64	0.56	4.72	0.96
50	29.1	4.49	28.7	0.73
30	46.3	7.14	38.2	0.61
10	92.6	14.3	50.0	0.40

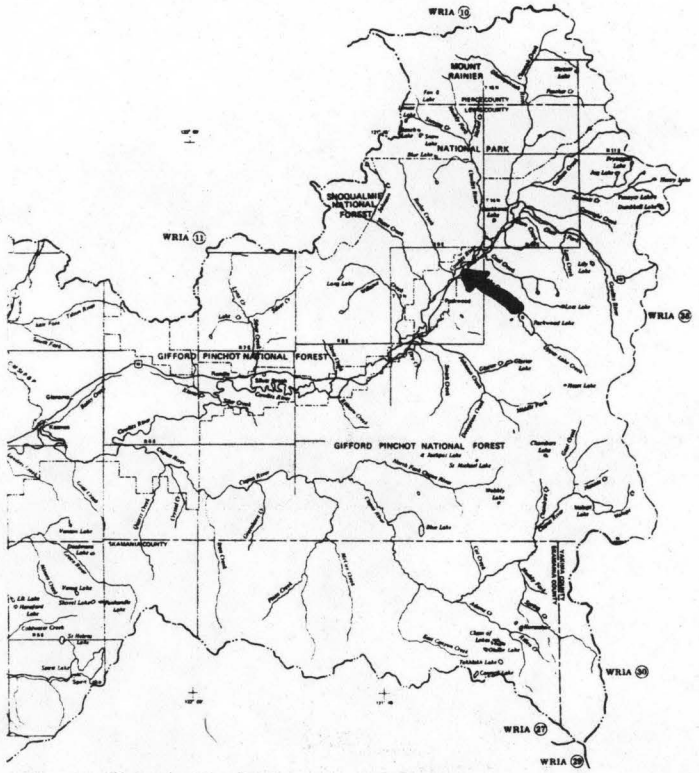
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 52 cfs



W26-1024



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0122

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R10E
D.	Latitude, Longitude	46°38' 121°35'
E.	Stream Name	Coal Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/4.0

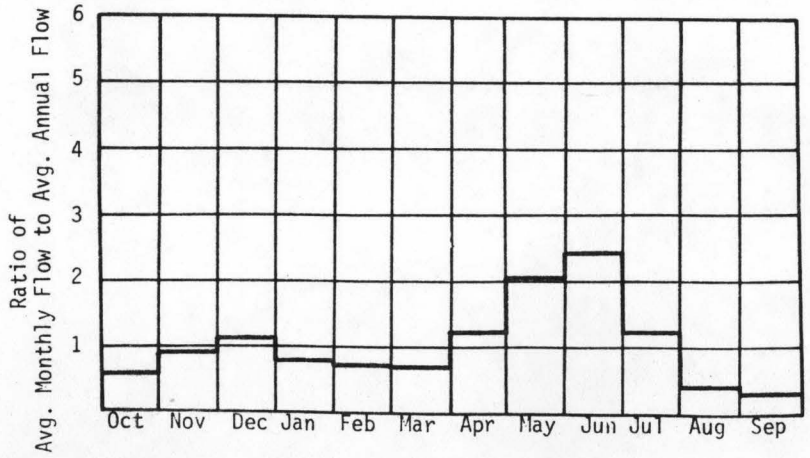
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

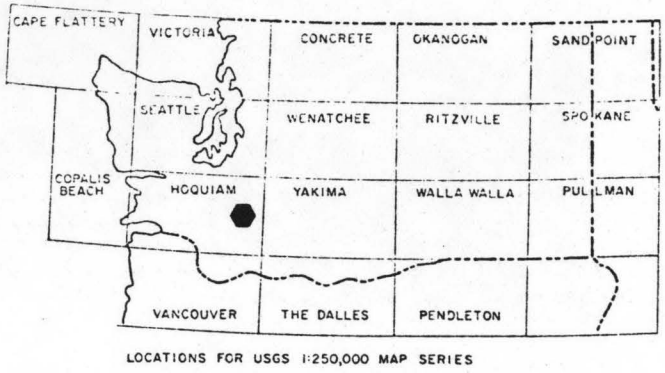
A.	Upstream Elevation of Reach	2400	Ft. MSL
B.	Downstream Elevation of Reach	1140	Ft. MSL
C.	Total Available Head in Reach	1260 + 66 = 1326	Ft.
D.	Average Slope in Reach	315	Ft./Mi.
E.	Drainage Area above Reach Mouth	8	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

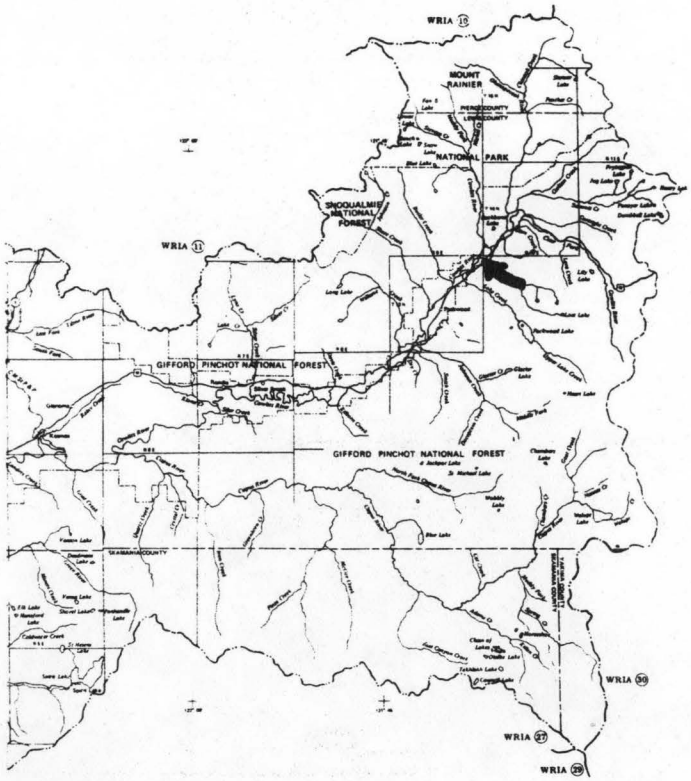
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.0	2.13	18.6	1.00
80	29.2	3.28	27.6	0.96
50	52.9	5.94	42.7	0.82
30	88.5	9.93	56.5	0.65
10	172	19.3	72.8	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 79 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0123

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R9E
D.	Latitude, Longitude	46°42' 121°37'
E.	Stream Name	Muddy Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/6.0

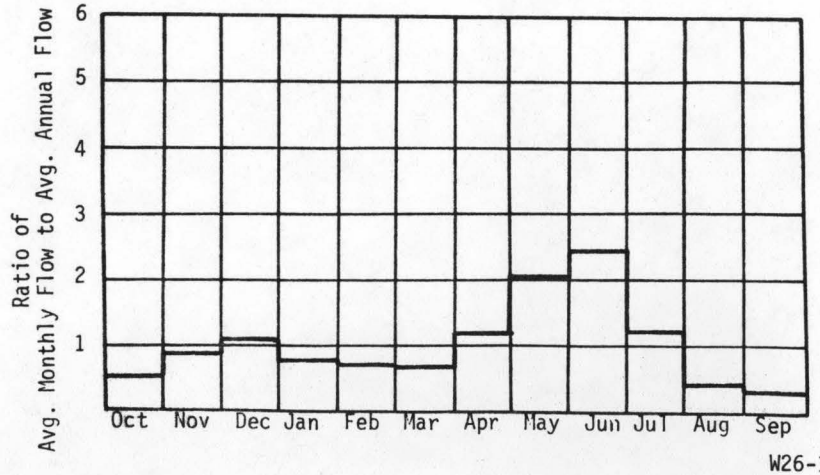
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

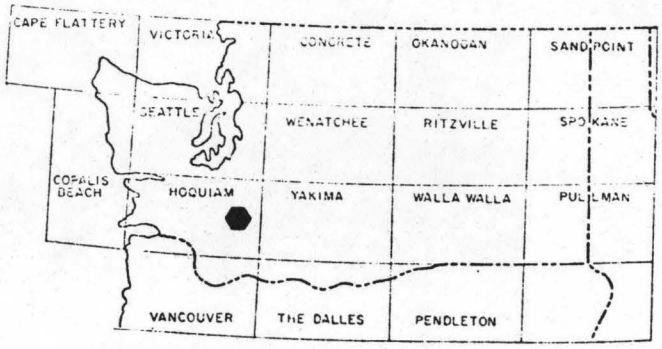
A.	Upstream Elevation of Reach	2120	Ft. MSL
B.	Downstream Elevation of Reach	1190	Ft. MSL
C.	Total Available Head in Reach	930	Ft.
D.	Average Slope in Reach	155	Ft./Mi.
E.	Drainage Area above Reach Mouth	51	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

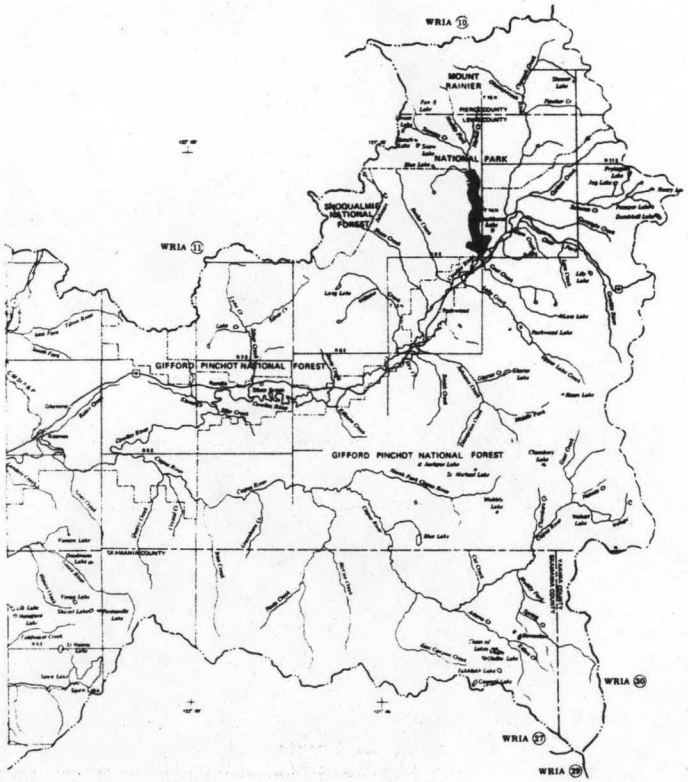
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	63.4	4.99	43.7	1.00
80	104	8.22	68.4	0.95
50	216	17.0	118	0.79
30	414	32.6	171	0.60
10	914	71.9	239	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 373 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1026

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0124

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R10E
D.	Latitude, Longitude	46°44' 121°36'
E.	Stream Name	Muddy Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	6.0/7.2

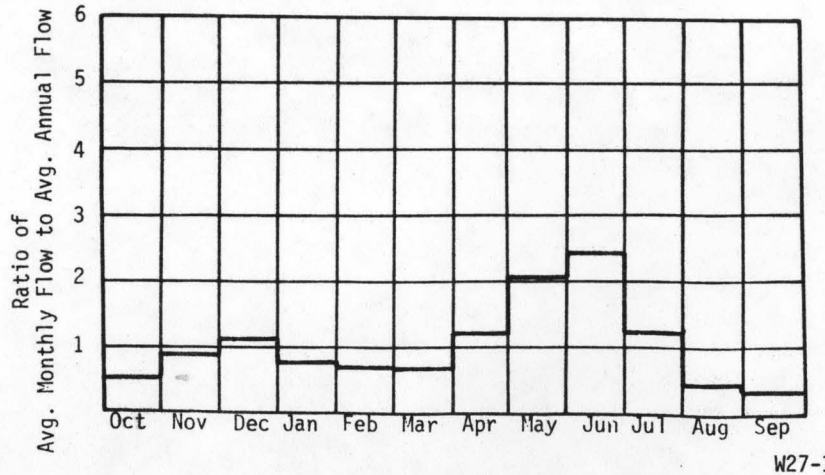
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2360	Ft. MSL
B.	Downstream Elevation of Reach	2120	Ft. MSL
C.	Total Available Head in Reach	440	Ft.
D.	Average Slope in Reach	367	Ft./Mi.
E.	Drainage Area above Reach Mouth	34	Sq.Mi.
F.	Inflow Classification	Natural	

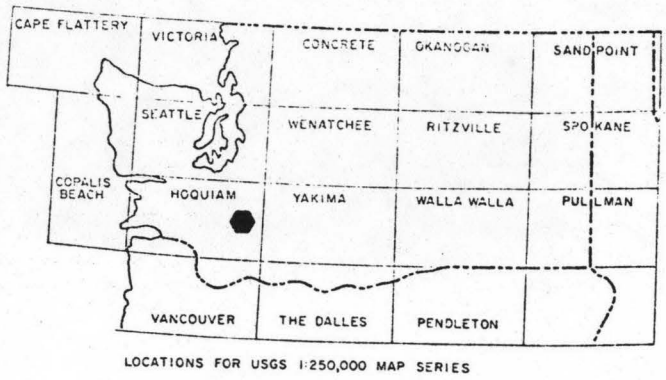
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	47.3	1.76	15.4	1.00
80	77.8	2.90	24.1	0.95
50	161	6.00	41.6	0.79
30	309	11.5	60.4	0.60
10	681	25.4	84.4	0.38

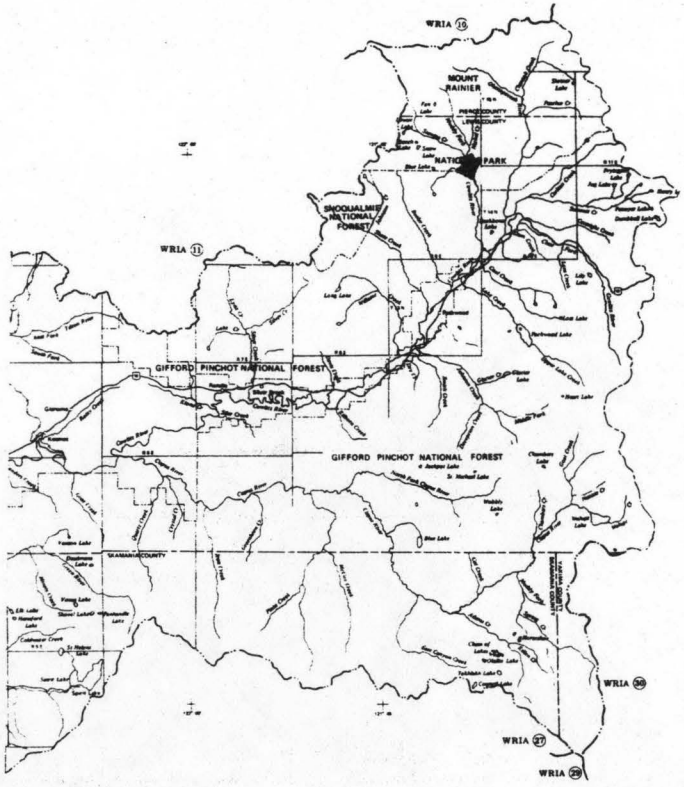
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 278 cfs



W27-1027



LOCATIONS FOR USGS 1:250,000 MAP SERIES

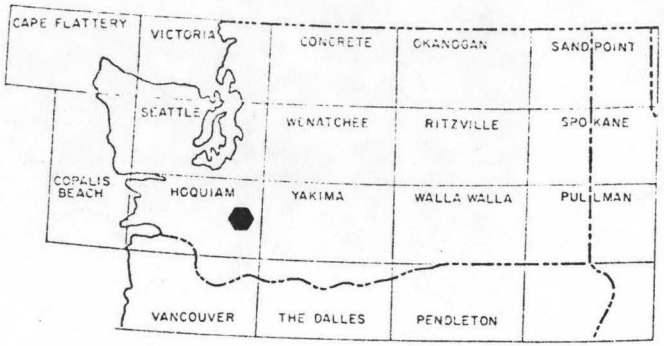


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0125

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T15N R10E
D.	Latitude, Longitude	46°45' 121°36'
E.	Stream Name	Muddy Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	7.2/8.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

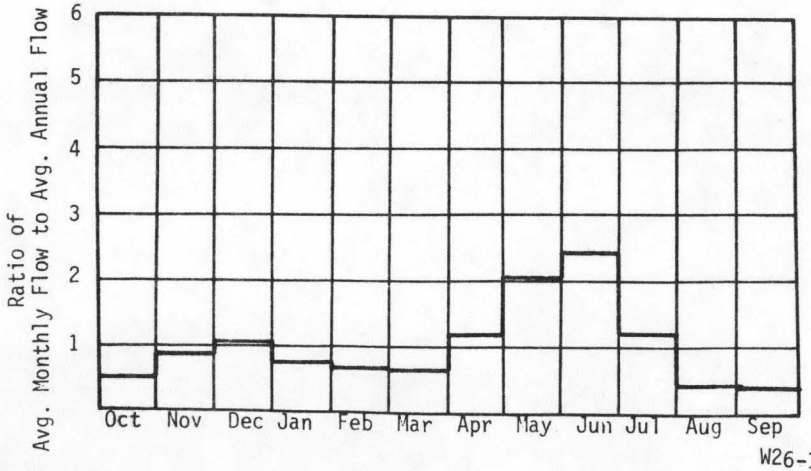
A.	Upstream Elevation of Reach	2590	Ft. MSL
B.	Downstream Elevation of Reach	2360	Ft. MSL
C.	Total Available Head in Reach	230	Ft.
D.	Average Slope in Reach	230	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

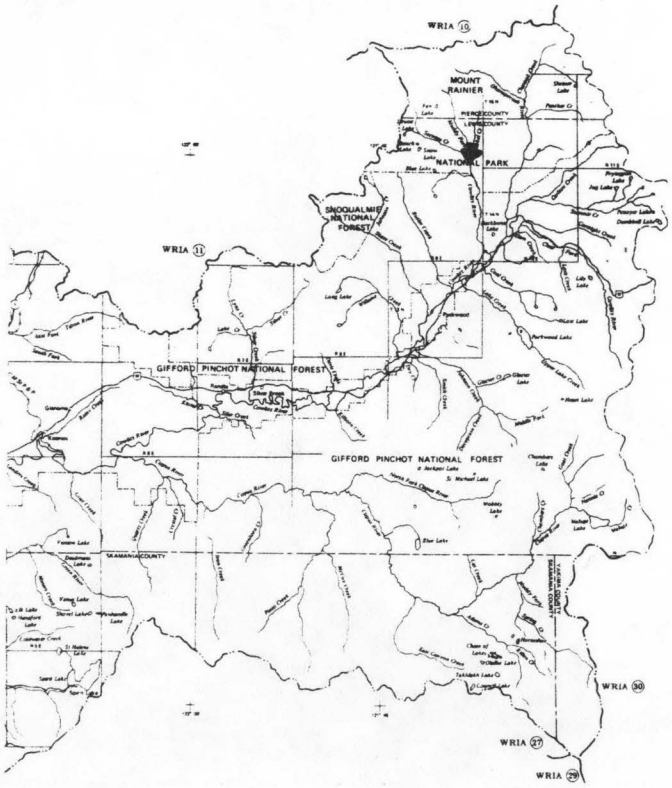
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29.5	0.58	5.07	1.00
80	49.0	0.95	7.94	0.95
50	102	1.98	13.7	0.79
30	194	3.78	19.9	0.60
10	429	8.35	27.8	0.38

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 175 cfs





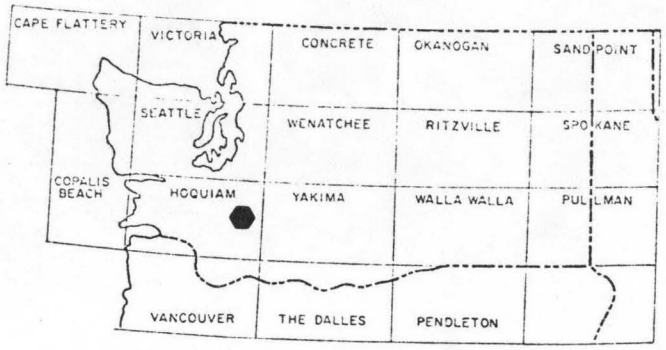
W26-1028

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0126

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T15N R10E	
D. Latitude, Longitude	46°46' 121°40'	
E. Stream Name	Muddy Fork	
F. Major Basin Name	Cowlitz	
G. River Mile	8.2/10.1	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

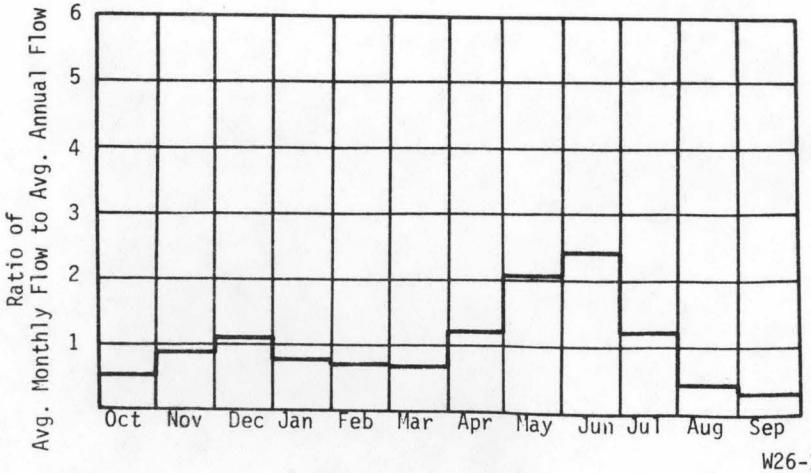
A. Upstream Elevation of Reach	3300	Ft. MSL
B. Downstream Elevation of Reach	2590	Ft. MSL
C. Total Available Head in Reach	710	Ft.
D. Average Slope in Reach	374	Ft./Mi.
E. Drainage Area above Reach Mouth	14	Sq.Mi.
F. Inflow Classification	Natural	

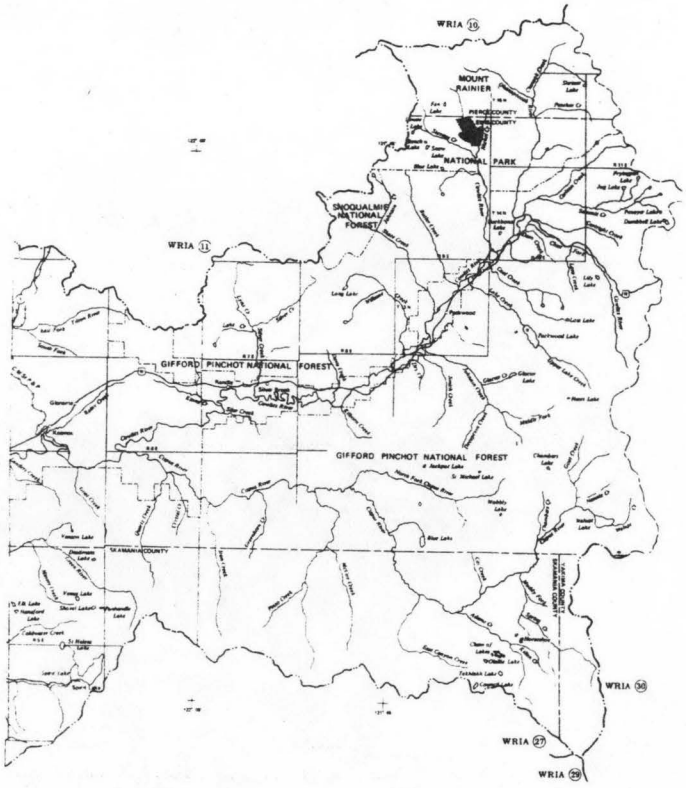
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.7	1.19	10.4	1.00
80	32.5	1.95	16.2	0.95
50	67.2	4.04	28.0	0.79
30	129	7.74	40.7	0.60
10	284	17.1	56.9	0.38

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 116 cfs





W26-1029

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0127

I. LOCATION

A. State	Washington	
B. County	Pierce	
C. Township, Range	T15N R10E	
D. Latitude, Longitude	46°47' 121°40'	
E. Stream Name	Muddy Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	10.1/11.5	

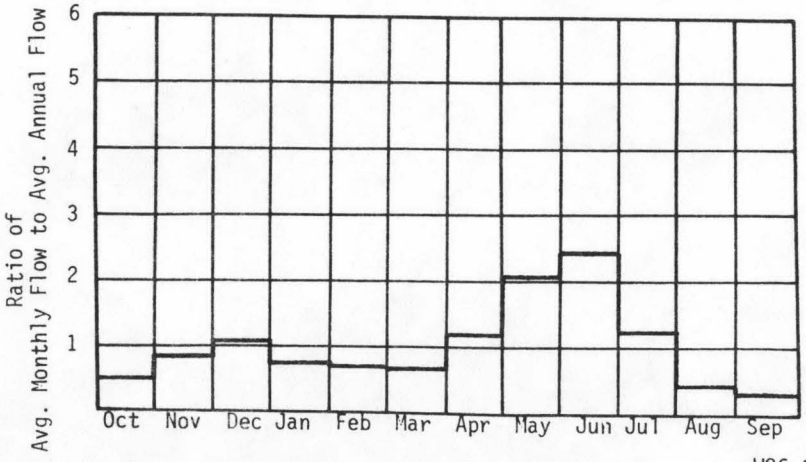
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

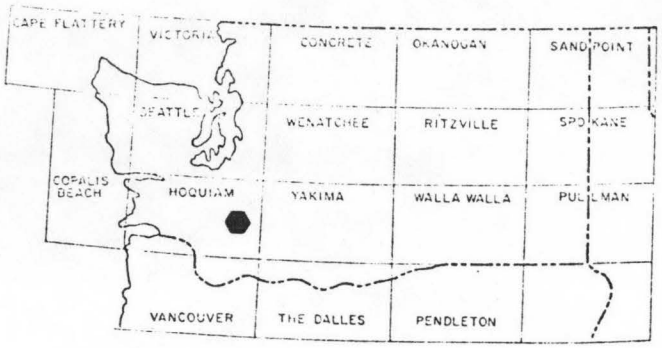
A. Upstream Elevation of Reach	3780	Ft. MSL
B. Downstream Elevation of Reach	3300	Ft. MSL
C. Total Available Head in Reach	480 + 66 = 546	Ft.
D. Average Slope in Reach	343	Ft./Mi.
E. Drainage Area above Reach Mouth	9	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

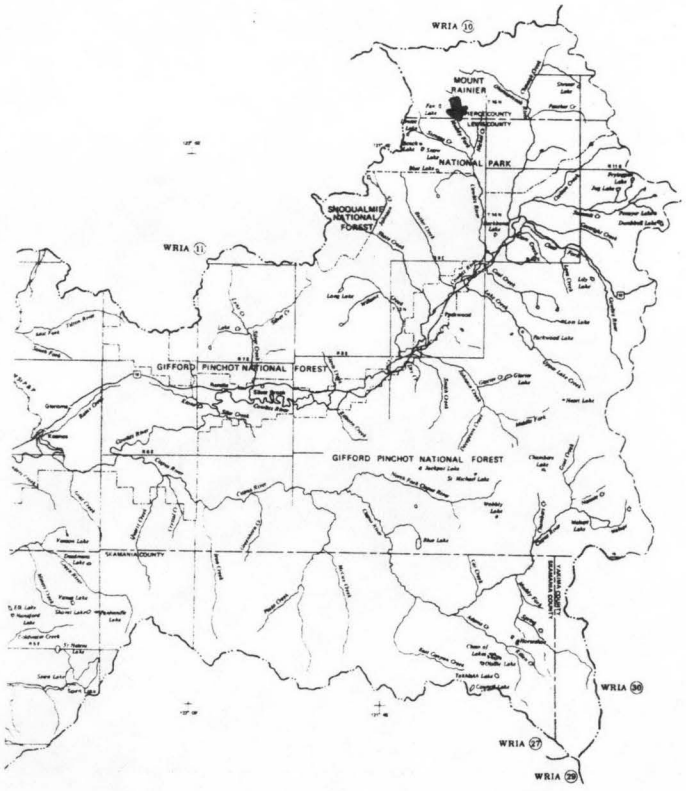
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.1	0.60	5.30	1.00
80	21.6	1.00	8.29	0.95
50	44.7	2.06	14.3	0.79
30	85.5	3.95	20.8	0.60
10	189	8.72	29.0	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 77 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1030

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0128

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T15N R10E
D.	Latitude, Longitude	46°46' 121°40'
E.	Stream Name	Stevens Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/1.7

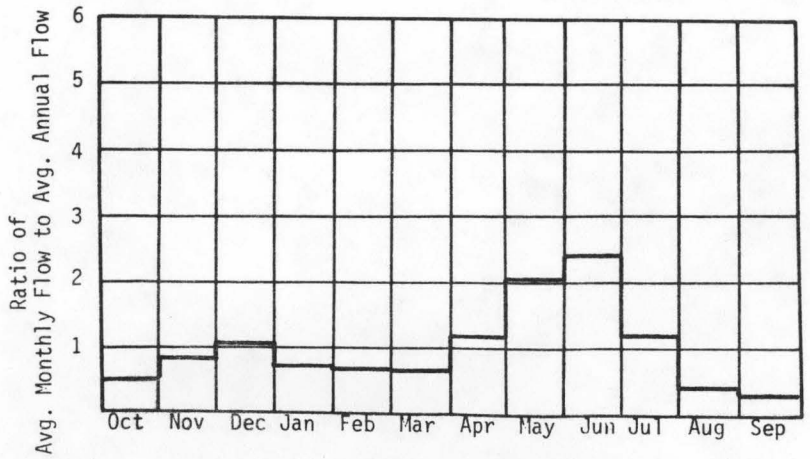
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

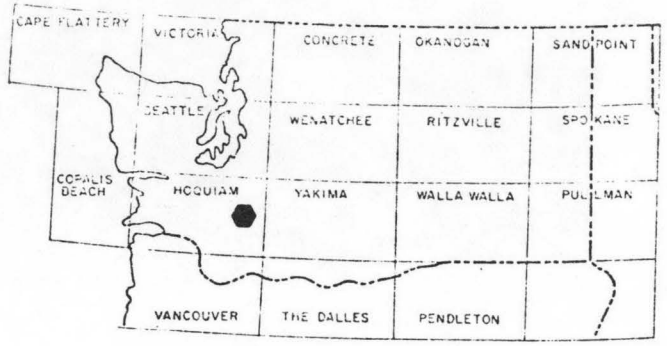
A.	Upstream Elevation of Reach	2760	Ft. MSL
B.	Downstream Elevation of Reach	2360	Ft. MSL
C.	Total Available Head in Reach	400 + 66 = 466	Ft.
D.	Average Slope in Reach	235	Ft./Mi.
E.	Drainage Area above Reach Mouth	10	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

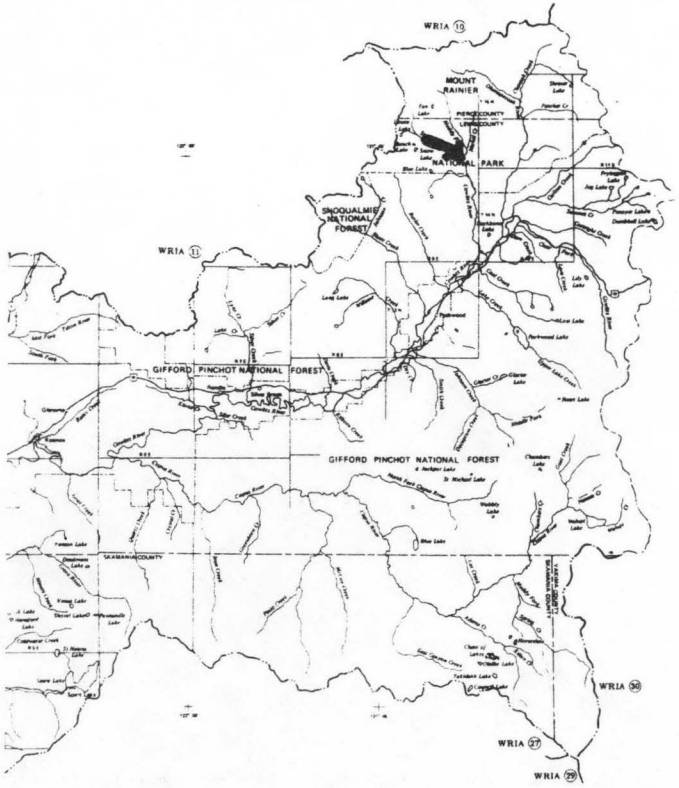
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.8	0.54	4.76	1.00
80	22.7	0.89	7.44	0.95
50	47.0	1.85	12.8	0.79
30	89.9	3.55	18.6	0.60
10	198	7.83	26.1	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 81 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1031

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0129

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T13N R10E
D.	Latitude, Longitude	46°42' 121°35'
E.	Stream Name	Ohanapecosh River
F.	Major Basin Name	Cowlitz
G.	River Mile	0.0/1.2

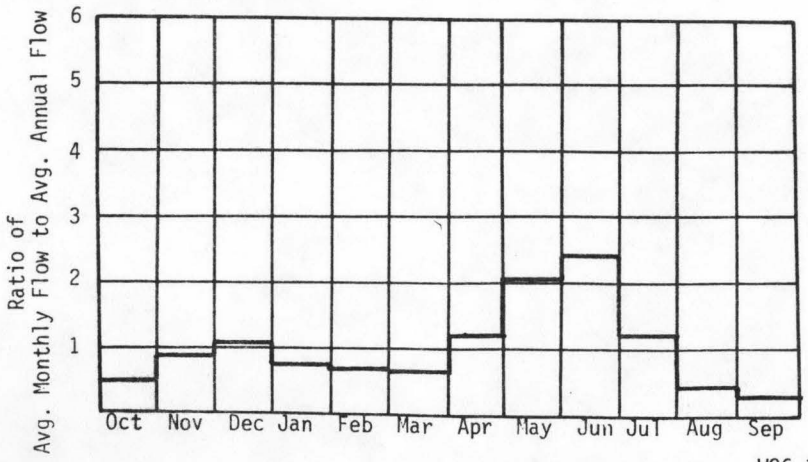
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

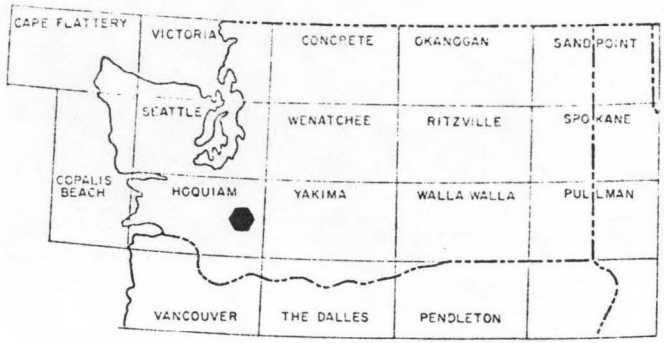
A.	Upstream Elevation of Reach	1320	Ft. MSL
B.	Downstream Elevation of Reach	1250	Ft. MSL
C.	Total Available Head in Reach	70	Ft.
D.	Average Slope in Reach	58	Ft./Mi.
E.	Drainage Area above Reach Mouth	107	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

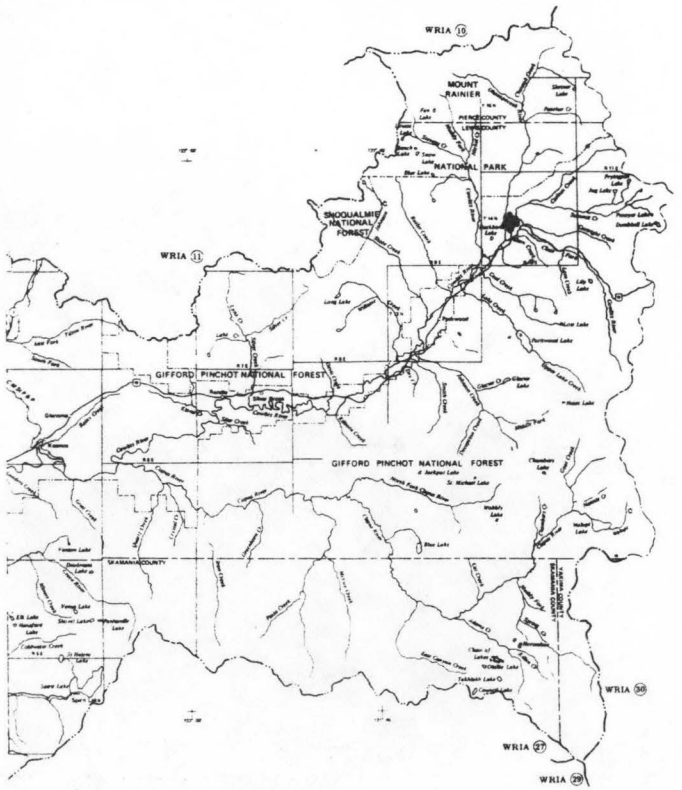
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	89.9	0.53	4.67	1.00
80	148	0.88	7.30	0.95
50	307	1.82	12.6	0.79
30	587	3.48	18.3	0.60
10	1300	7.68	25.6	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 529 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1032

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0130

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T14N R10E	
D. Latitude, Longitude	46°43' 121°34'	
E. Stream Name	Summit Falls Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	1.2/3.5	

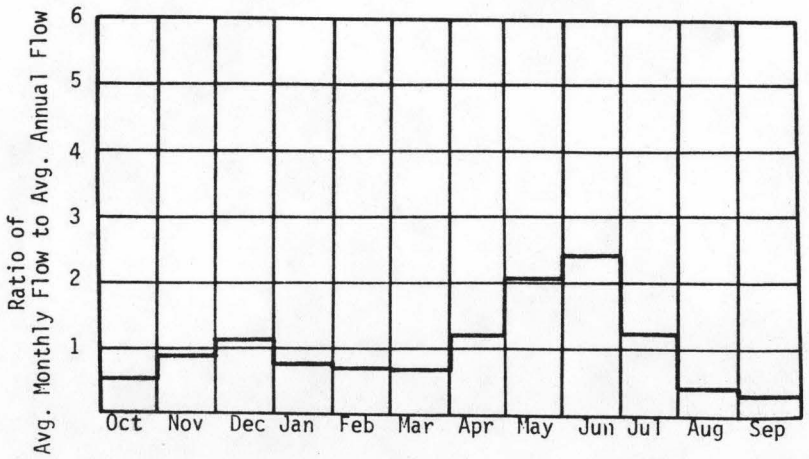
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

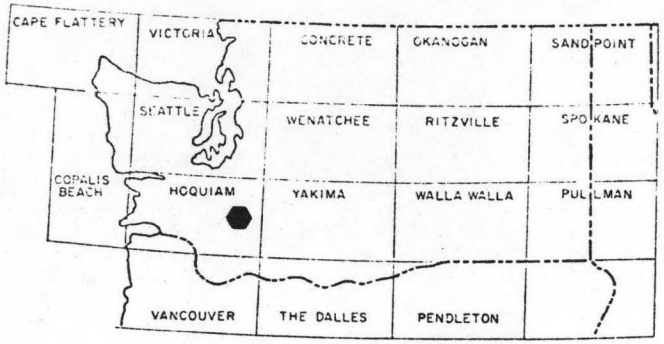
A. Upstream Elevation of Reach	2120	Ft. MSL
B. Downstream Elevation of Reach	1320	Ft. MSL
C. Total Available Head in Reach	800	Ft.
D. Average Slope in Reach	348	Ft./Mi.
E. Drainage Area above Reach Mouth	38	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

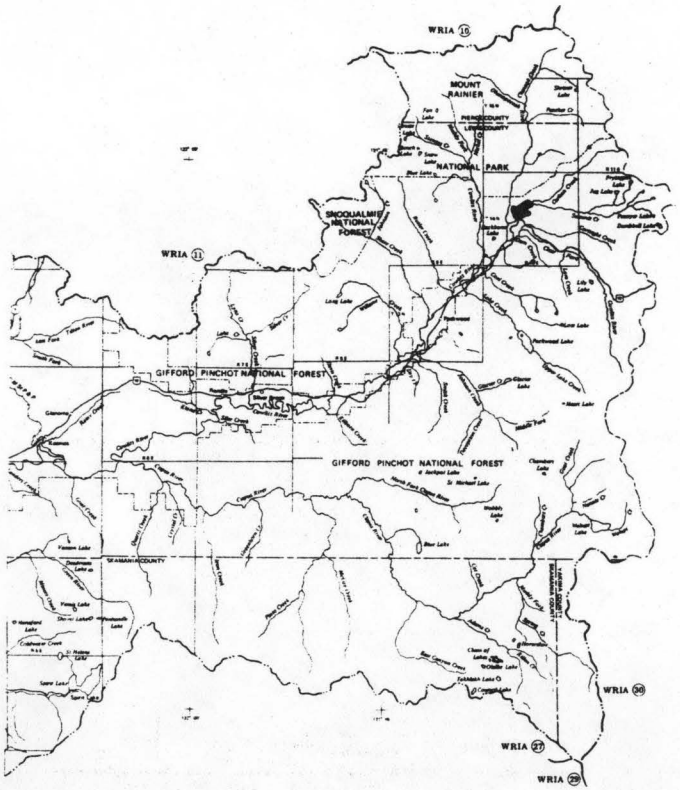
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	51.7	3.50	30.7	1.00
80	85.0	5.76	48.0	0.95
50	176	11.9	82.6	0.79
30	337	22.9	120	0.60
10	745	50.4	168	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 304 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1033

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0131

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R10E
D.	Latitude, Longitude	46°42' 121°31'
E.	Stream Name	Summit Falls Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	3.5/7.5

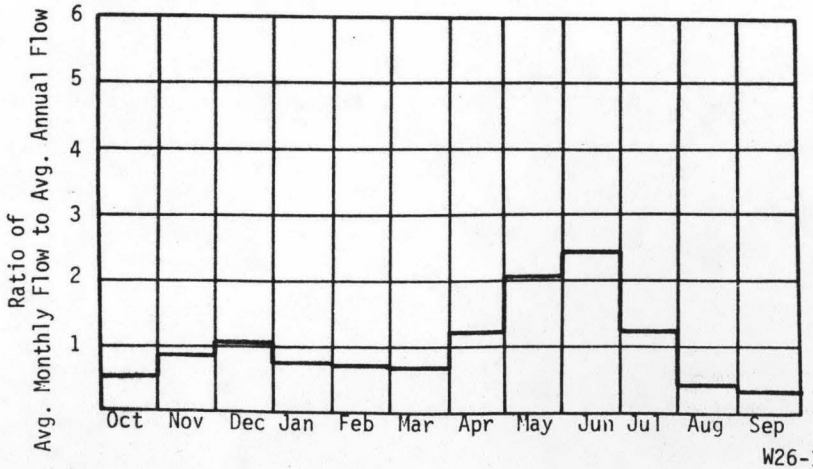
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	3180	Ft. MSL
B.	Downstream Elevation of Reach	2120	Ft. MSL
C.	Total Available Head in Reach	1060	Ft.
D.	Average Slope in Reach	265	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

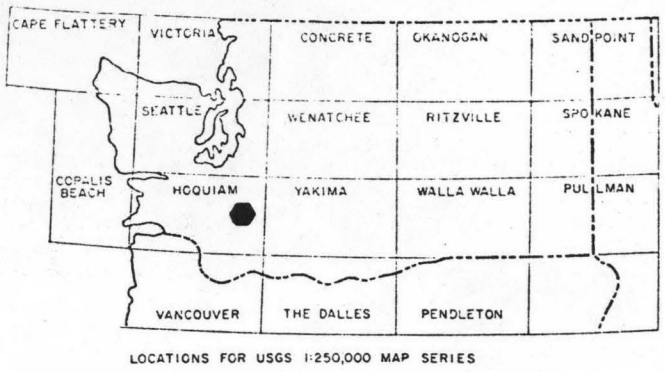
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.8	2.32	20.3	1.00
80	45.6	3.82	31.8	0.95
50	88.2	7.91	54.7	0.79
30	169	15.1	79.6	0.60
10	372	33.4	111	0.38

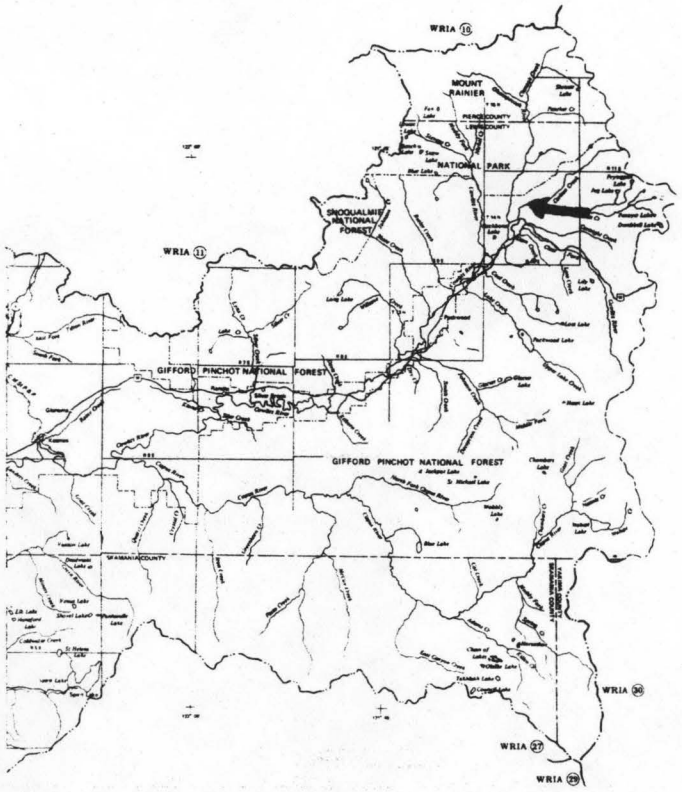
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 152 cfs



W26-1034



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0132

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T14N R1E	
D. Latitude, Longitude	46°42' 121°28'	
E. Stream Name	Summit Falls Creek	
F. Major Basin Name	Cowlitz	
G. River Mile	7.5/10.6	

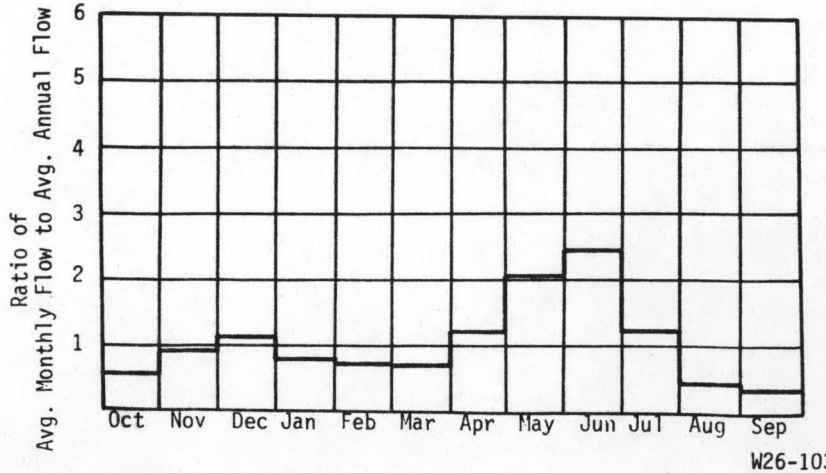
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4000	Ft. MSL
B. Downstream Elevation of Reach	3180	Ft. MSL
C. Total Available Head in Reach	820 + 66 = 886	Ft.
D. Average Slope in Reach	265	Ft./Mi.
E. Drainage Area above Reach Mouth	10	Sq.Mi.
F. Inflow Classification	Natural	

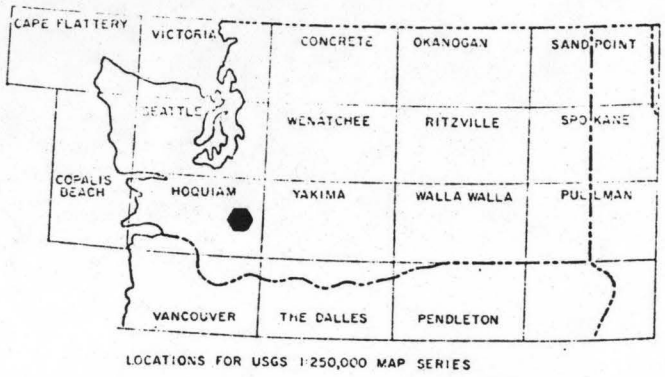
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.2	0.92	8.04	1.00
80	20.2	1.51	12.6	0.95
50	41.8	3.13	21.7	0.79
30	79.9	5.99	31.5	0.60
10	176	13.2	44.0	0.38

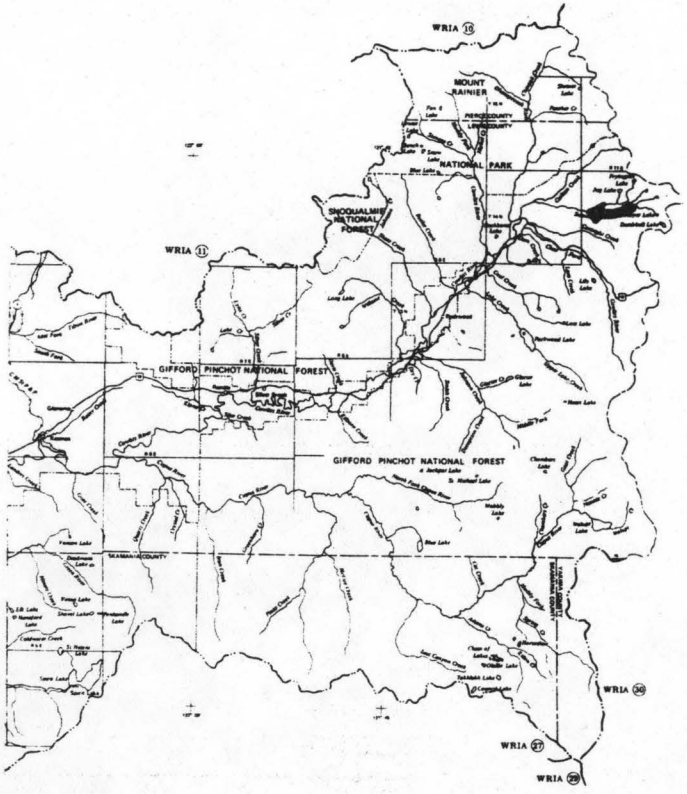
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 72 cfs



W26-1035



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0133

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T15N R10E
D.	Latitude, Longitude	46°45' 121°34'
E.	Stream Name	Ohanapecosh River
F.	Major Basin Name	Cowlitz
G.	River Mile	1.2/5.6

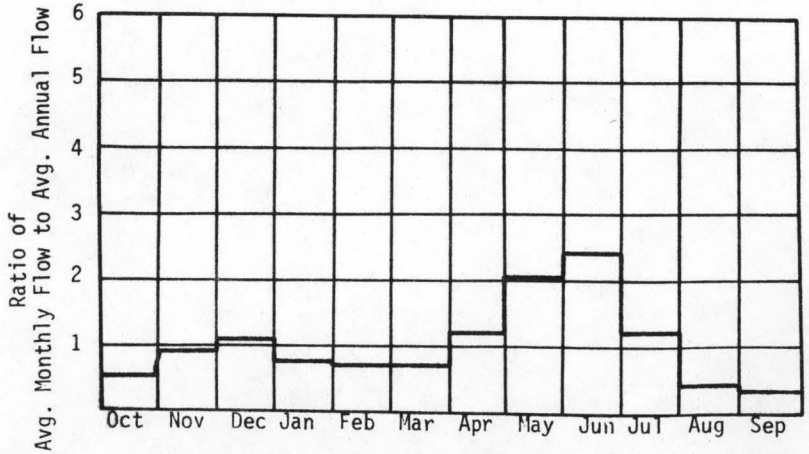
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

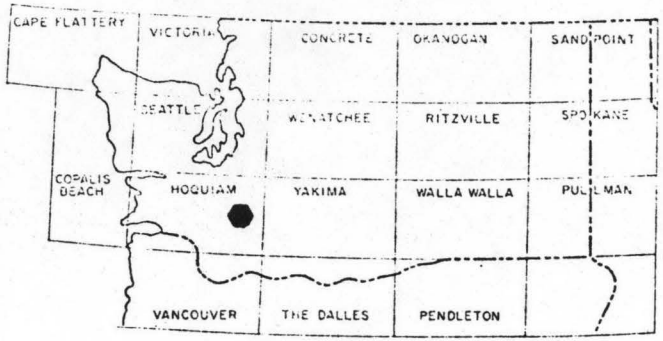
A.	Upstream Elevation of Reach	1950	Ft. MSL
B.	Downstream Elevation of Reach	1320	Ft. MSL
C.	Total Available Head in Reach	630	Ft.
D.	Average Slope in Reach	143	Ft./Mi.
E.	Drainage Area above Reach Mouth	106	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

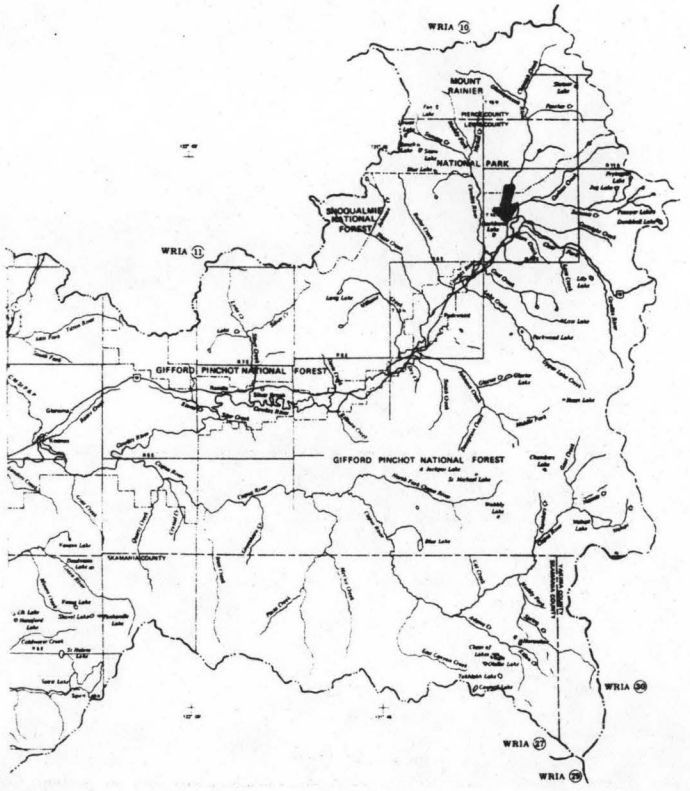
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	85.3	4.55	39.9	1.00
80	141	7.50	62.4	0.95
50	291	15.5	107	0.79
30	557	29.7	156	0.60
10	1230	65.6	218	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 502 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1036

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0134

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T15N R10E	
D. Latitude, Longitude	46°47' 121°32'	
E. Stream Name	Ohanapecosh River	
F. Major Basin Name	Cowlitz	
G. River Mile	5.6/8.4	

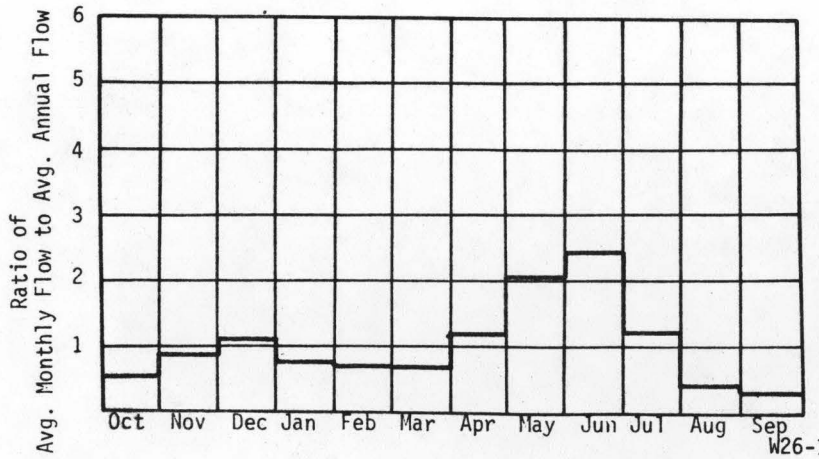
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2350	Ft. MSL
B. Downstream Elevation of Reach	1950	Ft. MSL
C. Total Available Head in Reach	400	Ft.
D. Average Slope in Reach	143	Ft./Mi.
E. Drainage Area above Reach Mouth	94	Sq.Mi.
F. Inflow Classification	Natural	

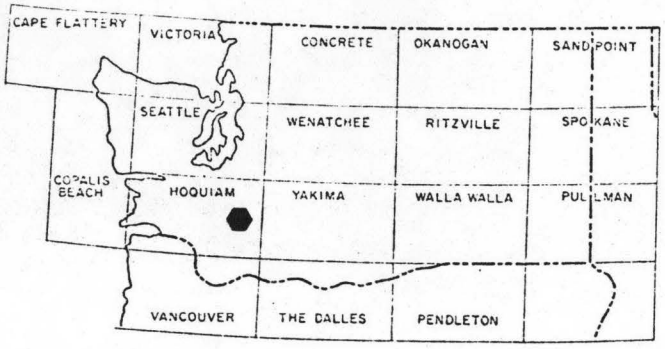
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	69.7	2.36	20.7	1.00
80	115	3.89	32.3	0.95
50	238	8.05	55.7	0.79
30	455	15.4	81.0	0.60
10	1000	34.0	113	0.38

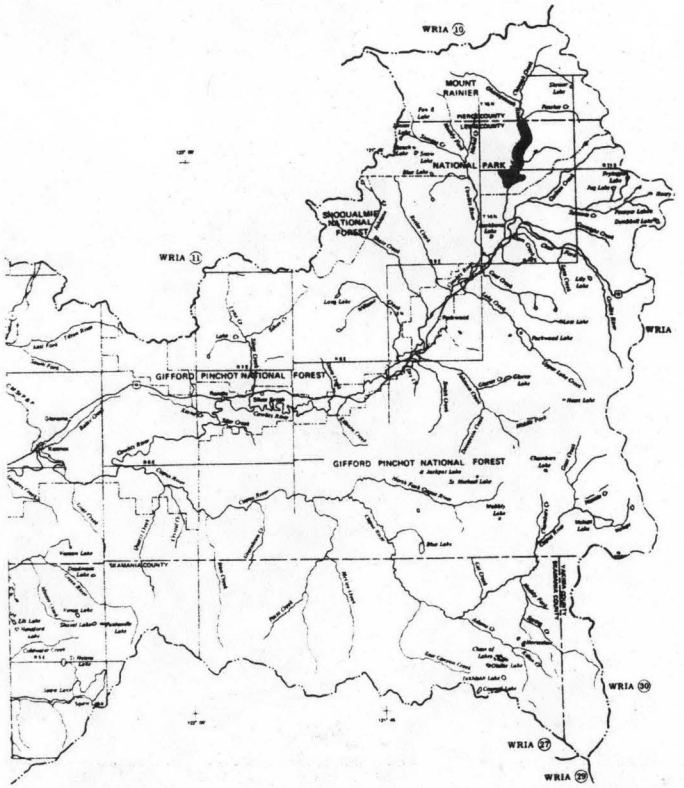
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 410 cfs



W26-1037



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0135

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T15N R10E
D.	Latitude, Longitude	46°48' 121°34'
E.	Stream Name	Ohanapecosh River
F.	Major Basin Name	Cowlitz
G.	River Mile	8.4/9.6

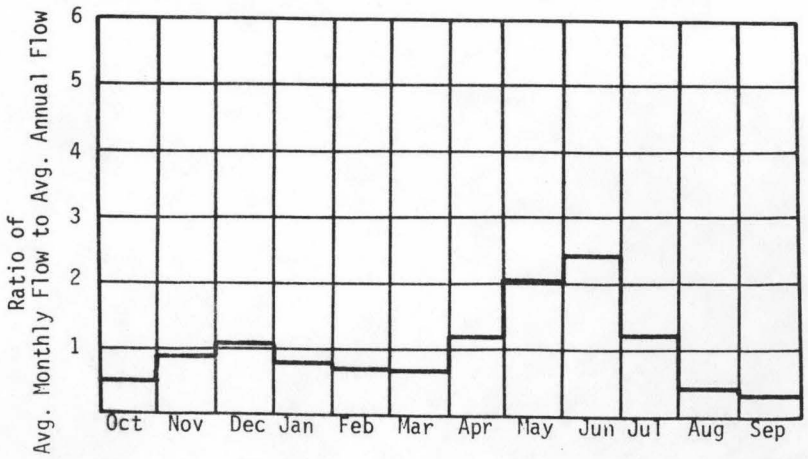
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

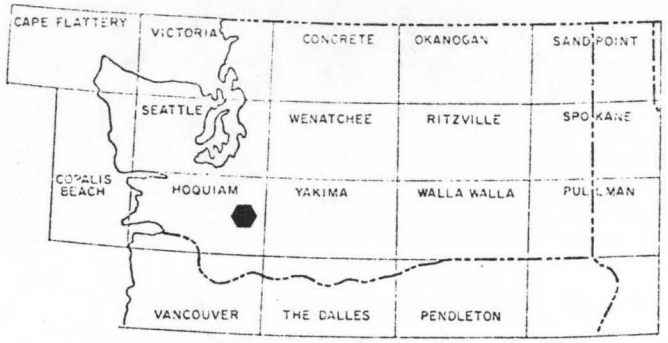
A.	Upstream Elevation of Reach	2500	Ft. MSL
B.	Downstream Elevation of Reach	2350	Ft. MSL
C.	Total Available Head in Reach	150	Ft.
D.	Average Slope in Reach	125	Ft./Mi.
E.	Drainage Area above Reach Mouth	99	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

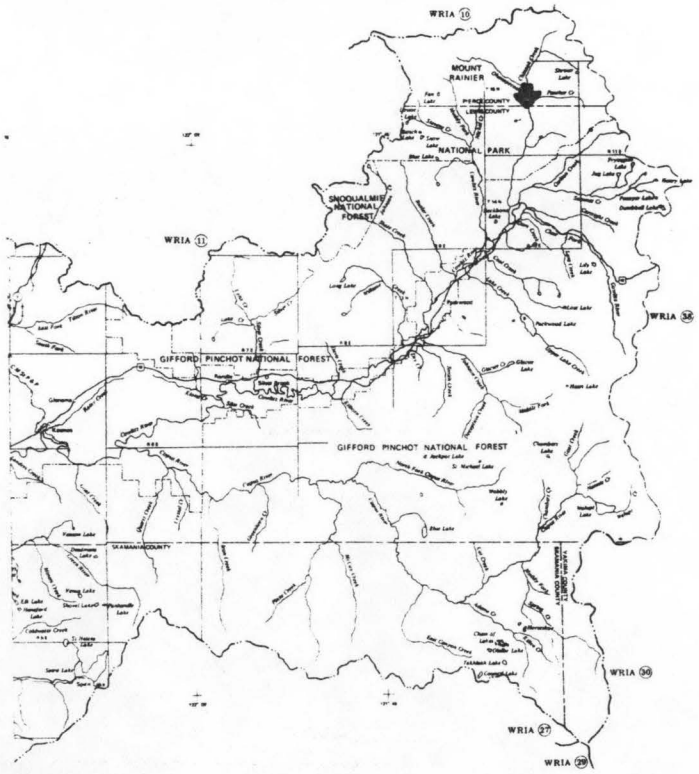
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	47.1	0.60	5.24	1.00
80	77.6	0.98	8.19	0.95
50	161	2.04	14.1	0.79
30	307	3.90	20.5	0.60
10	679	8.62	28.7	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 277 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1038

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0136

I. LOCATION

A. State	Washington	
B. County	Lewis	
C. Township, Range	T15N R10E	
D. Latitude, Longitude	46°47' 121°35'	
E. Stream Name	Ohanapecosh River	
F. Major Basin Name	Cowlitz	
G. River Mile	9.6/12.4	

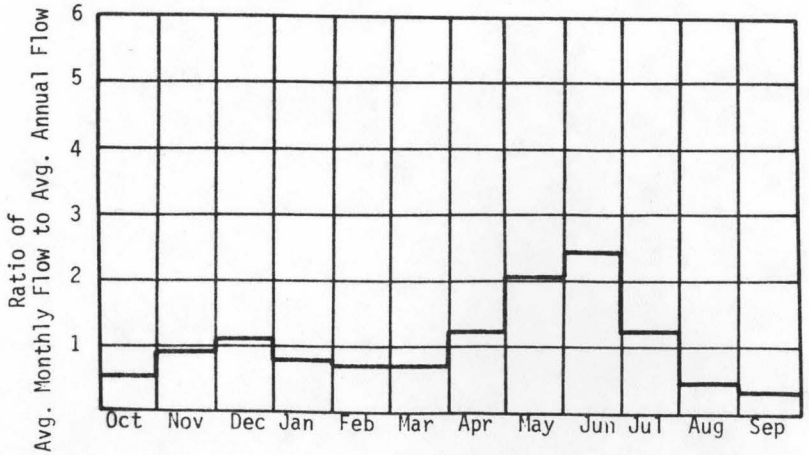
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

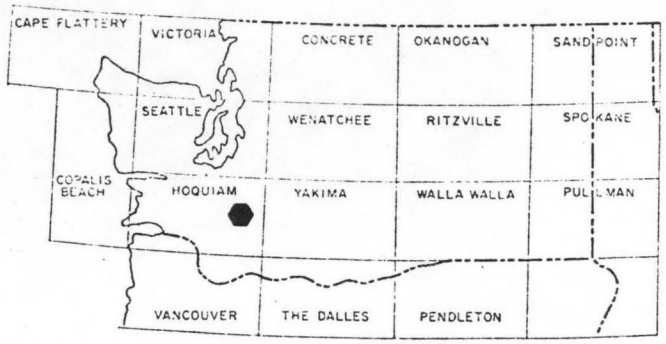
A. Upstream Elevation of Reach	3000	Ft. MSL
B. Downstream Elevation of Reach	2500	Ft. MSL
C. Total Available Head in Reach	500 + 66 = 566	Ft.
D. Average Slope in Reach	179	Ft./Mi.
E. Drainage Area above Reach Mouth	12	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

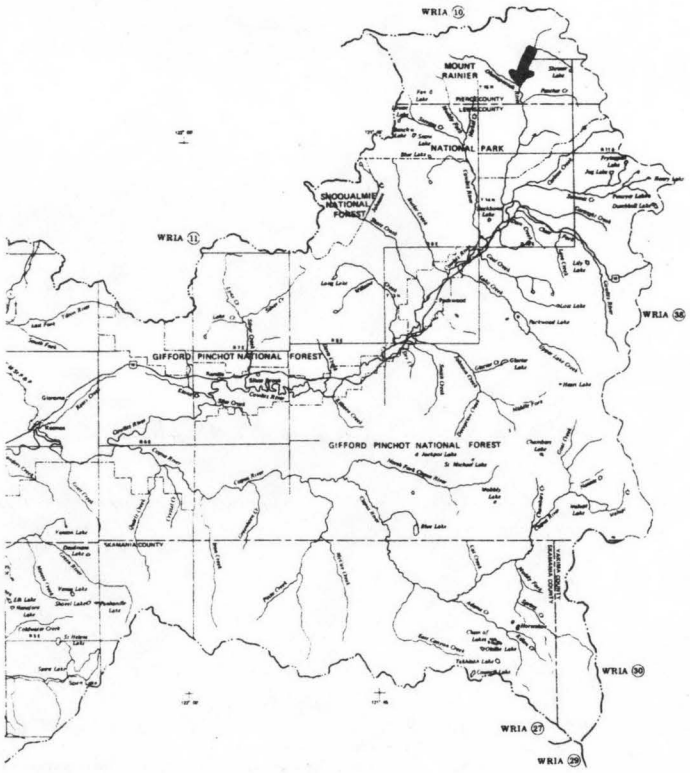
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.3	0.68	5.99	1.00
80	23.5	1.13	9.38	0.95
50	48.7	2.33	16.2	0.79
30	93.2	4.47	23.5	0.60
10	206	9.86	32.8	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 84 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0137

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T15N R10E
D.	Latitude, Longitude	46°48' 121°31'
E.	Stream Name	Panther Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0/2.4

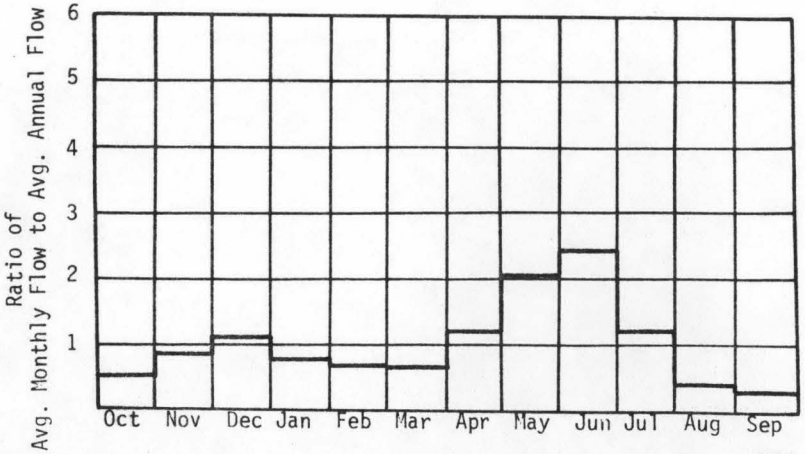
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2900	Ft. MSL
B.	Downstream Elevation of Reach	2350	Ft. MSL
C.	Total Available Head in Reach	550 + 66 = 484	Ft.
D.	Average Slope in Reach	229	Ft./Mi.
E.	Drainage Area above Reach Mouth	12	Sq.Mi.
F.	Inflow Classification	Natural	

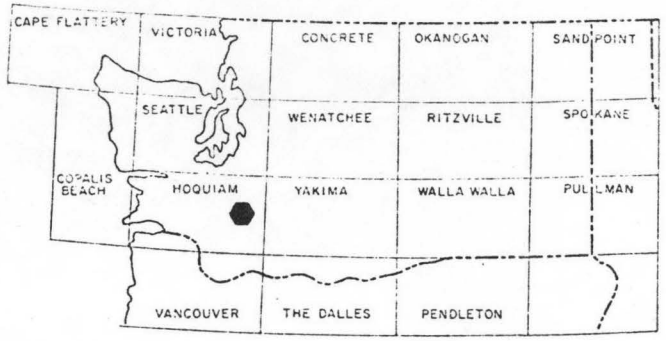
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.1	0.76	6.66	1.00
80	21.6	1.25	10.4	0.95
50	44.7	2.59	18.0	0.79
30	85.5	4.96	26.1	0.60
10	189	11.0	36.5	0.38

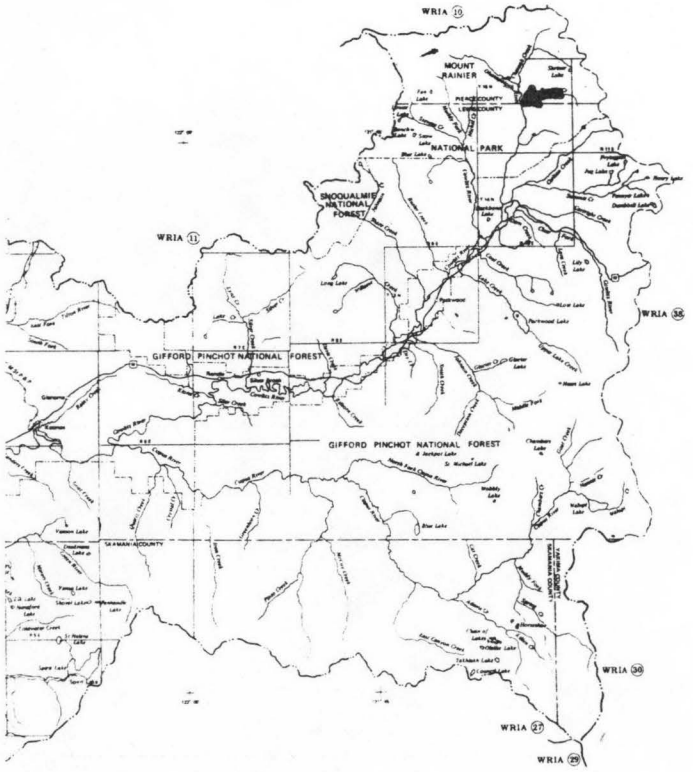
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 77 cfs



W26-1040



LOCATIONS FOR USGS 1:250,000 MAP SERIES

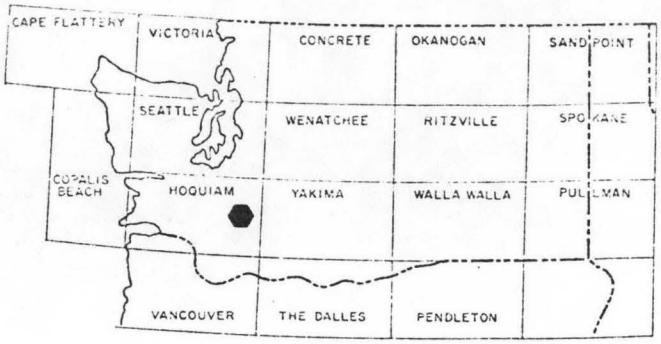


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0138

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T15N R10E
D.	Latitude, Longitude	46°50' 121°31'
E.	Stream Name	Chinook Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0/3.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

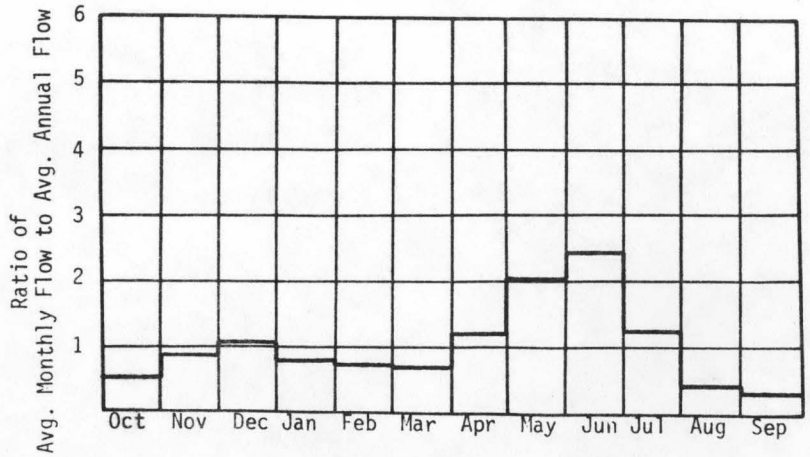
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

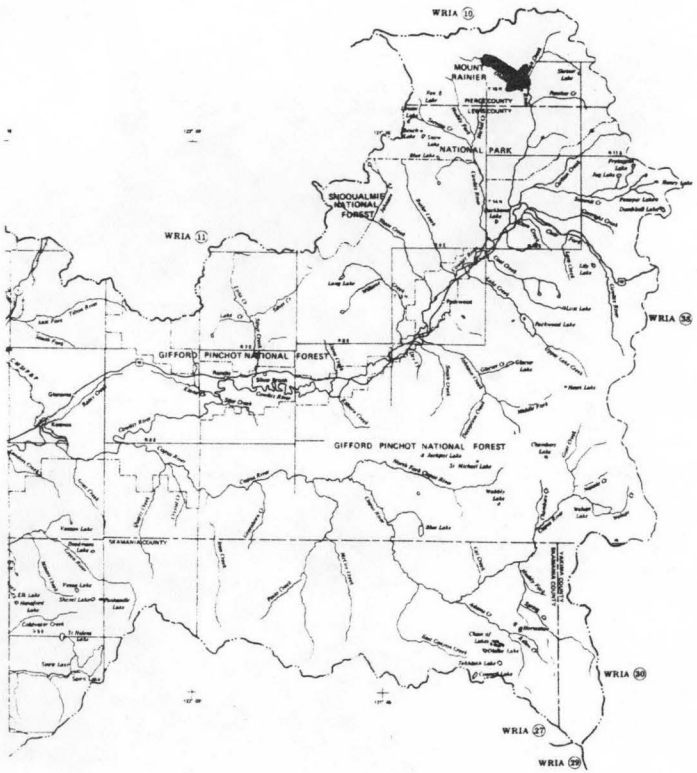
A.	Upstream Elevation of Reach	3120	Ft. MSL
B.	Downstream Elevation of Reach	2500	Ft. MSL
C.	Total Available Head in Reach	620 + 66 = 686	Ft.
D.	Average Slope in Reach	207	Ft./Mi.
E.	Drainage Area above Reach Mouth	59	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.0	1.45	12.7	1.00
80	41.2	2.39	19.9	0.95
50	85.3	4.95	34.3	0.79
30	163	9.47	49.8	0.60
10	360	20.9	69.6	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 147 cfs





W26-1041

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0139

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R10E
D.	Latitude, Longitude	46°43' 121°33'
E.	Stream Name	Carlton Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	0/1.7

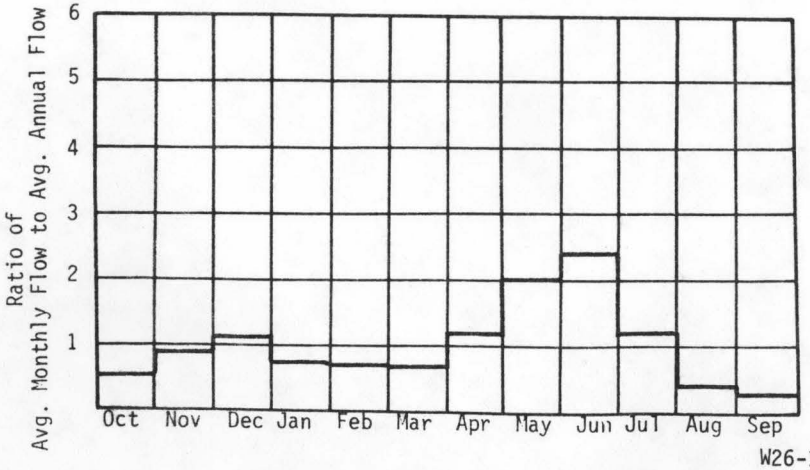
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2600	Ft. MSL
B.	Downstream Elevation of Reach	2120	Ft. MSL
C.	Total Available Head in Reach	480 + 66 = 546	Ft.
D.	Average Slope in Reach	282	Ft./Mi.
E.	Drainage Area above Reach Mouth	17	Sq.Mi.
F.	Inflow Classification	Natural	

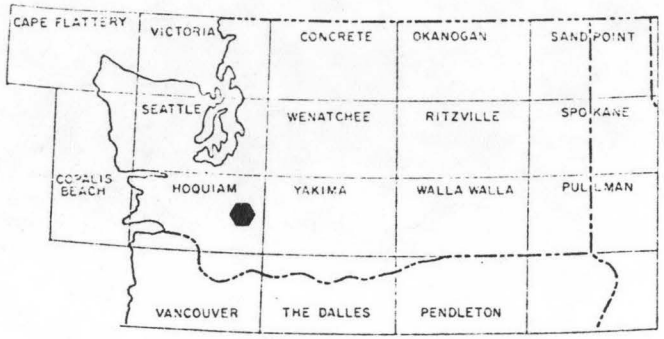
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.3	0.66	5.78	1.00
80	23.5	1.09	9.05	0.95
50	48.7	2.25	15.6	0.79
30	93.2	4.31	22.7	0.60
10	206	9.51	31.7	0.38

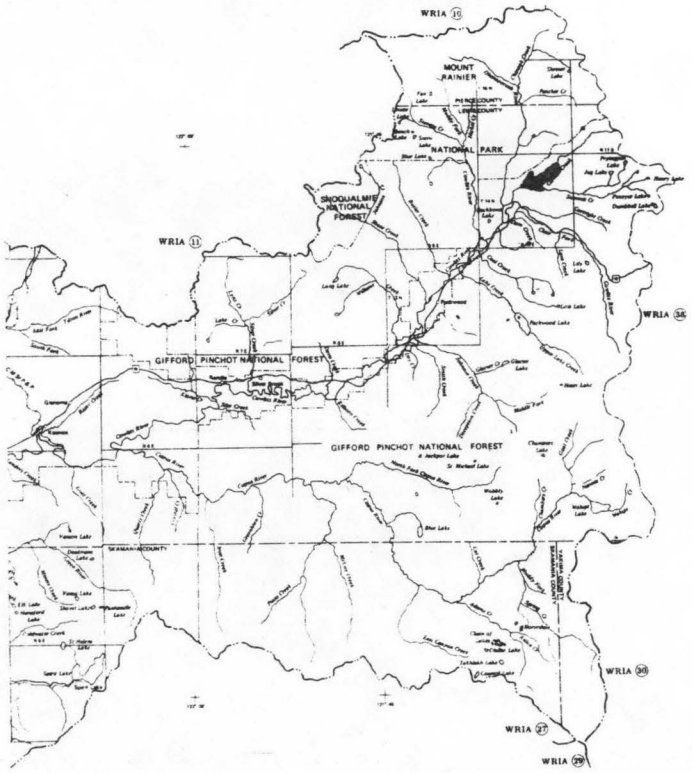
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 111 cfs



W26-1042



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0140

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R10E
D.	Latitude, Longitude	46°41' 121°35'
E.	Stream Name	Dam Creek
F.	Major Basin Name	Cowlitz
G.	River Mile	135.1/136.3

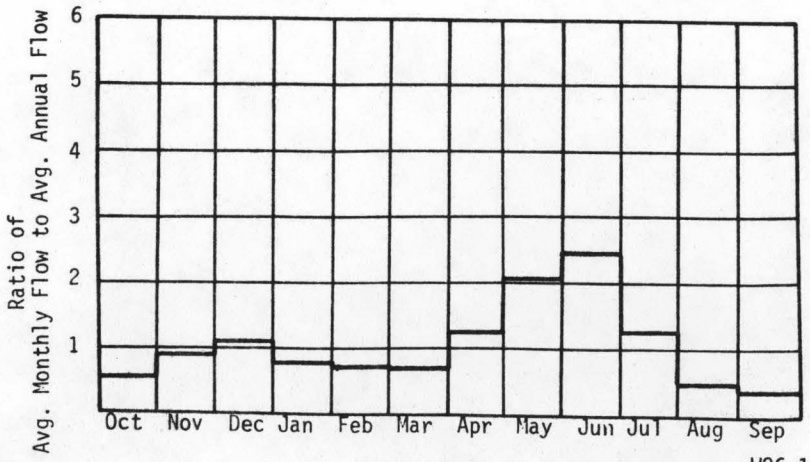
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1360	Ft. MSL
B.	Downstream Elevation of Reach	1250	Ft. MSL
C.	Total Available Head in Reach	110	Ft.
D.	Average Slope in Reach	91.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	56	Sq.Mi.
F.	Inflow Classification	Natural	

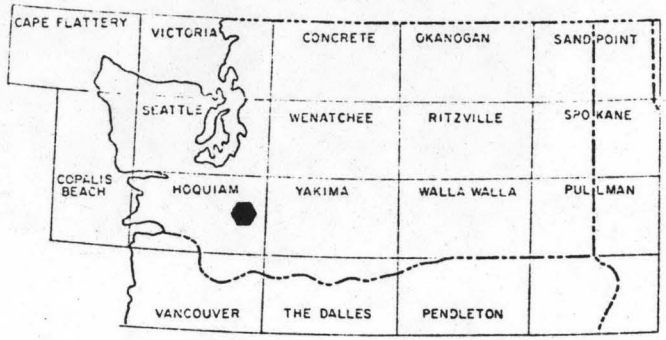
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	42.5	0.40	3.47	1.00
80	70.0	0.65	5.52	0.95
50	145	1.35	9.34	0.79
30	278	2.58	13.6	0.60
10	613	5.70	19.0	0.38

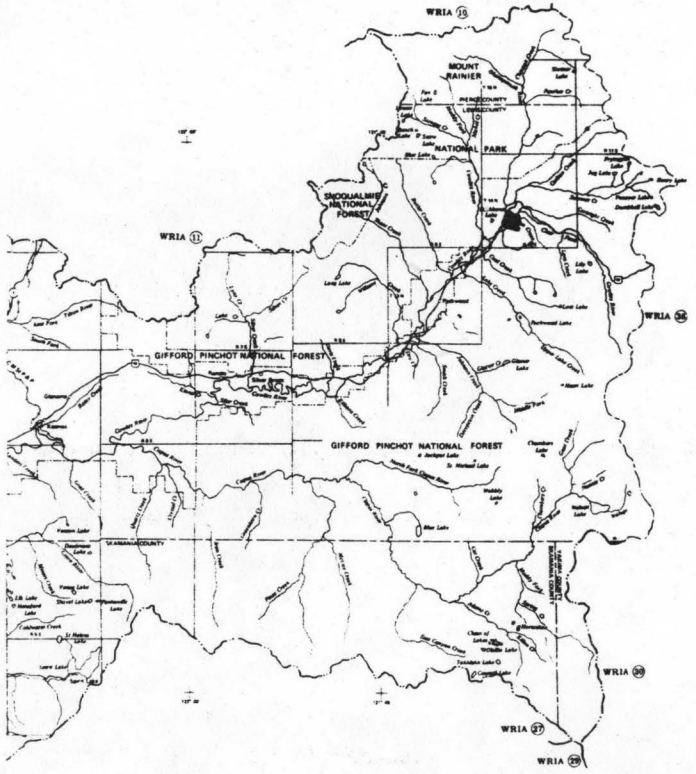
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 250 cfs



W26-1043



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0141

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R10E
D.	Latitude, Longitude	46°41' 121°35'
E.	Stream Name	Clear Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	136.3/136.9

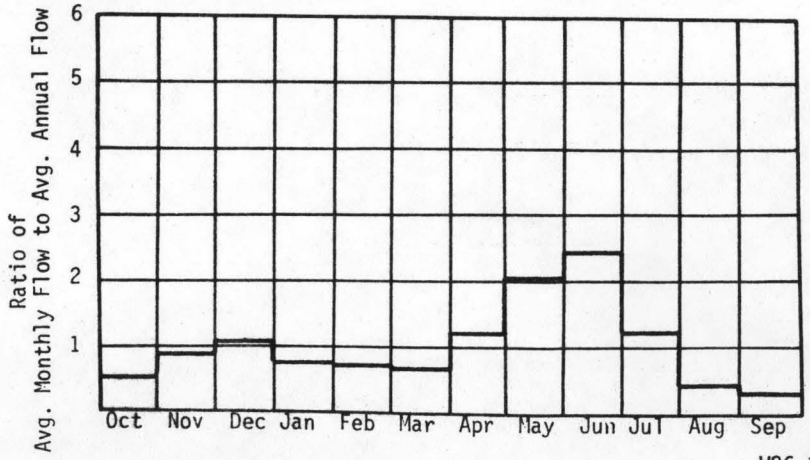
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

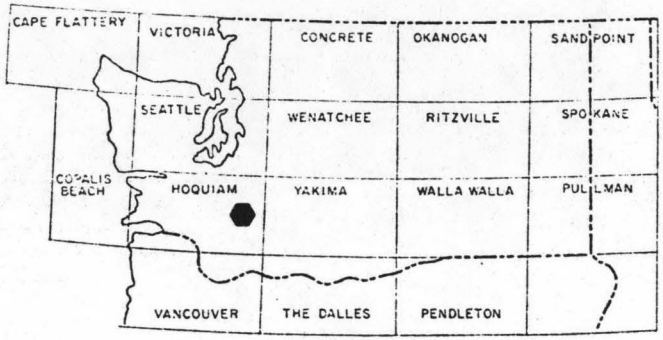
A.	Upstream Elevation of Reach	1480	Ft. MSL
B.	Downstream Elevation of Reach	1360	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	200	Ft./Mi.
E.	Drainage Area above Reach Mouth	52	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

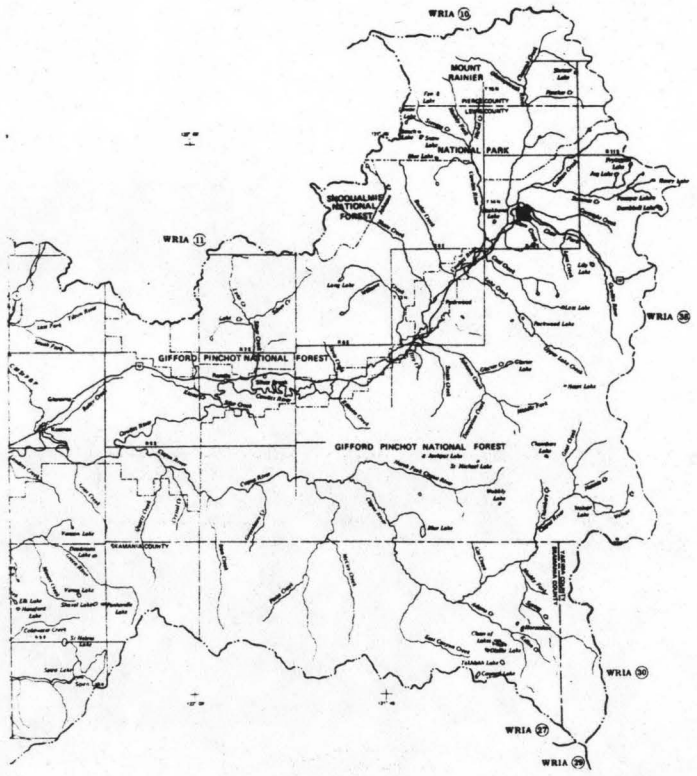
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	39.8	0.40	3.54	1.00
80	65.5	0.67	5.54	0.95
50	136	1.38	9.54	0.79
30	260	2.64	13.9	0.60
10	573	5.82	19.4	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 234 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1044

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0142

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R10E
D.	Latitude, Longitude	46°41' 121°31'
E.	Stream Name	Clear Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	136.9/140.7

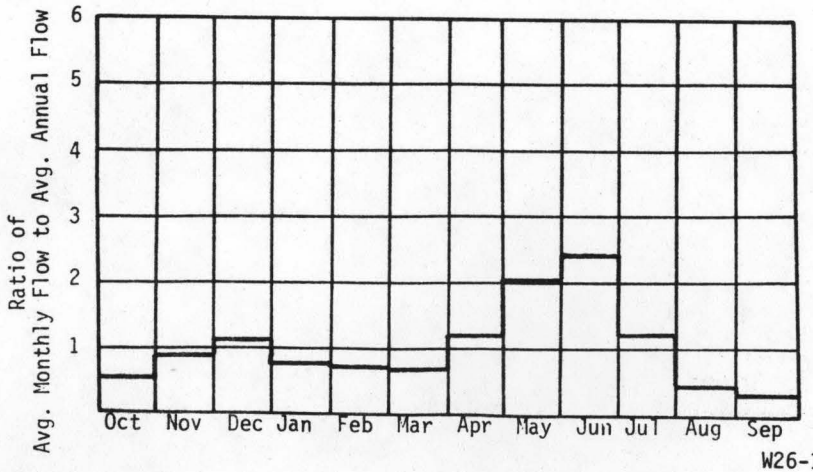
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2420	Ft. MSL
B.	Downstream Elevation of Reach	1480	Ft. MSL
C.	Total Available Head in Reach	940	Ft.
D.	Average Slope in Reach	247	Ft./Mi.
E.	Drainage Area above Reach Mouth	41	Sq.Mi.
F.	Inflow Classification	Natural	

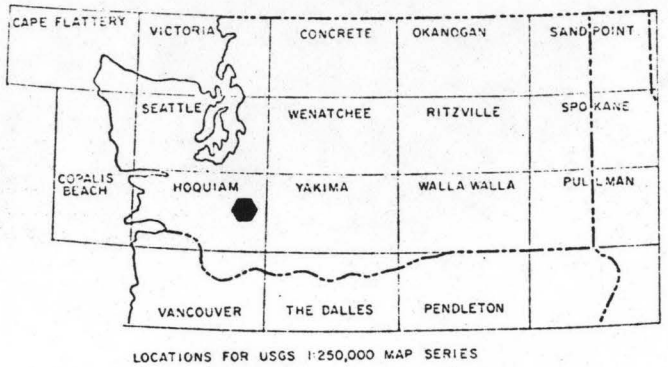
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29.9	2.38	20.9	1.00
80	49.3	3.92	32.6	0.95
50	102	8.12	56.2	0.79
30	195	15.5	81.7	0.60
10	431	34.3	114	0.38

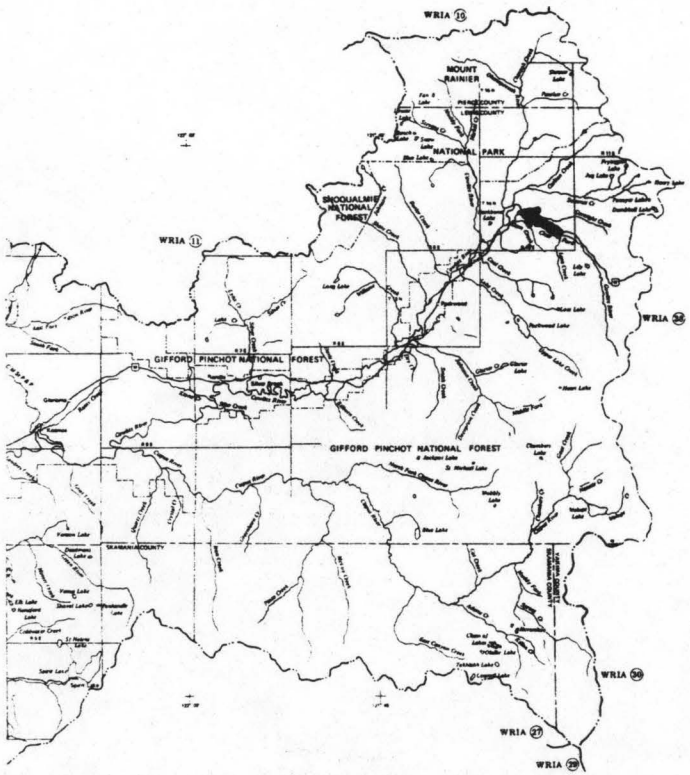
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 176 cfs



W26-1045



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0143

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T14N R1IE
D.	Latitude, Longitude	46°39' 121°28'
E.	Stream Name	Clear Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	140.7/145.8

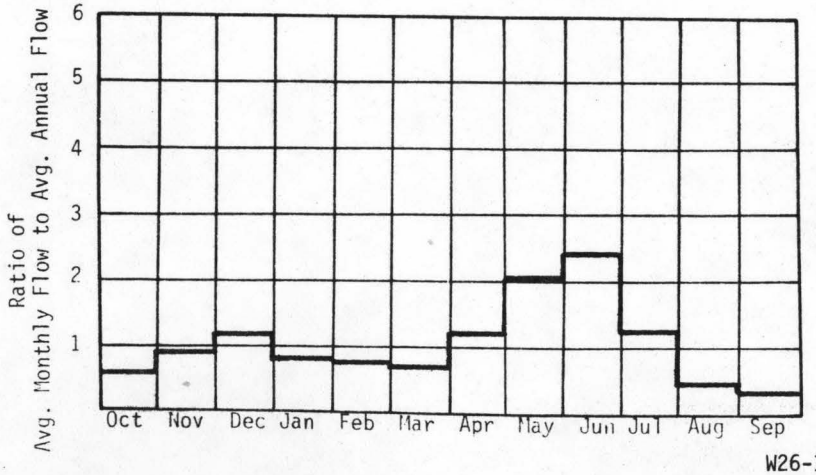
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

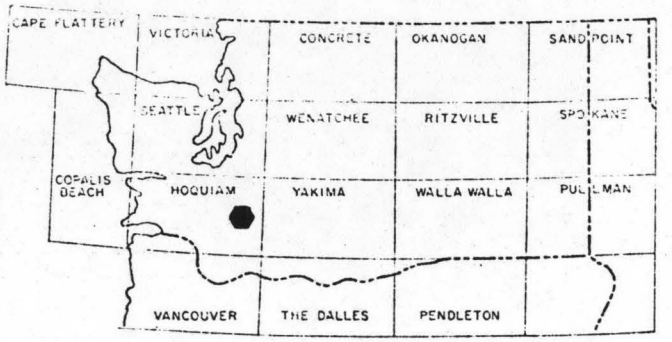
A.	Upstream Elevation of Reach	3190	Ft. MSL
B.	Downstream Elevation of Reach	2420	Ft. MSL
C.	Total Available Head in Reach	770	Ft.
D.	Average Slope in Reach	151	Ft./Mi.
E.	Drainage Area above Reach Mouth	32	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

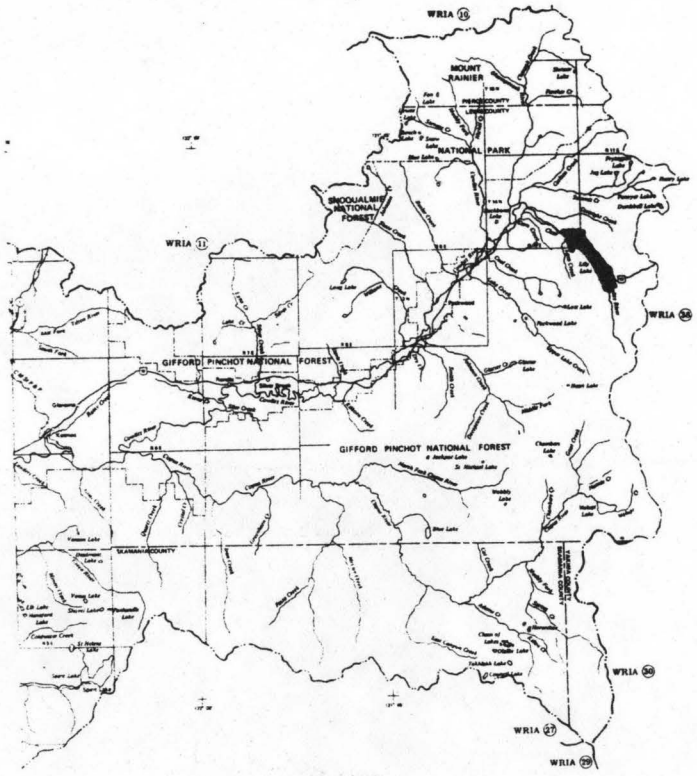
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	21.8	1.42	12.4	1.00
80	35.8	2.34	19.4	0.95
50	74.2	4.84	33.5	0.79
30	142	9.26	48.7	0.60
10	314	20.4	68.0	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 128 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W26-1046

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-020-000-000-R0144

I. LOCATION

A.	State	Washington
B.	County	Lewis
C.	Township, Range	T12N R1E
D.	Latitude, Longitude	46°37' 121°28'
E.	Stream Name	Clear Fork
F.	Major Basin Name	Cowlitz
G.	River Mile	145.8/147.8

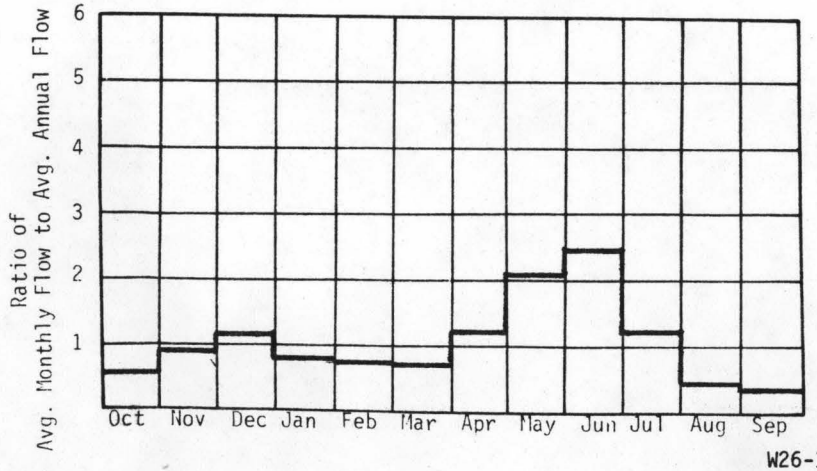
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	3760	Ft. MSL
B.	Downstream Elevation of Reach	3190	Ft. MSL
C.	Total Available Head in Reach	570 + 66 = 636	Ft.
D.	Average Slope in Reach	285	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

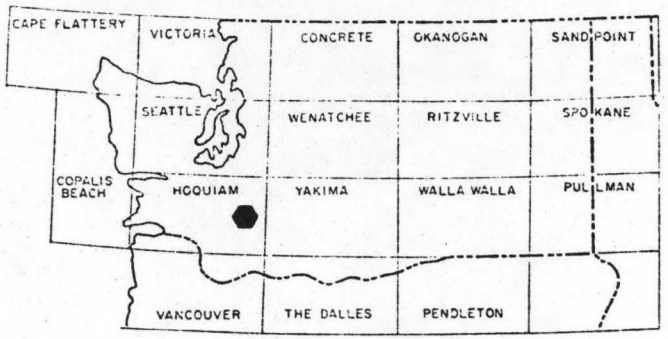
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.8	0.69	6.01	1.00
80	21.0	1.13	9.41	0.95
50	43.5	2.34	16.2	0.79
30	83.3	4.48	23.6	0.60
10	184	9.89	32.9	0.38

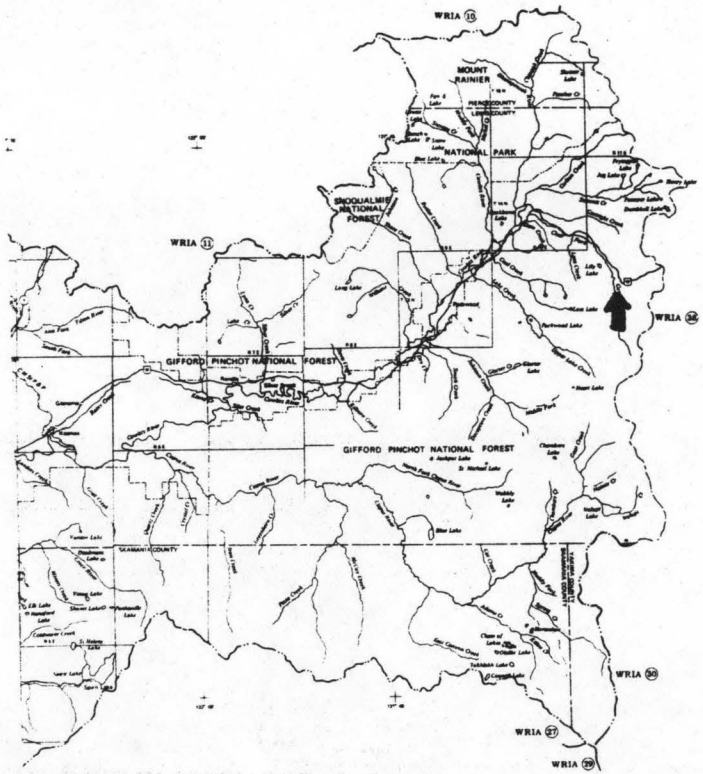
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 75 cfs



W26-1047



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T7N R1W	
D. Latitude, Longitude	46°03' 122°50'	
E. Stream Name	Kalama	
F. Major Basin Name	Kalama	
G. River Mile	0/4.8	

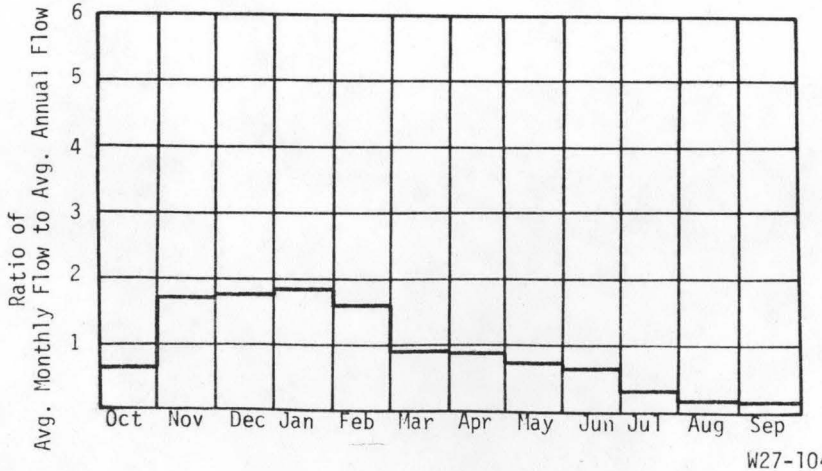
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

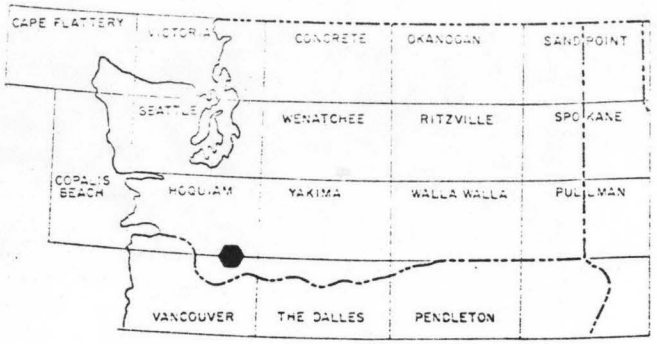
A. Upstream Elevation of Reach	35	Ft. MSL
B. Downstream Elevation of Reach	10	Ft. MSL
C. Total Available Head in Reach	25	Ft.
D. Average Slope in Reach	5.21	Ft./Mi.
E. Drainage Area above Reach Mouth	208	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	218	0.46	4.06	1.00
80	323	0.68	5.74	0.96
50	852	1.80	12.0	0.76
30	1300	2.75	15.2	0.63
10	2470	5.21	19.2	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1152 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W27-1048

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0002

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T6N R1W	
D. Latitude, Longitude	46°02' 122°45'	
E. Stream Name	Kalama	
F. Major Basin Name	Kalama	
G. River Mile	4.8/13.3	

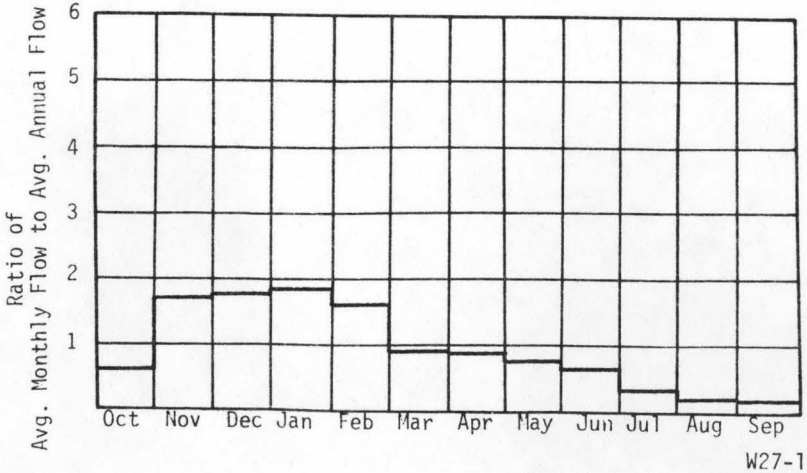
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	240	Ft. MSL
B. Downstream Elevation of Reach	35	Ft. MSL
C. Total Available Head in Reach	205	Ft.
D. Average Slope in Reach	24.1	Ft./Mi.
E. Drainage Area above Reach Mouth	194	Sq.Mi.
F. Inflow Classification	Natural	

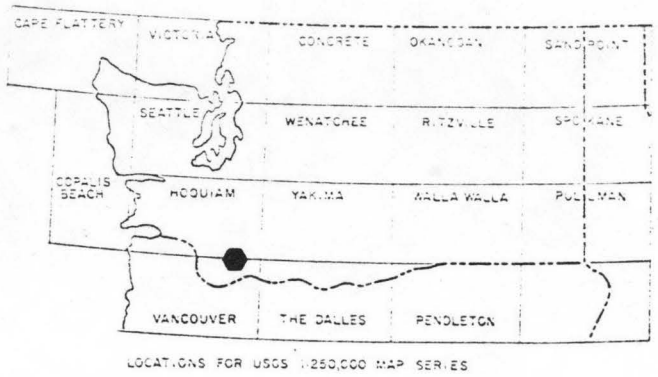
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	194	3.36	29.5	1.00
80	291	5.04	42.4	0.96
50	711	12.3	82.1	0.76
30	1180	20.6	112	0.62
10	2270	39.4	142	0.41

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1077 cfs



W27-1049



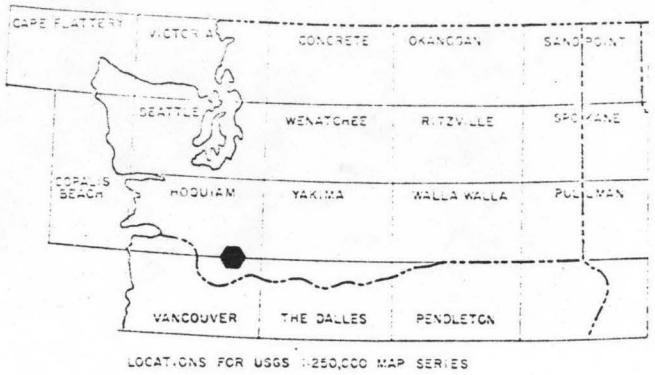
LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T6N R1E
D.	Latitude, Longitude	46°02' 122°40'
E.	Stream Name	Kalama
F.	Major Basin Name	Kalama
G.	River Mile	13.3/18.6



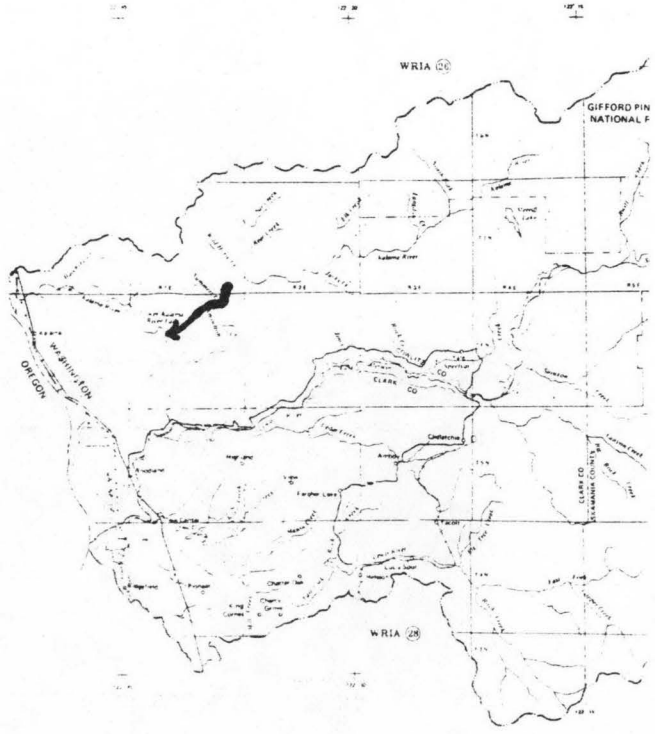
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	410	Ft. MSL
B.	Downstream Elevation of Reach	250	Ft. MSL
C.	Total Available Head in Reach	160	Ft.
D.	Average Slope in Reach	30.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	160	Sq.Mi.
F.	Inflow Classification	Natural	

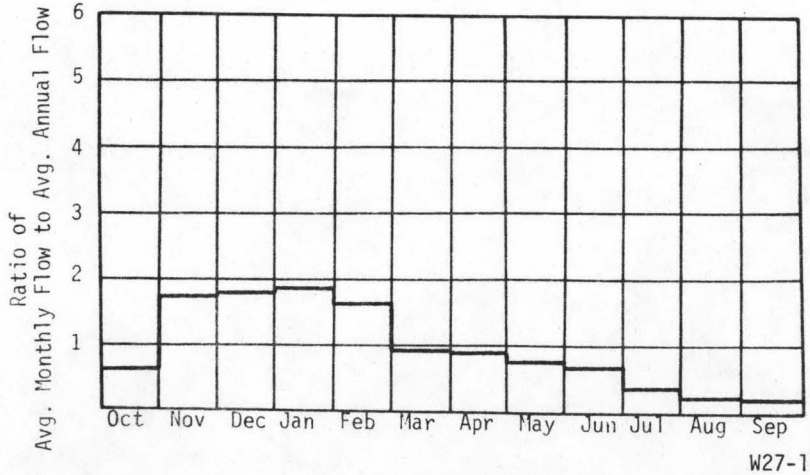
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	171	2.32	20.3	1.00
80	257	3.48	29.2	0.96
50	628	8.50	56.6	0.76
30	1050	14.2	76.9	0.62
10	2010	27.2	97.6	0.41



IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 951 cfs



W27-1050

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0004

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	17N R1E	
D. Latitude, Longitude	46°04' 122°37'	
E. Stream Name	Kalama	
F. Major Basin Name	Kalama	
G. River Mile	18.6/19.2	

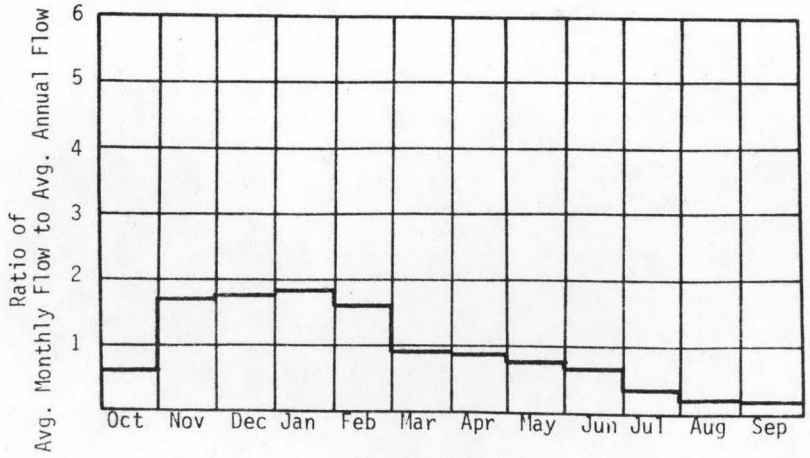
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

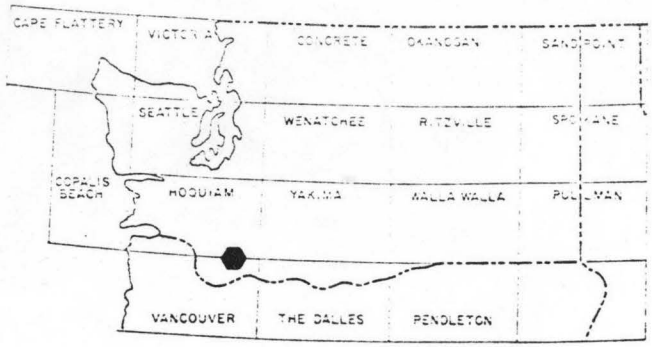
A. Upstream Elevation of Reach	420	Ft. MSL
B. Downstream Elevation of Reach	410	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	16.7	Ft./Mi.
E. Drainage Area above Reach Mouth	135	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	158	0.13	1.17	1.00
80	236	0.20	1.68	0.96
50	578	0.49	3.25	0.76
30	963	0.81	4.42	0.62
10	1850	1.56	5.61	0.41

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 875 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W27-1051

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T7N R2E	
D. Latitude, Longitude	46°03' 122°33'	
E. Stream Name	Kalama	
F. Major Basin Name	Kalama	
G. River Mile	19.2/26.8	

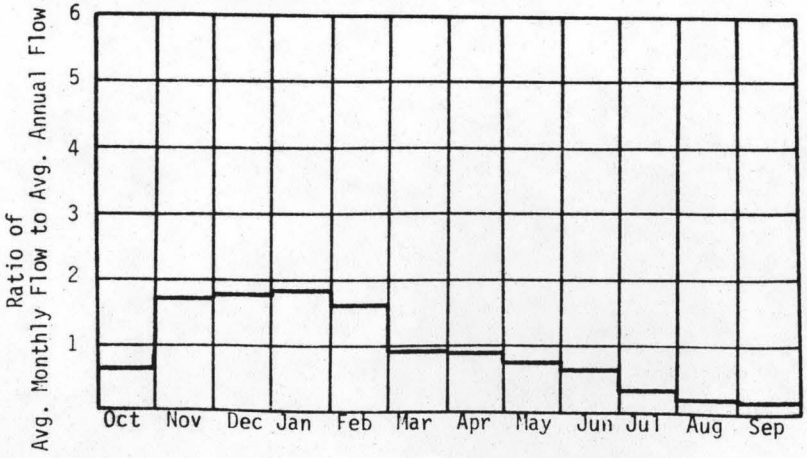
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

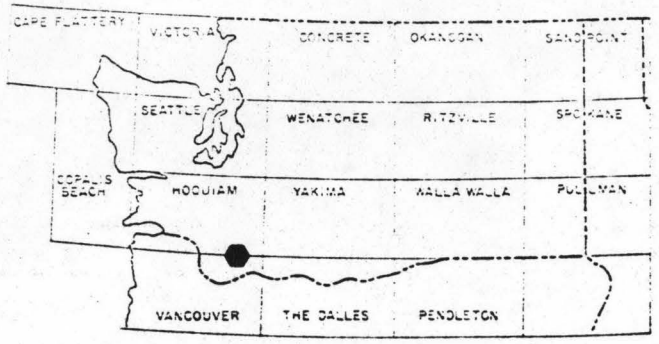
A. Upstream Elevation of Reach	700	Ft. MSL
B. Downstream Elevation of Reach	420	Ft. MSL
C. Total Available Head in Reach	280	Ft.
D. Average Slope in Reach	36.8	Ft./Mi.
E. Drainage Area above Reach Mouth	114	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

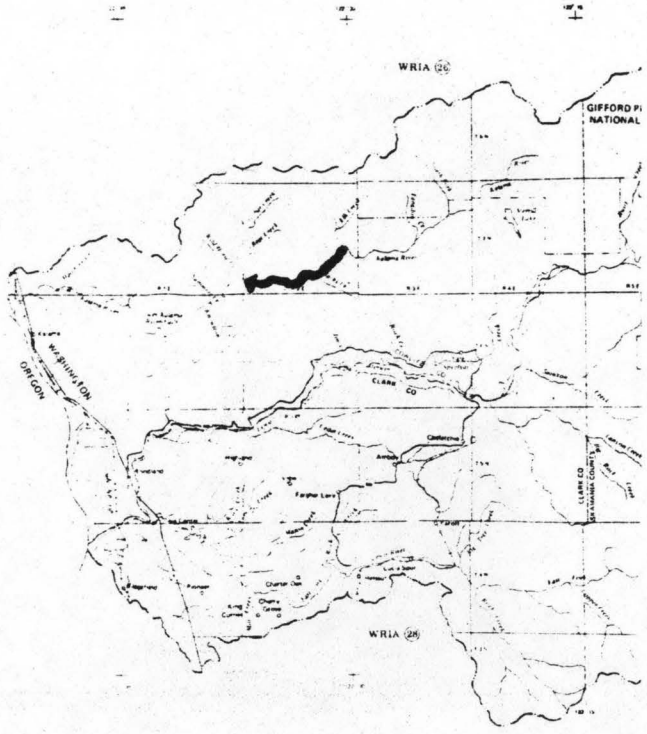
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	131	3.09	27.1	1.00
80	196	4.64	39.0	0.96
50	479	11.3	75.5	0.76
30	798	18.9	103	0.62
10	1530	36.2	130	0.41

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 725 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W21-1052

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T7N R3E
D.	Latitude, Longitude	46°05' 122°27'
E.	Stream Name	Kalama
F.	Major Basin Name	Kalama
G.	River Mile	26.8/33.7

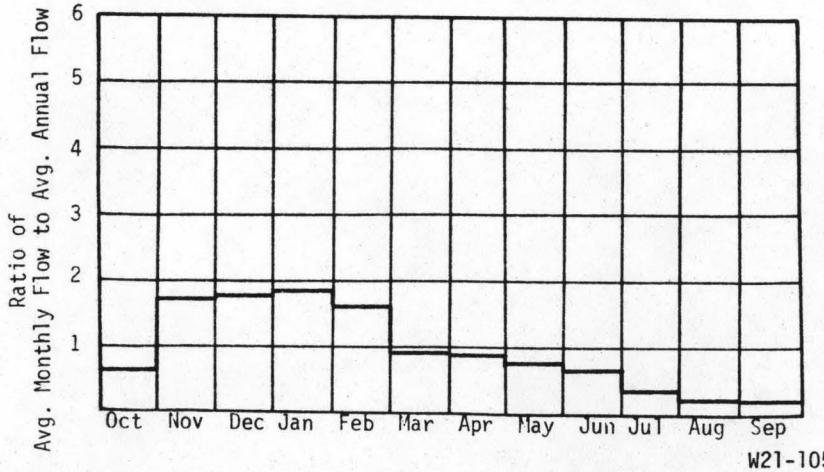
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1140	Ft. MSL
B.	Downstream Elevation of Reach	700	Ft. MSL
C.	Total Available Head in Reach	440	Ft.
D.	Average Slope in Reach	63.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	79.0	Sq.Mi.
F.	Inflow Classification	Natural	

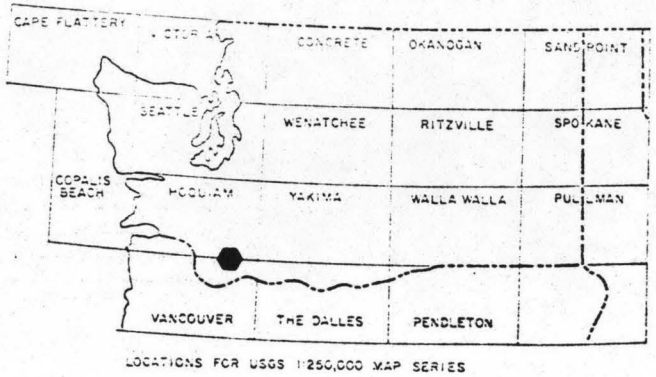
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	94.5	3.52	30.8	1.00
80	142	5.28	44.4	0.96
50	347	12.9	85.9	0.76
30	578	21.5	117	0.62
10	1110	41.2	148	0.41

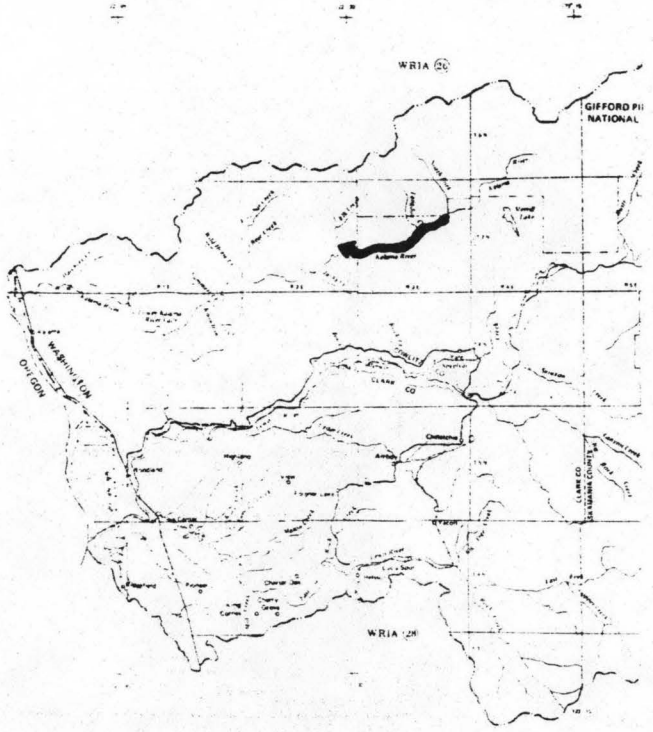
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 525 cfs



W21-1053



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T7N R4E
D.	Latitude, Longitude	46°07' 122°22'
E.	Stream Name	Kalama
F.	Major Basin Name	Kalama
G.	River Mile	33.7/36.9

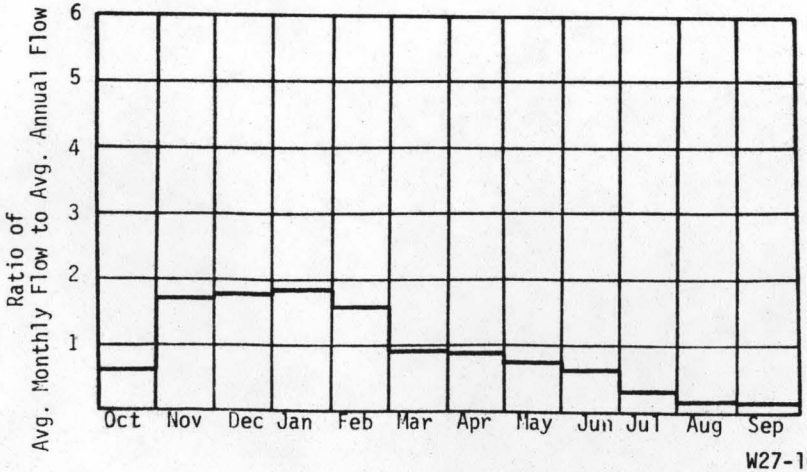
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1370	Ft. MSL
B.	Downstream Elevation of Reach	1140	Ft. MSL
C.	Total Available Head in Reach	230	Ft.
D.	Average Slope in Reach	71.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	44.9	Sq.Mi.
F.	Inflow Classification	Natural	

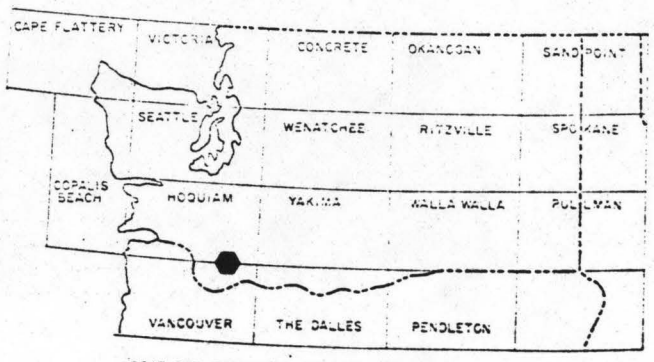
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	52.0	1.01	8.87	1.00
80	78.0	1.52	12.8	0.96
50	191	3.71	24.7	0.76
30	318	6.19	33.6	0.62
10	610	11.9	42.6	0.41

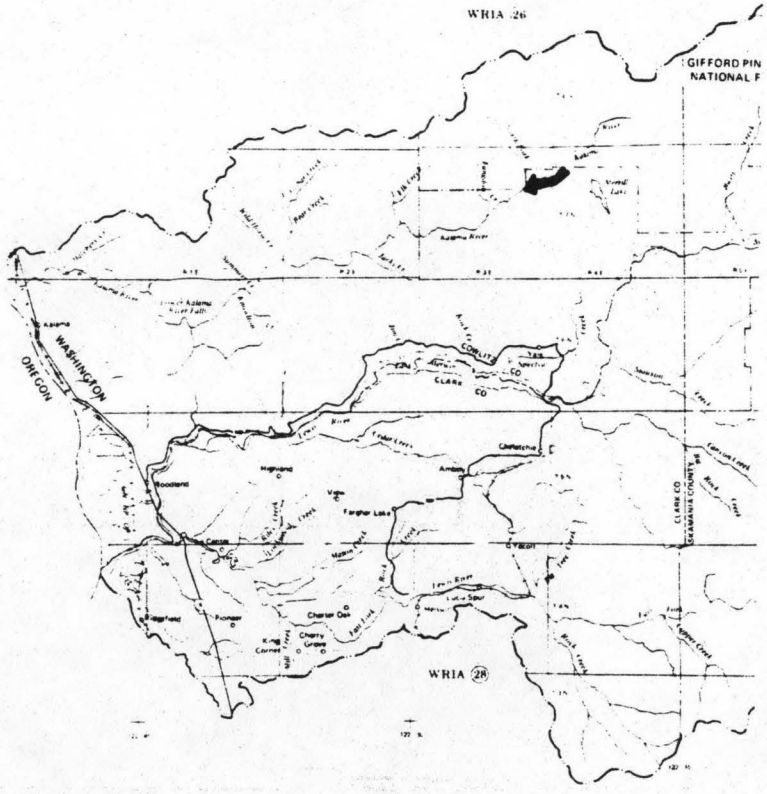
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 289 cfs



W27-1054



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T8N R4W
D.	Latitude, Longitude	46°08' 122°19'
E.	Stream Name	Kalama
F.	Major Basin Name	Kalama
G.	River Mile	36.9/43.3

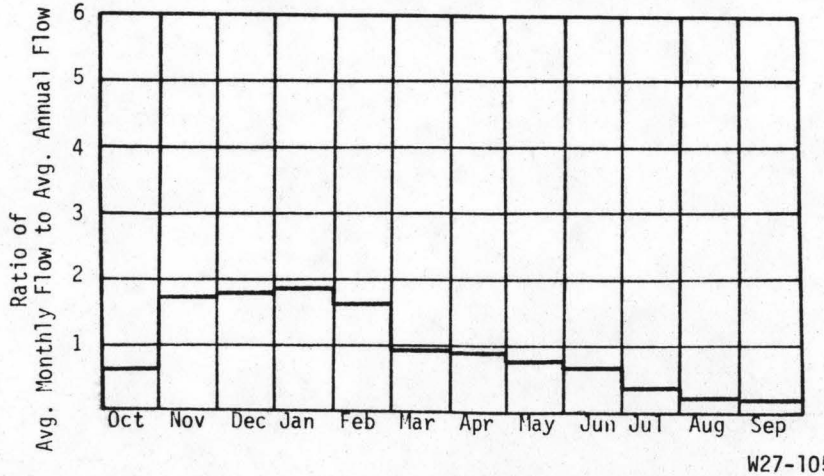
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2680	Ft. MSL
B.	Downstream Elevation of Reach	1370	Ft. MSL
C.	Total Available Head in Reach	1310 + 66 = 1376	Ft.
D.	Average Slope in Reach	205	Ft./Mi.
E.	Drainage Area above Reach Mouth	13.5	Sq.Mi.
F.	Inflow Classification	Natural	

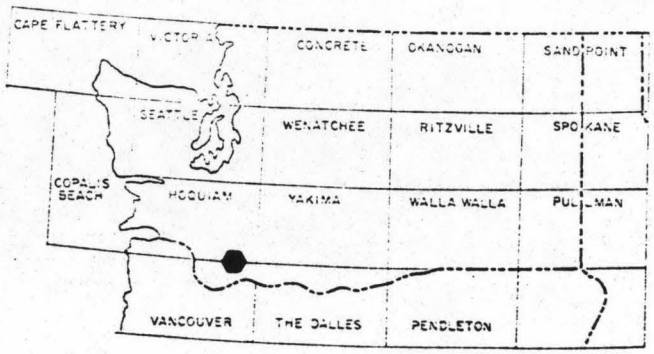
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.8	1.72	15.1	1.00
80	22.1	2.58	21.7	0.96
50	54.1	6.30	41.9	0.76
30	90.2	10.5	57.0	0.62
10	173	20.1	72.3	0.41

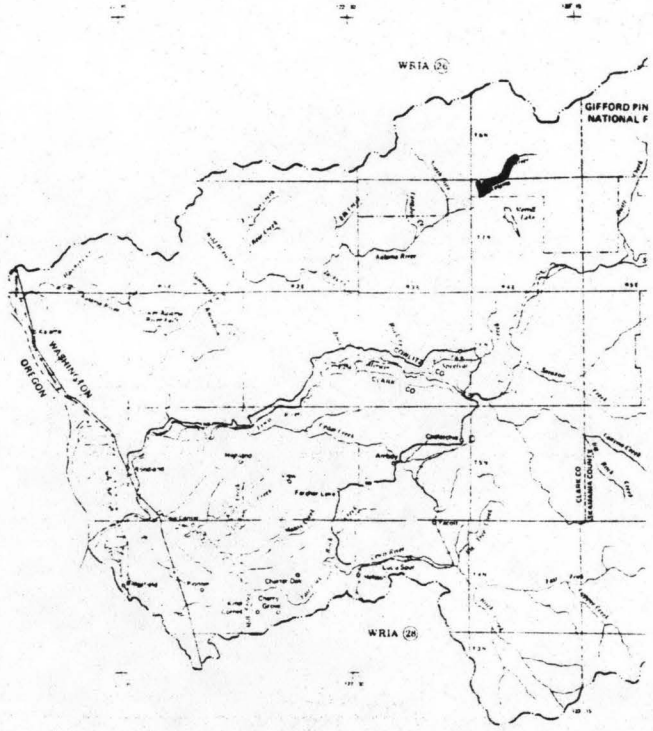
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 82 cfs



W27-1055



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0009

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T7N R2E	
D. Latitude, Longitude	46°04' 122°36'	
E. Stream Name	Gobar Creek	
F. Major Basin Name	Kalama	
G. River Mile	0/2.8	

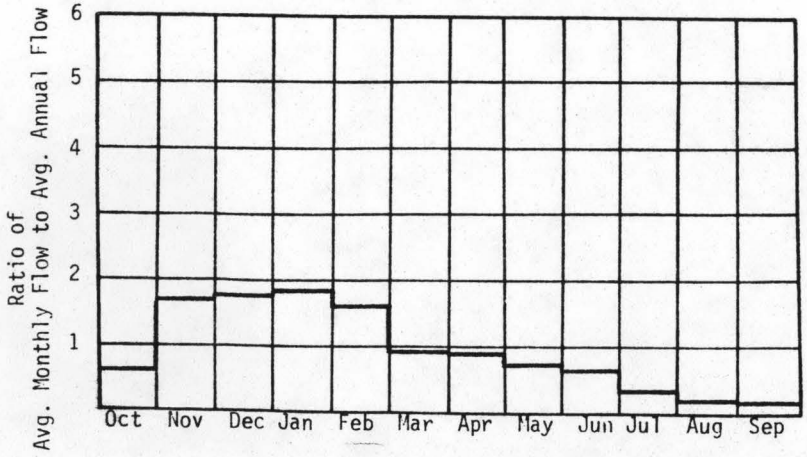
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

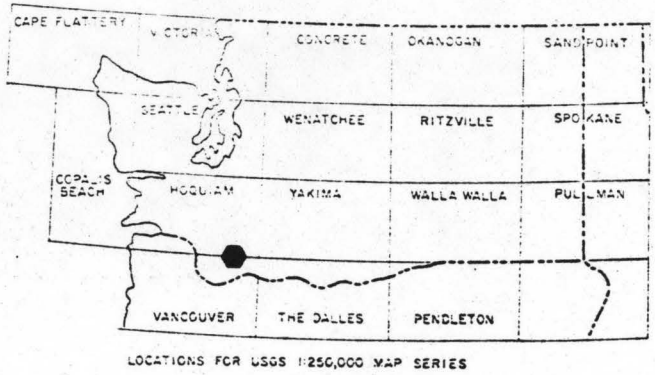
A. Upstream Elevation of Reach	630	Ft. MSL
B. Downstream Elevation of Reach	410	Ft. MSL
C. Total Available Head in Reach	220 + 66 = 286	Ft.
D. Average Slope in Reach	78.6	Ft./Mi.
E. Drainage Area above Reach Mouth	21.5	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.8	0.36	3.13	1.00
80	22.1	0.54	4.50	0.96
50	54.1	1.31	8.72	0.76
30	90.2	2.18	11.9	0.62
10	173	4.19	15.0	0.41

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 82 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W27-1056

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Cowlitz
C.	Township, Range	T8N R3E
D.	Latitude, Longitude	46°08' 122°25'
E.	Stream Name	N.F. Kalama
F.	Major Basin Name	Kalama
G.	River Mile	0/2.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

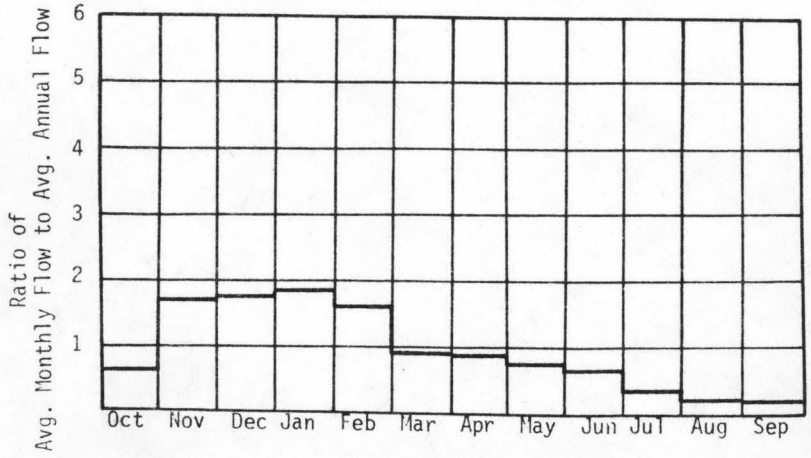
A.	Upstream Elevation of Reach	1530	Ft. MSL
B.	Downstream Elevation of Reach	1140	Ft. MSL
C.	Total Available Head in Reach	390 + 66 = 456	Ft.
D.	Average Slope in Reach	134	Ft./Mi.
E.	Drainage Area above Reach Mouth	12.9	Sq.Mi.
F.	Inflow Classification	Natural	

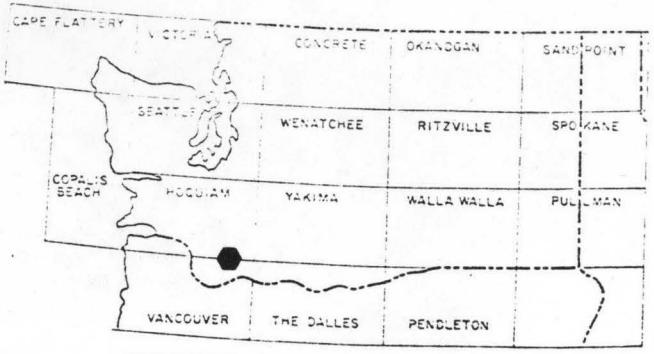
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15.1	0.58	5.11	1.00
80	22.7	0.87	7.36	0.96
50	55.4	2.14	14.2	0.76
30	92.4	3.56	19.4	0.62
10	177	6.84	24.6	0.41

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 84 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W27-1057

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0011

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T8N R4E	
D. Latitude, Longitude	46°09' 122° 21'	
E. Stream Name	Fossil Creek	
F. Major Basin Name	Kalama	
G. River Mile	0/2.1	

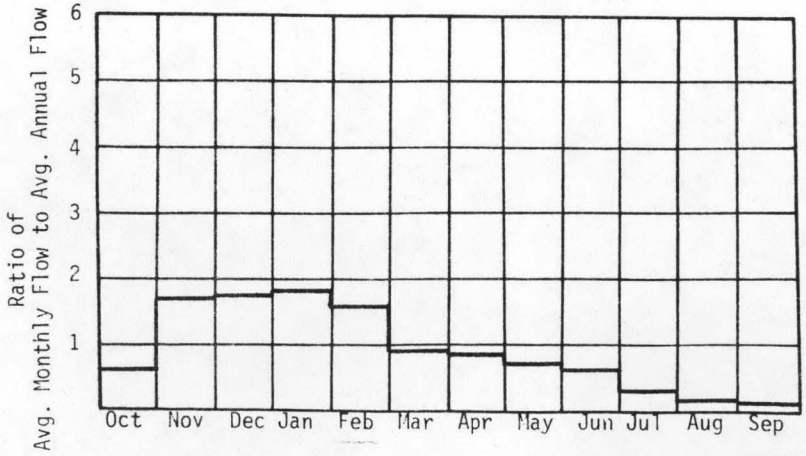
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1760	Ft. MSL
B. Downstream Elevation of Reach	1370	Ft. MSL
C. Total Available Head in Reach	390 + 66 = 456	Ft.
D. Average Slope in Reach	186	Ft./Mi.
E. Drainage Area above Reach Mouth	26.82	Sq.Mi.
F. Inflow Classification	Natural	

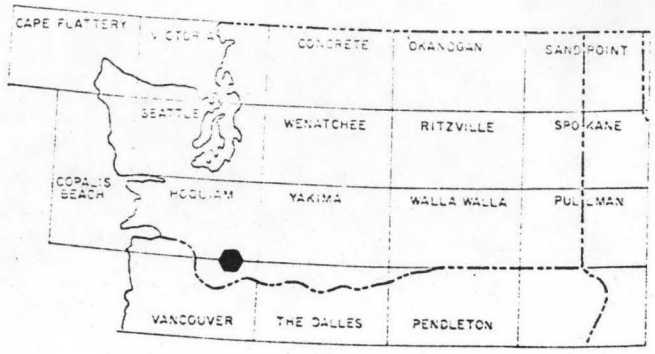
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	16.0	0.62	5.41	1.00
80	24.0	0.93	7.80	0.96
50	58.7	2.27	15.1	0.76
30	97.9	3.78	20.5	0.62
10	188	7.24	26.0	0.41

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 89 cfs



W27-1058



LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T5N R1E	
D. Latitude, Longitude	45°57' 122°44'	
E. Stream Name	Lewis River	
F. Major Basin Name	Lewis	
G. River Mile	0/3.4	

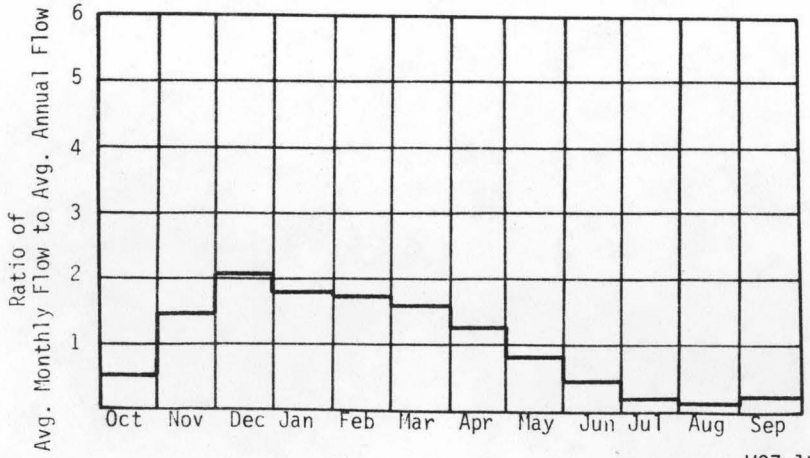
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	8	Ft. MSL
B. Downstream Elevation of Reach	8	Ft. MSL
C. Total Available Head in Reach	0	Ft.
D. Average Slope in Reach	0	Ft./Mi.
E. Drainage Area above Reach Mouth	1032	Sq.Mi.
F. Inflow Classification	Natural	

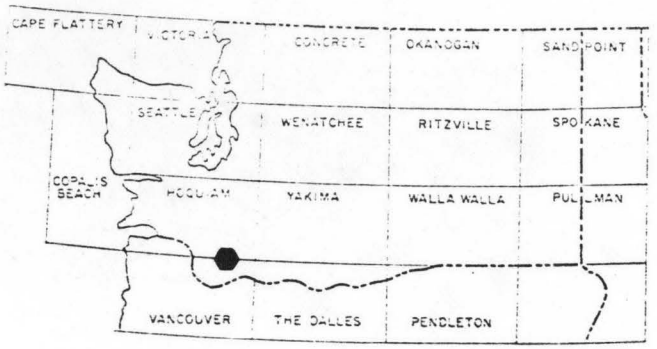
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95				
80				
50				
30				
10				

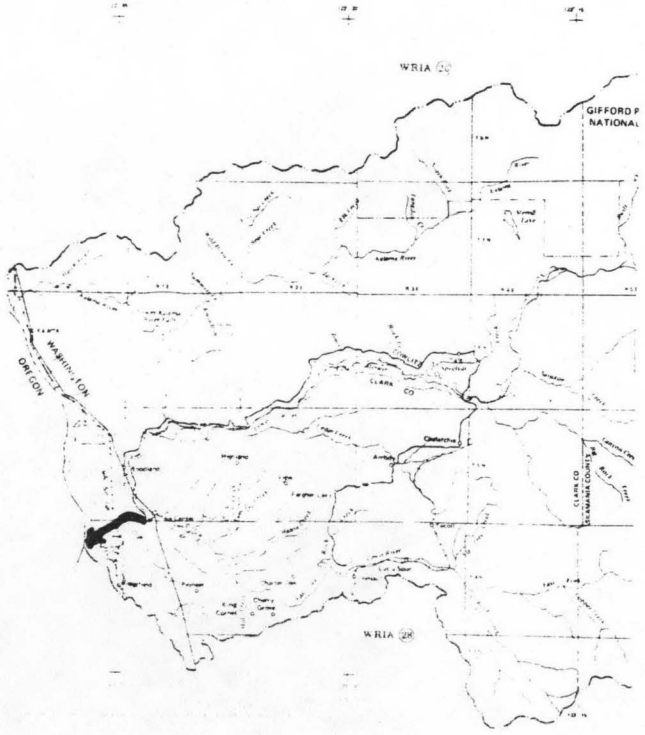
IV. TYPICAL ANNUAL HYDROGRAPH



W27-1059



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T5N R1E
D.	Latitude, Longitude	45°55' 122°42'
E.	Stream Name	Lewis River
F.	Major Basin Name	Lewis
G.	River Mile	3.4/15.6

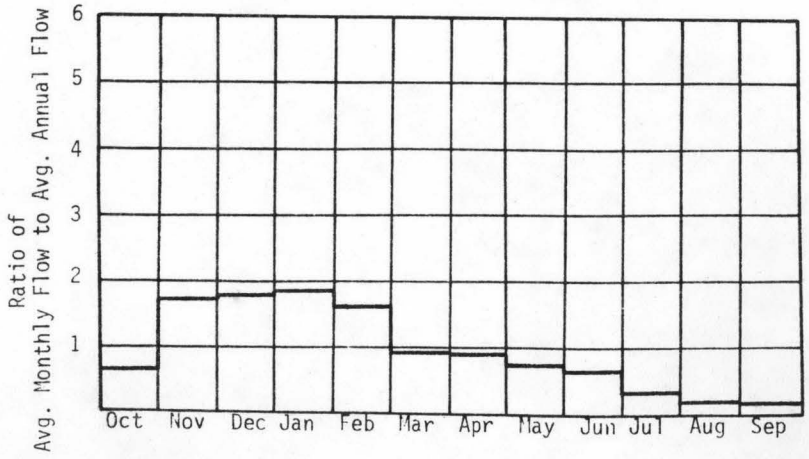
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	40	Ft. MSL
B.	Downstream Elevation of Reach	8	Ft. MSL
C.	Total Available Head in Reach	32	Ft.
D.	Average Slope in Reach	2.62	Ft./Mi.
E.	Drainage Area above Reach Mouth	826	Sq.Mi.
F.	Inflow Classification	Regulated	

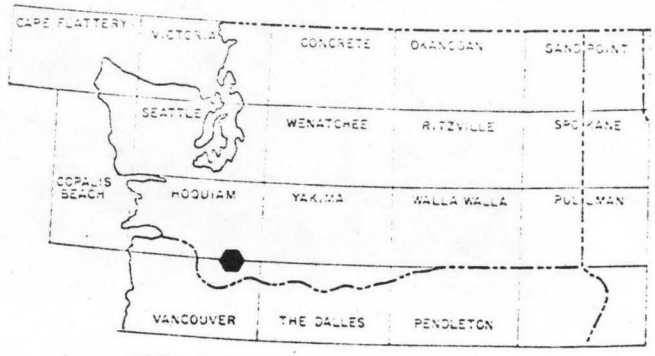
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	816	2.21	19.3	1.00
80	1530	4.14	34.1	0.94
50	3920	10.6	70.7	0.76
30	6420	17.4	94.4	0.62
10	10300	28.0	113	0.46

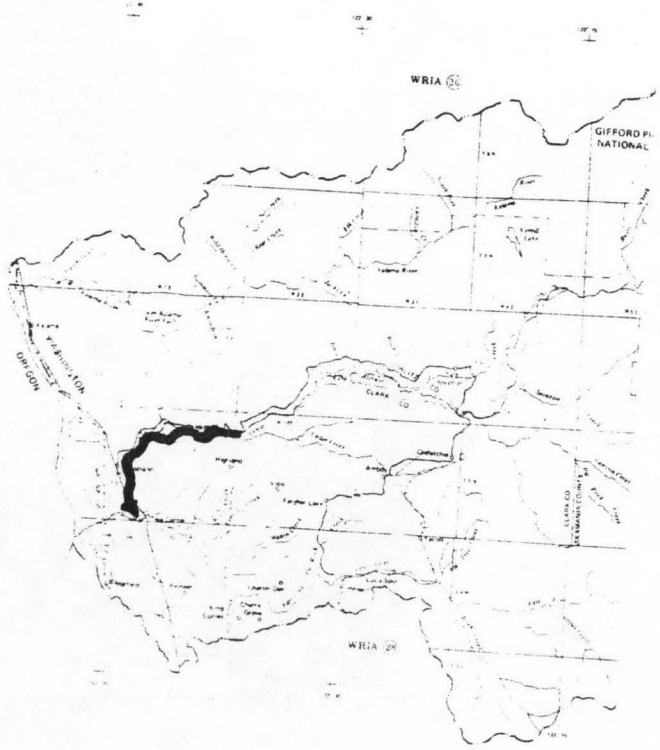
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 5094 cfs



W27-1060



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T5N R2E	
D. Latitude, Longitude	45°57' 122°35'	
E. Stream Name	Lewis River	
F. Major Basin Name	Lewis	
G. River Mile	15.6/17.8	

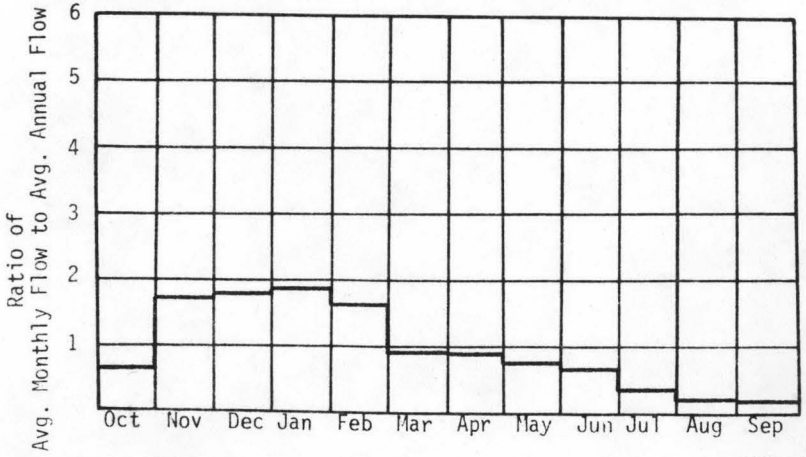
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

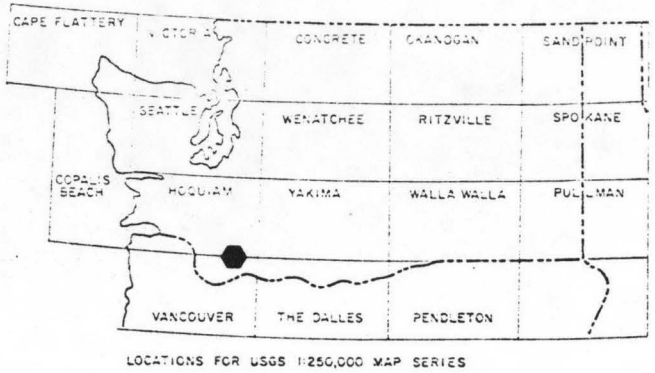
A. Upstream Elevation of Reach	40	Ft. MSL
B. Downstream Elevation of Reach	20	Ft. MSL
C. Total Available Head in Reach	20	Ft.
D. Average Slope in Reach	9.09	Ft./Mi.
E. Drainage Area above Reach Mouth	737	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

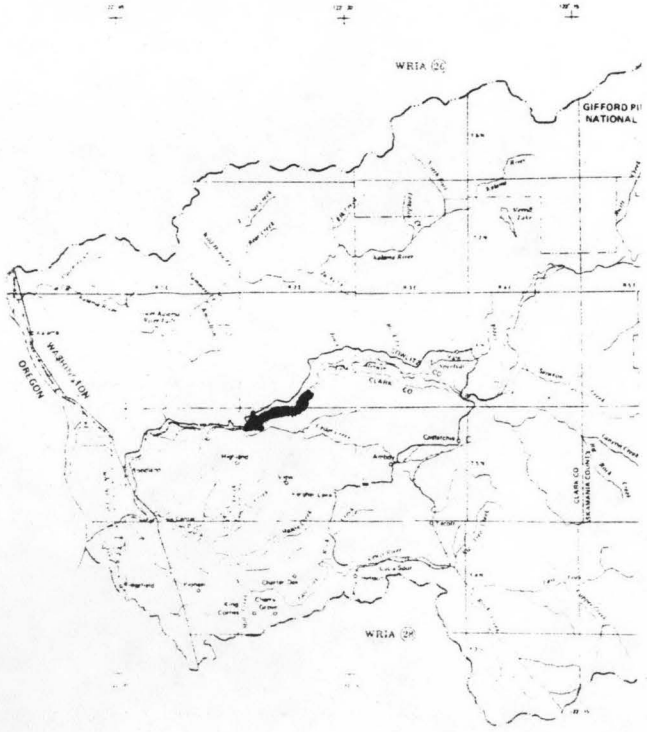
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	769	1.30	11.4	1.00
80	1440	2.44	20.1	0.94
50	3700	6.27	41.7	0.76
30	6060	10.3	55.7	0.62
10	9760	16.5	66.6	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 4809 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1061

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R6E
D.	Latitude, Longitude	46°05' 122°00'
E.	Stream Name	Lewis River
F.	Major Basin Name	Lewis
G.	River Mile	55.3/55.9

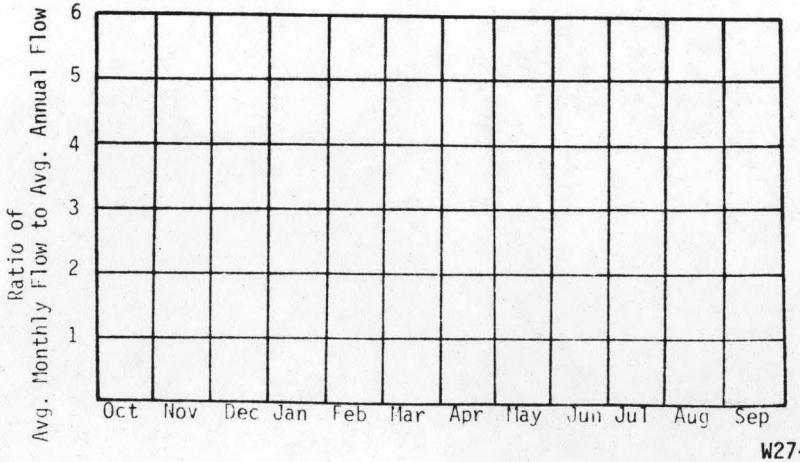
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

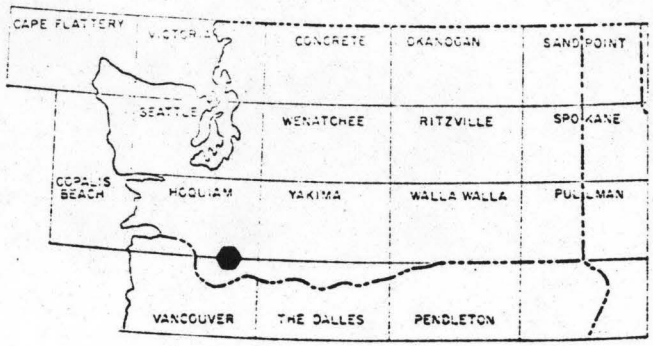
A.	Upstream Elevation of Reach	1030	Ft. MSL
B.	Downstream Elevation of Reach	1008	Ft. MSL
C.	Total Available Head in Reach	22	Ft.
D.	Average Slope in Reach	36.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	376	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

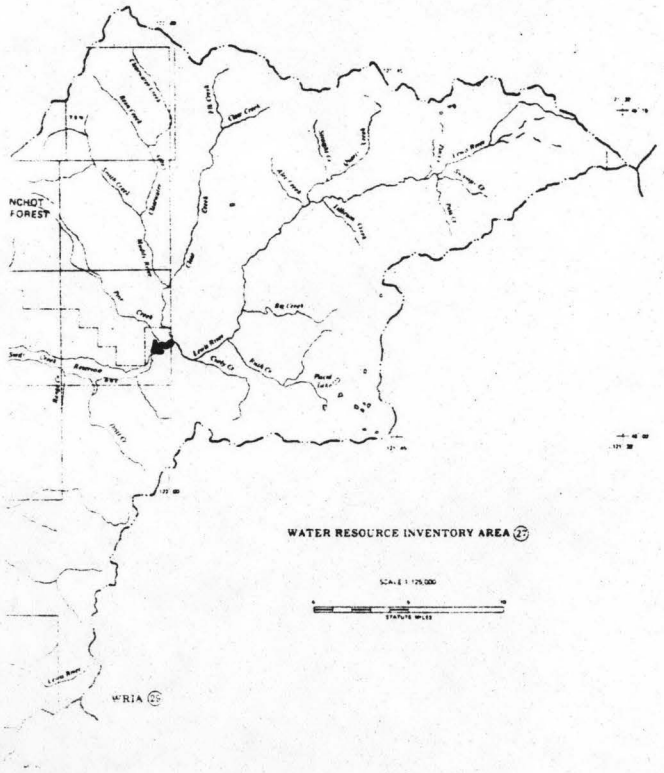
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	462	0.86	7.53	1.00
80	693	1.29	10.9	0.96
50	1510	2.81	19.2	0.78
30	2480	4.61	25.5	0.63
10	4280	7.97	31.4	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2100 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1062

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R7E
D.	Latitude, Longitude	46°03' 121°58'
E.	Stream Name	Lewis River
F.	Major Basin Name	Lewis
G.	River Mile	55.9/60.7

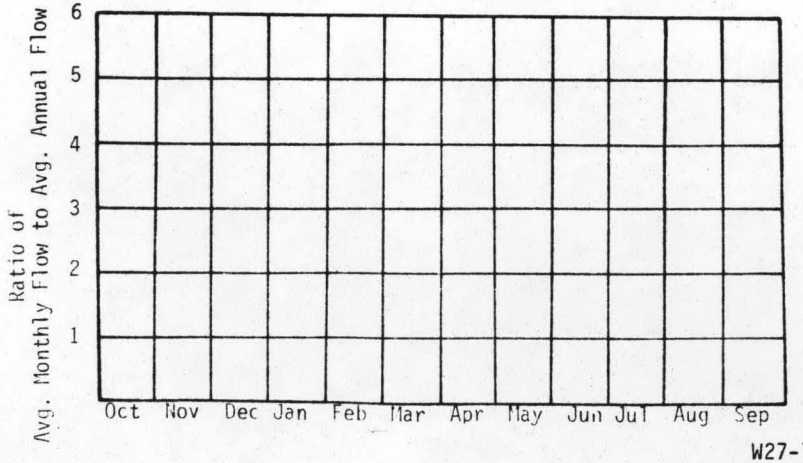
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

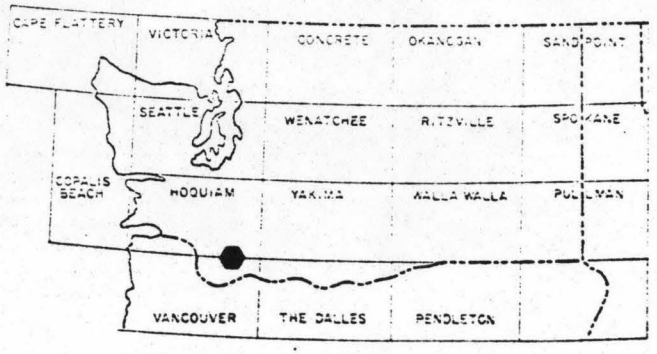
A.	Upstream Elevation of Reach	1150	Ft. MSL
B.	Downstream Elevation of Reach	1030	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	25.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	235	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

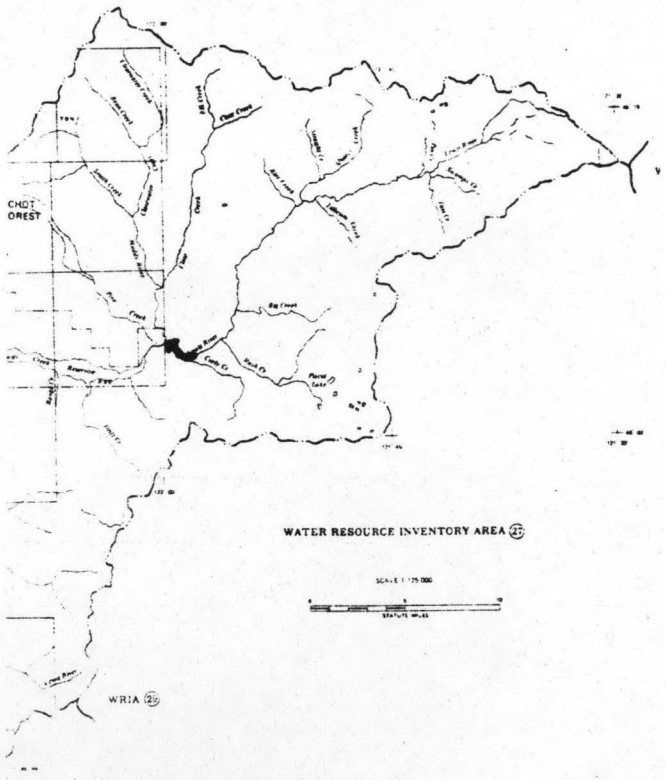
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	241	2.45	21.4	1.00
80	361	3.67	30.9	0.96
50	788	8.00	54.7	0.78
30	1290	13.1	72.4	0.63
10	2230	22.7	89.4	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1095 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1063

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-038-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T8N R6E	
D. Latitude, Longitude	46°08' 121°55'	
E. Stream Name	Lewis River	
F. Major Basin Name	Lewis	
G. River Mile	60.7/70.5	

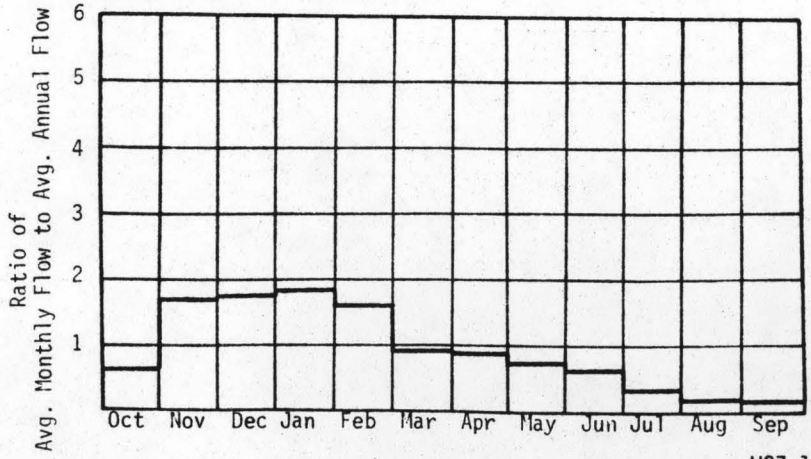
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1725	Ft. MSL
B. Downstream Elevation of Reach	1150	Ft. MSL
C. Total Available Head in Reach	575	Ft.
D. Average Slope in Reach	58.7	Ft./Mi.
E. Drainage Area above Reach Mouth	177	Sq.Mi.
F. Inflow Classification	Natural	

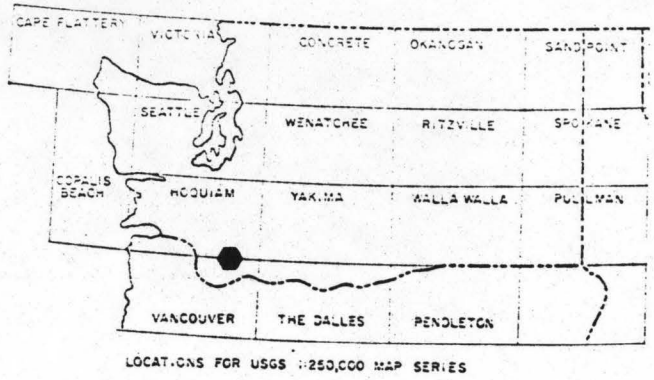
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	132	6.42	56.2	1.00
80	256	12.5	113	0.94
50	566	27.6	186	0.77
30	916	44.5	246	0.63
10	1670	81.2	306	0.43

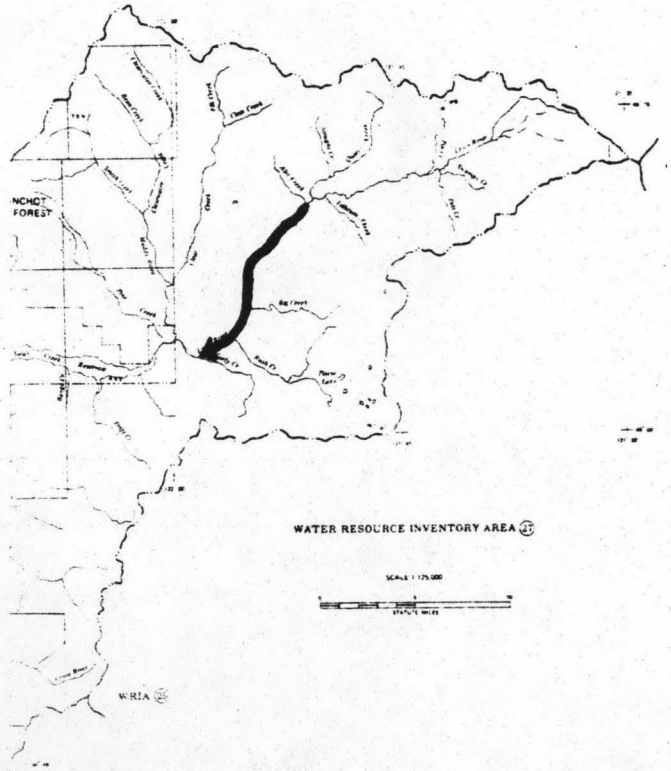
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 776 cfs



W27-1064



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T8N R8E
D.	Latitude, Longitude	46°10' 121°45'
E.	Stream Name	Lewis River
F.	Major Basin Name	Lewis
G.	River Mile	70.5/84.2

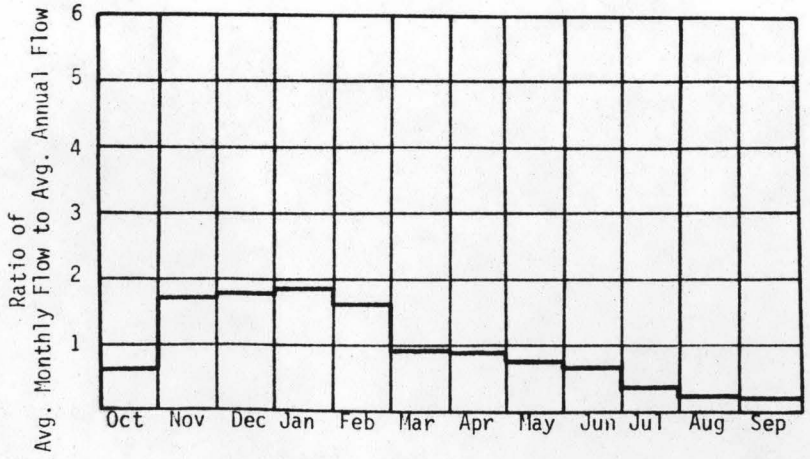
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

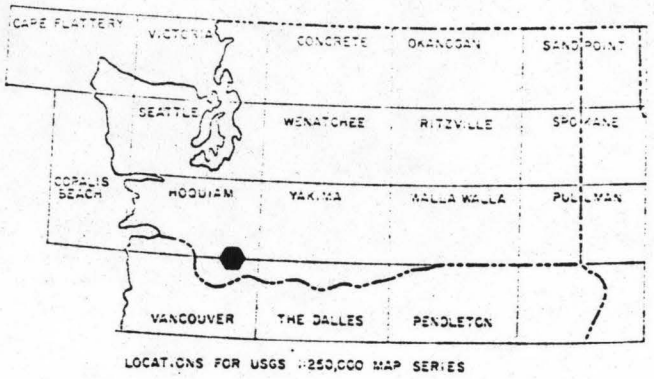
A.	Upstream Elevation of Reach	2850	Ft. MSL
B.	Downstream Elevation of Reach	1725	Ft. MSL
C.	Total Available Head in Reach	1125 + 66 = 1191	Ft.
D.	Average Slope in Reach	82.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	88.1	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

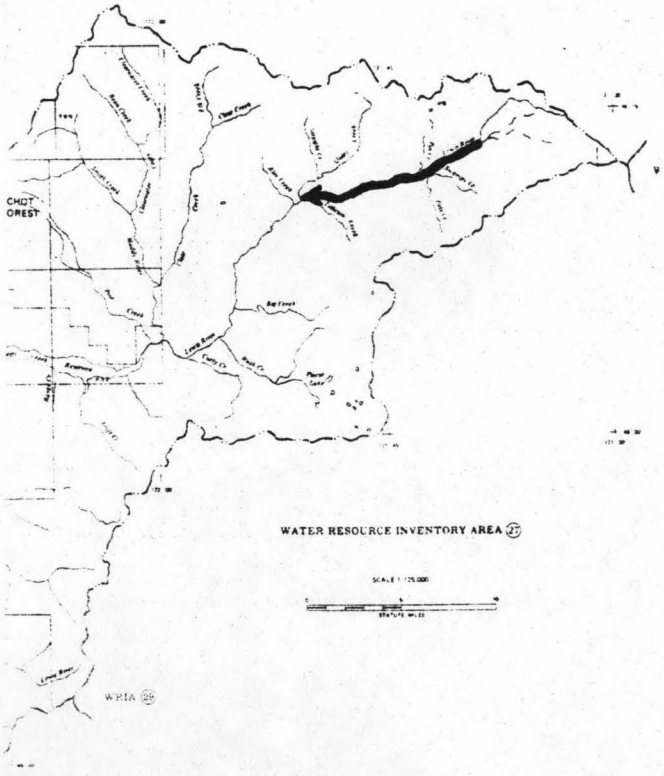
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	33.5	3.37	39.6	1.00
80	65.0	6.55	53.9	0.94
50	144	14.5	97.7	0.77
30	232	23.4	129	0.63
10	424	42.7	161	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 197 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1065

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0008

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T4N R1E	
D. Latitude, Longitude	45°52' 122°41'	
E. Stream Name	E.F. Lewis River	
F. Major Basin Name	Lewis	
G. River Mile	0/4.9	

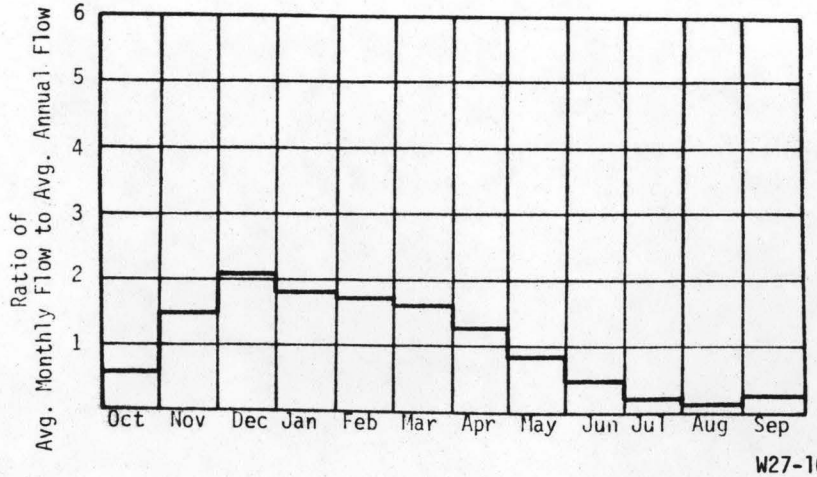
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

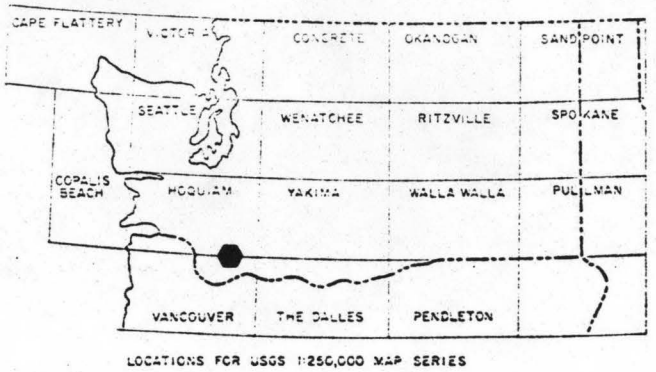
A. Upstream Elevation of Reach	8	Ft. MSL
B. Downstream Elevation of Reach	8	Ft. MSL
C. Total Available Head in Reach	0	Ft.
D. Average Slope in Reach	-	Ft./Mi.
E. Drainage Area above Reach Mouth	205	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

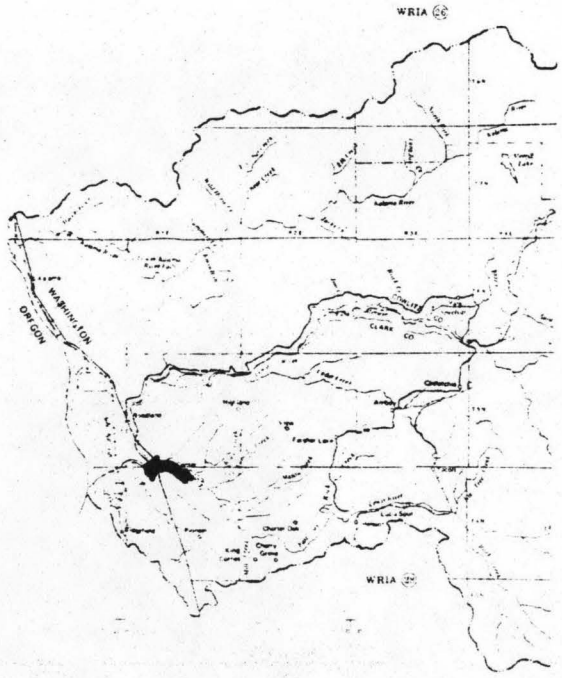
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95				
80				
50				
30				
10				

IV. TYPICAL ANNUAL HYDROGRAPH





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1066

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T4N R1E
D.	Latitude, Longitude	45°50' 122°39'
E.	Stream Name	E.F. Lewis River
F.	Major Basin Name	Lewis
G.	River Mile	4.9/8.0

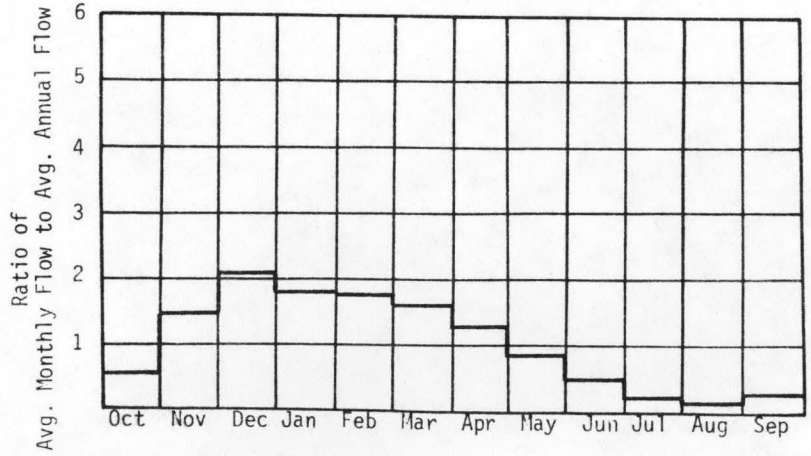
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

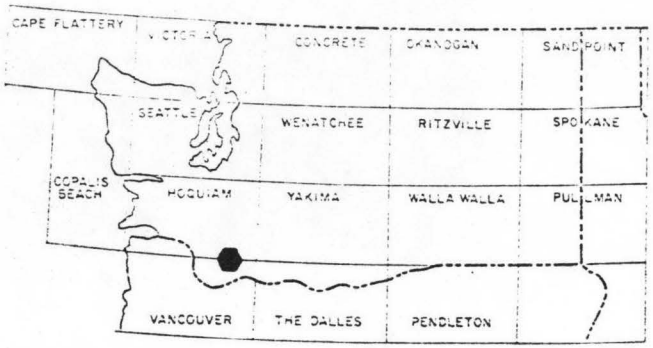
A.	Upstream Elevation of Reach	12	Ft. MSL
B.	Downstream Elevation of Reach	8	Ft. MSL
C.	Total Available Head in Reach	4	Ft.
D.	Average Slope in Reach	1.29	Ft./Mi.
E.	Drainage Area above Reach Mouth	178	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	63.4	0.02	0.19	1.00
80	118	0.04	0.33	0.94
50	544	0.18	1.13	0.70
30	1010	0.34	1.67	0.56
10	2250	0.76	2.40	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 906 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W27-1067

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0010

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T4N R2E	
D. Latitude, Longitude	45°50' 122°32'	
E. Stream Name	E.F. Lewis River	
F. Major Basin Name	Lewis	
G. River Mile	8.0/24.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

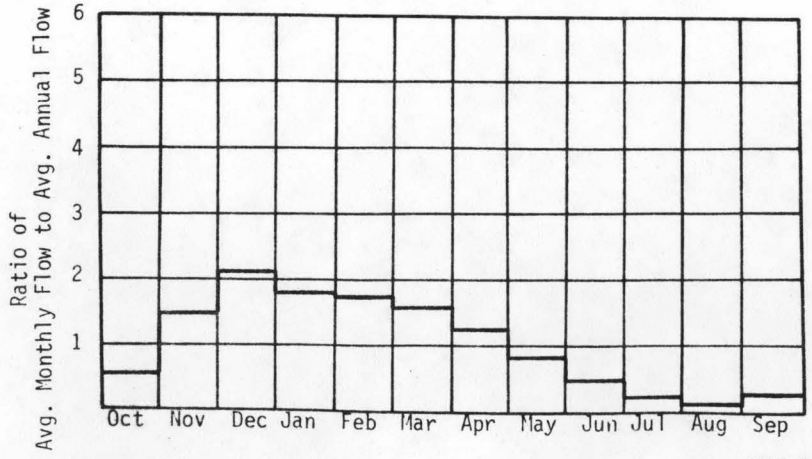
A. Upstream Elevation of Reach	510	Ft. MSL
B. Downstream Elevation of Reach	12	Ft. MSL
C. Total Available Head in Reach	498	Ft.
D. Average Slope in Reach	29.5	Ft./Mi.
E. Drainage Area above Reach Mouth	163	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

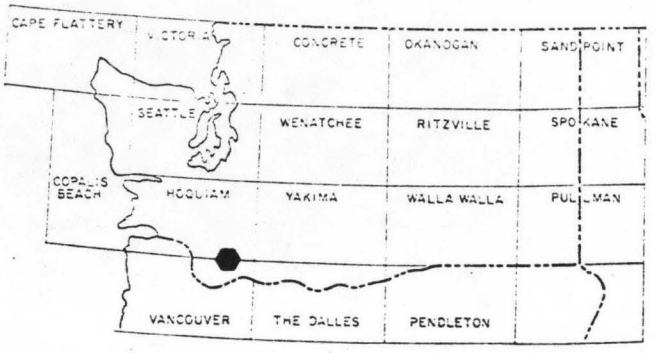
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	55.9	2.36	20.6	1.00
80	104	4.38	36.0	0.94
50	479	20.2	124	0.70
30	887	37.4	183	0.56
10	1980	83.5	263	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 799 cfs



W27-1068



LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T4N R3E
D.	Latitude, Longitude	45°49' 122°23'
E.	Stream Name	E.F. Lewis River
F.	Major Basin Name	Lewis
G.	River Mile	24.9/26.4

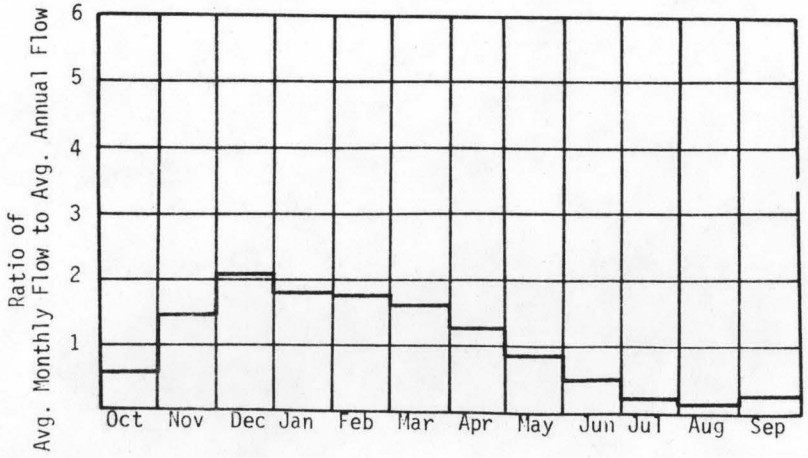
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

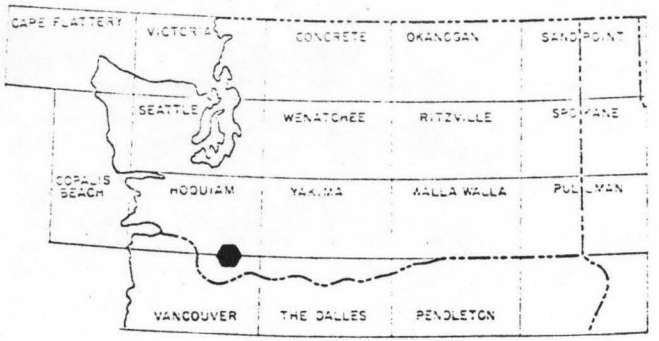
A.	Upstream Elevation of Reach	580	Ft. MSL
B.	Downstream Elevation of Reach	510	Ft. MSL
C.	Total Available Head in Reach	70	Ft.
D.	Average Slope in Reach	46.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	99.6	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	43.2	0.26	2.24	1.00
80	80.2	0.48	3.91	0.94
50	370	2.19	13.4	0.70
30	685	4.06	19.9	0.56
10	1530	9.06	28.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 617 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W27-1069

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0012

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T4N R4E	
D. Latitude, Longitude	46°48' 122°18'	
E. Stream Name	E.F. Lewis River	
F. Major Basin Name	Lewis	
G. River Mile	26.4/31.8	

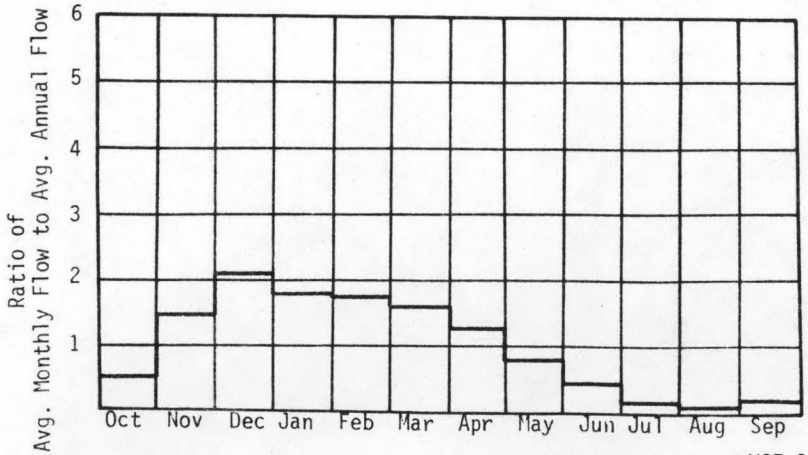
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	880	Ft. MSL
B. Downstream Elevation of Reach	580	Ft. MSL
C. Total Available Head in Reach	300	Ft.
D. Average Slope in Reach	55.6	Ft./Mi.
E. Drainage Area above Reach Mouth	64.9	Sq.Mi.
F. Inflow Classification	Natural	

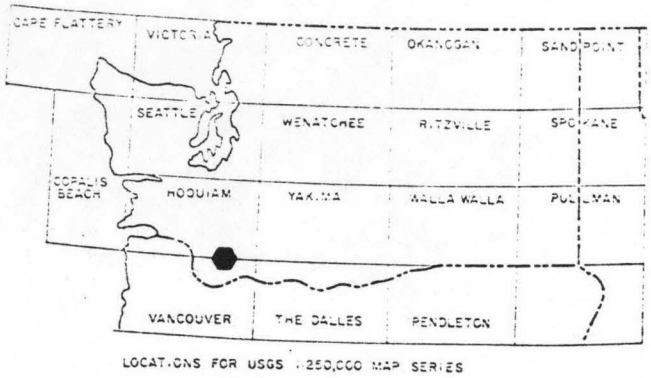
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.7	0.68	5.93	1.00
80	49.5	1.26	10.4	0.94
50	229	5.80	35.6	0.70
30	423	10.7	52.7	0.56
10	945	24.0	75.6	0.36

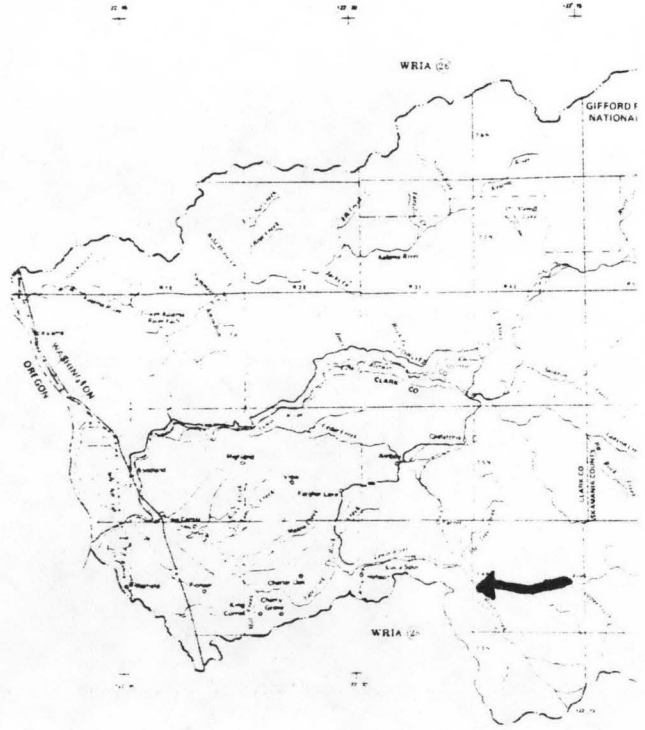
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 381 cfs



W27-1070



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0013

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T4N R5E
D.	Latitude, Longitude	45°50' 122°13'
E.	Stream Name	E.F. Lewis River
F.	Major Basin Name	Lewis
G.	River Mile	31.8/38.4

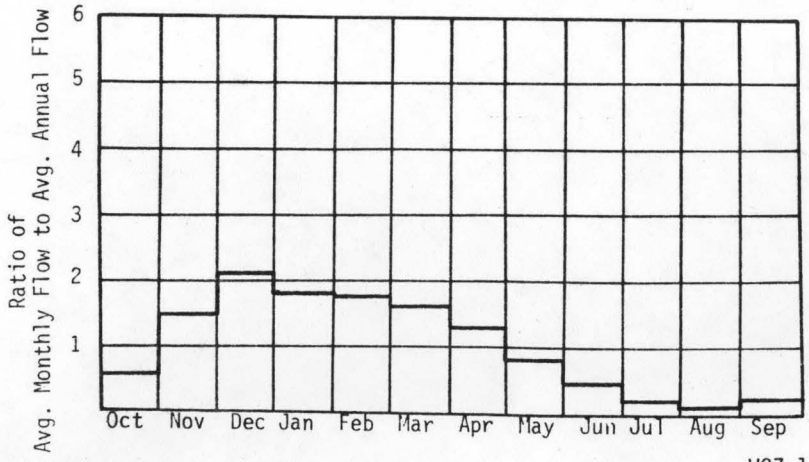
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1560	Ft. MSL
B.	Downstream Elevation of Reach	880	Ft. MSL
C.	Total Available Head in Reach	680 + 66 = 746	Ft.
D.	Average Slope in Reach	103	Ft./Mi.
E.	Drainage Area above Reach Mouth	32.7	Sq.Mi.
F.	Inflow Classification	Natural	

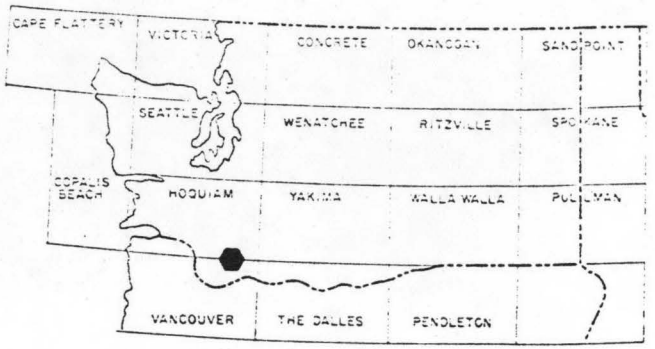
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.7	0.74	6.46	1.00
80	21.7	1.37	11.3	0.94
50	100	6.32	38.8	0.70
30	185	11.7	57.4	0.56
10	414	26.1	82.4	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 167 cfs



W27-1071



LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0014

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T4N R3E	
D. Latitude, Longitude	45°50' 122°23'	
E. Stream Name	Big Creek	
F. Major Basin Name	Lewis	
G. River Mile	0/0.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

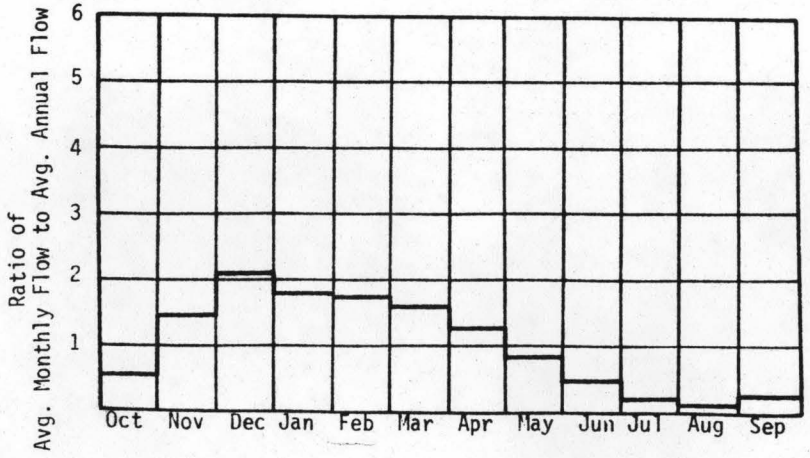
A. Upstream Elevation of Reach	580	Ft. MSL
B. Downstream Elevation of Reach	510	Ft. MSL
C. Total Available Head in Reach	70 + 66 = 136	Ft.
D. Average Slope in Reach	140	Ft./Mi.
E. Drainage Area above Reach Mouth	18.6	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

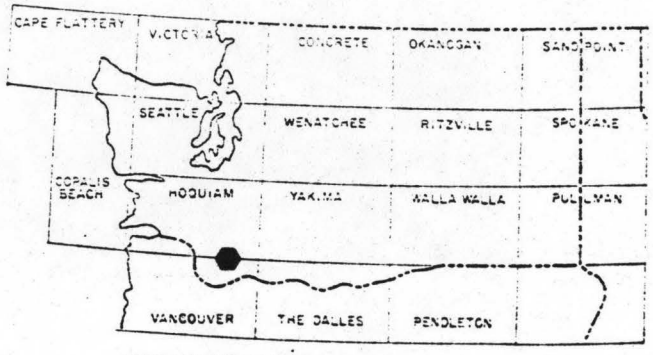
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.02	0.07	0.61	1.00
80	11.2	0.13	1.06	0.94
50	51.6	0.59	3.64	0.70
30	95.5	1.10	5.39	0.56
10	213	2.45	7.74	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

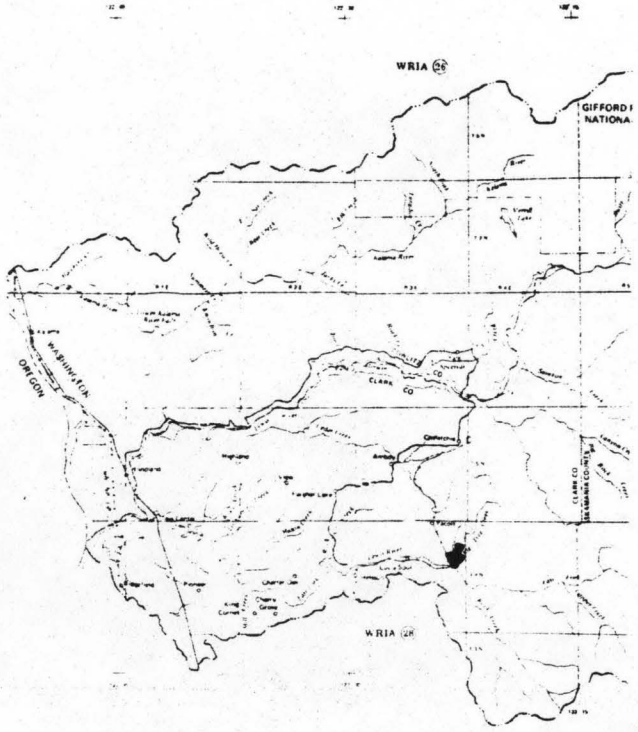
QMR = 86 cfs



W27-1072



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0015

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T4N R4E	
D. Latitude, Longitude	45°48' 122°22'	
E. Stream Name	Rock Creek	
F. Major Basin Name	Lewis	
G. River Mile	0/3.0	

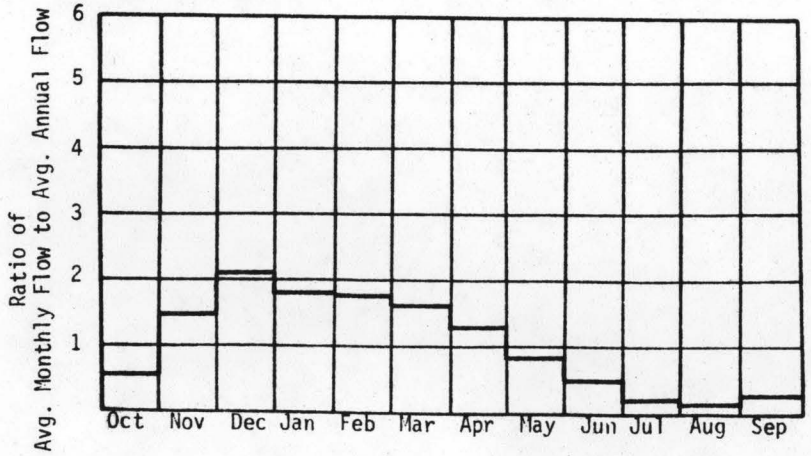
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

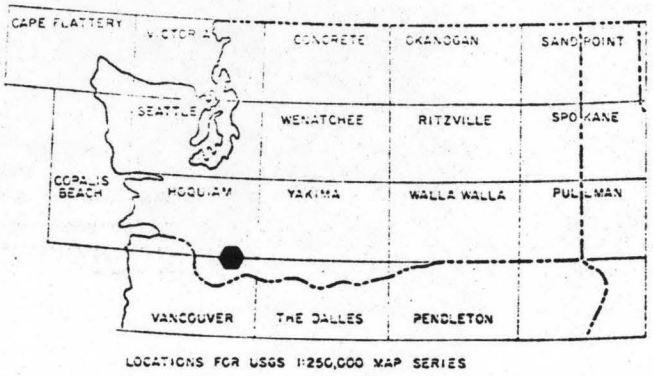
A. Upstream Elevation of Reach	800	Ft. MSL
B. Downstream Elevation of Reach	580	Ft. MSL
C. Total Available Head in Reach	220	Ft.
D. Average Slope in Reach	73.3	Ft./Mi.
E. Drainage Area above Reach Mouth	33.3	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

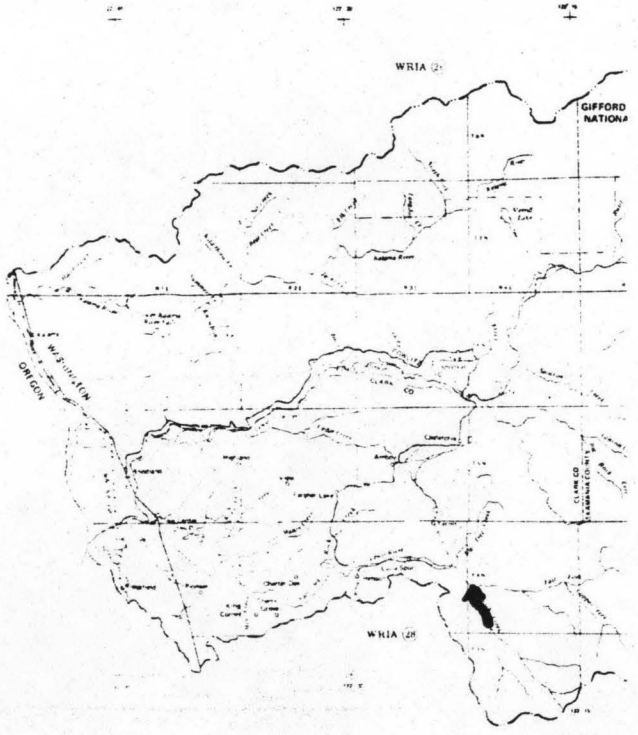
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.3	0.21	1.84	1.00
80	20.9	0.39	3.21	0.94
50	96.6	1.80	11.0	0.70
30	179	3.33	16.3	0.56
10	399	7.43	23.4	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 161 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1073

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0016

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T3N R5E	
D. Latitude, Longitude	45°48' 122°15'	
E. Stream Name	Copper Creek	
F. Major Basin Name	Lewis	
G. River Mile	0/3.4	

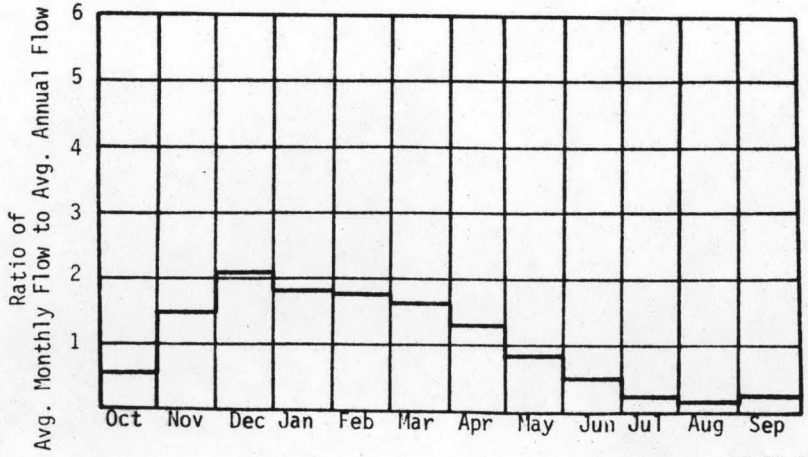
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1280	Ft. MSL
B. Downstream Elevation of Reach	880	Ft. MSL
C. Total Available Head in Reach	400 + 66 = 466	Ft.
D. Average Slope in Reach	118	Ft./Mi.
E. Drainage Area above Reach Mouth	14.3	Sq.Mi.
F. Inflow Classification	Natural	

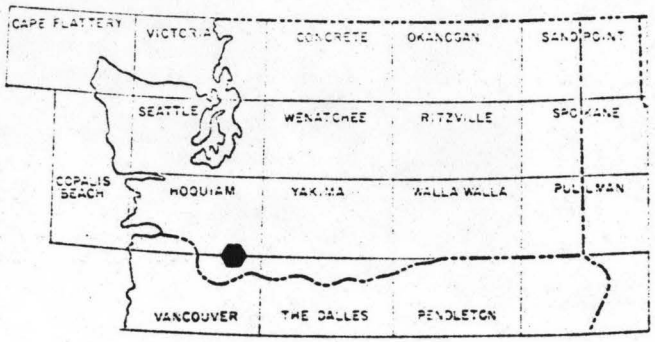
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.23	0.25	2.15	1.00
80	11.6	0.46	3.76	0.94
50	53.4	2.11	12.9	0.70
30	98.8	3.89	19.1	0.56
10	221	8.70	27.4	0.36

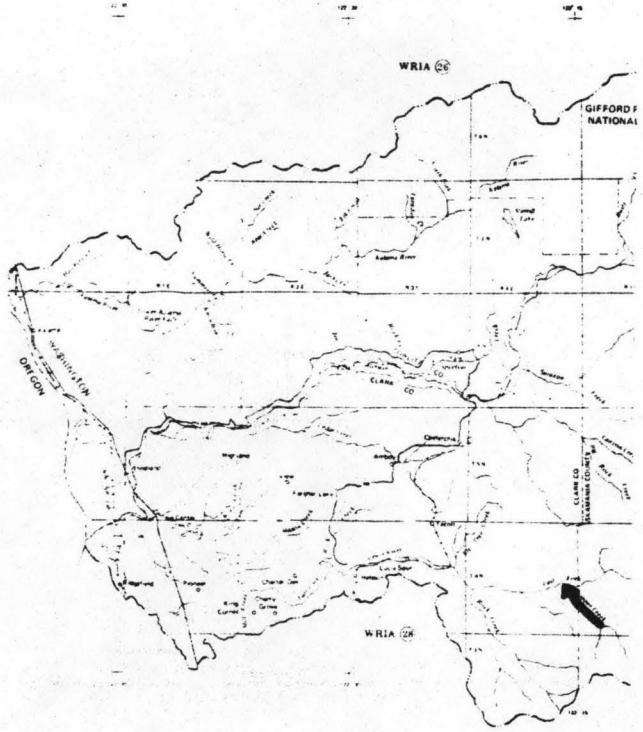
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 89 cfs



W27-1074



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0017

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T5N R2E	
D. Latitude, Longitude	45°56' 122°33'	
E. Stream Name	Cedar Creek	
F. Major Basin Name	Lewis	
G. River Mile	0/6.3	

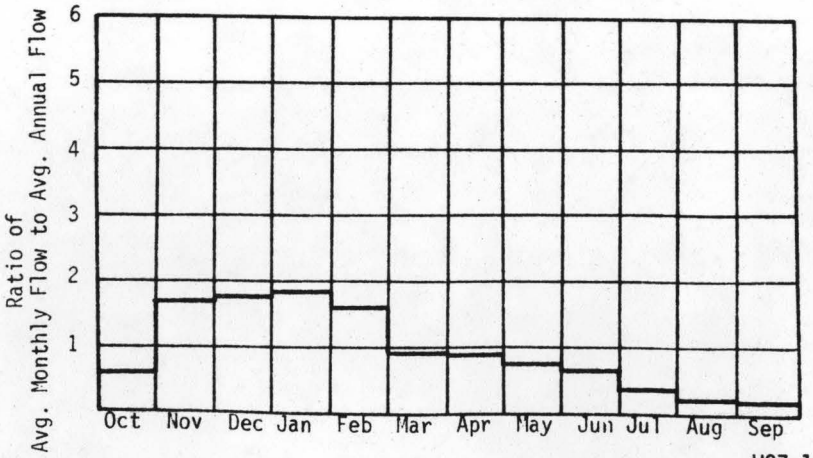
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	285	Ft. MSL
B. Downstream Elevation of Reach	40	Ft. MSL
C. Total Available Head in Reach	245	Ft.
D. Average Slope in Reach	38.9	Ft./Mi.
E. Drainage Area above Reach Mouth	55	Sq.Mi.
F. Inflow Classification	Natural	

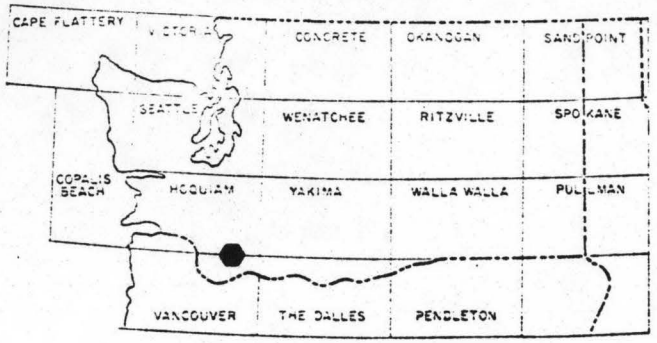
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.2	0.23	2.04	1.00
80	22.4	0.47	3.79	0.93
50	99.1	2.05	12.6	0.70
30	228	4.73	22.0	0.53
10	466	9.65	30.4	0.36

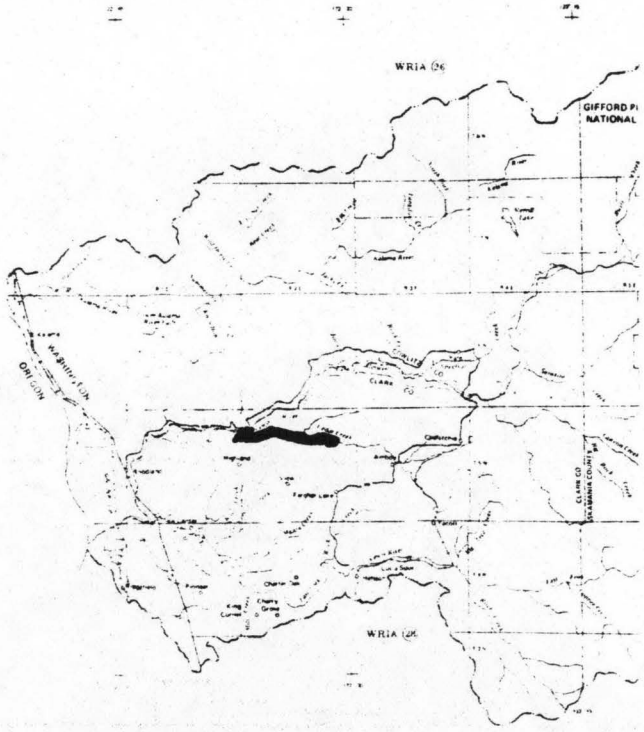
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 187 cfs



W27-1075



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0018

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T5N R3E	
D. Latitude, Longitude	45°56' 122°28'	
E. Stream Name	Cedar Creek	
F. Major Basin Name	Lewis	
G. River Mile	6.3/11.3	

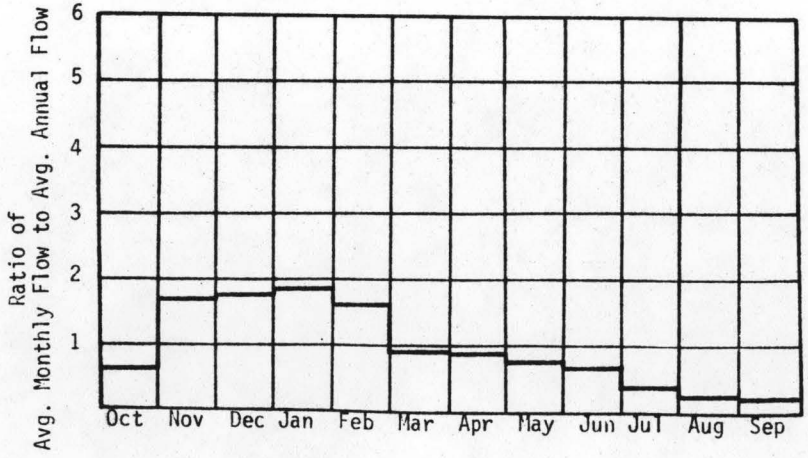
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

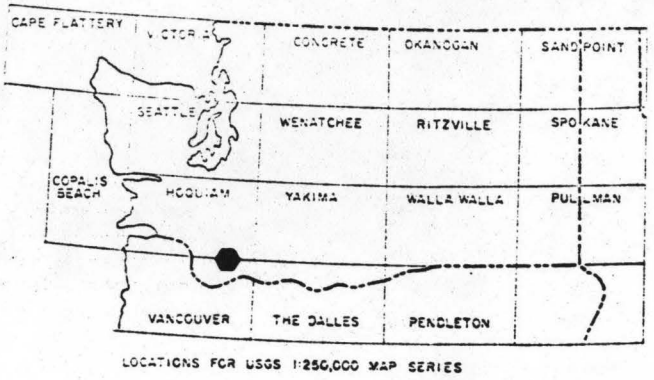
A. Upstream Elevation of Reach	385	Ft. MSL
B. Downstream Elevation of Reach	285	Ft. MSL
C. Total Available Head in Reach	100 + 66 = 166	Ft.
D. Average Slope in Reach	20.0	Ft./Mi.
E. Drainage Area above Reach Mouth	39.9	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

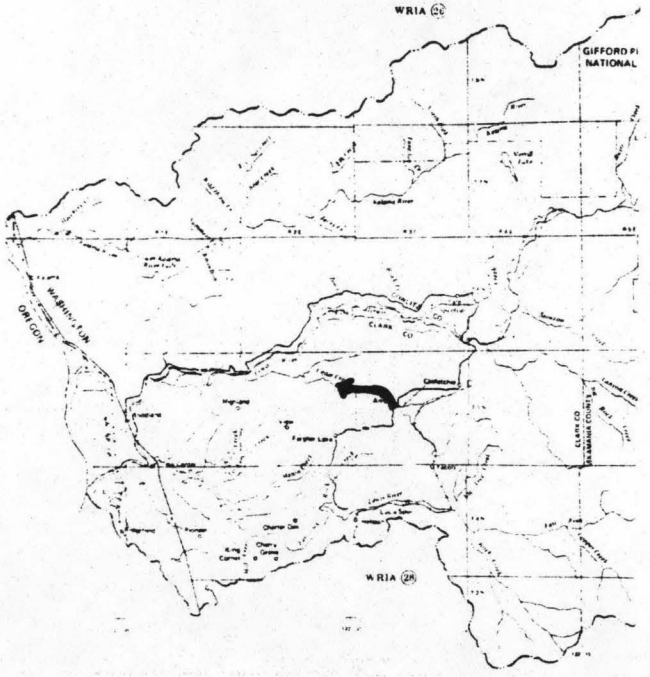
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.46	0.12	1.04	1.00
80	16.9	0.24	1.94	0.93
50	74.7	1.05	6.44	0.70
30	172	2.42	11.2	0.53
10	351	4.93	15.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 141 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1076

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0019

I. LOCATION

A. State	Washington	
B. County	Cowlitz	
C. Township, Range	T6N R4E	
D. Latitude, Longitude	46°59' 122°21'	
E. Stream Name	Speelyai Creek	
F. Major Basin Name	Lewis	
G. River Mile	0/5.2	

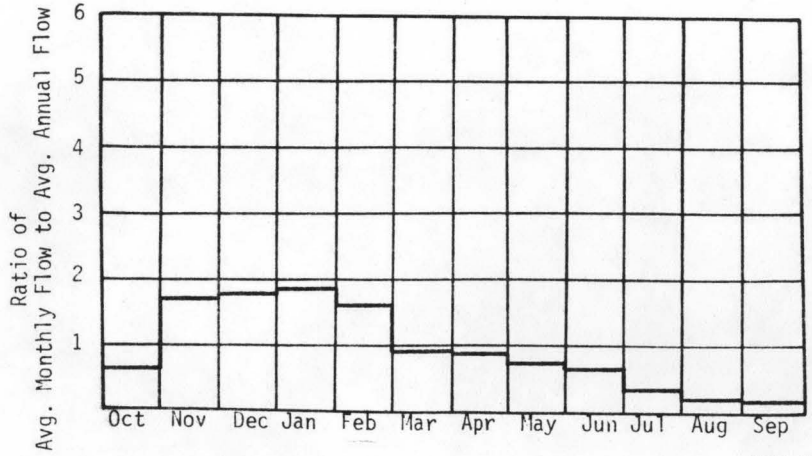
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	600	Ft. MSL
B. Downstream Elevation of Reach	239	Ft. MSL
C. Total Available Head in Reach	361 + 66 = 427	Ft.
D. Average Slope in Reach	69.4	Ft./Mi.
E. Drainage Area above Reach Mouth	17.6	Sq.Mi.
F. Inflow Classification	Natural	

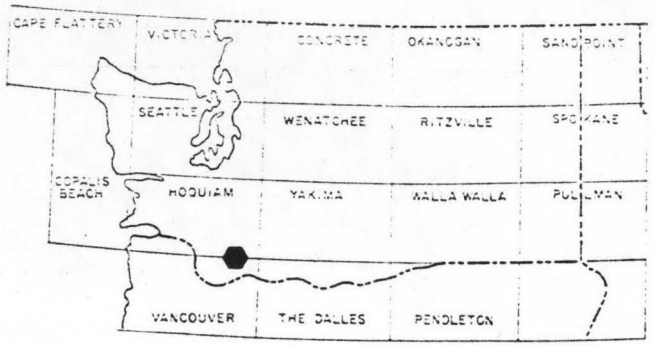
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4.80	0.17	1.52	1.00
80	14.4	0.52	4.15	0.91
50	70.8	2.56	15.5	0.69
30	132	4.77	23.4	0.56
10	281	10.1	32.0	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 120 cfs



W27-1077



LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0020

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T5N R4E
D.	Latitude, Longitude	45°57' 122°20'
E.	Stream Name	Canyon Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/2.0

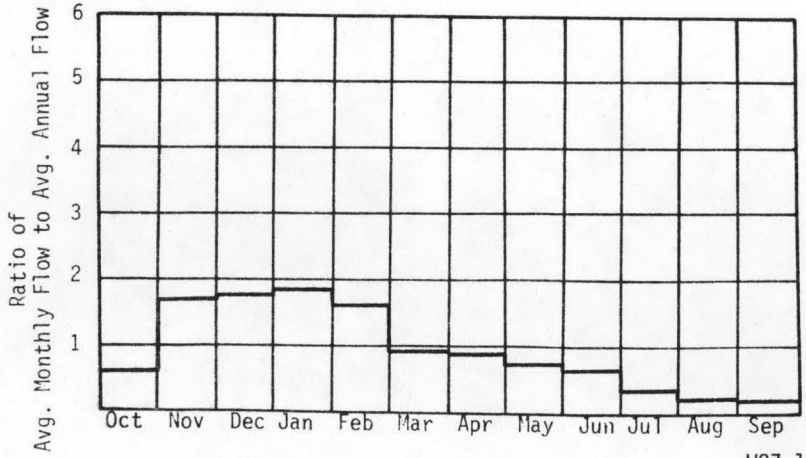
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

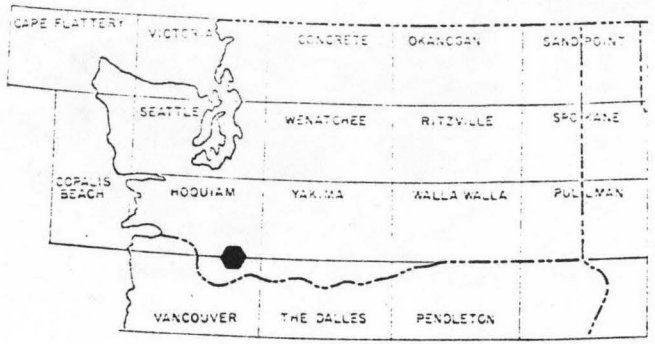
A.	Upstream Elevation of Reach	500	Ft. MSL
B.	Downstream Elevation of Reach	239	Ft. MSL
C.	Total Available Head in Reach	261	Ft.
D.	Average Slope in Reach	131	Ft./Mi.
E.	Drainage Area above Reach Mouth	66.8	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

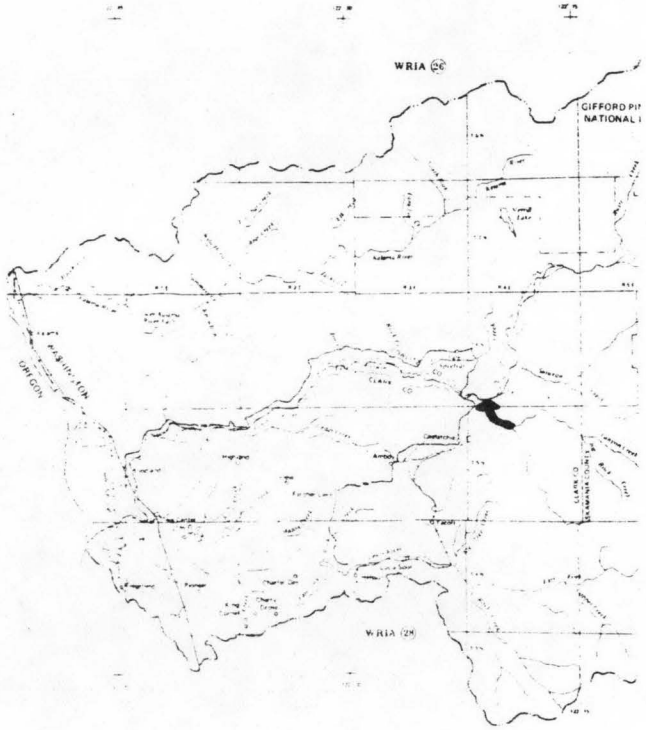
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.0	0.57	5.03	1.00
80	47.6	1.05	8.66	0.94
50	234	5.16	31.7	0.70
30	429	9.47	46.4	0.56
10	1020	22.6	67.2	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 433 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1078

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0021

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T5N R4E	
D. Latitude, Longitude	45°57' 122°17'	
E. Stream Name	Canyon Creek	
F. Major Basin Name	Lewis	
G. River Mile	2.9/7.2	

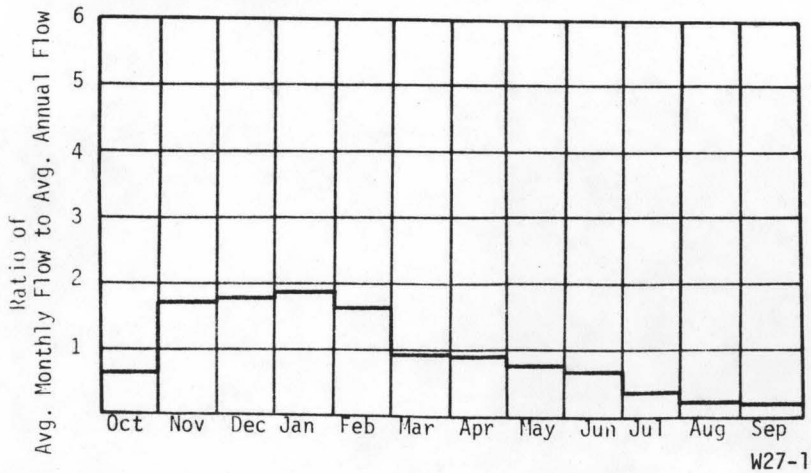
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	860	Ft. MSL
B. Downstream Elevation of Reach	500	Ft. MSL
C. Total Available Head in Reach	360	Ft.
D. Average Slope in Reach	69.2	Ft./Mi.
E. Drainage Area above Reach Mouth	45.5	Sq.Mi.
F. Inflow Classification	Natural	

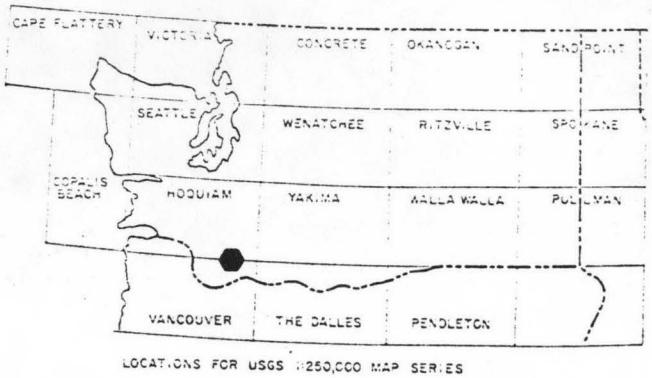
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.3	0.53	4.63	1.00
80	31.8	0.97	7.97	0.94
50	154	4.75	29.2	0.70
30	286	8.71	42.8	0.56
10	682	20.8	61.9	0.34

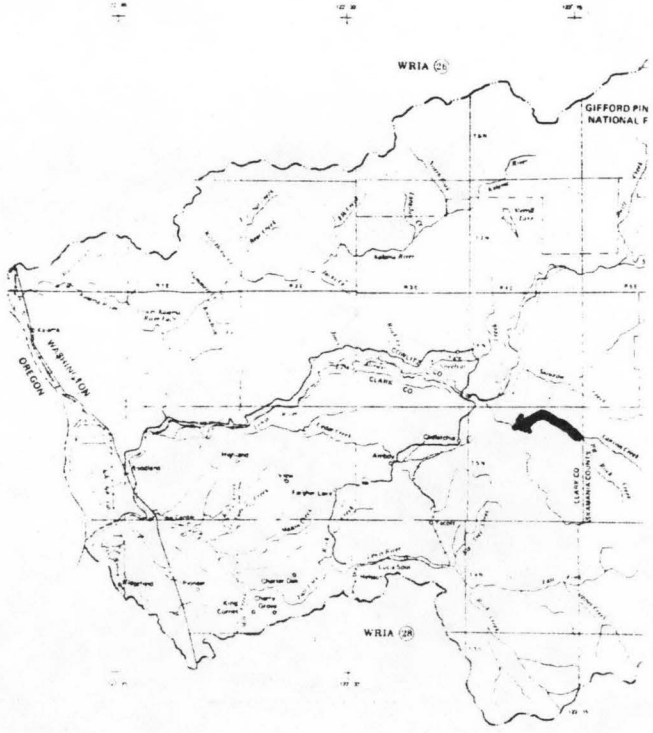
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 289 cfs



W27-1079



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0022

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T5N R5E	
D. Latitude, Longitude	45°55' 122°11'	
E. Stream Name	Canyon Creek	
F. Major Basin Name	Lewis	
G. River Mile	7.2/12.2	

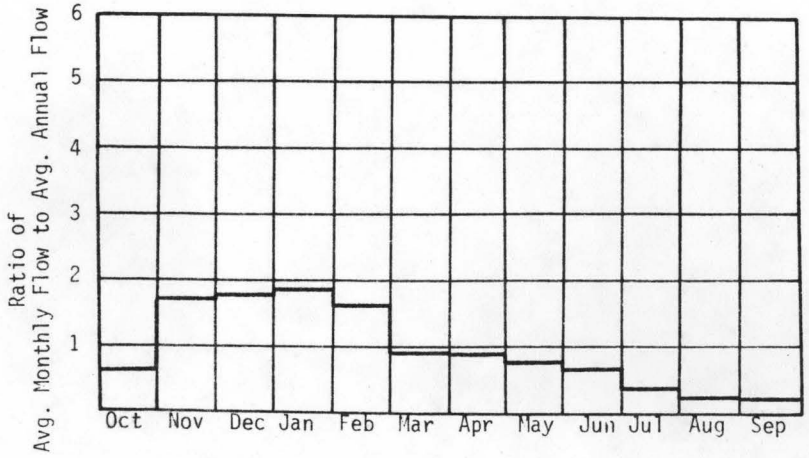
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

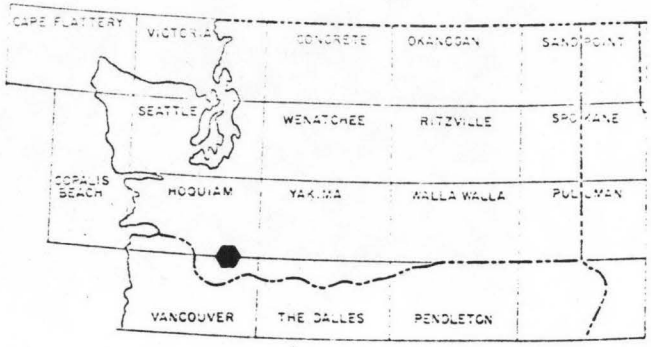
A. Upstream Elevation of Reach	1620	Ft. MSL
B. Downstream Elevation of Reach	860	Ft. MSL
C. Total Available Head in Reach	760 + 66 = 826	Ft.
D. Average Slope in Reach	152	Ft./Mi.
E. Drainage Area above Reach Mouth	29.9	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

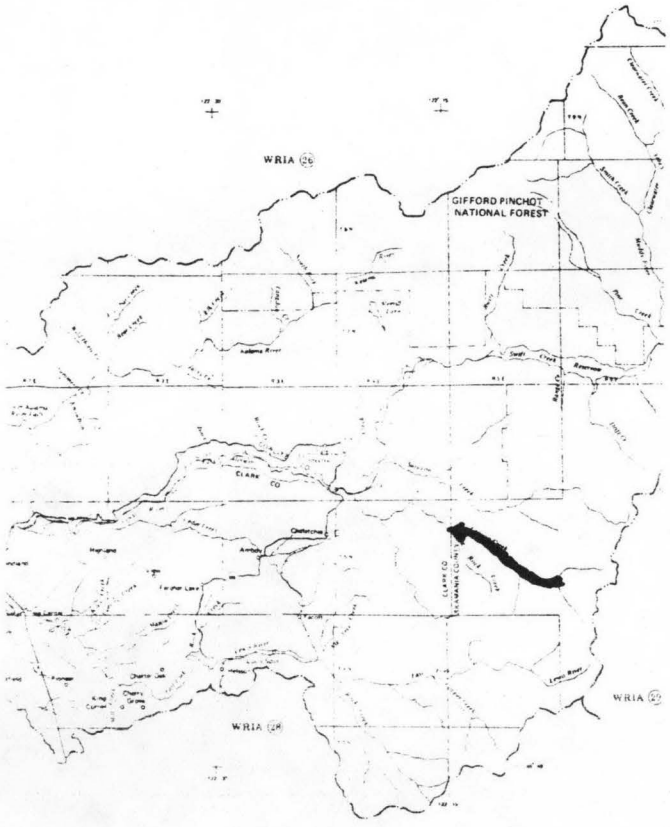
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.82	0.62	5.40	1.00
80	16.2	1.13	9.30	0.94
50	79.4	5.55	34.0	0.70
30	146	10.2	49.9	0.56
10	347	24.2	72.2	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 147 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



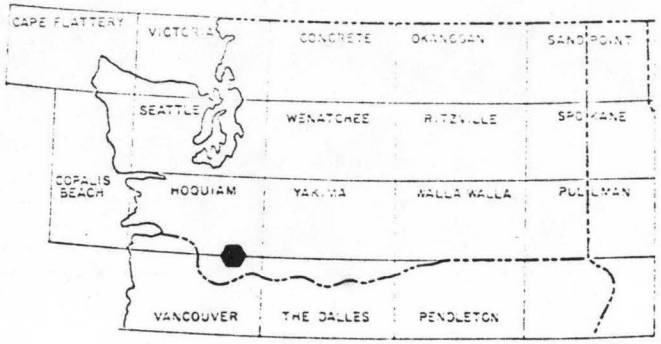
W27-1080

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0023

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T5N R4E
D.	Latitude, Longitude	45°54' 122°18'
E.	Stream Name	Fly Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/4.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

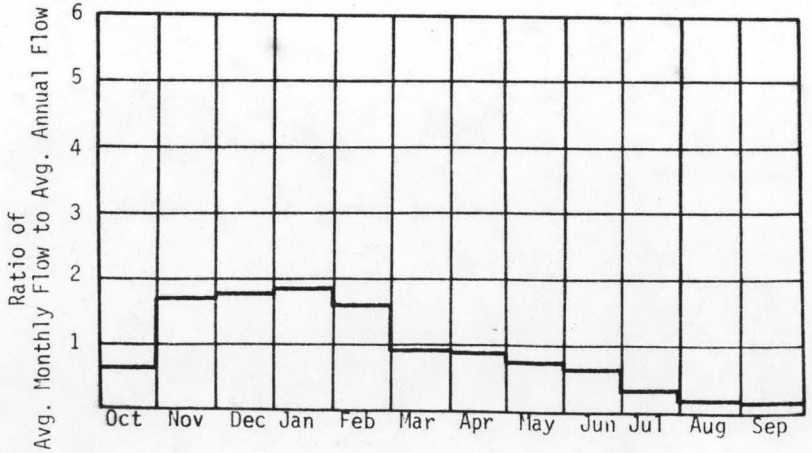
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

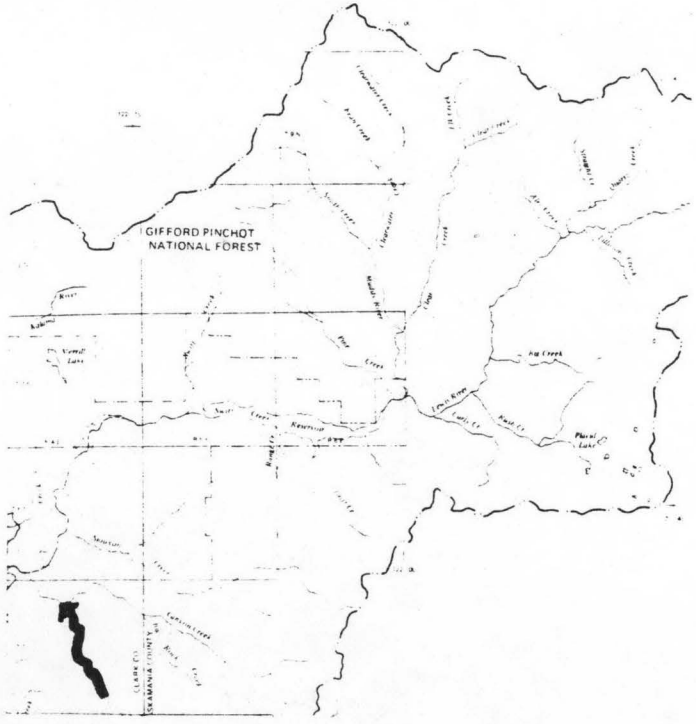
A.	Upstream Elevation of Reach	1660	Ft. MSL
B.	Downstream Elevation of Reach	500	Ft. MSL
C.	Total Available Head in Reach	1160 + 66 = 1226	Ft.
D.	Average Slope in Reach	290	Ft./Mi.
E.	Drainage Area above Reach Mouth	19.4	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.46	0.47	4.96	1.00
80	10.0	1.04	8.55	0.94
50	49.1	5.10	31.3	0.70
30	90.1	9.34	45.8	0.56
10	215	22.3	66.3	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 91 cfs





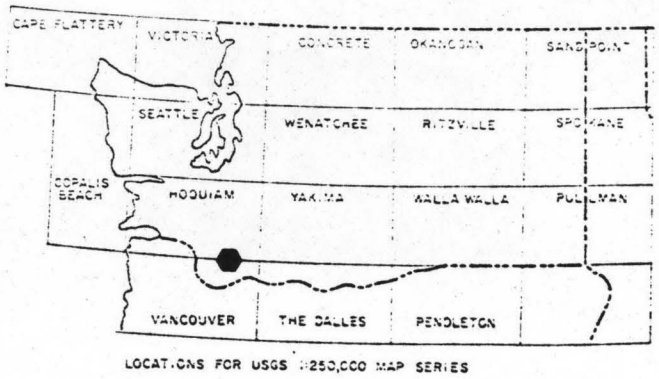
W27-1081

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0024

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T6N R4E
D.	Latitude, Longitude	45°58' 122°17'
E.	Stream Name	Siouxon Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/1.7



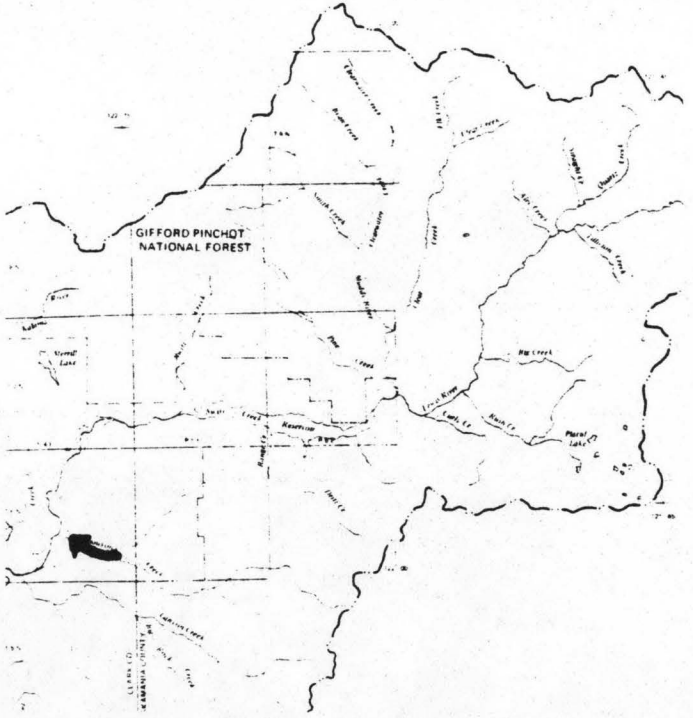
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

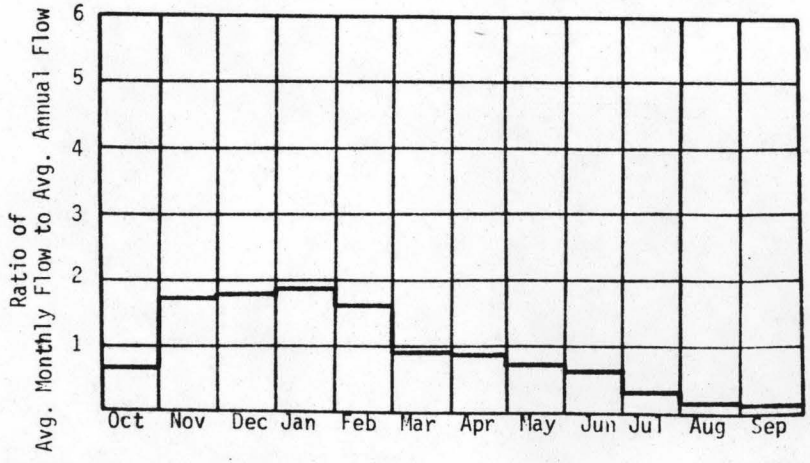
A.	Upstream Elevation of Reach	620	Ft. MSL
B.	Downstream Elevation of Reach	490	Ft. MSL
C.	Total Available Head in Reach	130	Ft.
D.	Average Slope in Reach	76.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	62.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	34.8	0.38	3.35	1.00
80	63.8	0.70	5.78	0.94
50	313	3.44	21.1	0.70
30	574	6.32	31.0	0.56
10	1370	15.1	44.8	0.34



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 580 cfs



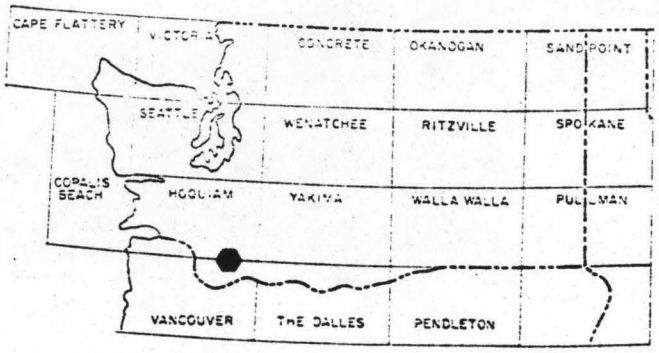
W27-1082

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0025

I. LOCATION

A.	State	Washington
B.	County	Clark & Skamania
C.	Township, Range	T5N R5E
D.	Latitude, Longitude	45°58' 122°11'
E.	Stream Name	Siouxon Creek
F.	Major Basin Name	Lewis
G.	River Mile	1.7/12.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

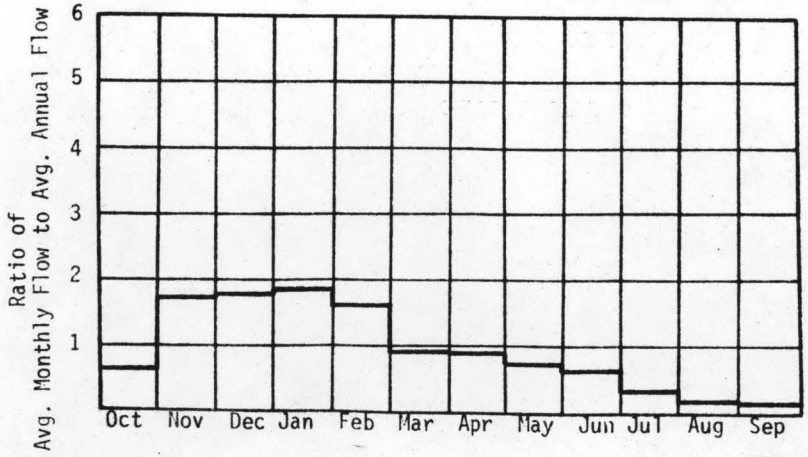
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

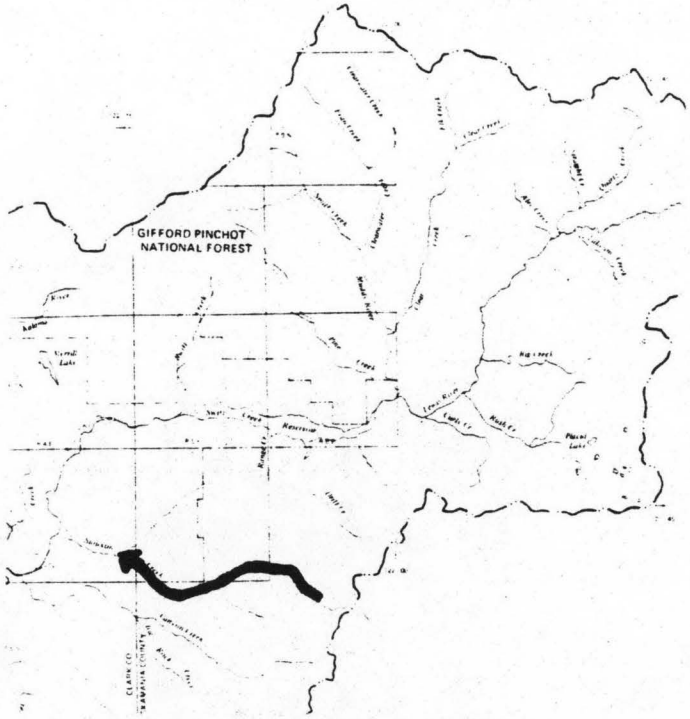
A.	Upstream Elevation of Reach	1700	Ft. MSL
B.	Downstream Elevation of Reach	620	Ft. MSL
C.	Total Available Head in Reach	1080 + 66 = 1146	Ft.
D.	Average Slope in Reach	102	Ft./Mi.
E.	Drainage Area above Reach Mouth	40.5	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.2	1.37	12.0	1.00
80	26.0	2.52	20.7	0.94
50	127	12.4	75.8	0.70
30	234	22.7	111	0.56
10	557	54.0	161	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 236 cfs





W27-1083

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0026

I. LOCATION

A.	State	Washington
B.	County	Clark & Skamania
C.	Township, Range	T7N R5E
D.	Latitude, Longitude	46°07' 122°13'
E.	Stream Name	N. Siouxon Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/5.0

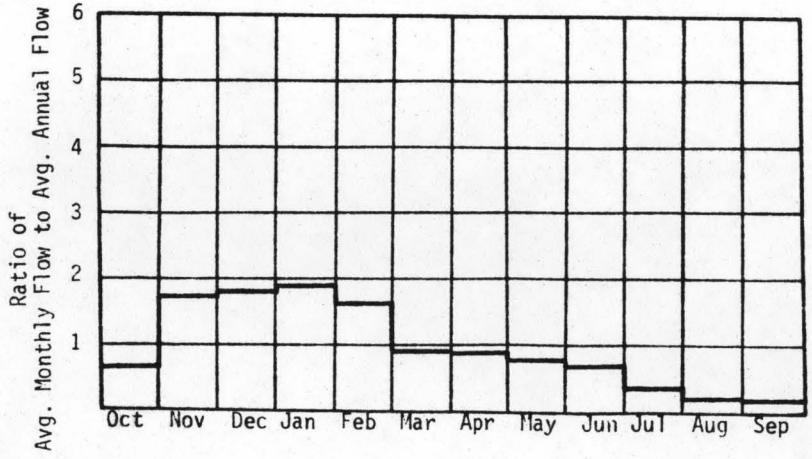
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

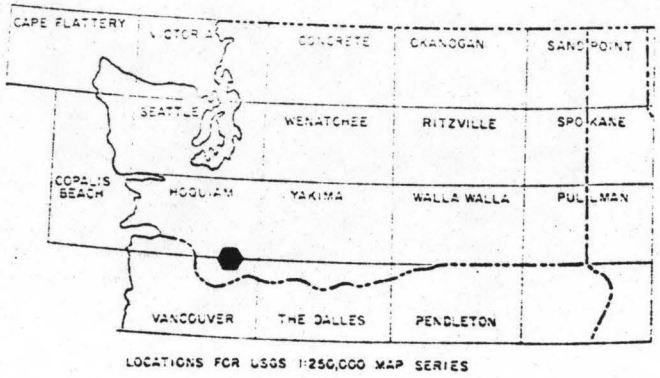
A.	Upstream Elevation of Reach	1490	Ft. MSL
B.	Downstream Elevation of Reach	620	Ft. MSL
C.	Total Available Head in Reach	870 + 66 = 936	Ft.
D.	Average Slope in Reach	174	Ft./Mi.
E.	Drainage Area above Reach Mouth	20.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

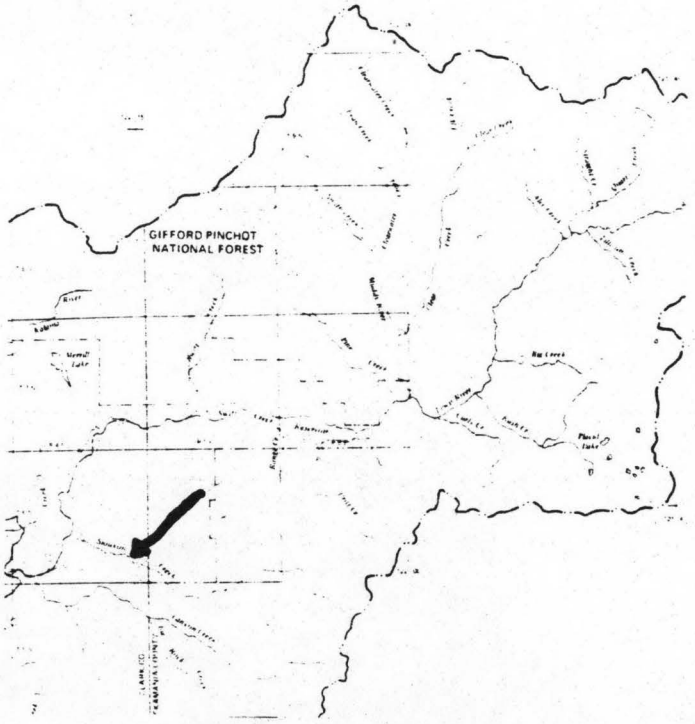
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.16	0.65	5.66	1.00
80	15.0	1.18	9.75	0.94
50	73.4	5.82	35.7	0.70
30	137	10.7	52.3	0.56
10	321	25.4	75.7	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 136 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



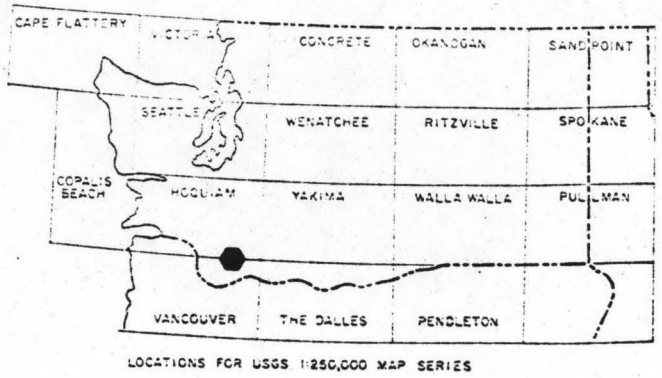
W27-1084

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0027

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R5E
D.	Latitude, Longitude	46°07' 122°13'
E.	Stream Name	Swift Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/2.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

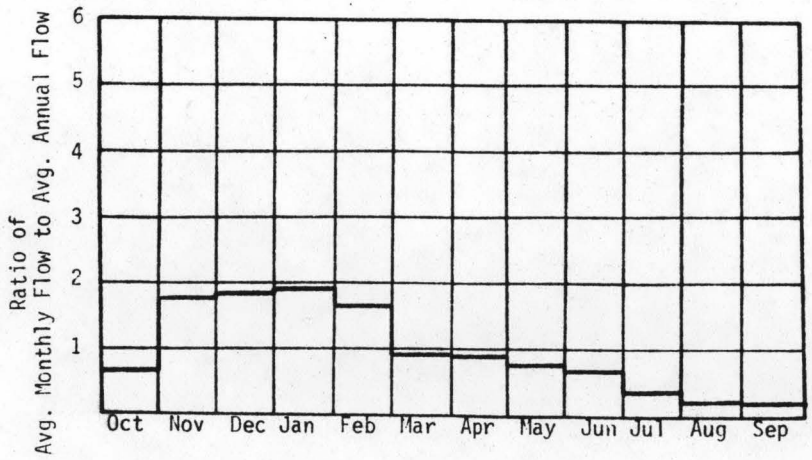
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

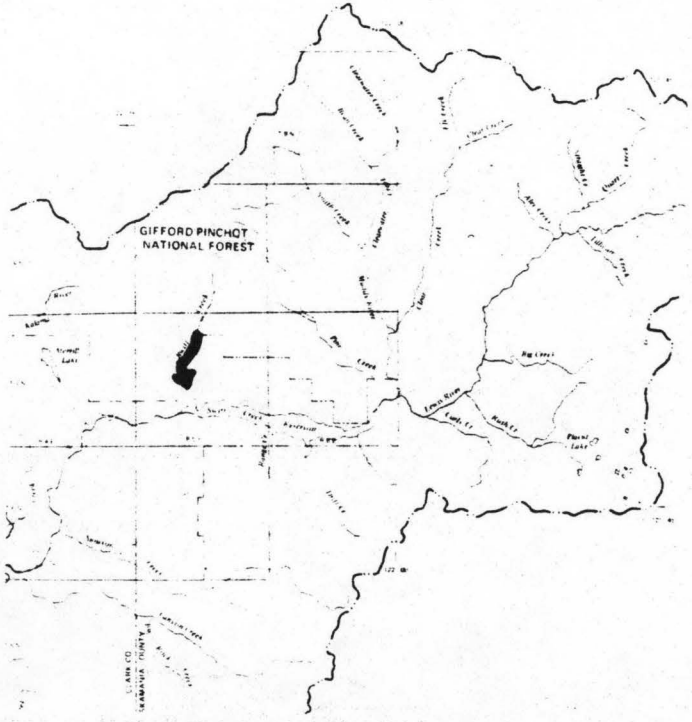
A.	Upstream Elevation of Reach	1600	Ft. MSL
B.	Downstream Elevation of Reach	1000	Ft. MSL
C.	Total Available Head in Reach	600 + 66 = 666	Ft.
D.	Average Slope in Reach	261	Ft./Mi.
E.	Drainage Area above Reach Mouth	25.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	67.1	3.78	33.1	1.00
80	89.1	5.02	42.6	0.97
50	123	6.95	53.6	0.88
30	151	8.49	59.5	0.80
10	211	11.9	64.6	0.62

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 137 cfs





W27-1085

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0028

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R6E
D.	Latitude, Longitude	46°06' 122°03'
E.	Stream Name	Pine Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/6.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

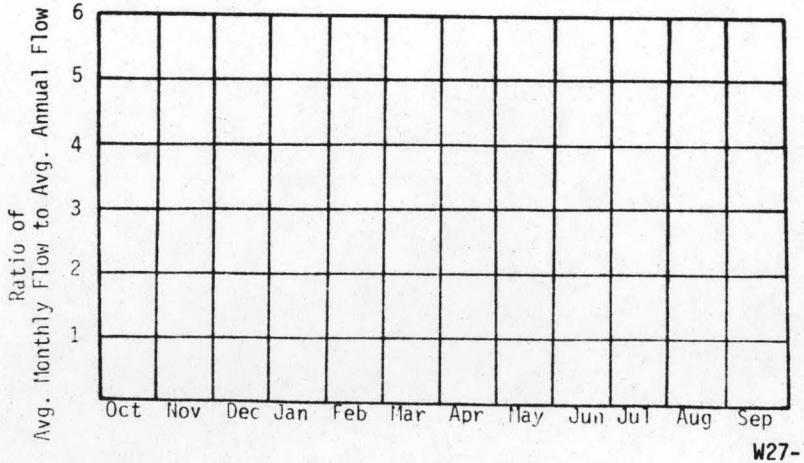
A.	Upstream Elevation of Reach	1900	Ft. MSL
B.	Downstream Elevation of Reach	1008	Ft. MSL
C.	Total Available Head in Reach	892 + 66 = 958	Ft.
D.	Average Slope in Reach	144	Ft./Mi.
E.	Drainage Area above Reach Mouth	25.5	Sq.Mi.
F.	Inflow Classification	Natural	

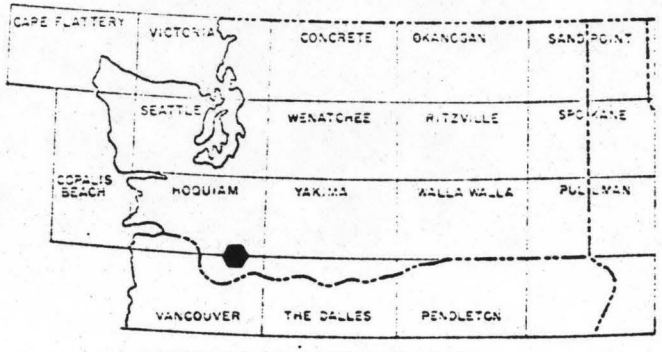
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	92.6	7.51	65.8	1.00
80	103	8.34	72.3	0.99
50	129	10.5	83.6	0.91
30	156	12.6	91.8	0.83
10	215	17.4	99.0	0.65

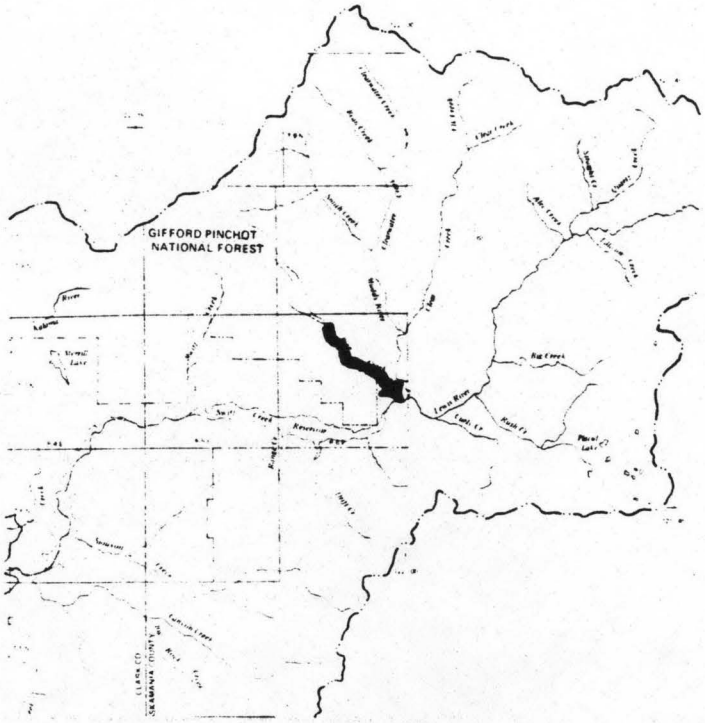
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 147 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



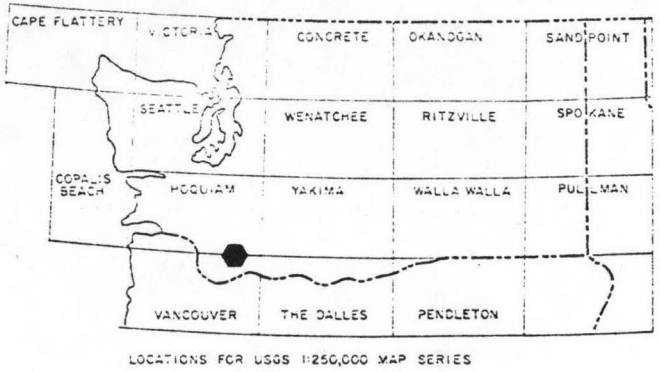
W27-1086

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-040-000-000-R0029

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R6E
D.	Latitude, Longitude	46°06' 122°00'
E.	Stream Name	Muddy River
F.	Major Basin Name	Lewis
G.	River Mile	0/4.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

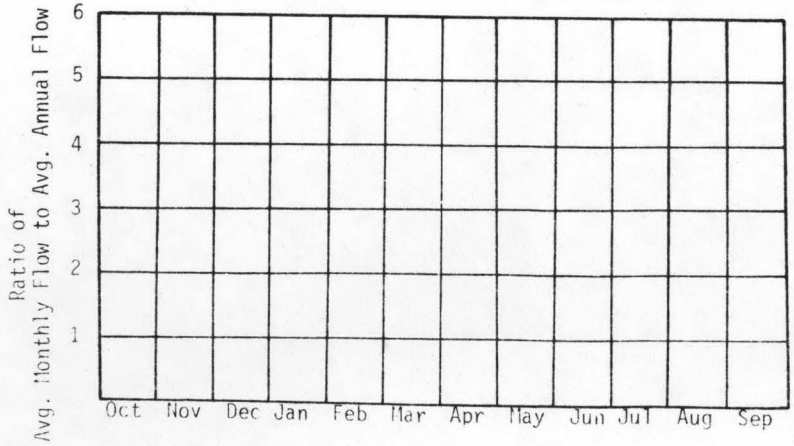
A.	Upstream Elevation of Reach	1230	Ft. MSL
B.	Downstream Elevation of Reach	1008	Ft. MSL
C.	Total Available Head in Reach	222	Ft.
D.	Average Slope in Reach	46.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	141	Sq.Mi.
F.	Inflow Classification	Natural	

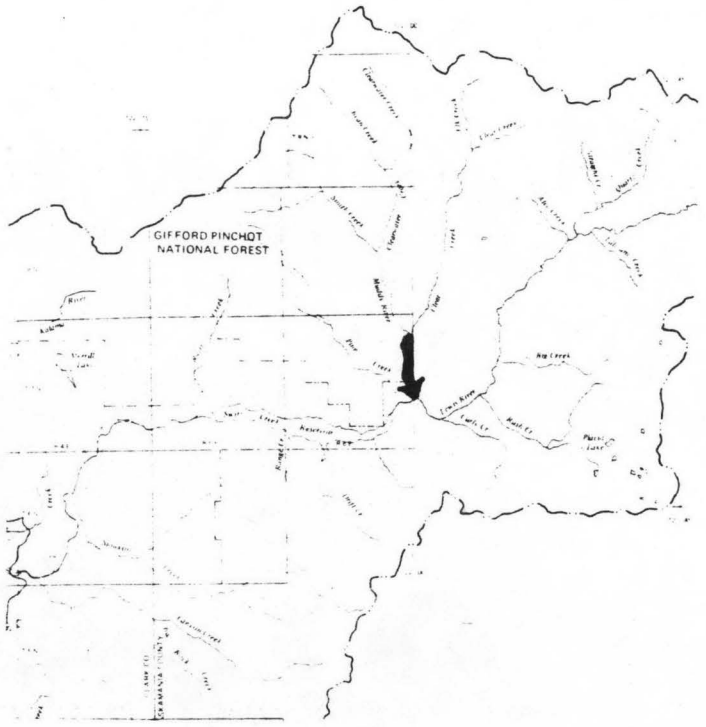
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	135	2.53	22.1	1.00
80	227	4.26	35.5	0.95
50	614	11.5	75.8	0.75
30	1020	19.1	102	0.61
10	1730	32.5	125	0.44

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 841 cfs





W27-1087

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0030

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T8N R6E	
D. Latitude, Longitude	45°08' 122°01'	
E. Stream Name	Muddy River	
F. Major Basin Name	Lewis	
G. River Mile	4.8/8.3	

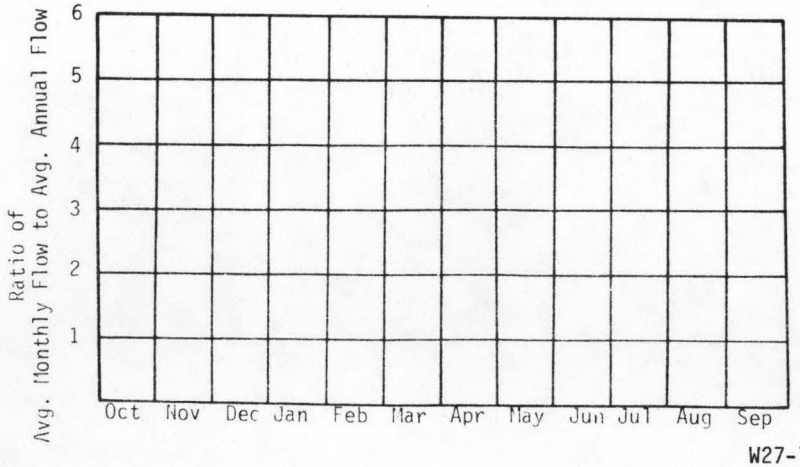
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

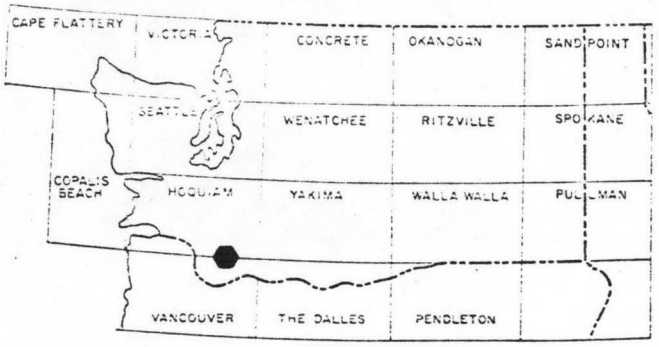
A. Upstream Elevation of Reach	1440	Ft. MSL
B. Downstream Elevation of Reach	1230	Ft. MSL
C. Total Available Head in Reach	210	Ft.
D. Average Slope in Reach	60.0	Ft./Mi.
E. Drainage Area above Reach Mouth	874	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

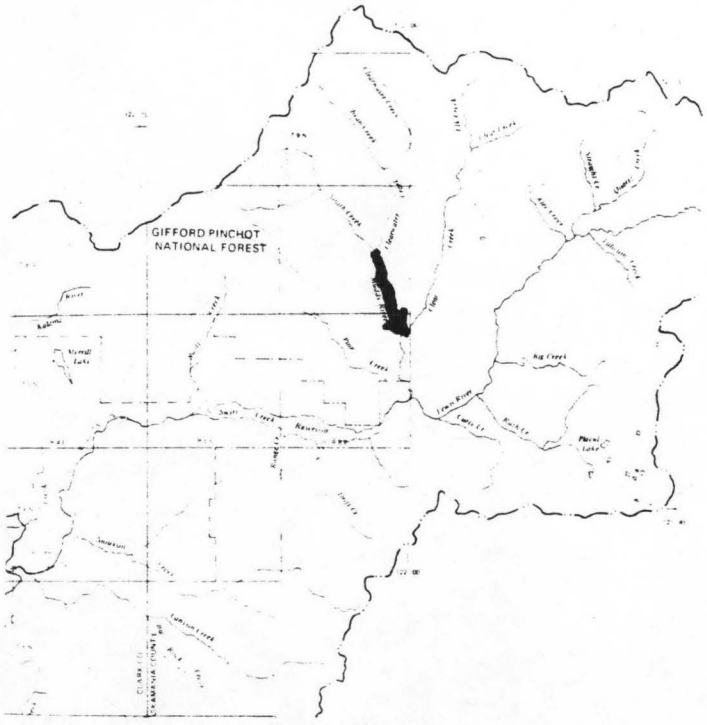
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	77.9	1.38	12.1	1.00
80	132	2.34	19.4	0.95
50	356	6.32	41.5	0.75
30	589	10.5	55.9	0.61
10	1000	17.8	68.7	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 487 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



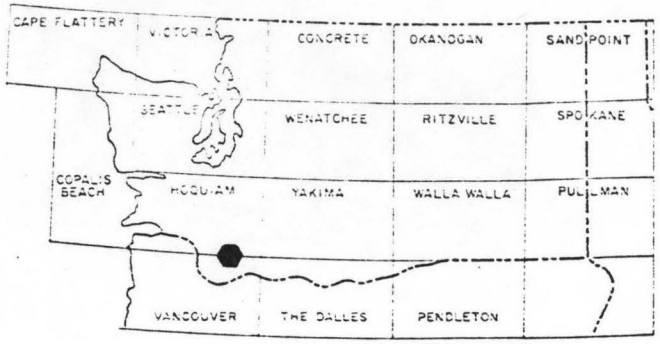
W27-1088

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-040-000-000-R0031

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T8N R6E
D.	Latitude, Longitude	46°11' 122°03'
E.	Stream Name	Muddy River
F.	Major Basin Name	Lewis
G.	River Mile	8.3/9.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

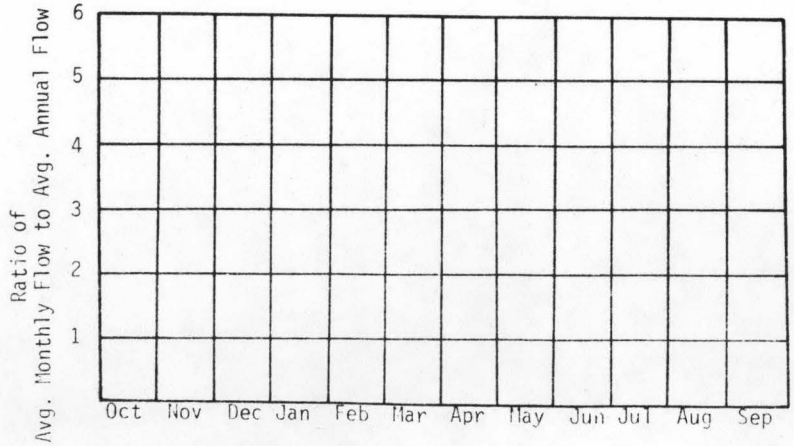
A.	Upstream Elevation of Reach	1600	Ft. MSL
B.	Downstream Elevation of Reach	1440	Ft. MSL
C.	Total Available Head in Reach	160	Ft.
D.	Average Slope in Reach	114	Ft./Mi.
E.	Drainage Area above Reach Mouth	32.0	Sq.Mi.
F.	Inflow Classification	Natural	

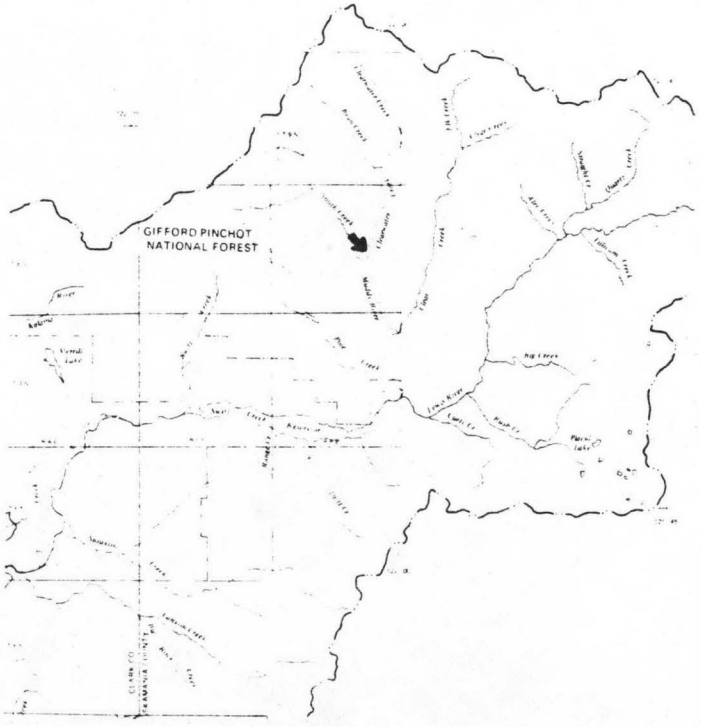
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29.3	0.40	3.47	1.00
80	49.4	0.67	5.57	0.95
50	134	1.81	11.9	0.75
30	221	3.00	16.0	0.61
10	377	5.10	19.7	0.44

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 183 cfs





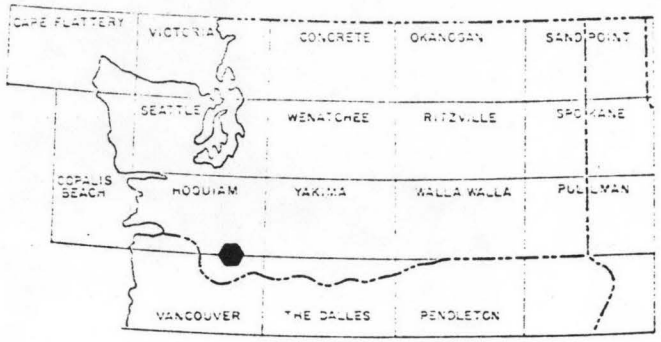
W27-1089

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-040-000-000-R0032

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T8N R7E
D.	Latitude, Longitude	46°11' 121°58'
E.	Stream Name	Clear Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/10.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

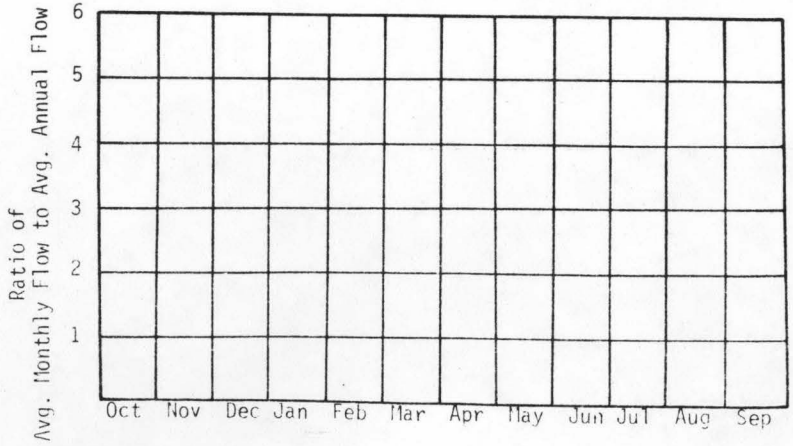
A.	Upstream Elevation of Reach	2140	Ft. MSL
B.	Downstream Elevation of Reach	1220	Ft. MSL
C.	Total Available Head in Reach	920 + 66 = 986	Ft.
D.	Average Slope in Reach	87.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	48.1	Sq.Mi.
F.	Inflow Classification	Natural	

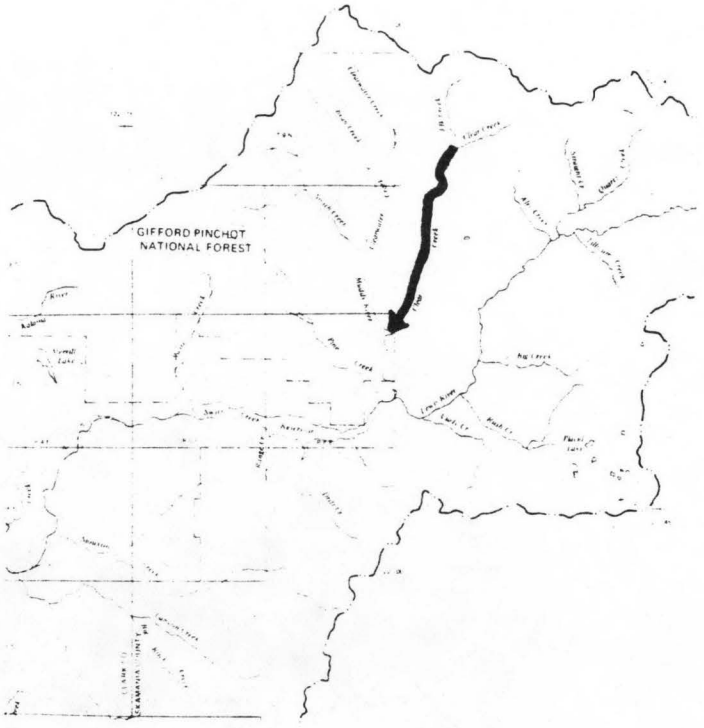
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	34.2	2.86	25.0	1.00
80	57.8	4.82	40.1	0.95
50	156	13.0	85.6	0.75
30	259	21.6	115	0.61
10	441	36.8	142	0.44

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 214 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0033

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T8N R6E	
D. Latitude, Longitude	46°12' 122°01'	
E. Stream Name	Clearwater Creek	
F. Major Basin Name	Lewis	
G. River Mile	0/4.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

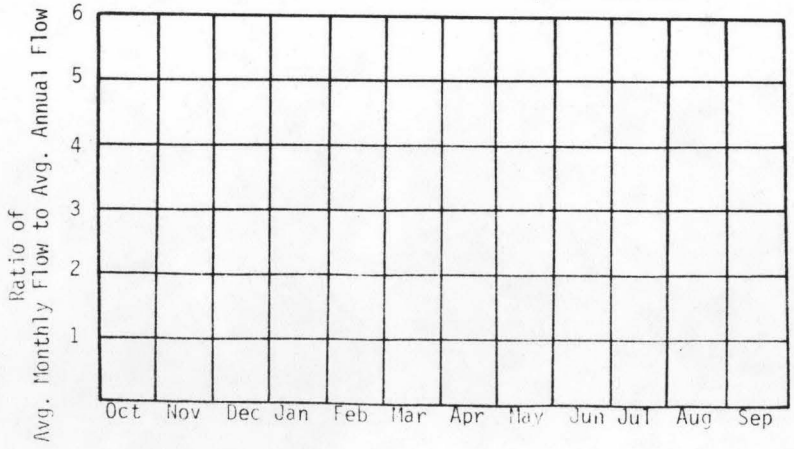
A. Upstream Elevation of Reach	1740	Ft. MSL
B. Downstream Elevation of Reach	1440	Ft. MSL
C. Total Available Head in Reach	300	Ft.
D. Average Slope in Reach	75	Ft./Mi.
E. Drainage Area above Reach Mouth	45.0	Sq.Mi.
F. Inflow Classification	Natural	

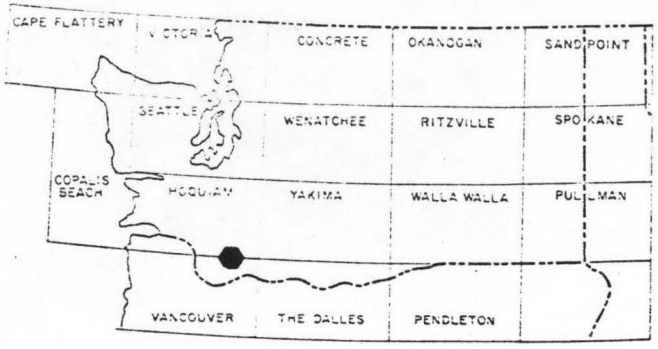
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	36.6	0.93	8.15	1.00
80	61.8	1.57	13.1	0.95
50	167	4.24	27.9	0.75
30	277	7.03	37.6	0.61
10	472	12.0	46.2	0.44

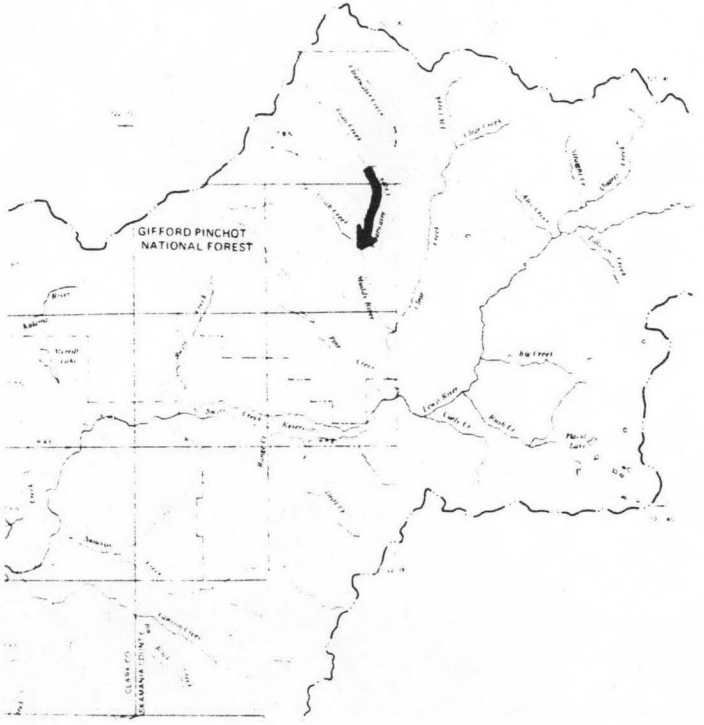
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 229 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1091

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0034

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T8N R6E	
D. Latitude, Longitude	46°13' 122°04'	
E. Stream Name	Clearwater Creek	
F. Major Basin Name	Lewis	
G. River Mile	4.0/10.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

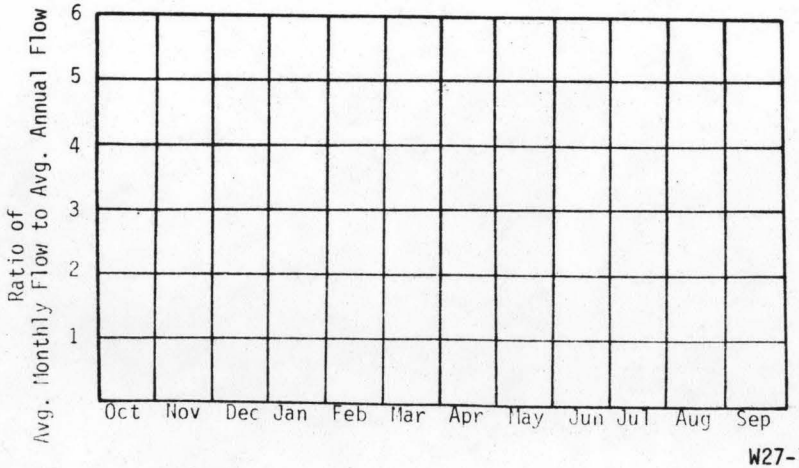
A. Upstream Elevation of Reach	2390	Ft. MSL
B. Downstream Elevation of Reach	1740	Ft. MSL
C. Total Available Head in Reach	650 + 66 = 716	Ft.
D. Average Slope in Reach	97	Ft./Mi.
E. Drainage Area above Reach Mouth	27.3	Sq.Mi.
F. Inflow Classification	Natural	

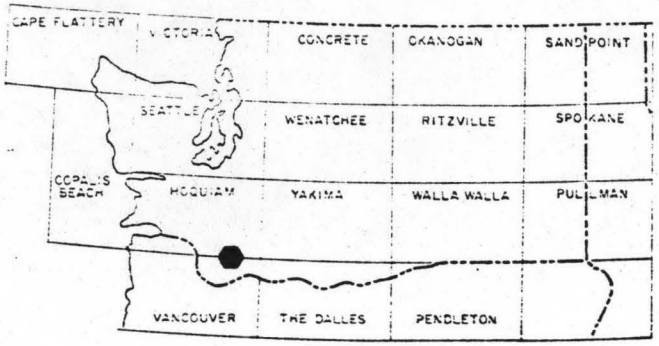
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15.4	0.93	8.15	1.00
80	25.9	1.57	13.1	0.95
50	70.1	4.24	27.9	0.75
30	116	7.04	37.6	0.61
10	198	12.0	46.2	0.44

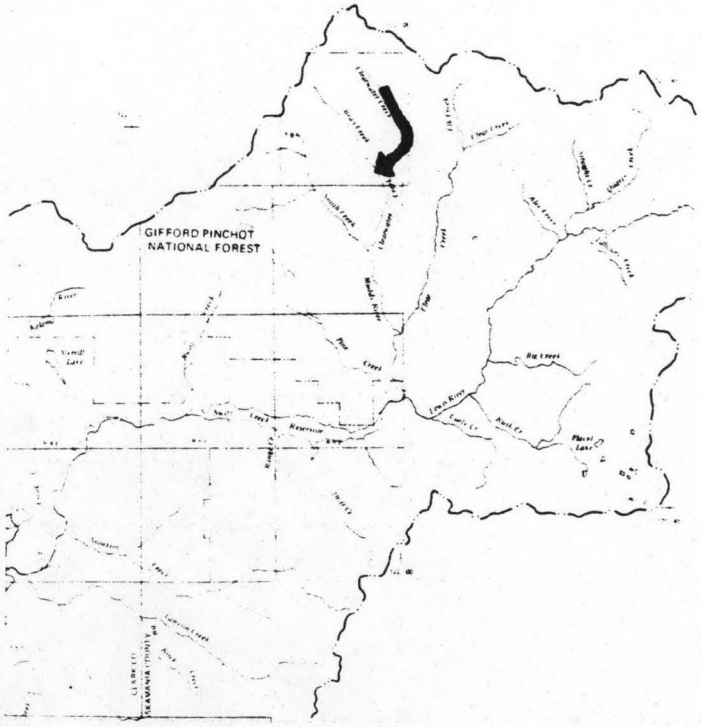
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 96 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1092

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0035

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T8N R6E
D.	Latitude, Longitude	46°13' 122°04'
E.	Stream Name	Smith Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/4.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

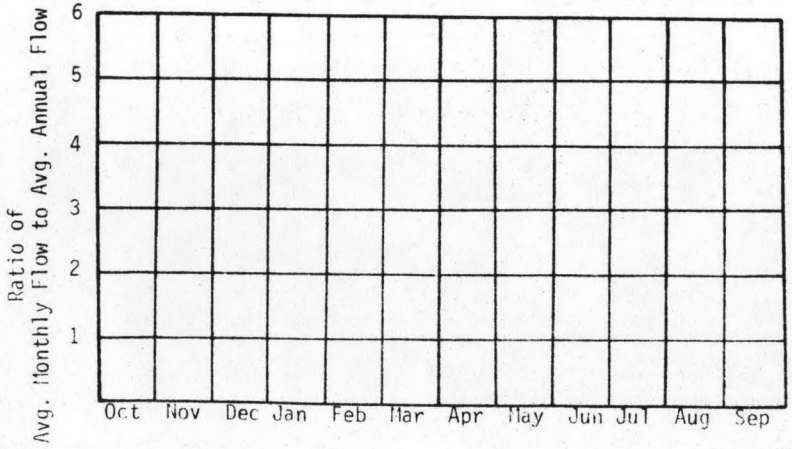
A.	Upstream Elevation of Reach	1870	Ft. MSL
B.	Downstream Elevation of Reach	1600	Ft. MSL
C.	Total Available Head in Reach	270 + 66 = 336	Ft.
D.	Average Slope in Reach	64.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	24.3	Sq.Mi.
F.	Inflow Classification	Natural	

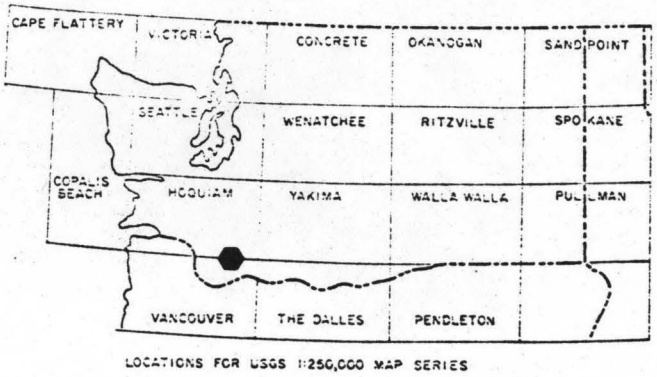
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.3	0.58	5.06	1.00
80	34.3	0.97	8.11	0.95
50	92.7	2.64	17.3	0.75
30	154	4.37	23.3	0.61
10	262	7.44	28.7	0.44

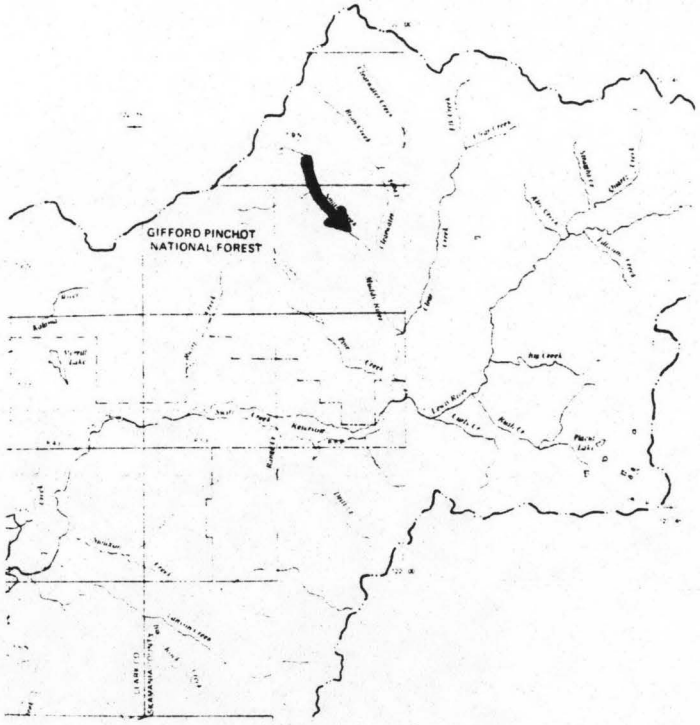
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 127 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1093

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-040-000-000-R0036

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T8N R8E
D.	Latitude, Longitude	46°12' 121°48'
E.	Stream Name	Quartz Creek
F.	Major Basin Name	Lewis
G.	River Mile	0/5.7

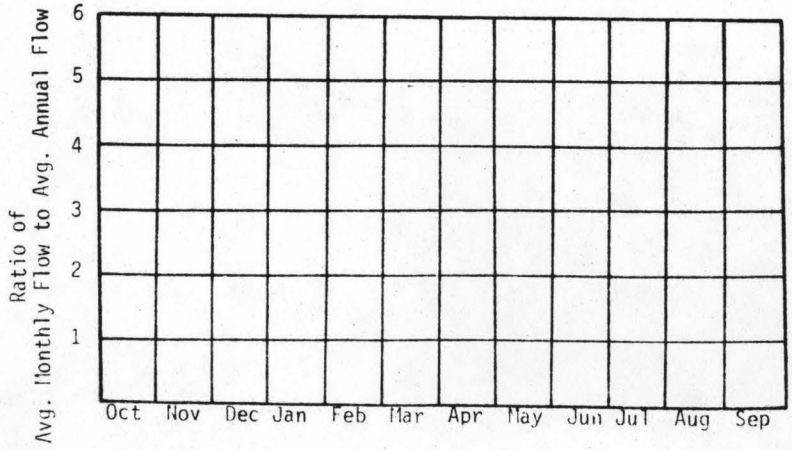
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

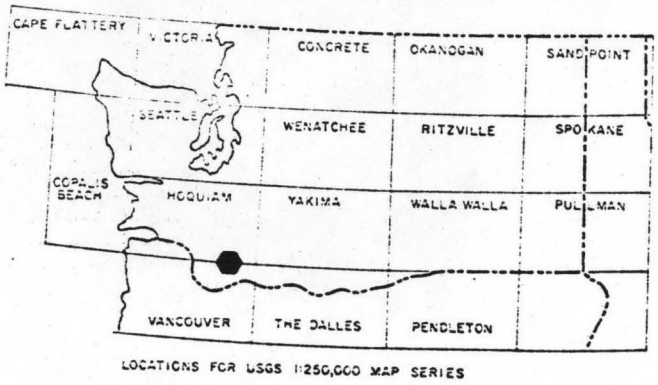
A.	Upstream Elevation of Reach	2460	Ft. MSL
B.	Downstream Elevation of Reach	1725	Ft. MSL
C.	Total Available Head in Reach	735 + 66 = 801	Ft.
D.	Average Slope in Reach	129	Ft./Mi.
E.	Drainage Area above Reach Mouth	30.2	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

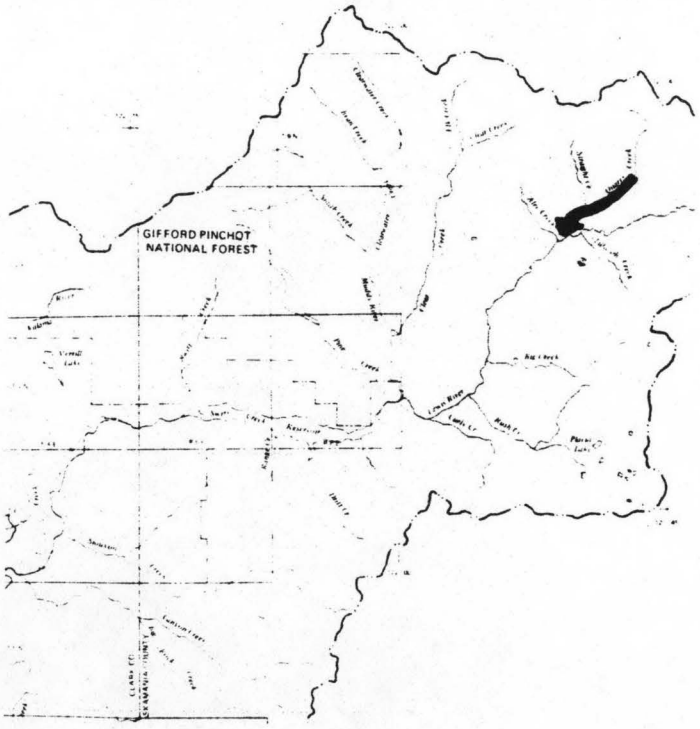
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.4	1.24	10.9	1.00
80	35.6	2.42	19.9	0.94
50	78.8	5.34	36.0	0.77
30	127	8.64	47.7	0.63
10	232	15.7	59.3	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 108 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W27-1094

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-042-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T3N R1E	
D. Latitude, Longitude	45°42' 122°40'	
E. Stream Name	Salmon Creek	
F. Major Basin Name	Salmon Creek	
G. River Mile	0/10.4	

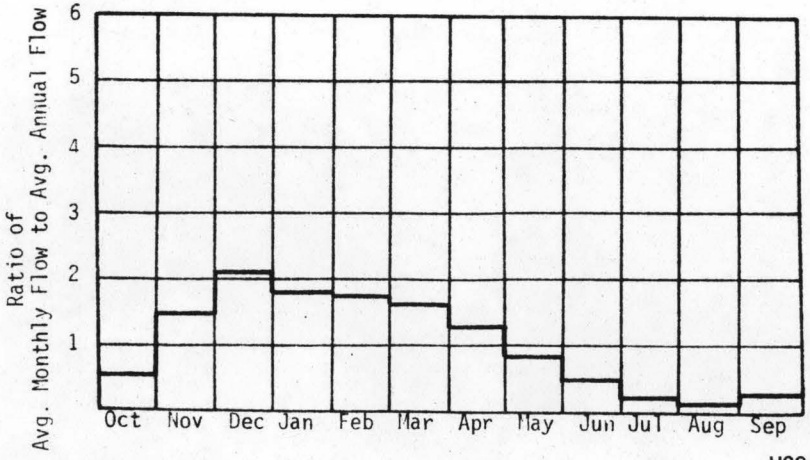
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

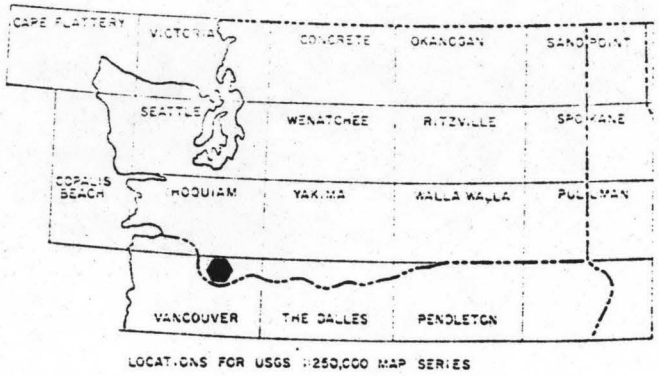
A. Upstream Elevation of Reach	160	Ft. MSL
B. Downstream Elevation of Reach	30	Ft. MSL
C. Total Available Head in Reach	130	Ft.
D. Average Slope in Reach	12.5	Ft./Mi.
E. Drainage Area above Reach Mouth	94.3	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.55	0.11	0.92	1.00
80	17.2	0.19	1.56	0.94
50	91.7	1.01	6.01	0.68
30	202	2.23	10.3	0.53
10	516	5.67	15.9	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 191 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

WATER RESOURCE INVENTORY AREA (28)

SCALE 1 125,000

STATUTE MILES

W28-1095

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-042-000-000-R0002

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T3N R2E	
D. Latitude, Longitude	45°44' 122°32'	
E. Stream Name	Salmon Creek	
F. Major Basin Name	Salmon Creek	
G. River Mile	10.4/15.4	

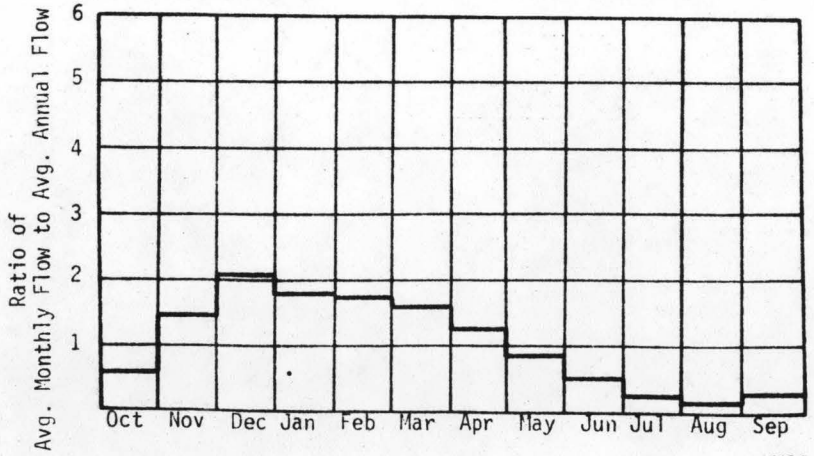
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

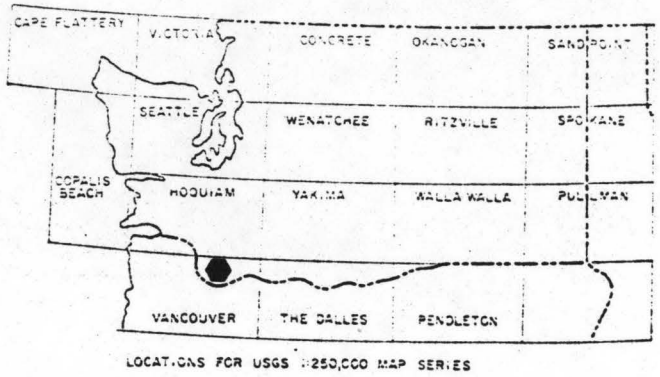
A. Upstream Elevation of Reach	240	Ft. MSL
B. Downstream Elevation of Reach	160	Ft. MSL
C. Total Available Head in Reach	80 + 66 = 146	Ft.
D. Average Slope in Reach	16.0	Ft./Mi.
E. Drainage Area above Reach Mouth	51.9	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

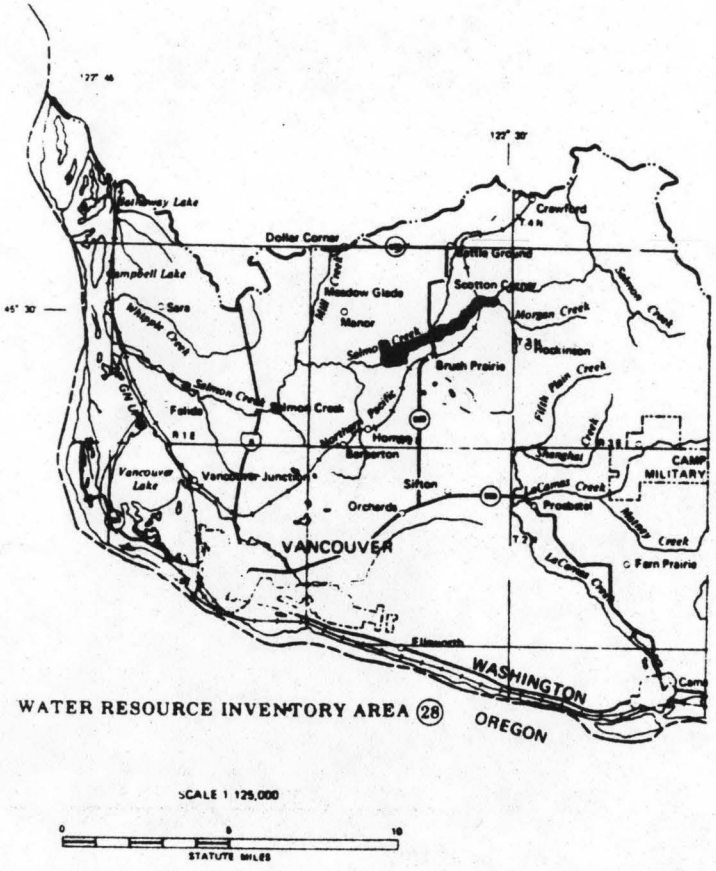
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.15	0.08	0.67	1.00
80	11.1	0.14	1.13	0.94
50	59.0	0.73	4.34	0.68
30	130	1.61	7.48	0.53
10	332	4.10	11.5	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 123 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



WATER RESOURCE INVENTORY AREA (28)

SCALE 1:125,000

0 5 10
STATUTE MILES

W28-1096

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-044-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T1N R3E
D.	Latitude, Longitude	45°36' 122°25'
E.	Stream Name	Lacamas Creek
F.	Major Basin Name	Lacamas Creek
G.	River Mile	0.0/1.3

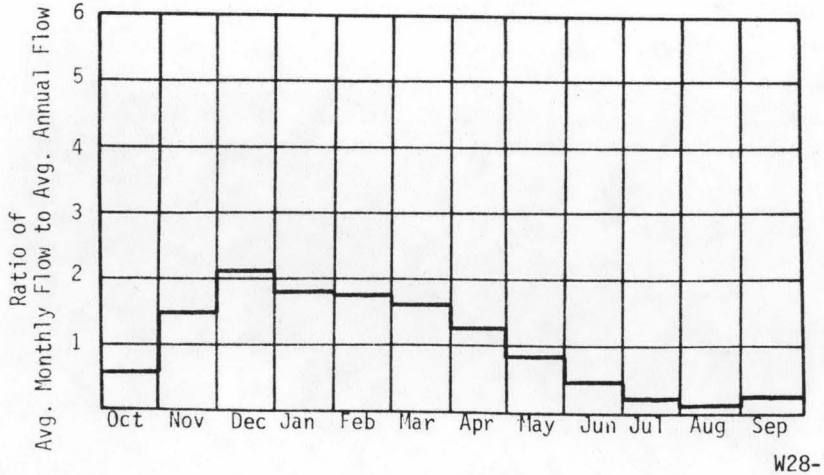
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	160	Ft. MSL
B.	Downstream Elevation of Reach	40	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	92	Ft./Mi.
E.	Drainage Area above Reach Mouth	63.9	Sq.Mi.
F.	Inflow Classification	Regulated	

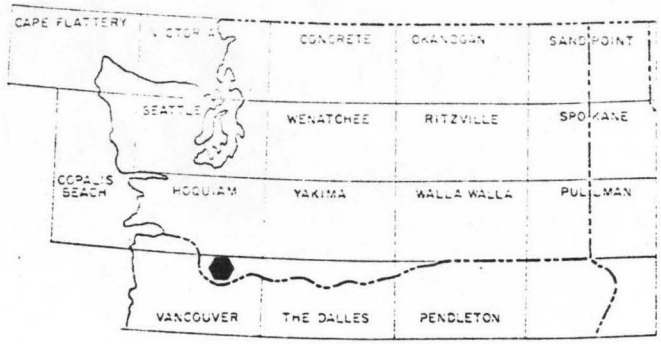
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.6	0.13	1.12	1.00
80	28.8	0.29	2.38	0.93
50	99.0	1.01	6.25	0.71
30	191	1.94	9.50	0.56
10	425	4.31	13.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 180 cfs



W28-1097



LOCATIONS FOR USGS 1:250,000 MAP SERIES

WATER RESOURCE INVENTORY AREA (28)

SCALE 1:125,000

0 5 10

STATUTE MILES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-044-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T2N R3E
D.	Latitude, Longitude	45°49' 122°27'
E.	Stream Name	Lacamas Creek
F.	Major Basin Name	Lacamas
G.	River Mile	4.1/8.9

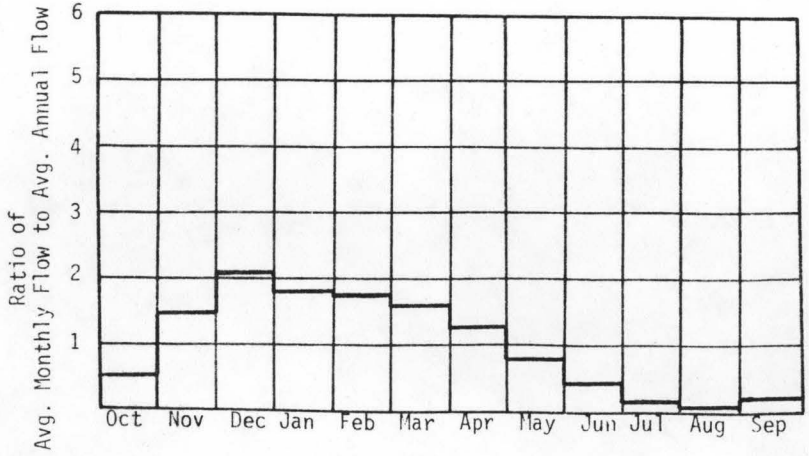
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

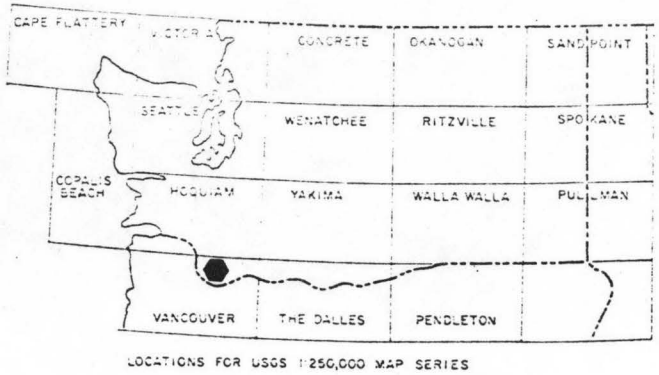
A.	Upstream Elevation of Reach	200	Ft. MSL
B.	Downstream Elevation of Reach	182	Ft. MSL
C.	Total Available Head in Reach	18	Ft.
D.	Average Slope in Reach	3.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	55.3	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.1	0.02	0.13	1.00
80	23.0	0.04	0.29	0.93
50	79.2	0.12	0.75	0.71
30	153	0.23	1.14	0.56
10	340	0.52	1.63	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 144 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

WATER RESOURCE INVENTORY AREA (28)

SCALE 1:125,000

0 5 10
STATUTE MILES

W28-1098

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-044-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Clark
C.	Township, Range	T2N R3E
D.	Latitude, Longitude	45°50' 122°27'
E.	Stream Name	Lacamas Creek
F.	Major Basin Name	Lacamas Creek
G.	River Mile	8.9/11.8

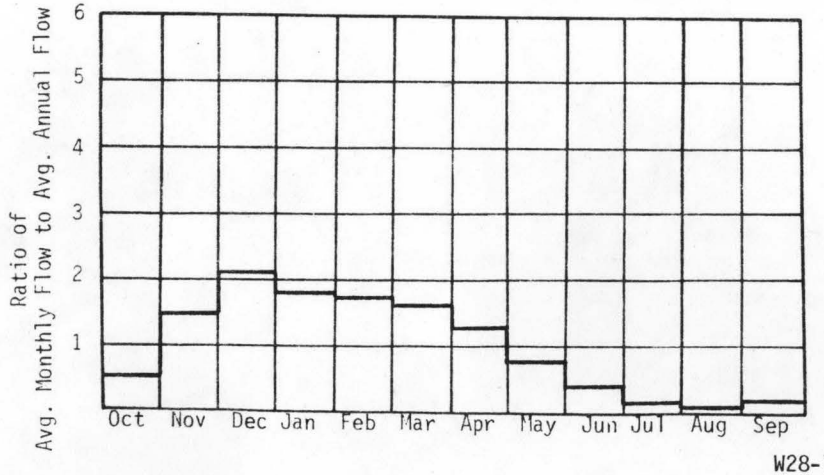
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

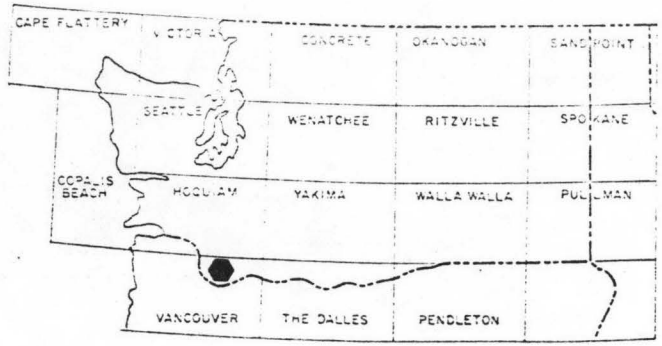
A.	Upstream Elevation of Reach	235	Ft. MSL
B.	Downstream Elevation of Reach	200	Ft. MSL
C.	Total Available Head in Reach	35 + 66 = 101	Ft.
D.	Average Slope in Reach	12.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	22.5	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.11	0.04	0.38	1.00
80	11.7	0.10	0.81	0.93
50	42.2	0.34	2.13	0.71
30	77.4	0.66	3.24	0.56
10	172	1.47	3.64	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 73 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

WATER RESOURCE INVENTORY AREA (28)

W28-1099

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T1N R3E	
D. Latitude, Longitude	45°36' 122°23'	
E. Stream Name	Washougal River	
F. Major Basin Name	Washougal	
G. River Mile	0/4.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

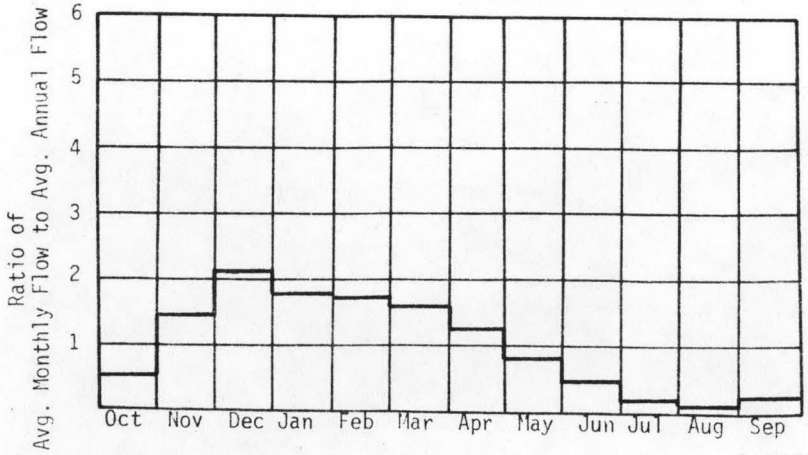
A. Upstream Elevation of Reach	70	Ft. MSL
B. Downstream Elevation of Reach	40	Ft. MSL
C. Total Available Head in Reach	30	Ft.
D. Average Slope in Reach	6.28	Ft./Mi.
E. Drainage Area above Reach Mouth	149	Sq.Mi.
F. Inflow Classification	Natural	

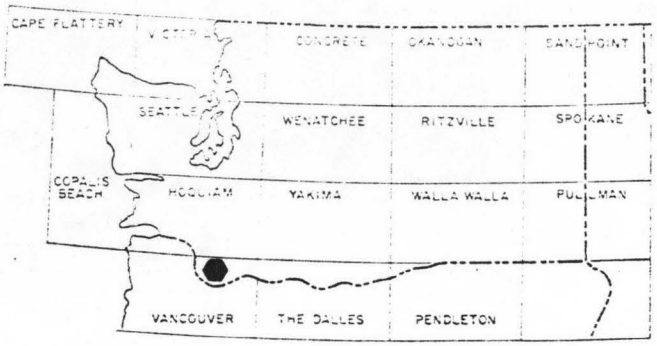
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	80	0.20	1.78	1.00
80	140	0.36	2.93	0.94
50	581	1.47	9.04	0.70
30	1080	2.74	13.5	0.56
10	2340	5.94	18.8	0.36

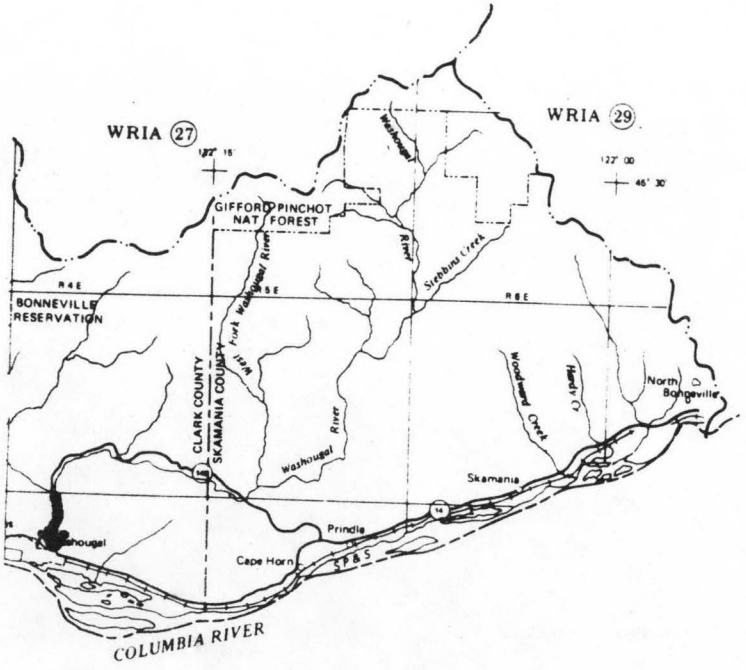
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1001 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0002

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T2N R4E	
D. Latitude, Longitude	45°38' 122°16'	
E. Stream Name	Washougal River	
F. Major Basin Name	Washougal	
G. River Mile	4.7/13.1	

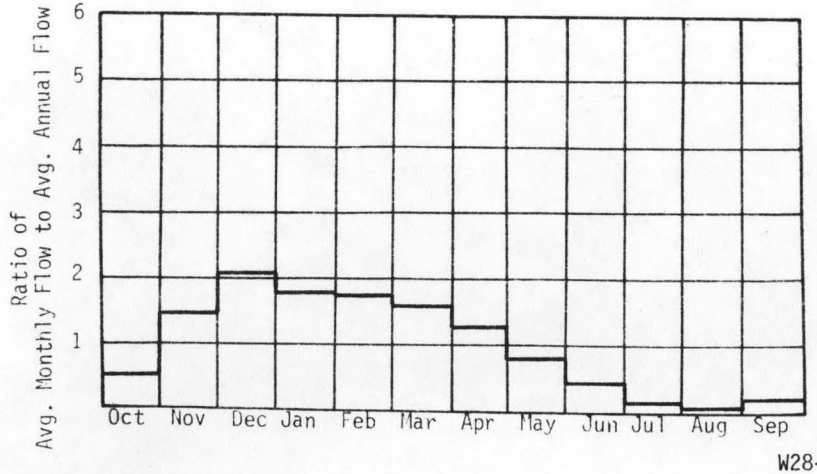
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

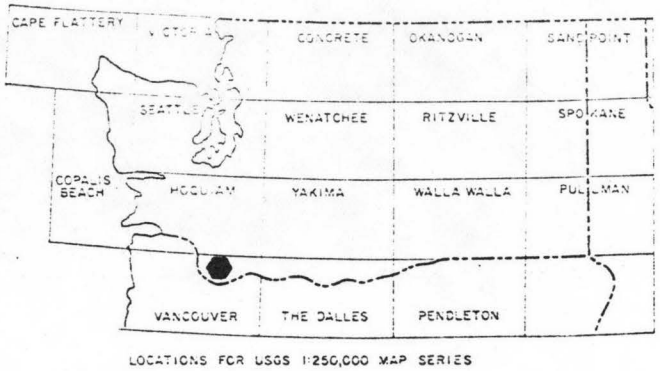
A. Upstream Elevation of Reach	315	Ft. MSL
B. Downstream Elevation of Reach	70	Ft. MSL
C. Total Available Head in Reach	245	Ft.
D. Average Slope in Reach	29.2	Ft./Mi.
E. Drainage Area above Reach Mouth	119	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

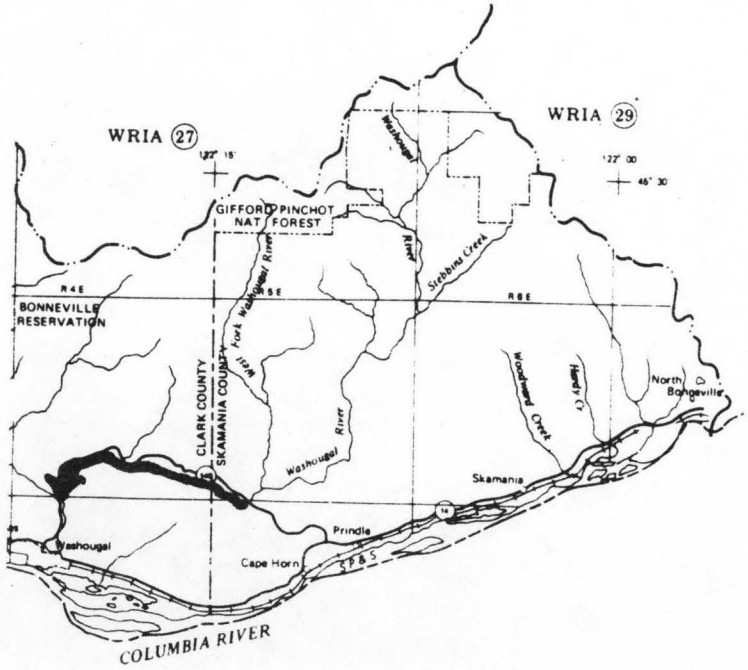
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	69.4	1.44	12.6	1.00
80	122	2.52	20.7	0.94
50	503	10.4	64.0	0.70
30	937	19.4	95.3	0.56
10	2030	42.1	133	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 868 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



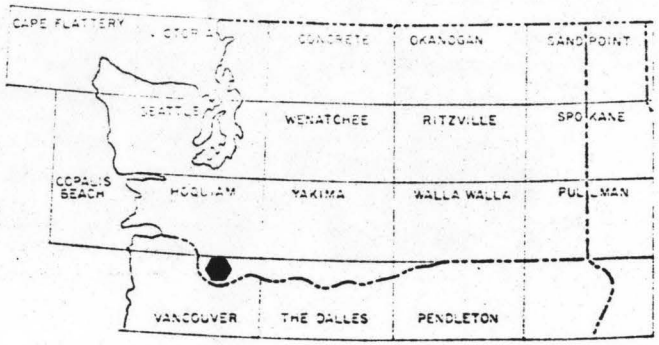
W28-1101

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T2N R5E
D.	Latitude, Longitude	45°37' 122°13'
E.	Stream Name	Washougal River
F.	Major Basin Name	Washougal
G.	River Mile	13.1/13.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

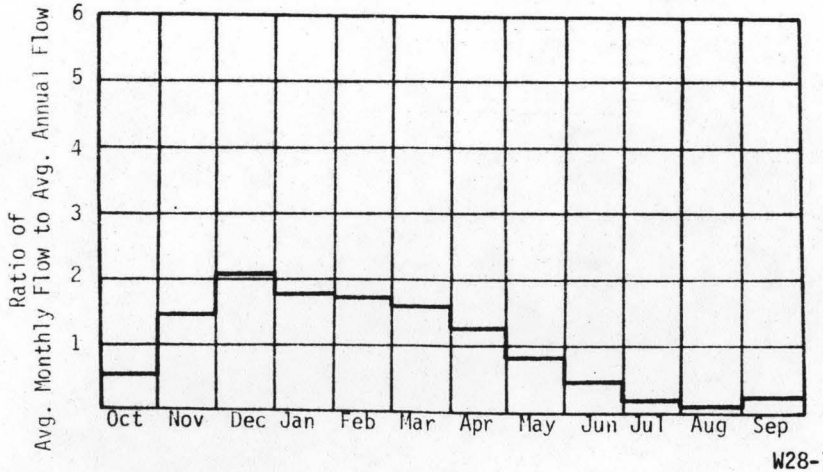
A.	Upstream Elevation of Reach	345	Ft. MSL
B.	Downstream Elevation of Reach	315	Ft. MSL
C.	Total Available Head in Reach	30	Ft.
D.	Average Slope in Reach	37.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	96	Sq.Mi.
F.	Inflow Classification	Natural	

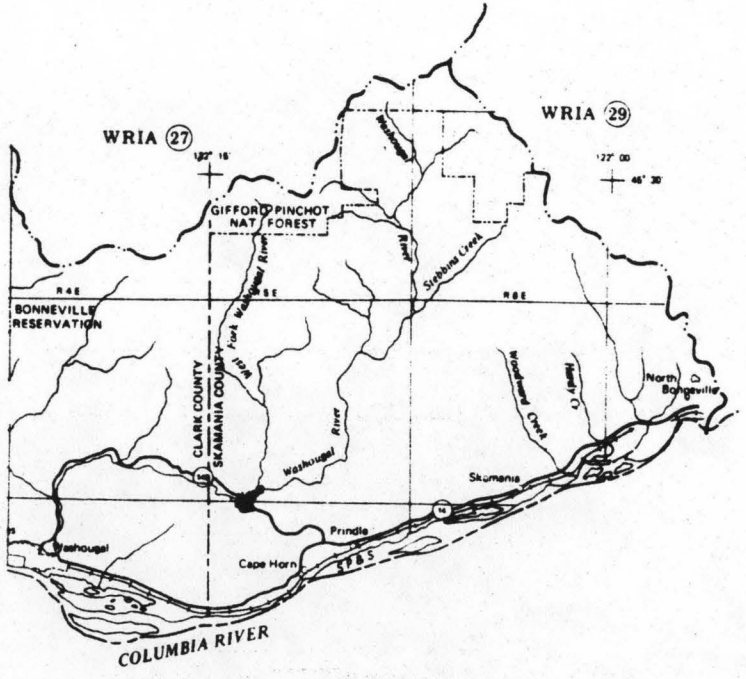
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	60.7	0.15	1.35	1.00
80	106	0.27	2.22	0.94
50	440	1.12	6.85	0.70
30	820	2.08	10.2	0.56
10	1780	4.51	14.2	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 759 cfs





W28-1102

REACH HYDRO POTENTIAL CHARACTERISTICS

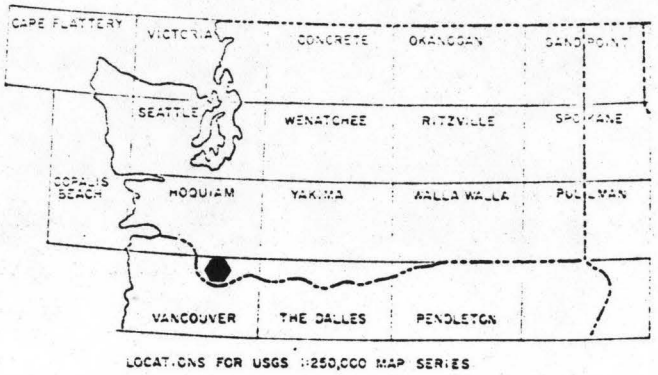
REACH # 01-500-046-000-000-R0004

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T2N R5E	
D. Latitude, Longitude	45°37' 122°10'	
E. Stream Name	Washougal River	
F. Major Basin Name	Washougal	
G. River Mile	13.9/19.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	560	Ft. MSL
B. Downstream Elevation of Reach	345	Ft. MSL
C. Total Available Head in Reach	215	Ft.
D. Average Slope in Reach	42.2	Ft./Mi.
E. Drainage Area above Reach Mouth	65.1	Sq.Mi.
F. Inflow Classification	Natural	

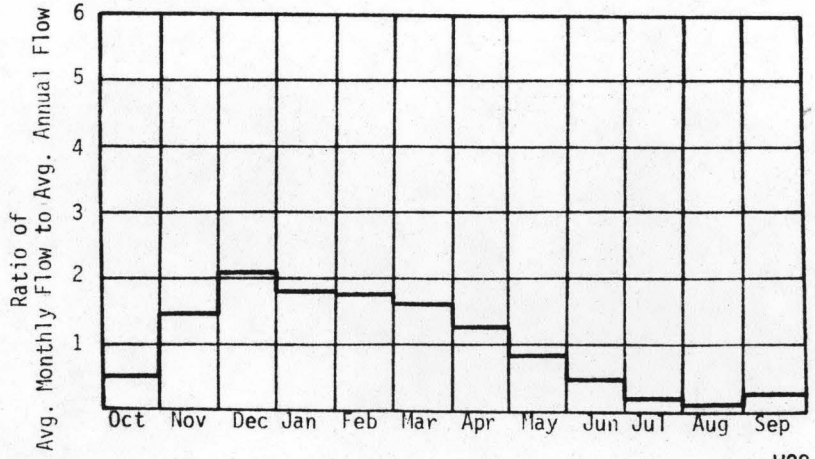


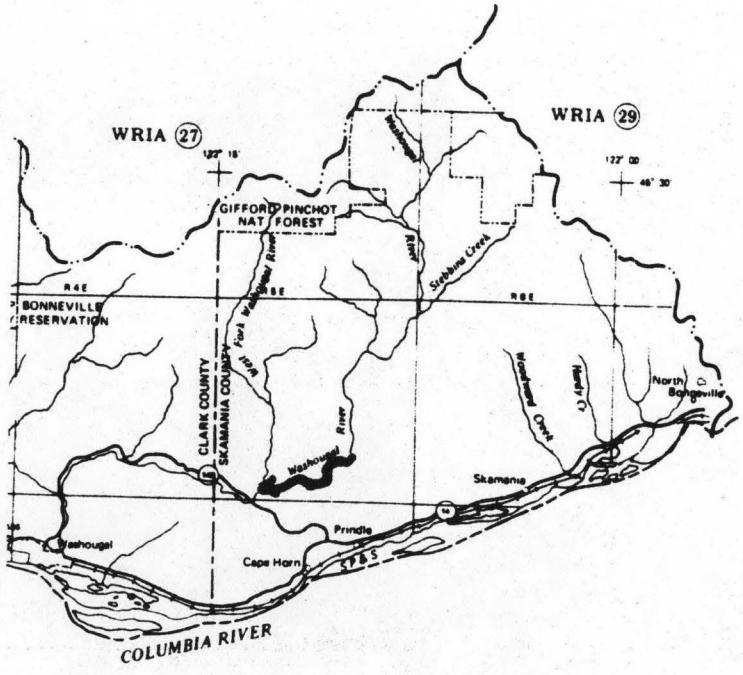
LOCATIONS FOR USGS 1:250,000 MAP SERIES

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	0.72	6.28	1.00
80	69.0	1.26	10.3	0.94
50	286	5.20	31.9	0.70
30	532	9.68	47.5	0.56
10	1150	21.0	66.2	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 493 cfs





W28-1103

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T2N R5E	
D. Latitude, Longitude	45°40' 122°10'	
E. Stream Name	Washougal River	
F. Major Basin Name	Washougal	
G. River Mile	19.0/23.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

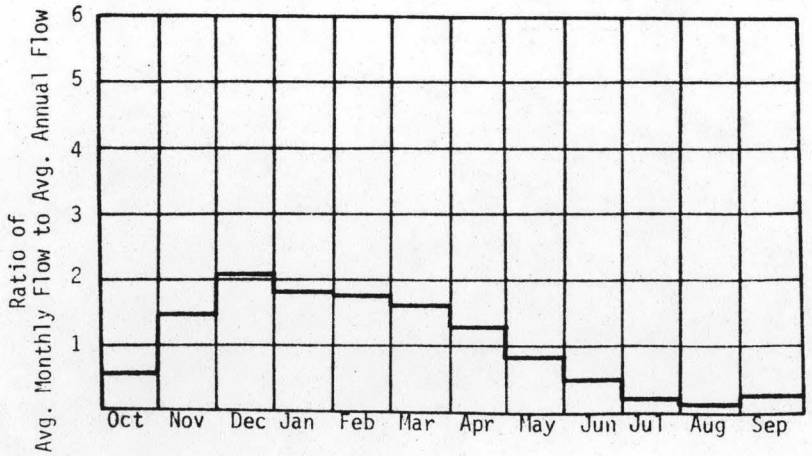
A. Upstream Elevation of Reach	770	Ft. MSL
B. Downstream Elevation of Reach	560	Ft. MSL
C. Total Available Head in Reach	210	Ft.
D. Average Slope in Reach	45.7	Ft./Mi.
E. Drainage Area above Reach Mouth	56.2	Sq.Mi.
F. Inflow Classification	Natural	

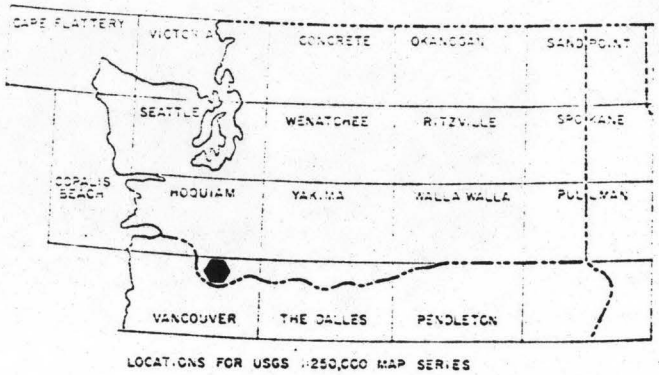
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	31.9	0.57	4.97	1.00
80	55.9	0.99	8.17	0.94
50	231	4.11	25.2	0.70
30	430	7.66	37.6	0.56
10	934	16.6	52.3	0.36

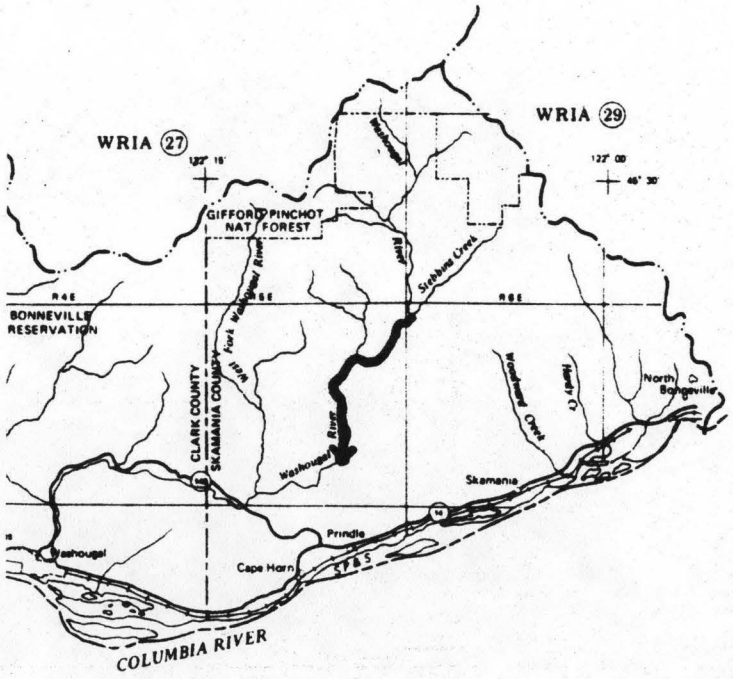
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 399 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T3N R5E	
D. Latitude, Longitude	45°43' 122°07'	
E. Stream Name	Washougal River	
F. Major Basin Name	Washougal	
G. River Mile	23.6/27.7	

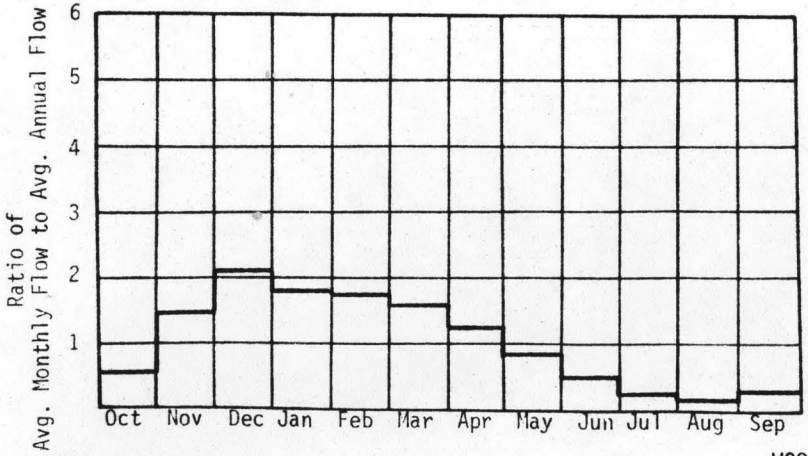
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

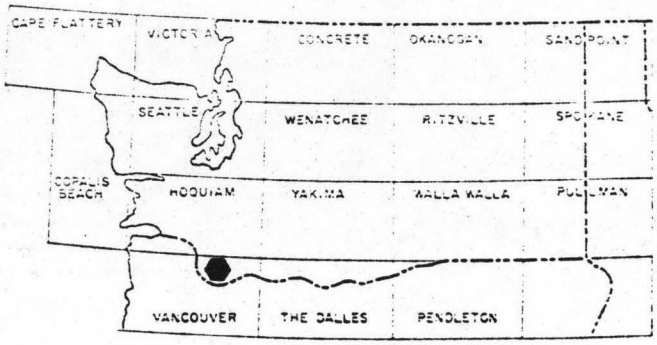
A. Upstream Elevation of Reach	1165	Ft. MSL
B. Downstream Elevation of Reach	770	Ft. MSL
C. Total Available Head in Reach	395	Ft.
D. Average Slope in Reach	96.3	Ft./Mi.
E. Drainage Area above Reach Mouth	30.9	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

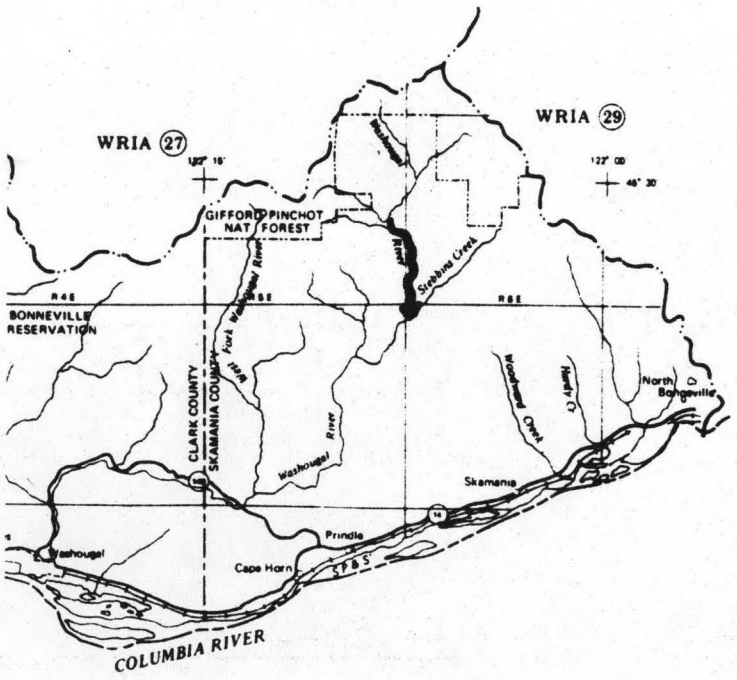
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	16.7	0.56	4.89	1.00
80	29.3	0.98	8.05	0.94
50	121	4.05	24.8	0.70
30	226	7.54	37.0	0.56
10	489	16.3	51.5	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 209 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



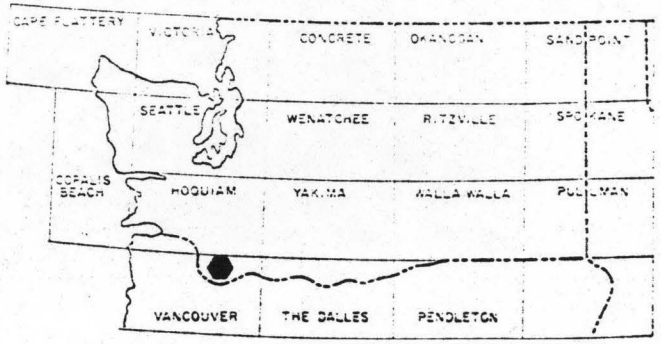
W28-1105

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T3N R6E
D.	Latitude, Longitude	45°44' 122°08'
E.	Stream Name	Washougal River
F.	Major Basin Name	Washougal
G.	River Mile	27.7/28.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

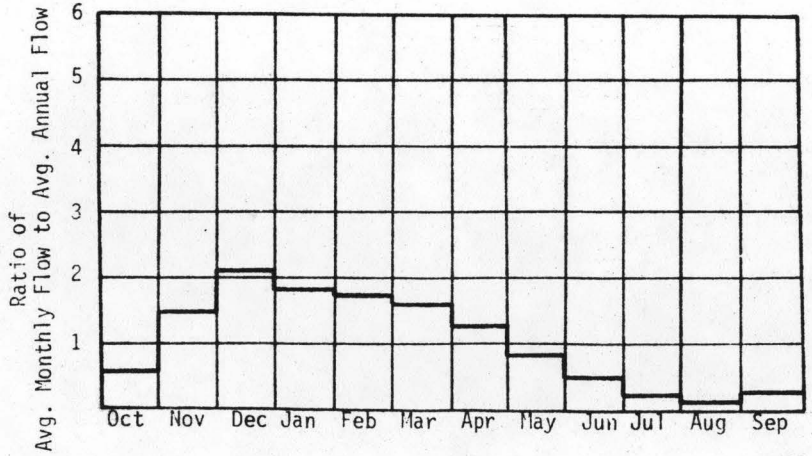
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

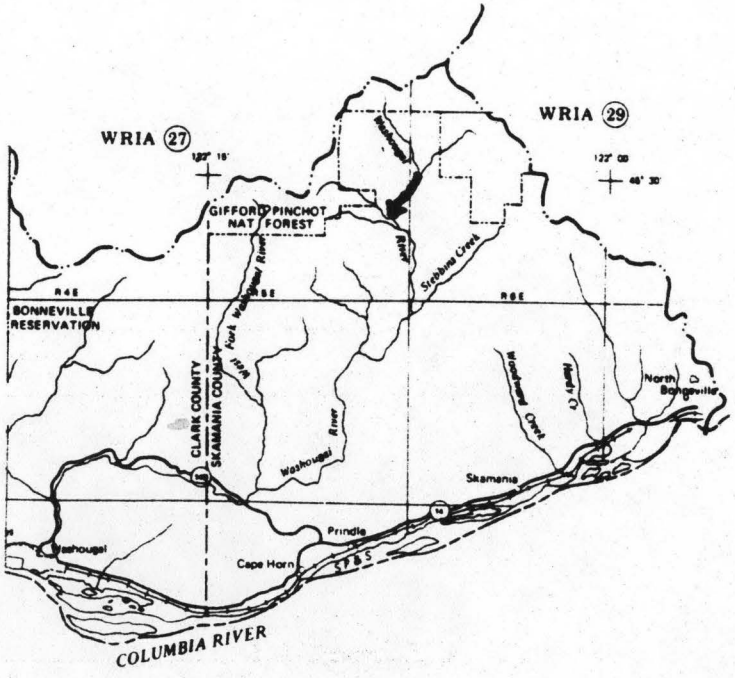
A.	Upstream Elevation of Reach	1360	Ft. MSL
B.	Downstream Elevation of Reach	1165	Ft. MSL
C.	Total Available Head in Reach	195 + 66 = 261	Ft.
D.	Average Slope in Reach	195	Ft./Mi.
E.	Drainage Area above Reach Mouth	11.8	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	7.84	0.90	7.90	1.00
80	13.7	1.58	13.0	0.94
50	56.8	6.54	40.1	0.70
30	106	12.2	59.7	0.56
10	229	26.4	83.2	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 98 cfs





W28-1106

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0008

I. LOCATION

A. State	Washington	
B. County	Clark	
C. Township, Range	T2N R3E	
D. Latitude, Longitude	45°48' 122°23'	
E. Stream Name	Little Washougal Riv.	
F. Major Basin Name	Washougal	
G. River Mile	0/12.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

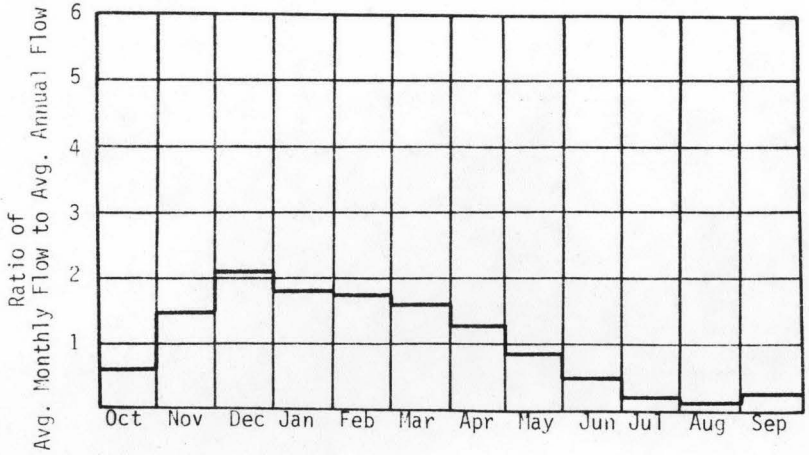
A. Upstream Elevation of Reach	540	Ft. MSL
B. Downstream Elevation of Reach	70	Ft. MSL
C. Total Available Head in Reach	470 + 66 = 536	Ft.
D. Average Slope in Reach	39.2	Ft./Mi.
E. Drainage Area above Reach Mouth	25	Sq.Mi.
F. Inflow Classification	Natural	

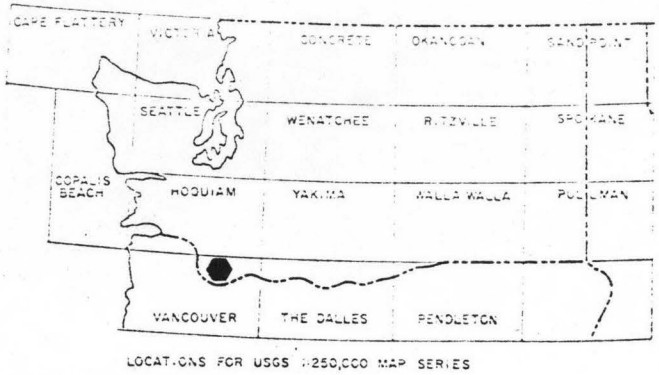
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.04	0.23	2.00	1.00
80	11.5	0.52	4.26	0.93
50	36.6	1.80	11.2	0.71
30	76.3	3.46	17.0	0.56
10	170	7.71	24.3	0.36

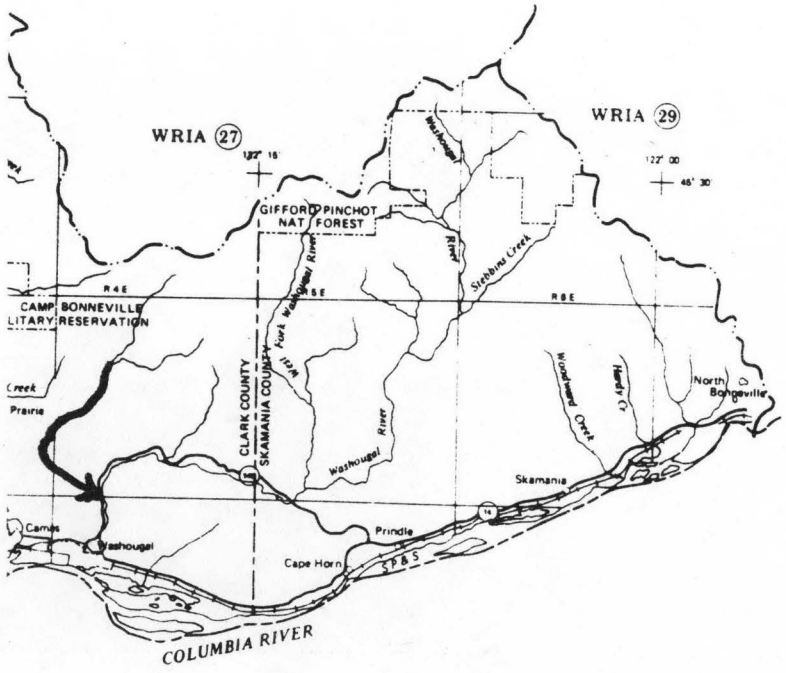
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 72 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W28-1107

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0009

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T2N R5E	
D. Latitude, Longitude	45°38' 122°13'	
E. Stream Name	W.F. Washougal Riv.	
F. Major Basin Name	Washougal	
G. River Mile	0/2.9	

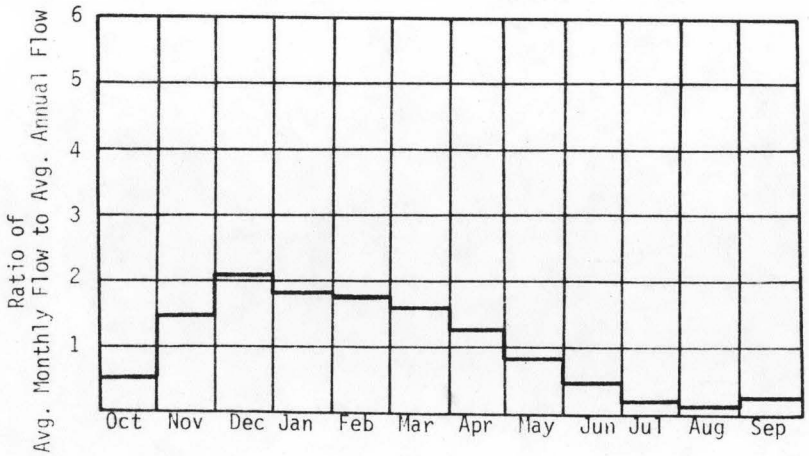
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

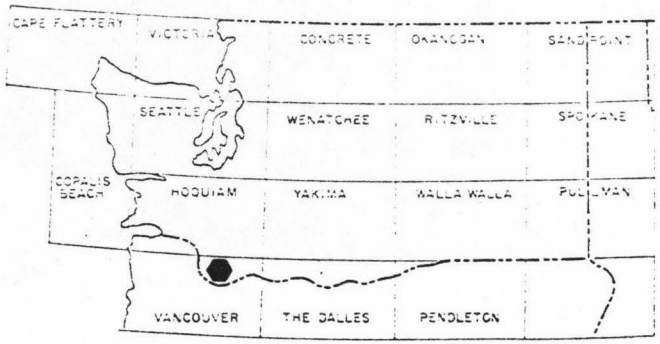
A. Upstream Elevation of Reach	615	Ft. MSL
B. Downstream Elevation of Reach	345	Ft. MSL
C. Total Available Head in Reach	270	Ft.
D. Average Slope in Reach	197	Ft./Mi.
E. Drainage Area above Reach Mouth	30.7	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

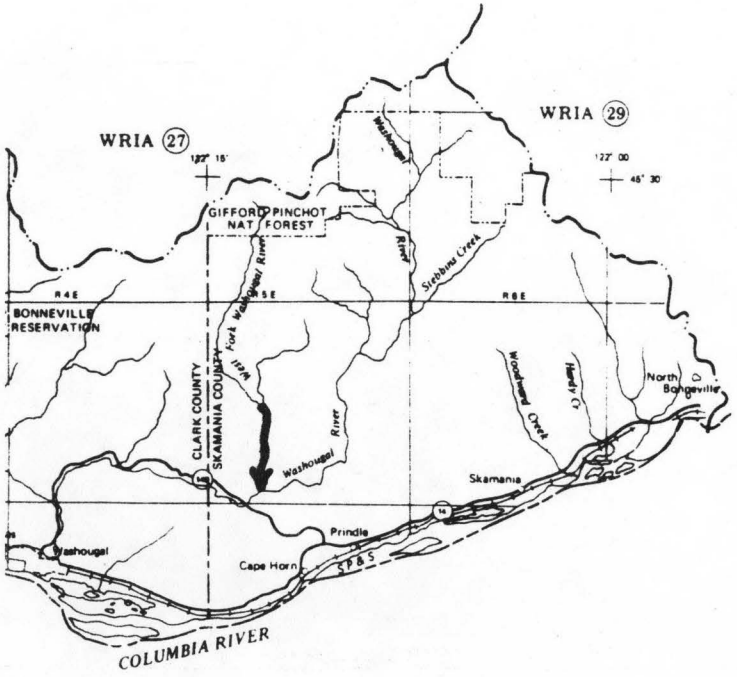
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.8	0.41	3.55	1.00
80	31.1	0.71	5.85	0.94
50	129	2.94	18.0	0.70
30	240	5.48	26.9	0.56
10	519	11.9	37.4	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 222 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



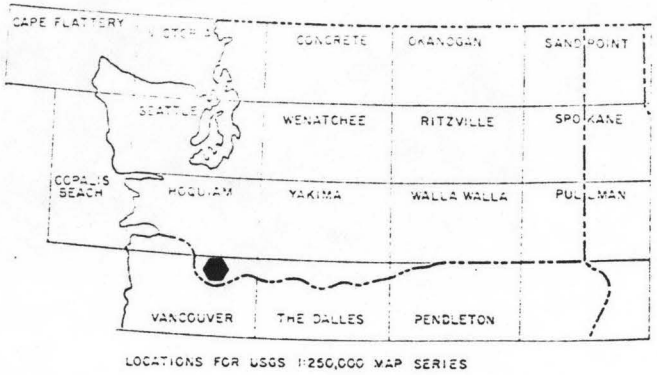
W28-1108

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T2N R5E
D.	Latitude, Longitude	45°40' 122°14'
E.	Stream Name	W.F. Washougal Riv.
F.	Major Basin Name	Washougal
G.	River Mile	2.9/6.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

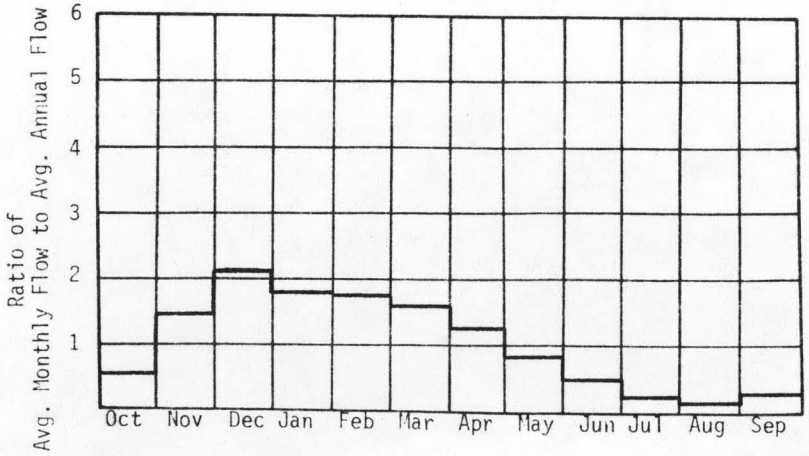
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

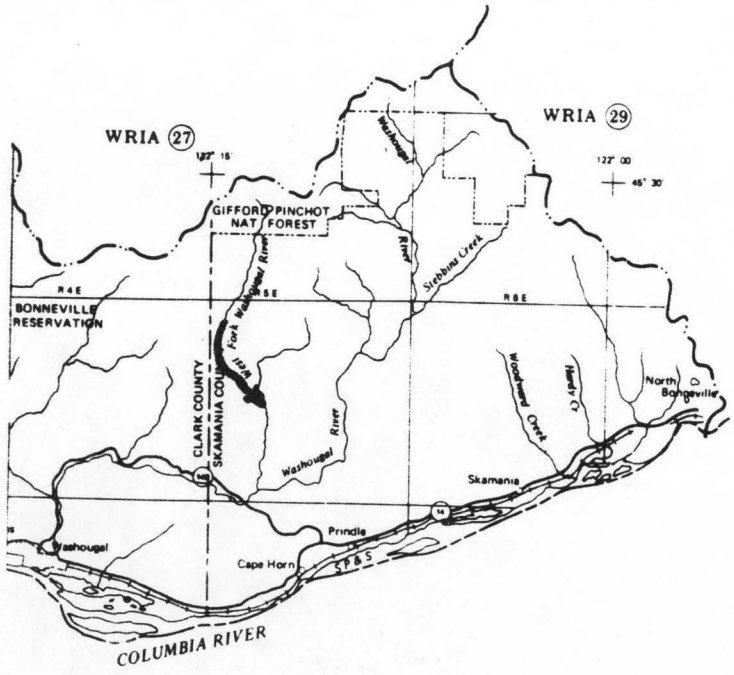
A.	Upstream Elevation of Reach	950	Ft. MSL
B.	Downstream Elevation of Reach	615	Ft. MSL
C.	Total Available Head in Reach	335	Ft.
D.	Average Slope in Reach	64.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	18.6	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.6	0.30	2.62	1.00
80	18.5	0.52	4.31	0.94
50	76.6	2.17	13.3	0.70
30	143	4.04	19.8	0.56
10	309	8.75	27.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 132 cfs





W28-1109

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-046-000-000-R0011

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T3N R5E	
D. Latitude, Longitude	45°42' 122°14'	
E. Stream Name	W.F. Washougal Riv.	
F. Major Basin Name	Washougal	
G. River Mile	6.1/7.8	

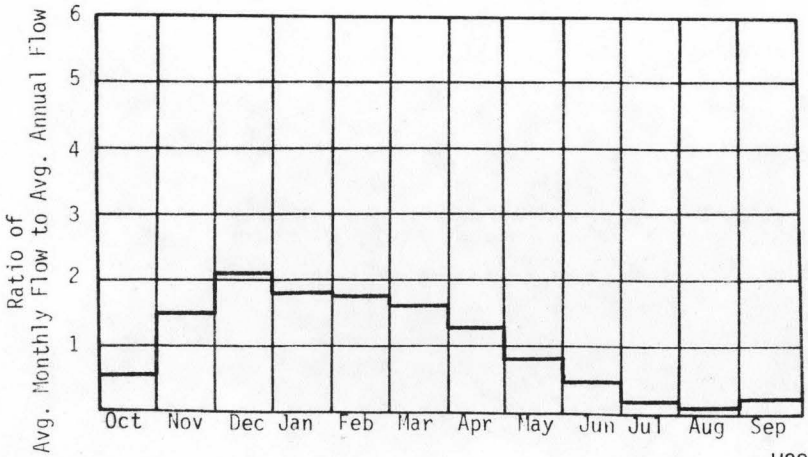
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

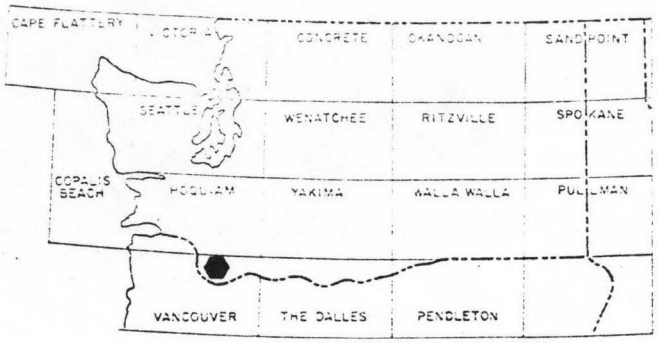
A. Upstream Elevation of Reach	1280	Ft. MSL
B. Downstream Elevation of Reach	950	Ft. MSL
C. Total Available Head in Reach	330 + 66 = 396	Ft.
D. Average Slope in Reach	195	Ft./Mi.
E. Drainage Area above Reach Mouth	8.6	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

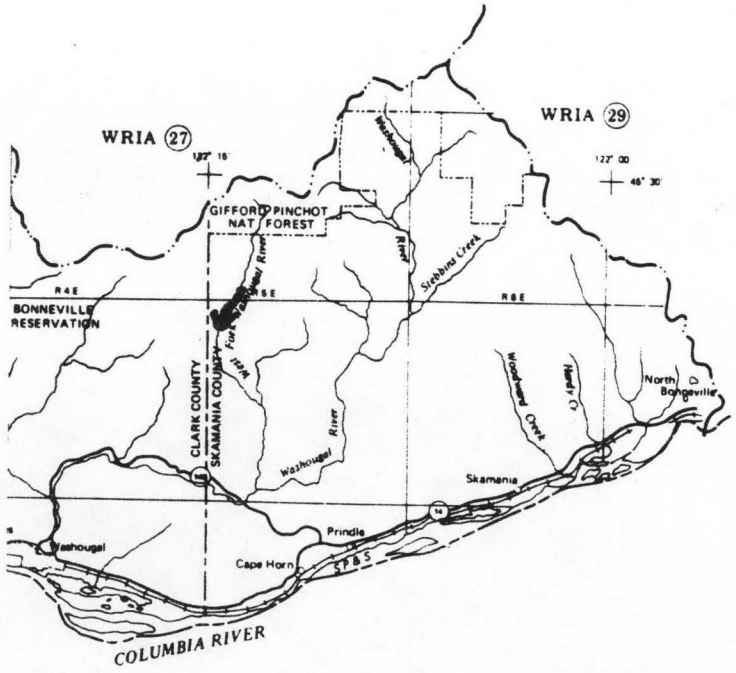
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.20	0.17	1.53	1.00
80	9.10	0.30	2.51	0.94
50	37.7	1.26	7.74	0.70
30	70.2	2.35	11.5	0.56
10	152	5.10	16.1	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 65 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W28-1110

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-048-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T2N R7E	
D. Latitude, Longitude	45°39' 121°59'	
E. Stream Name	Hamilton Creek	
F. Major Basin Name	Hamilton Creek	
G. River Mile	0/2.0	

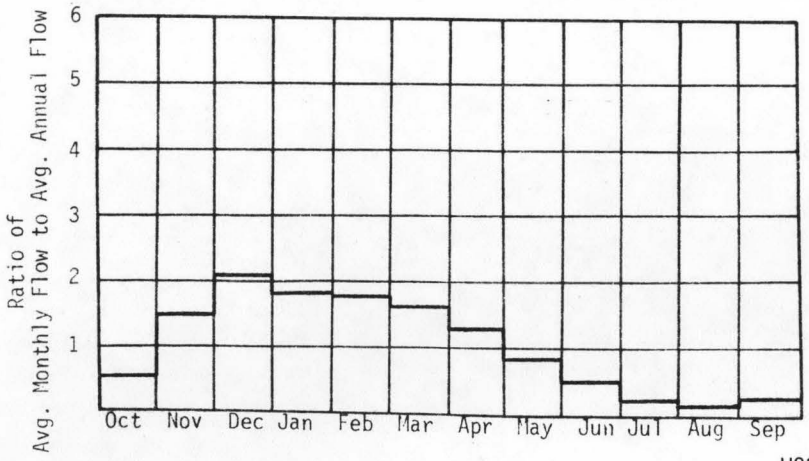
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

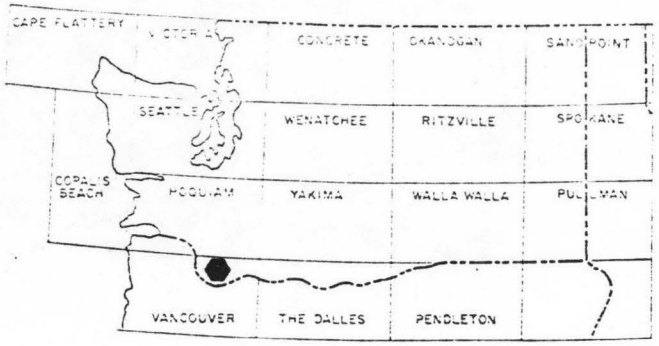
A. Upstream Elevation of Reach	360	Ft. MSL
B. Downstream Elevation of Reach	40	Ft. MSL
C. Total Available Head in Reach	320 + 66 = 386	Ft.
D. Average Slope in Reach	160	Ft./Mi.
E. Drainage Area above Reach Mouth	13.3	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

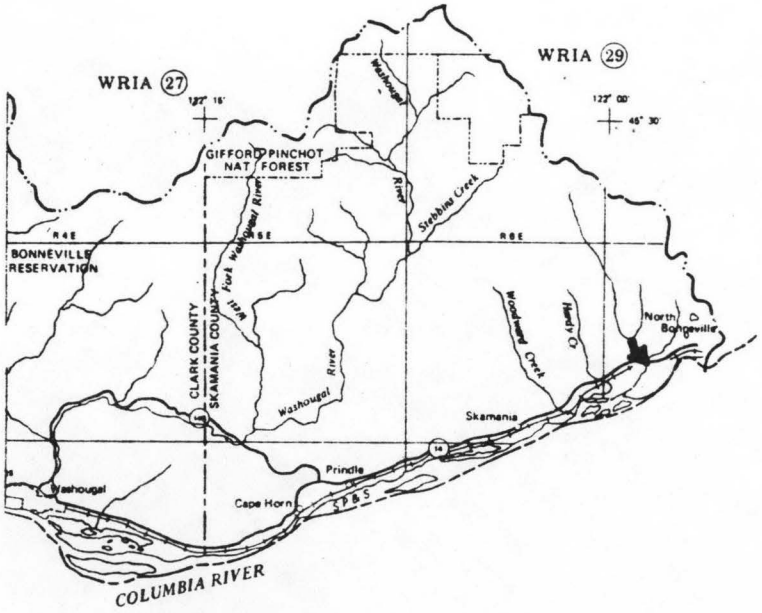
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2.95	0.10	0.84	1.00
80	6.49	0.21	1.71	0.92
50	37.8	1.23	7.45	0.69
30	69.6	2.27	11.2	0.56
10	132	4.32	14.4	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 59 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W28-1111

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-096-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T3N R7E	
D. Latitude, Longitude	45°43' 121°55'	
E. Stream Name	Rock Creek	
F. Major Basin Name	Rock Creek	
G. River Mile	0/2.9	

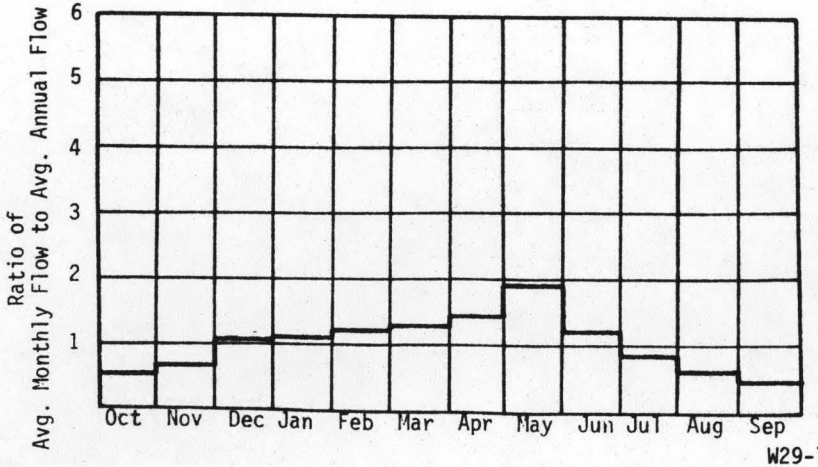
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

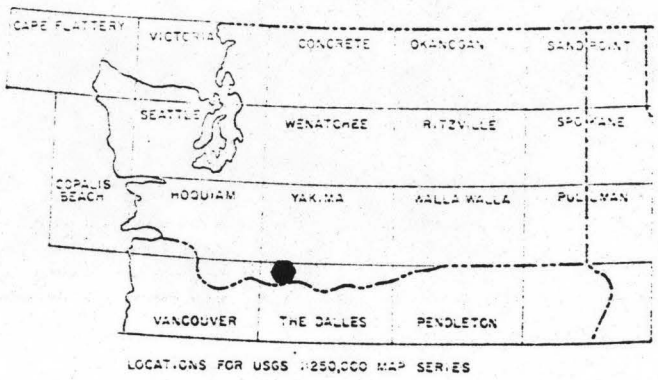
A. Upstream Elevation of Reach	370	Ft. MSL
B. Downstream Elevation of Reach	72	Ft. MSL
C. Total Available Head in Reach	298	Ft.
D. Average Slope in Reach	103	Ft./Mi.
E. Drainage Area above Reach Mouth	45.8	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

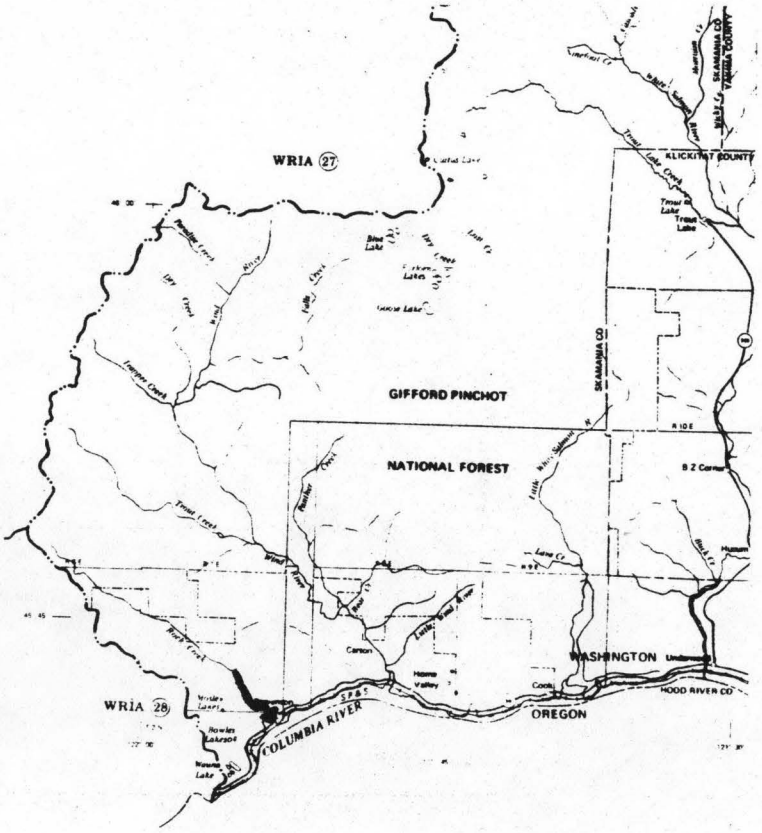
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.6	0.29	2.56	1.00
80	25.5	0.64	5.19	0.92
50	148	3.74	22.6	0.69
30	274	6.90	33.9	0.56
10	520	13.1	43.6	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 323 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1112

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-096-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T3N R7E
D.	Latitude, Longitude	45°43' 121°53'
E.	Stream Name	Rock Creek
F.	Major Basin Name	Rock Creek
G.	River Mile	2.9/8.9

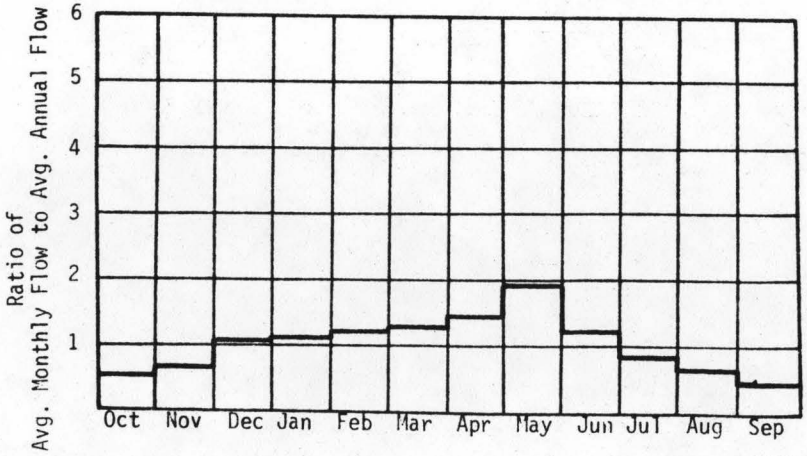
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

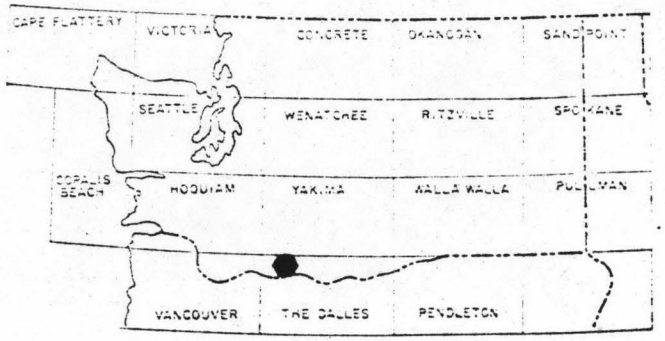
A.	Upstream Elevation of Reach	1200	Ft. MSL
B.	Downstream Elevation of Reach	370	Ft. MSL
C.	Total Available Head in Reach	830 + 66 = 896	Ft.
D.	Average Slope in Reach	138	Ft./Mi.
E.	Drainage Area above Reach Mouth	35.1	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

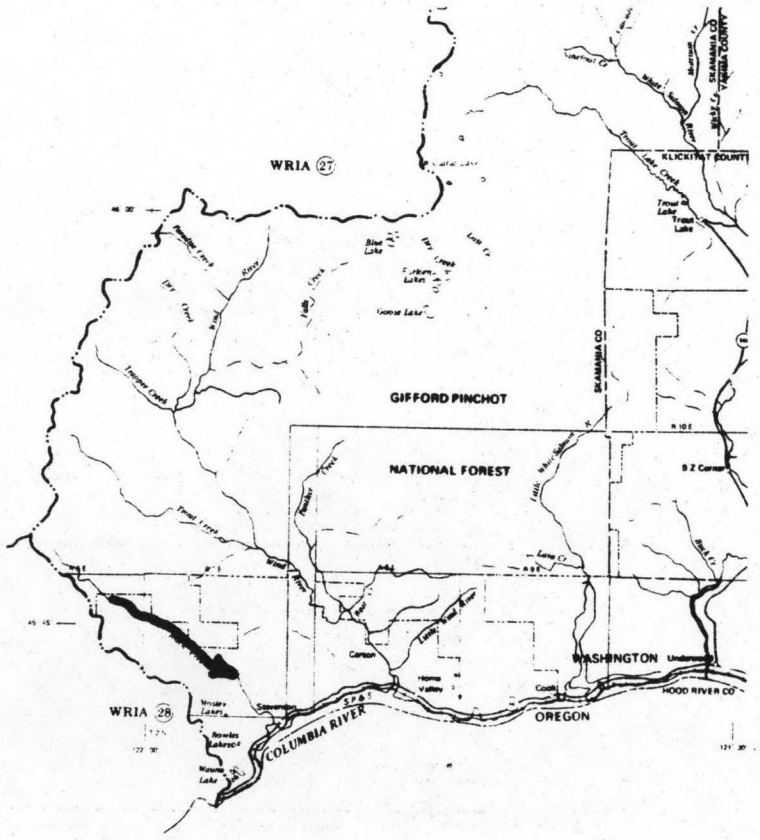
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.25	0.47	4.15	1.00
80	13.8	1.04	8.40	0.92
50	80.0	6.06	36.7	0.69
30	148	11.2	55.0	0.56
10	280	21.2	70.7	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 125 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1113

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T3N R8E
D.	Latitude, Longitude	45°43' 121°47'
E.	Stream Name	Wind River
F.	Major Basin Name	Wind River
G.	River Mile	0/1.1

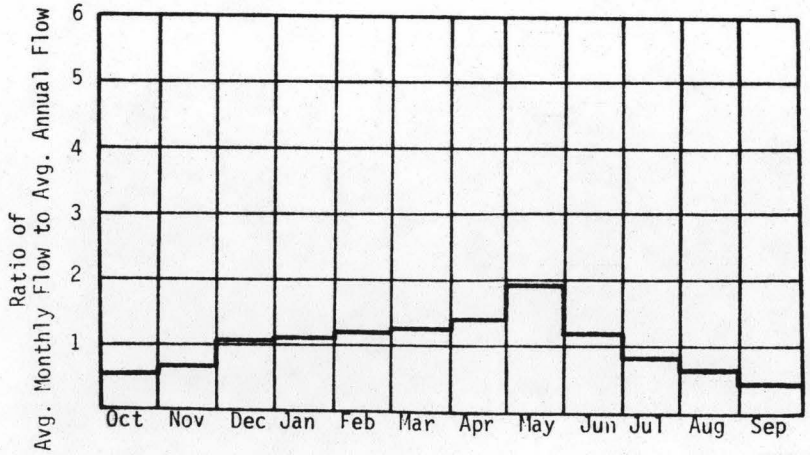
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

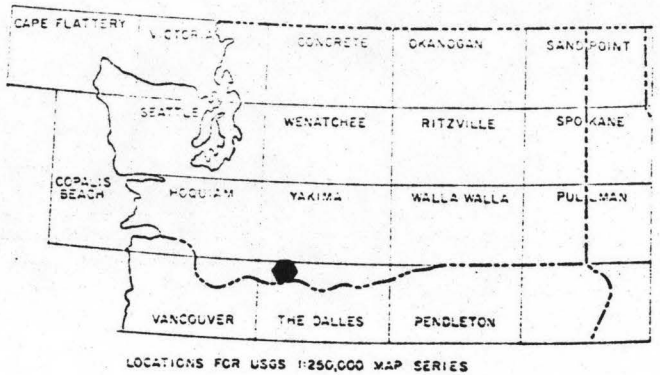
A.	Upstream Elevation of Reach	80	Ft. MSL
B.	Downstream Elevation of Reach	72	Ft. MSL
C.	Total Available Head in Reach	8	Ft.
D.	Average Slope in Reach	7.27	Ft./Mi.
E.	Drainage Area above Reach Mouth	228	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

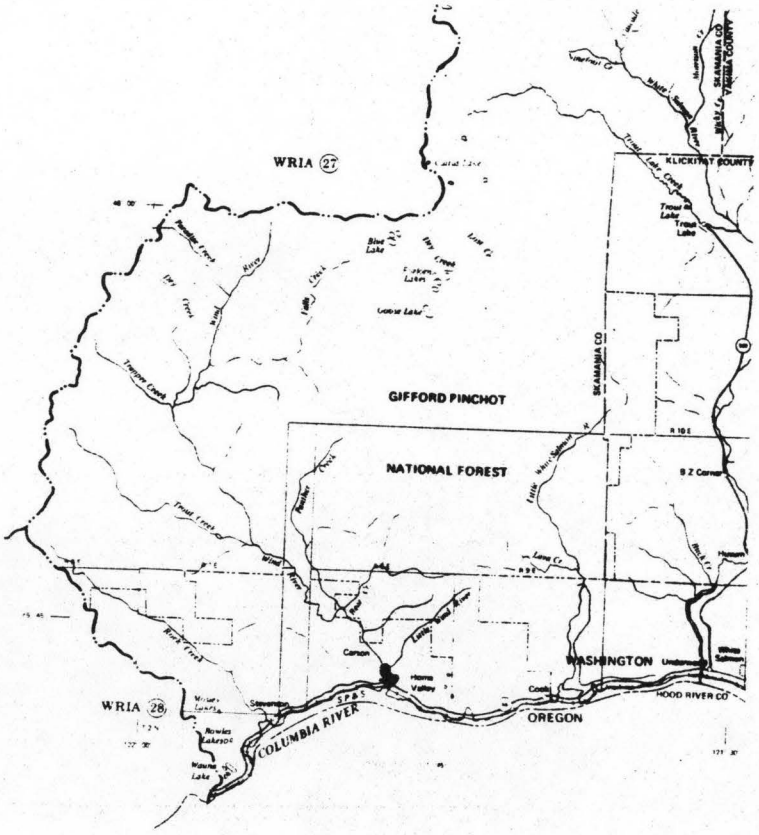
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	182	0.12	1.08	1.00
80	267	0.18	1.52	0.96
50	814	0.55	3.57	0.74
30	1370	0.93	4.88	0.60
10	2600	1.76	6.32	0.41

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1215 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1114

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T3N R8E
D.	Latitude, Longitude	45°45' 121°48'
E.	Stream Name	Wind River
F.	Major Basin Name	Wind River
G.	River Mile	1.1/4.5

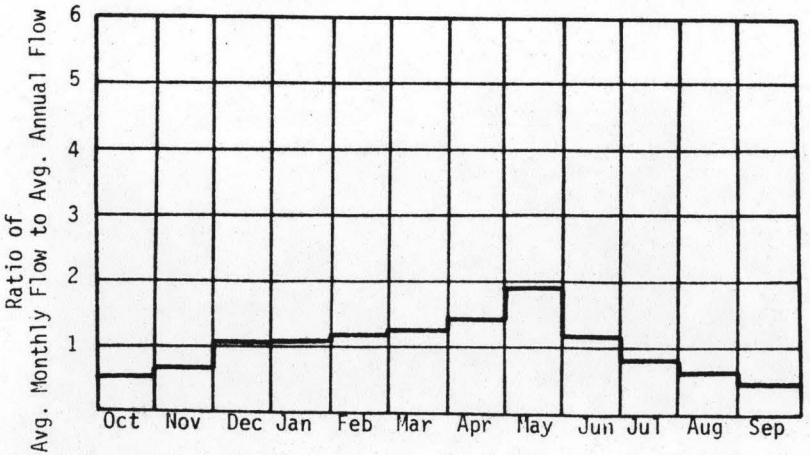
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

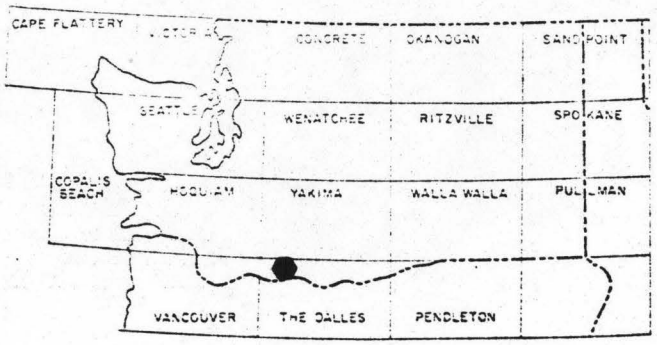
A.	Upstream Elevation of Reach	320	Ft. MSL
B.	Downstream Elevation of Reach	80	Ft. MSL
C.	Total Available Head in Reach	240	Ft.
D.	Average Slope in Reach	70.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	217	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

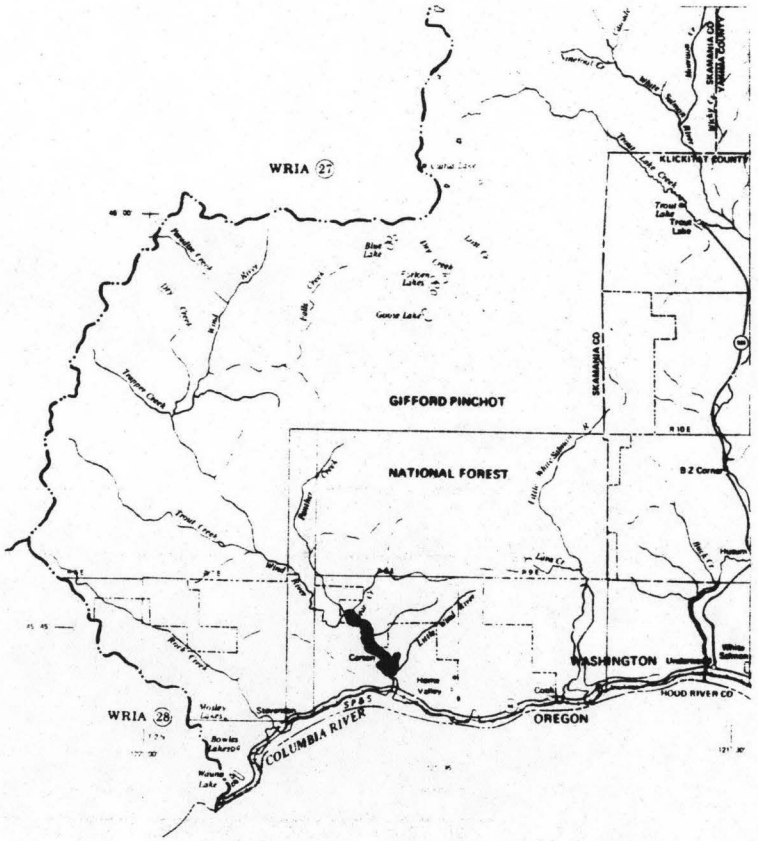
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	175	3.55	31.1	1.00
80	256	5.20	43.7	0.96
50	780	15.8	103	0.74
30	1320	26.7	140	0.60
10	2490	50.6	182	0.41

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1164 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1115

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T3N R7½E
D.	Latitude, Longitude	45°47' 121°52'
E.	Stream Name	Wind River
F.	Major Basin Name	Wind River
G.	River Mile	4.5/10.8

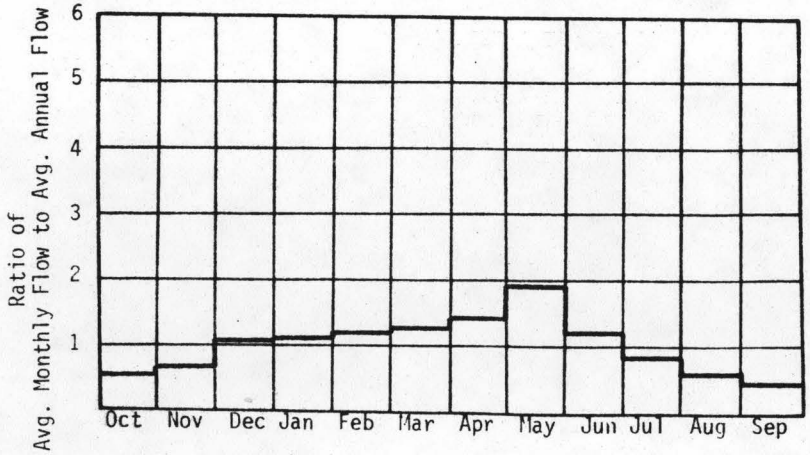
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

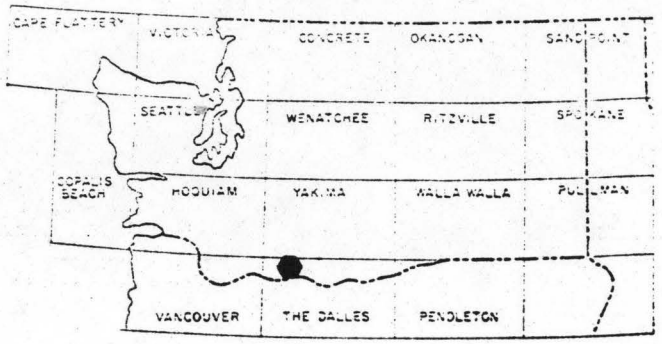
A.	Upstream Elevation of Reach	840	Ft. MSL
B.	Downstream Elevation of Reach	320	Ft. MSL
C.	Total Available Head in Reach	520	Ft.
D.	Average Slope in Reach	82.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	154	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

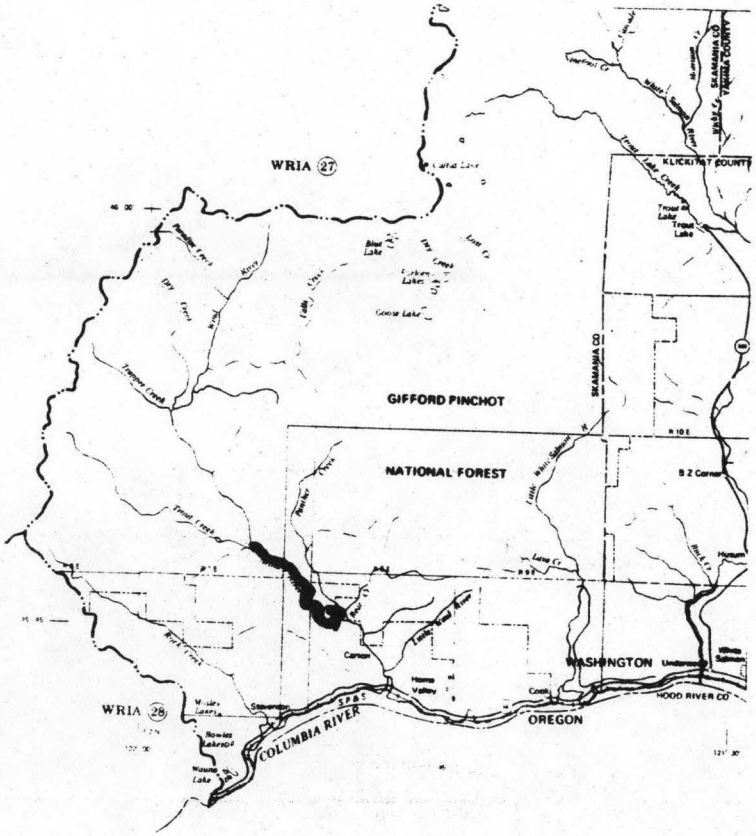
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	111	4.90	42.9	1.00
80	167	7.34	61.8	0.96
50	588	25.9	163	0.72
30	970	42.7	224	0.60
10	1650	72.4	272	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 795 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1116

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T4N R7E
D.	Latitude, Longitude	45°50' 121°57'
E.	Stream Name	Wind River
F.	Major Basin Name	Wind River
G.	River Mile	10.8/18.8

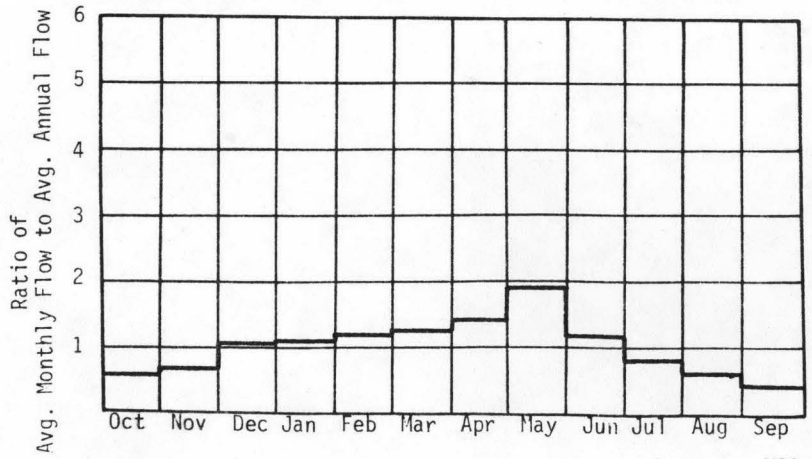
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

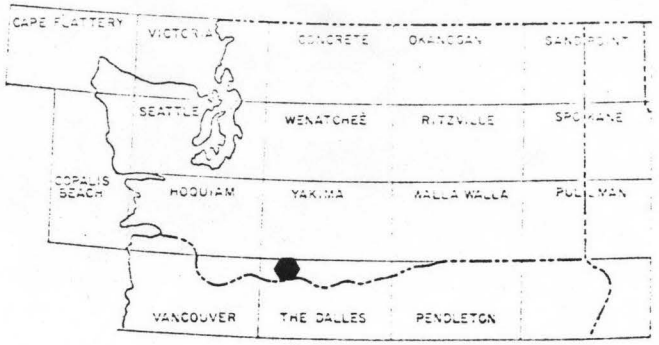
A.	Upstream Elevation of Reach	1100	Ft. MSL
B.	Downstream Elevation of Reach	840	Ft. MSL
C.	Total Available Head in Reach	260	Ft.
D.	Average Slope in Reach	32.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	110	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

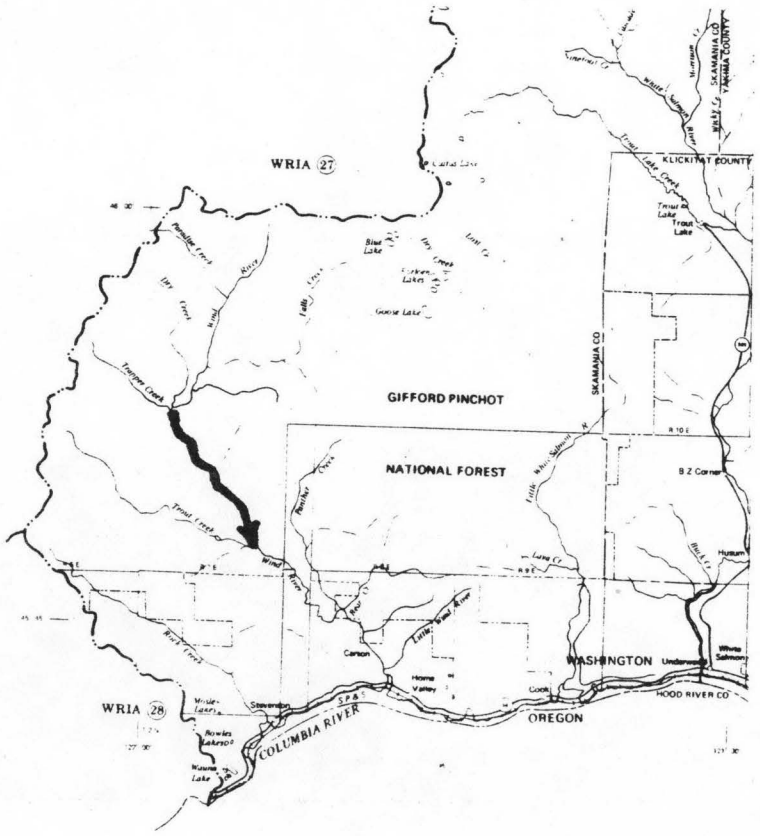
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	70.3	1.55	13.5	1.00
80	105	2.32	19.5	0.96
50	371	8.17	51.5	0.72
30	612	13.5	70.8	0.60
10	1040	22.9	86.1	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 502 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1117

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T5N R7E	
D. Latitude, Longitude	45°53' 121°58'	
E. Stream Name	Wind River	
F. Major Basin Name	Wind River	
G. River Mile	18.8/21.9	

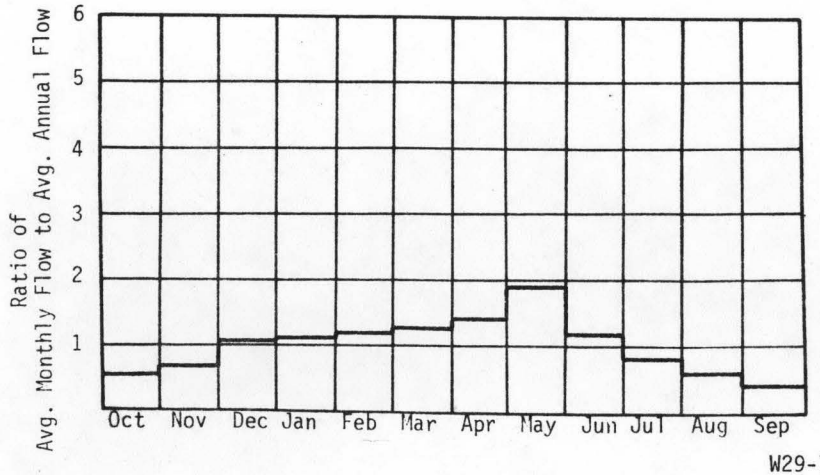
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

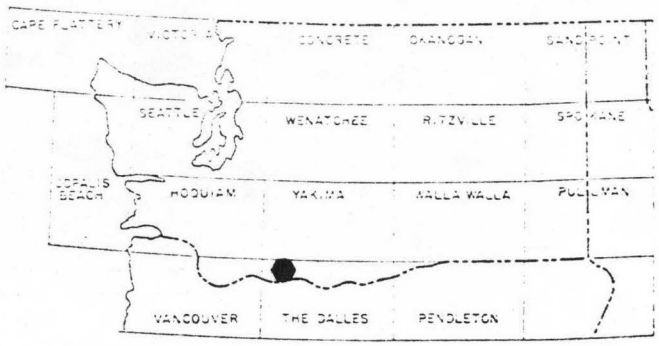
A. Upstream Elevation of Reach	1300	Ft. MSL
B. Downstream Elevation of Reach	1100	Ft. MSL
C. Total Available Head in Reach	200	Ft.
D. Average Slope in Reach	64.5	Ft./Mi.
E. Drainage Area above Reach Mouth	63.2	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

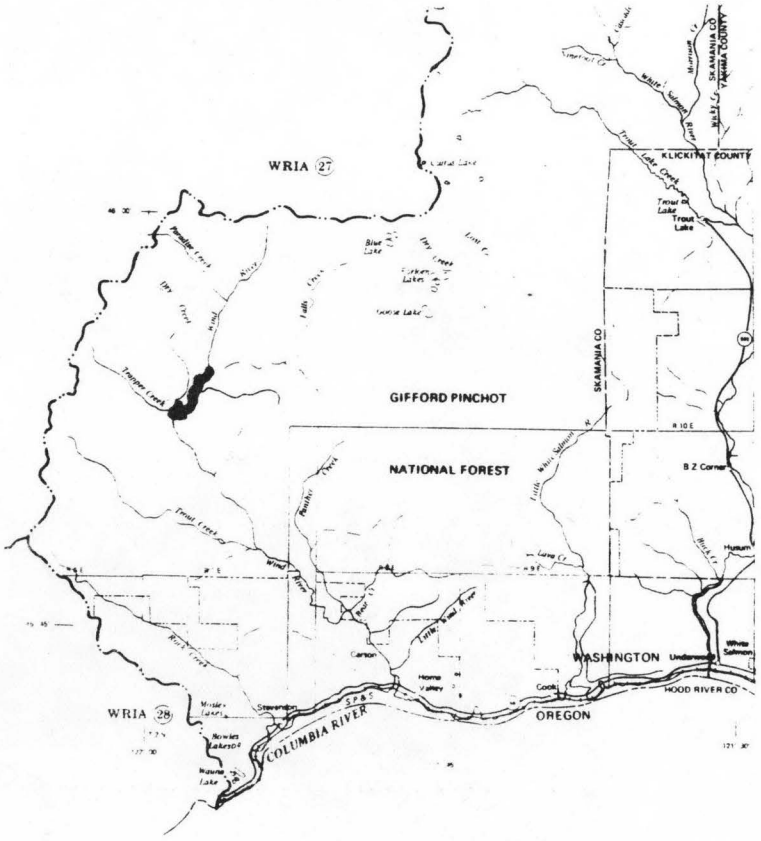
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	49.0	0.83	7.26	1.00
80	81.6	1.38	11.5	0.95
50	234	3.96	26.0	0.75
30	340	5.75	32.3	0.64
10	541	9.16	37.7	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 272 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1118

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T6N R7½E	
D. Latitude, Longitude	45°57' 121°56'	
E. Stream Name	Wind River	
F. Major Basin Name	Wind River	
G. River Mile	21.9/26.4	

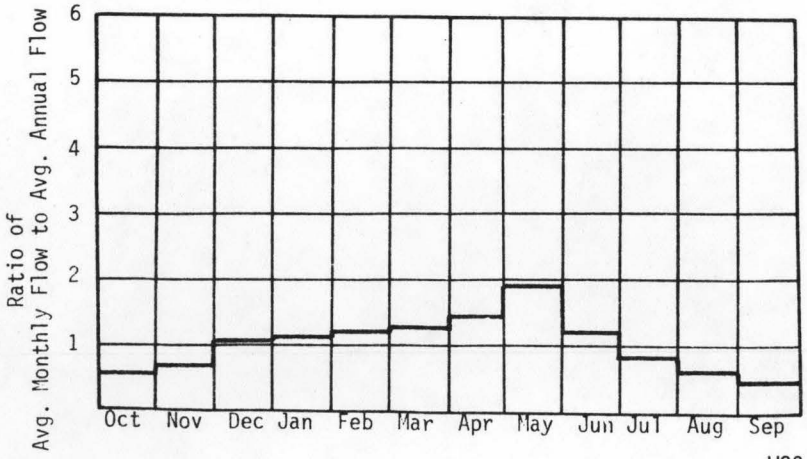
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

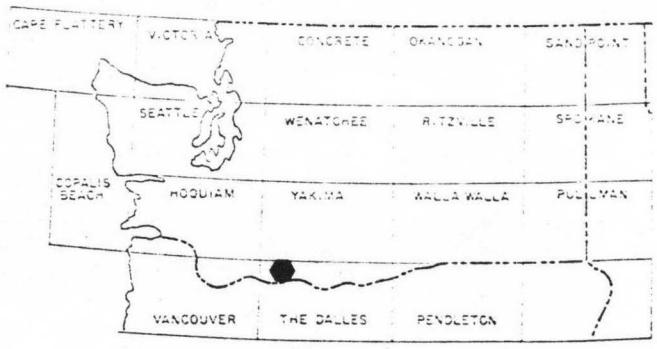
A. Upstream Elevation of Reach	1680	Ft. MSL
B. Downstream Elevation of Reach	1300	Ft. MSL
C. Total Available Head in Reach	380 + 66 = 446	Ft.
D. Average Slope in Reach	84.4	Ft./Mi.
E. Drainage Area above Reach Mouth	32.2	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	21.1	0.79	6.96	1.00
80	35.1	1.32	11.0	0.95
50	101	3.80	24.9	0.75
30	146	5.52	30.9	0.64
10	233	8.79	36.2	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 117 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W29-1119

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0007

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T3N R8E	
D. Latitude, Longitude	45°47' 121°48'	
E. Stream Name	Bear Creek	
F. Major Basin Name	Wind River	
G. River Mile	0/2.7	

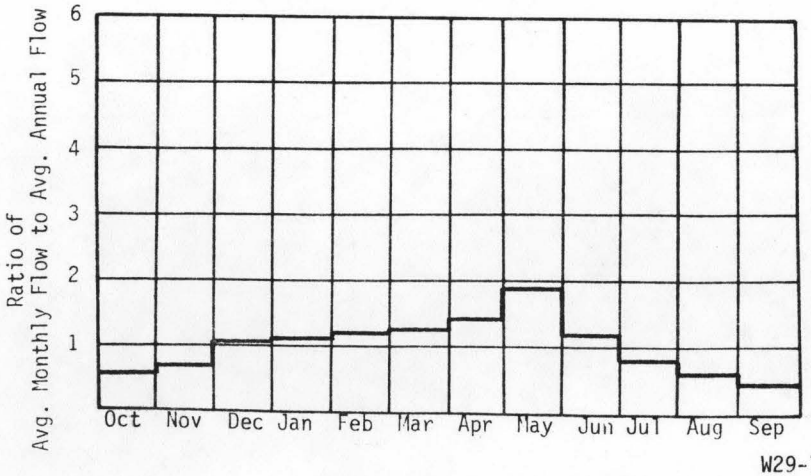
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

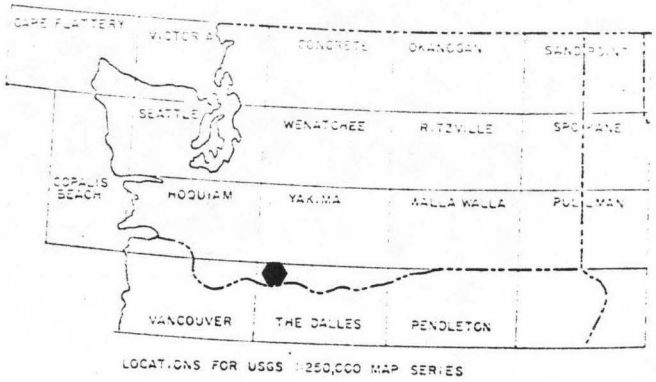
A. Upstream Elevation of Reach	740	Ft. MSL
B. Downstream Elevation of Reach	320	Ft. MSL
C. Total Available Head in Reach	420 + 66 = 486	Ft.
D. Average Slope in Reach	156	Ft./Mi.
E. Drainage Area above Reach Mouth	15.0	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

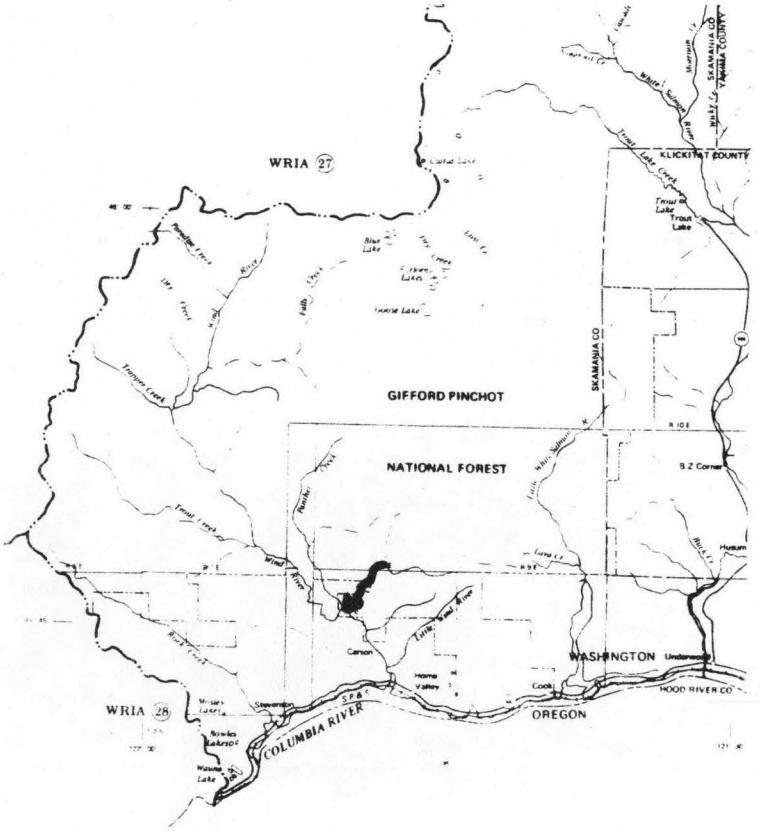
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23.6	0.97	8.49	1.00
80	31.2	1.28	10.9	0.97
50	54.7	2.25	16.4	0.83
30	82.1	3.37	20.1	0.68
10	151	6.22	25.1	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 76 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1120

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T4N R7½E
D.	Latitude, Longitude	45°48' 121°53'
E.	Stream Name	Panther Creek
F.	Major Basin Name	Wind River
G.	River Mile	0/9.5

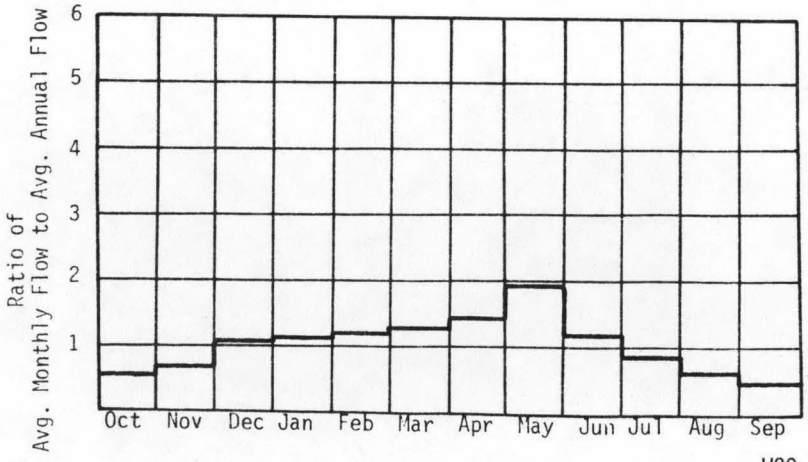
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

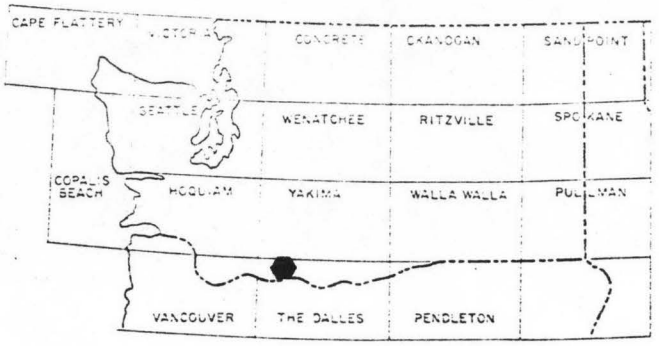
A.	Upstream Elevation of Reach	1440	Ft. MSL
B.	Downstream Elevation of Reach	320	Ft. MSL
C.	Total Available Head in Reach	1120 + 66 = 1186	Ft.
D.	Average Slope in Reach	118	Ft./Mi.
E.	Drainage Area above Reach Mouth	41.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

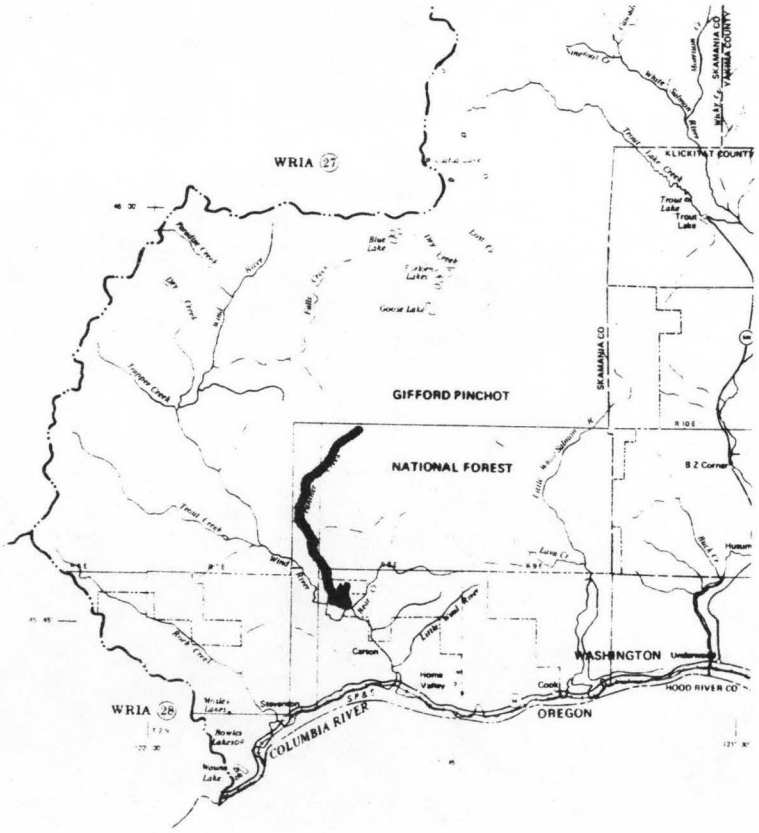
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	46.8	4.70	41.1	1.00
80	61.9	6.21	52.8	0.97
50	109	10.9	79.3	0.83
30	163	16.4	97.5	0.68
10	200	30.2	121	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 151 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1121

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0009

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T4N R7E	
D. Latitude, Longitude	45°49' 121°58'	
E. Stream Name	Trout Creek	
F. Major Basin Name	Wind River	
G. River Mile	0/7.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

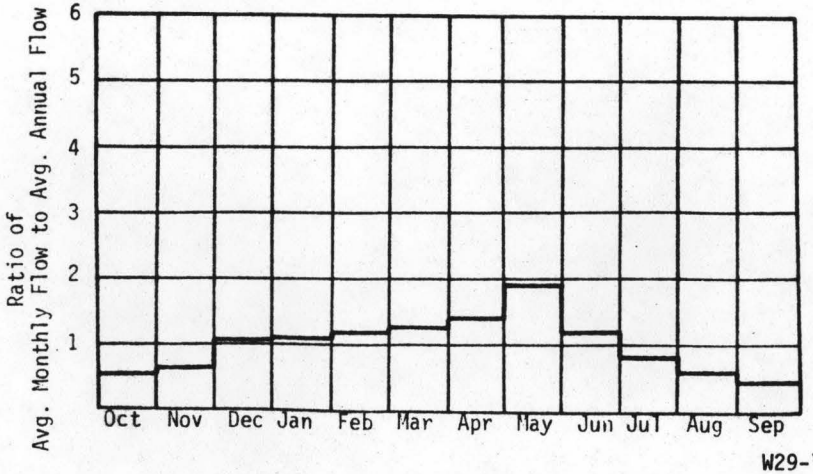
A. Upstream Elevation of Reach	1820	Ft. MSL
B. Downstream Elevation of Reach	840	Ft. MSL
C. Total Available Head in Reach	980	Ft.
D. Average Slope in Reach	129	Ft./Mi.
E. Drainage Area above Reach Mouth	34.1	Sq.Mi.
F. Inflow Classification	Natural	

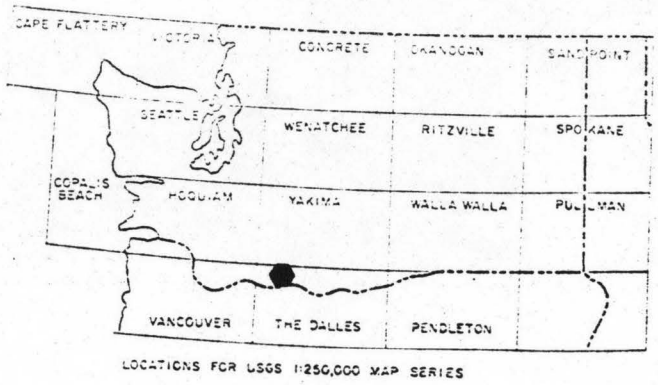
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.30	0.69	6.03	1.00
80	18.3	1.51	12.2	0.92
50	106	8.81	53.2	0.69
30	196	16.2	79.7	0.56
10	372	30.8	103	0.38

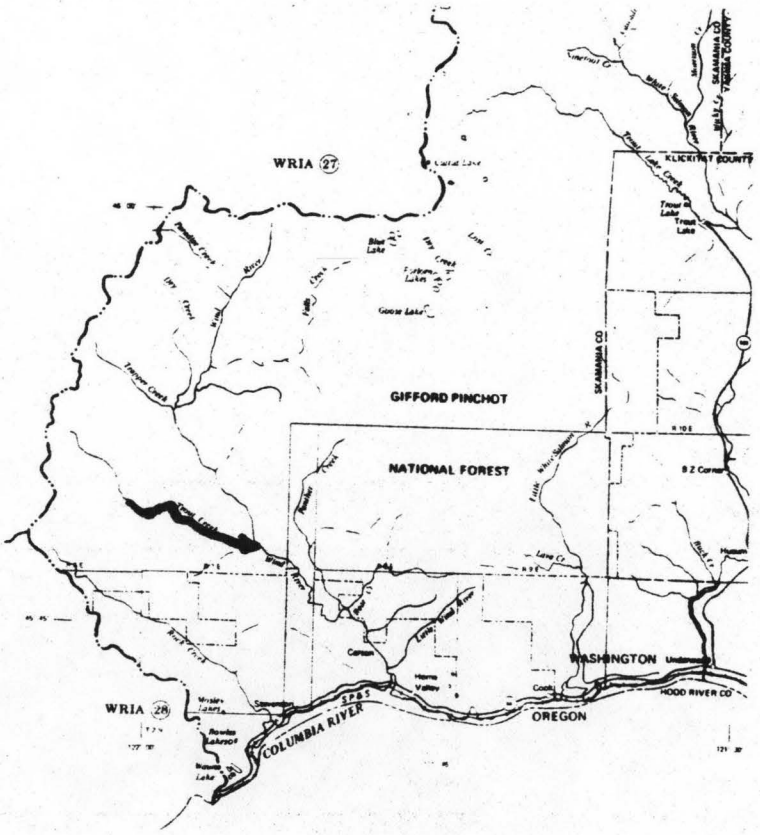
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 166 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1122

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T4N R7E
D.	Latitude, Longitude	45°50' 121°01'
E.	Stream Name	Trout Creek
F.	Major Basin Name	Wind River
G.	River Mile	7.6/8.1

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

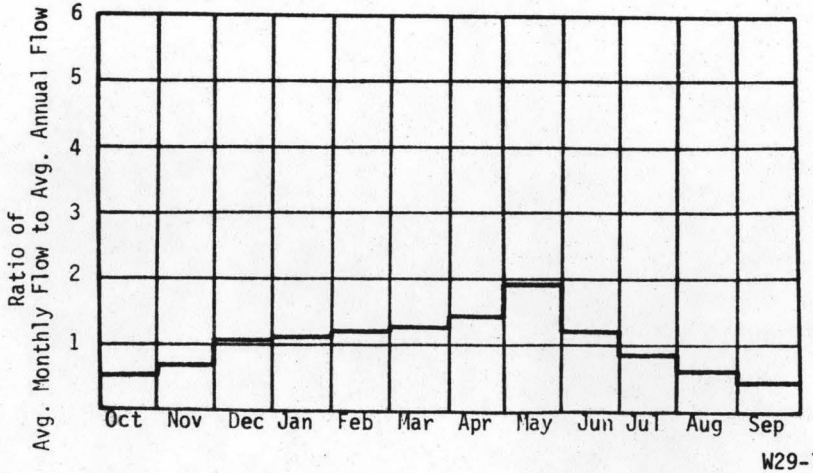
A.	Upstream Elevation of Reach	1850	Ft. MSL
B.	Downstream Elevation of Reach	1820	Ft. MSL
C.	Total Available Head in Reach	30 + 66 = 96	Ft.
D.	Average Slope in Reach	60	Ft./Mi.
E.	Drainage Area above Reach Mouth	14.0	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

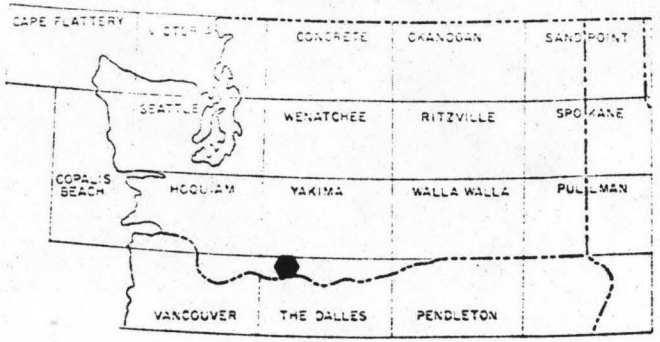
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4.45	0.04	0.32	1.00
80	9.79	0.08	0.64	0.92
50	57.0	0.46	2.80	0.69
30	105	0.85	4.18	0.56
10	199	1.62	5.39	0.38

IV. TYPICAL ANNUAL HYDROGRAPH

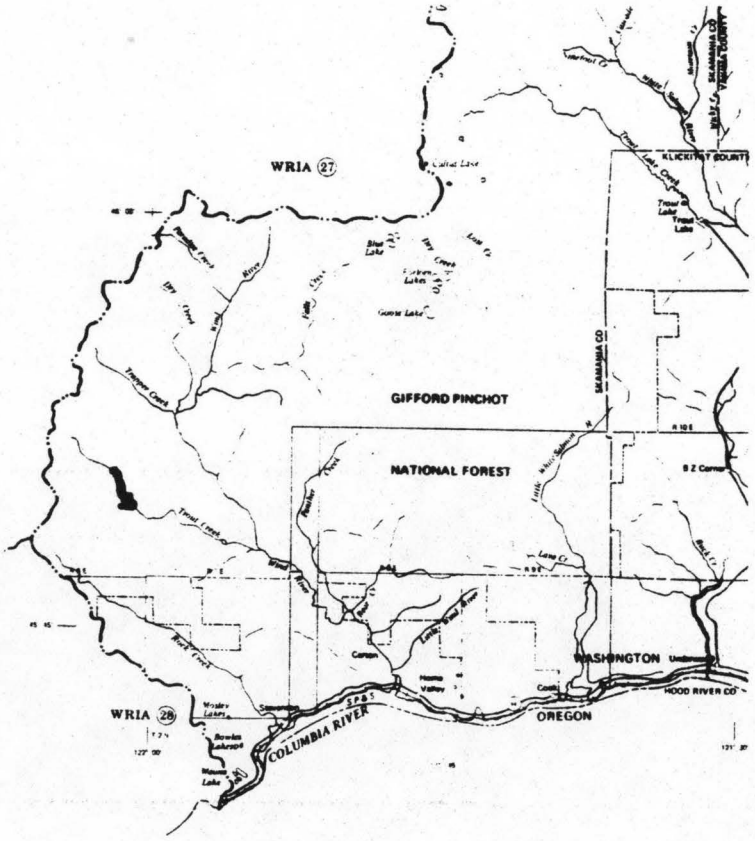
QMR = 89 cfs



W29-1123



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T5N R7E
D.	Latitude, Longitude	45°53' 122°
E.	Stream Name	Trapper Creek
F.	Major Basin Name	Wind River
G.	River Mile	0/2.8

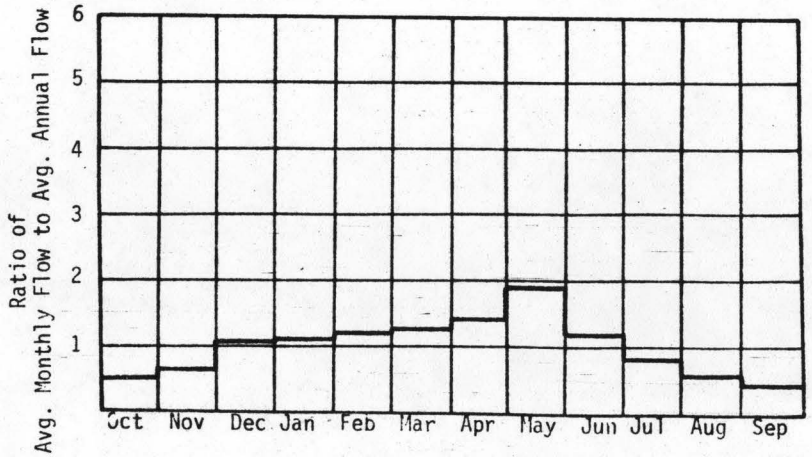
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1440	Ft. MSL
B.	Downstream Elevation of Reach	1100	Ft. MSL
C.	Total Available Head in Reach	340 + 66 = 406	Ft.
D.	Average Slope in Reach	121	Ft./Mi.
E.	Drainage Area above Reach Mouth	11.5	Sq.Mi.
F.	Inflow Classification	Natural	

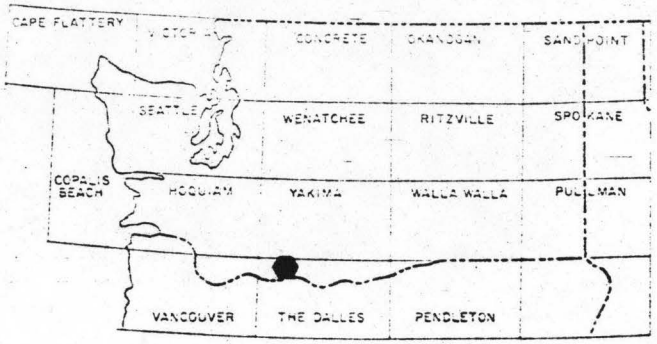
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.72	0.33	2.92	1.00
80	16.2	0.56	4.63	0.95
50	46.4	1.60	10.5	0.75
30	67.5	2.32	13.0	0.64
10	107	3.69	15.2	0.47

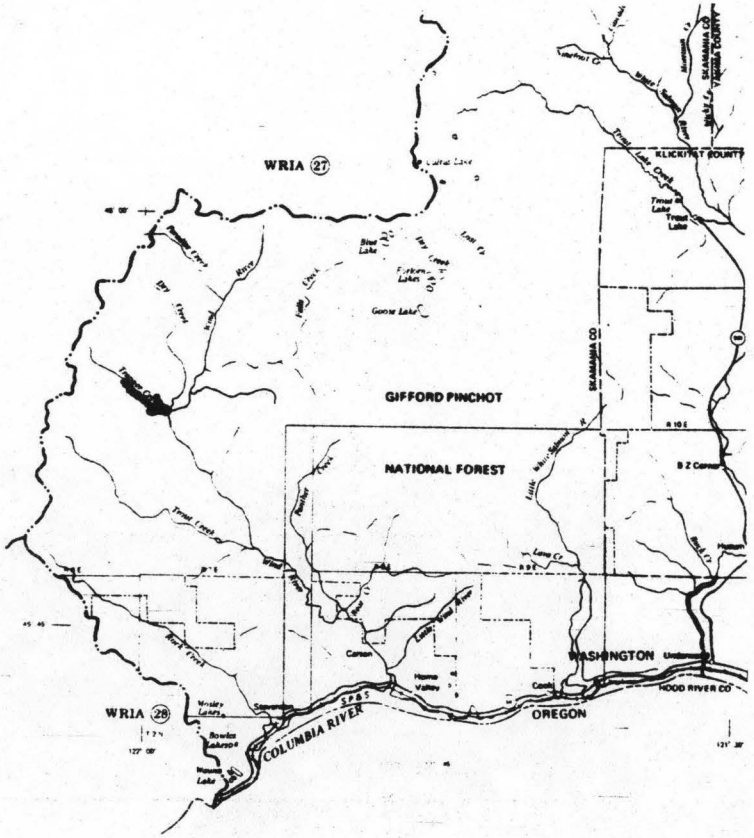
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 54 cfs



W29-1124



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T5N R7E
D.	Latitude, Longitude	45°54' 121°58'
E.	Stream Name	Dry Creek
F.	Major Basin Name	Wind River
G.	River Mile	0/3.3

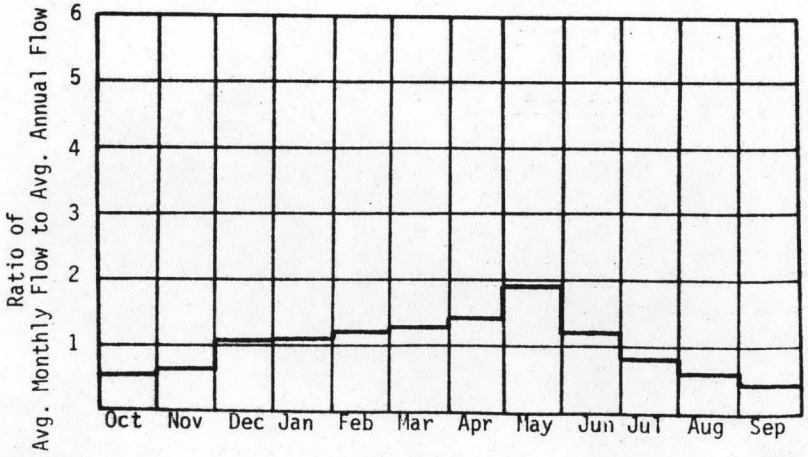
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

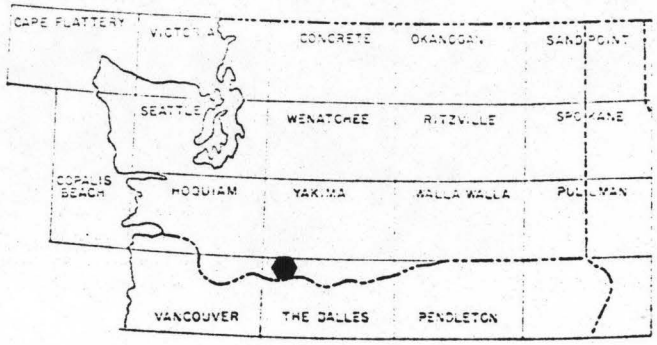
A.	Upstream Elevation of Reach	1350	Ft. MSL
B.	Downstream Elevation of Reach	1100	Ft. MSL
C.	Total Available Head in Reach	250 + 66 = 316	Ft.
D.	Average Slope in Reach	75.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	15.6	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

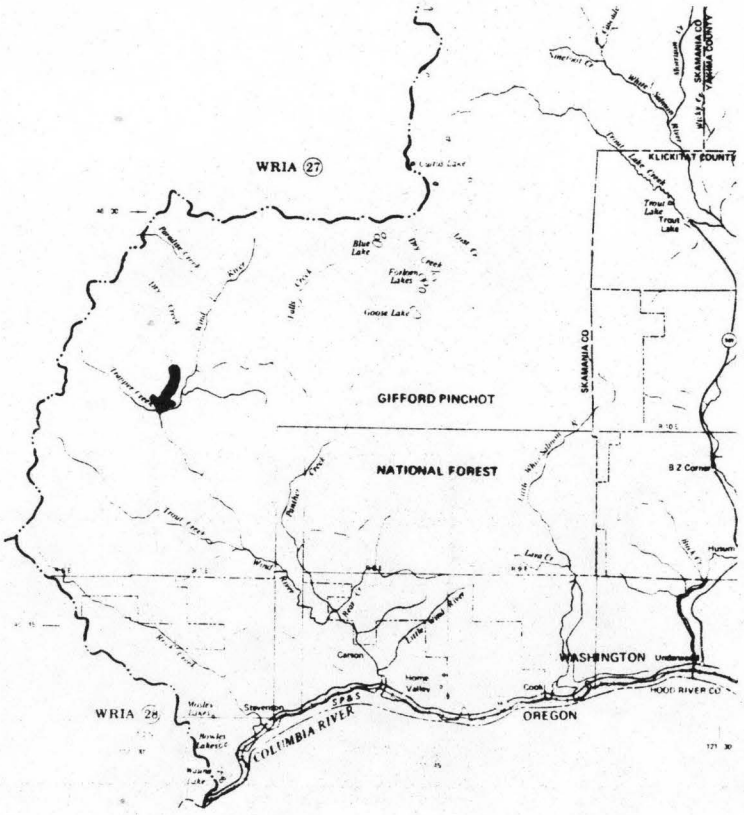
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.1	0.35	3.08	1.00
80	21.9	0.59	4.87	0.95
50	62.8	1.68	11.0	0.75
30	91.3	2.44	13.7	0.64
10	145	3.88	16.0	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 73 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1125

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-100-000-000-R0013

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T5N R7E
D.	Latitude, Longitude	45°55' 121°56'
E.	Stream Name	Falls Creek
F.	Major Basin Name	Wind River
G.	River Mile	0/3.7

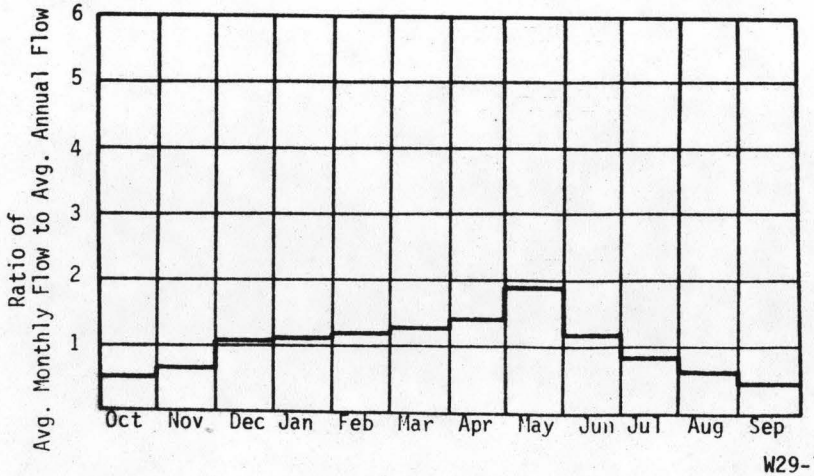
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2320	Ft. MSL
B.	Downstream Elevation of Reach	1300	Ft. MSL
C.	Total Available Head in Reach	1020 + 66 = 1086	Ft.
D.	Average Slope in Reach	276	Ft./Mi.
E.	Drainage Area above Reach Mouth	22.8	Sq.Mi.
F.	Inflow Classification	Natural	

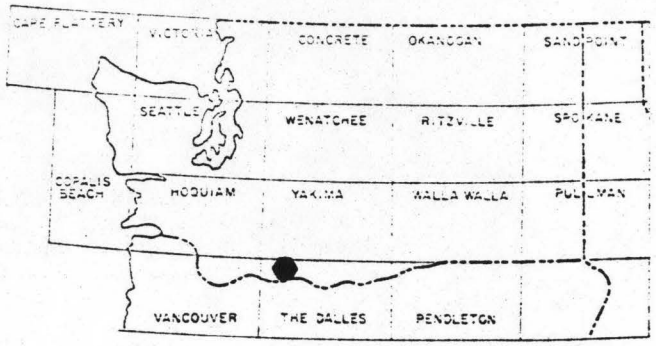
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.0	1.29	11.3	1.00
80	23.4	2.15	17.9	0.95
50	67.1	6.16	40.5	0.75
30	97.5	8.96	50.2	0.64
10	155	14.3	58.7	0.47

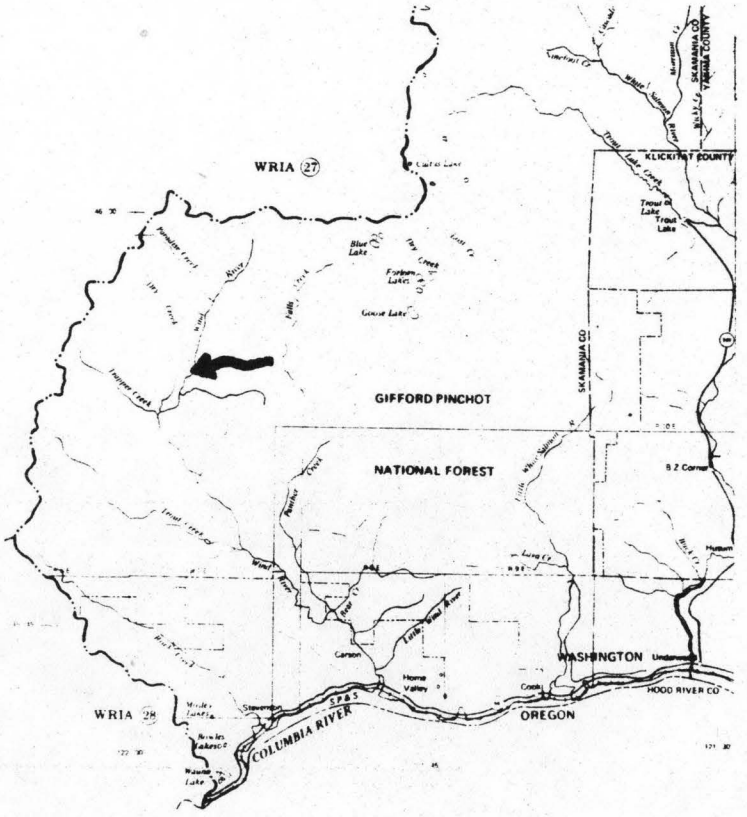
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 78 cfs



W29-1126



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T3N R9E
D.	Latitude, Longitude	45°15' 121°37'
E.	Stream Name	Little White Salmon R.
F.	Major Basin Name	Little White Salmon
G.	River Mile	0/6.1

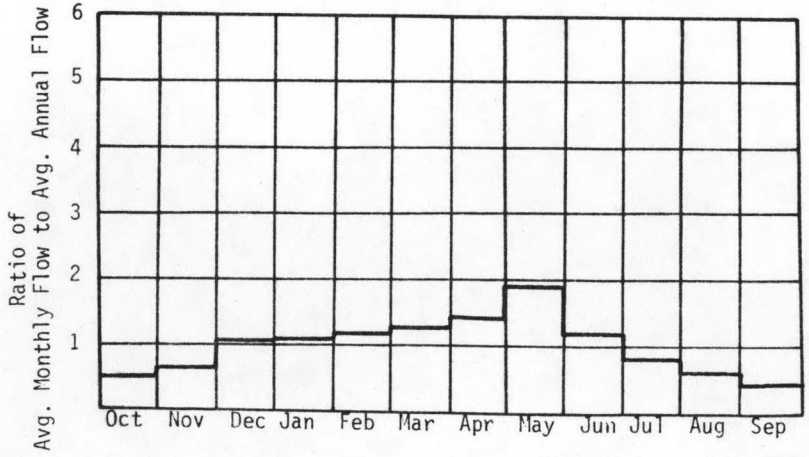
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1240	Ft. MSL
B.	Downstream Elevation of Reach	72	Ft. MSL
C.	Total Available Head in Reach	1168	Ft.
D.	Average Slope in Reach	191	Ft./Mi.
E.	Drainage Area above Reach Mouth	138	Sq.Mi.
F.	Inflow Classification	Regulated	

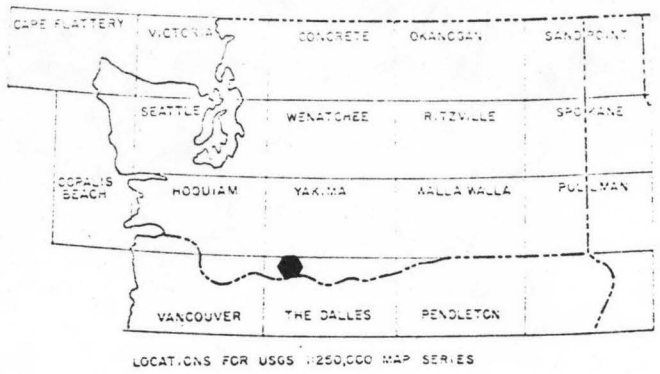
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	108	10.7	93.6	1.00
80	169	16.7	139	0.95
50	390	38.6	263	0.78
30	564	55.7	273	0.66
10	917	90.6	381	0.48

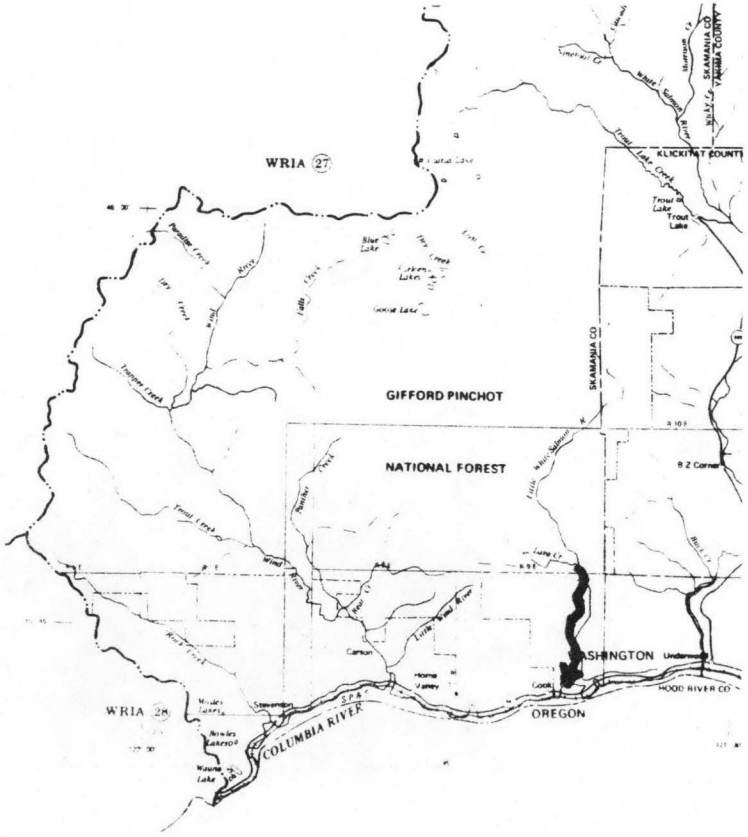
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 470 cfs



W29-1127



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0002

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T4N R9E	
D. Latitude, Longitude	45°49' 121°40'	
E. Stream Name	Little White Salmon	R.
F. Major Basin Name	Little White Salmon	
G. River Mile	6.1/13.0	

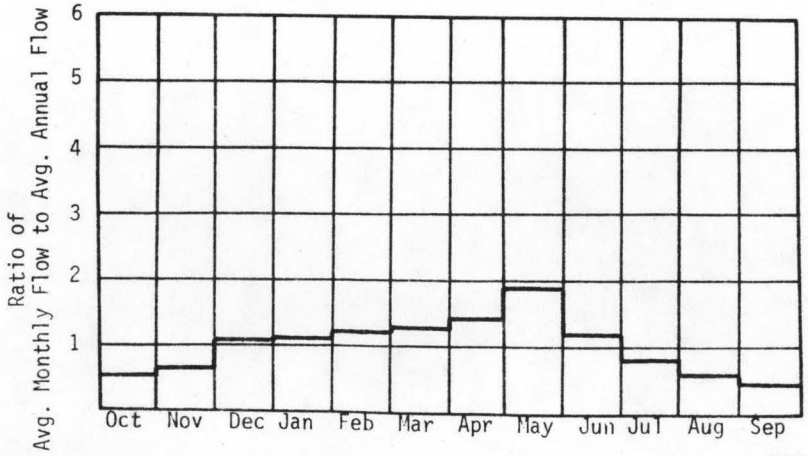
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

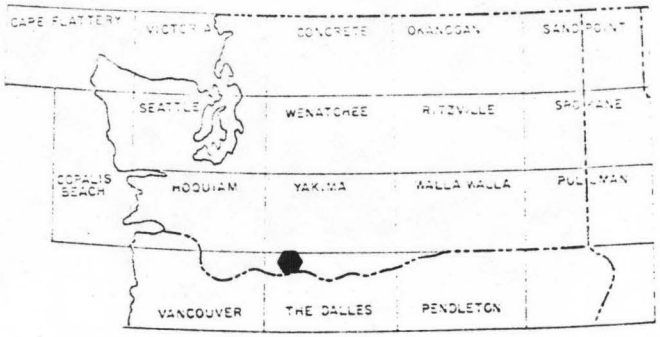
A. Upstream Elevation of Reach	1590	Ft. MSL
B. Downstream Elevation of Reach	1240	Ft. MSL
C. Total Available Head in Reach	350 + 66 = 416	Ft.
D. Average Slope in Reach	60.3	Ft./Mi.
E. Drainage Area above Reach Mouth	41.7	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

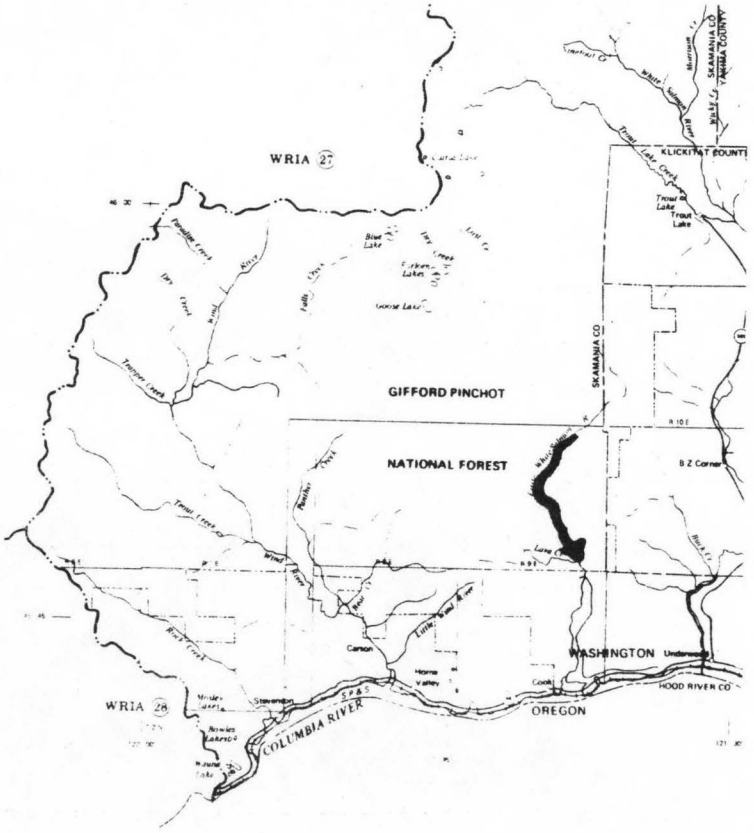
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.79	0.23	2.09	1.00
80	28.1	0.99	7.81	0.90
50	88.3	3.11	20.1	0.74
30	118	4.16	23.7	0.65
10	192	6.76	27.8	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 97 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1128

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T4N R9E
D.	Latitude, Longitude	45°47' 121°38'
E.	Stream Name	Lava Creek
F.	Major Basin Name	Little White Salmon
G.	River Mile	0/2.6

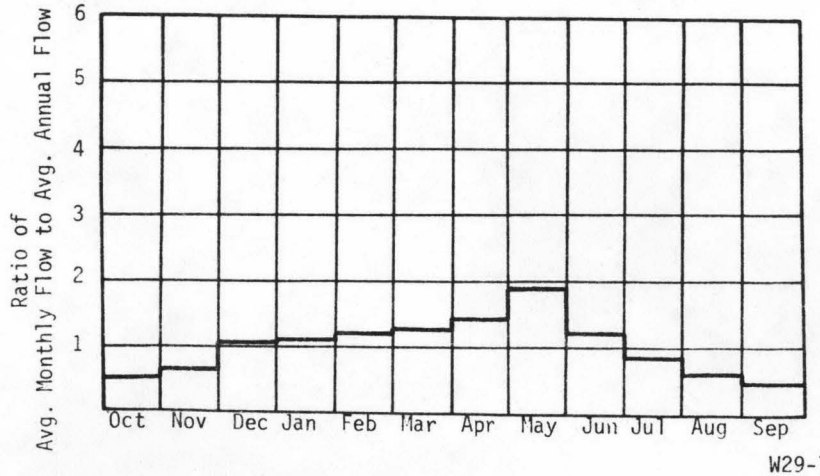
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1600	Ft. MSL
B.	Downstream Elevation of Reach	1240	Ft. MSL
C.	Total Available Head in Reach	360 + 66 = 426	Ft.
D.	Average Slope in Reach	16.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	74.4	Sq.Mi.
F.	Inflow Classification	Natural	

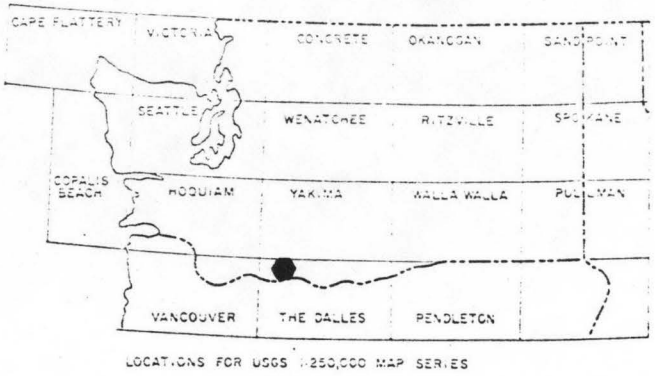
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.1	0.69	6.03	1.00
80	79.2	2.85	22.5	0.90
50	248	8.95	58.0	0.74
30	333	12.0	68.4	0.65
10	541	19.5	80.2	0.47

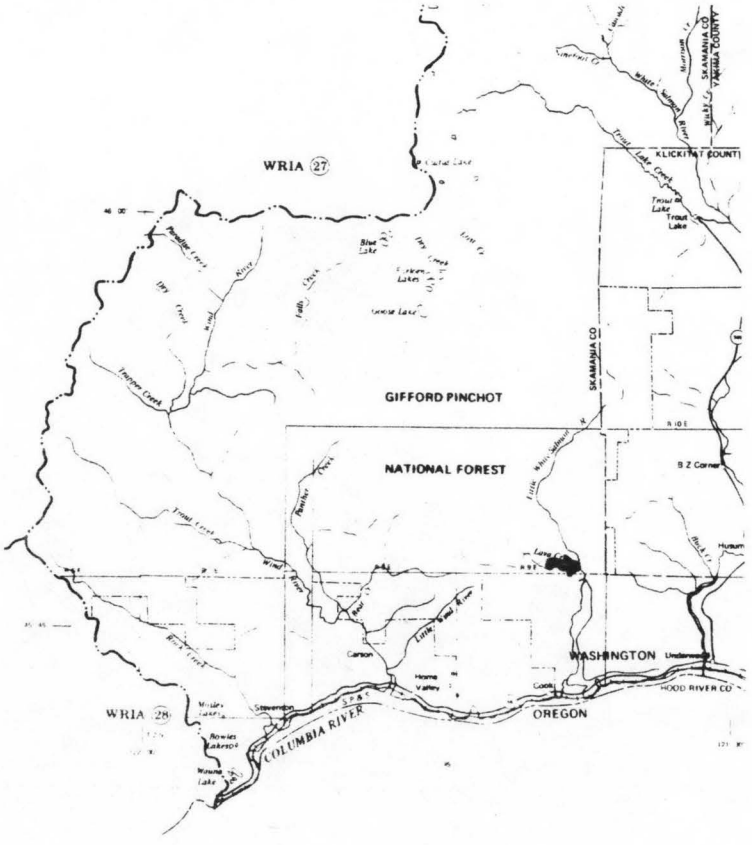
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 273 cfs



W29-1129



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-120-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Skamanioi
C.	Township, Range	T3N R10E
D.	Latitude, Longitude	45°45' 121°32'
E.	Stream Name	White Salmon River
F.	Major Basin Name	White Salmon
G.	River Mile	0/1.9

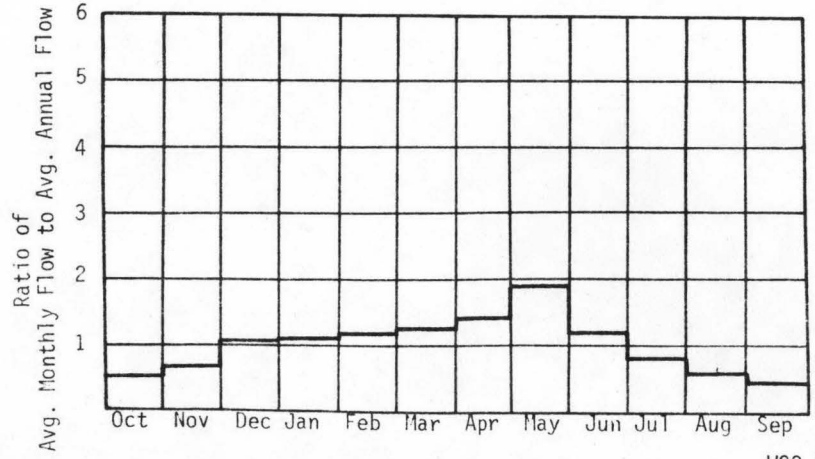
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

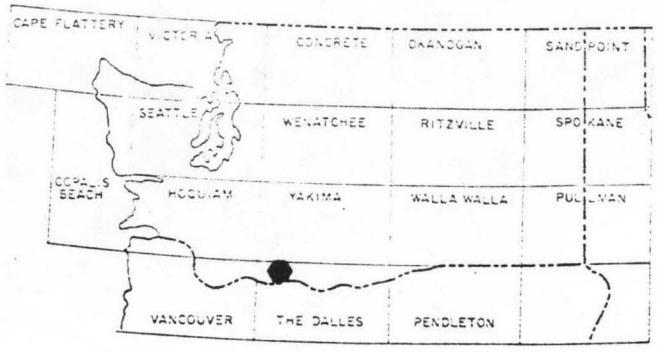
A.	Upstream Elevation of Reach	80	Ft. MSL
B.	Downstream Elevation of Reach	72	Ft. MSL
C.	Total Available Head in Reach	8	Ft.
D.	Average Slope in Reach	4.21	Ft./Mi.
E.	Drainage Area above Reach Mouth	389	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

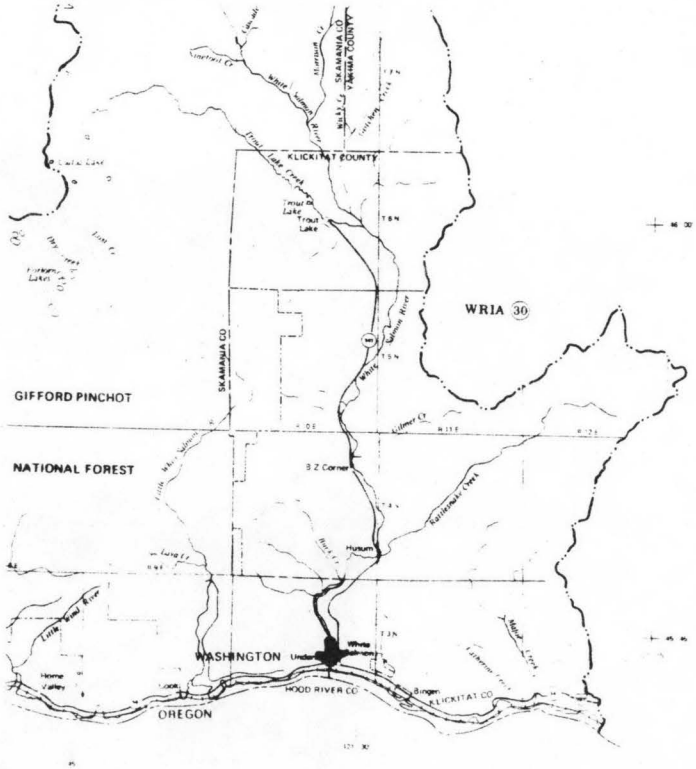
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	481	0.33	2.85	1.00
80	612	0.41	3.52	0.76
50	918	0.62	4.68	0.86
30	1280	0.87	5.53	0.73
10	1810	1.23	6.24	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1093 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1130

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-120-000-000-R0002

I. LOCATION

A. State	Washington	
B. County	Klickitat	
C. Township, Range	T4N R10E	
D. Latitude, Longitude	46°47' 121°30'	
E. Stream Name	White Salmon River	
F. Major Basin Name	White Salmon	
G. River Mile	5.9/7.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

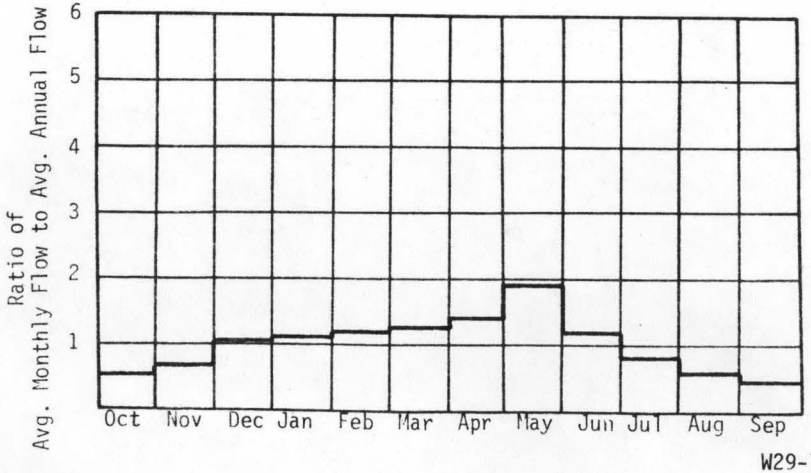
A. Upstream Elevation of Reach	380	Ft. MSL
B. Downstream Elevation of Reach	300	Ft. MSL
C. Total Available Head in Reach	80	Ft.
D. Average Slope in Reach	50	Ft./Mi.
E. Drainage Area above Reach Mouth	357	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

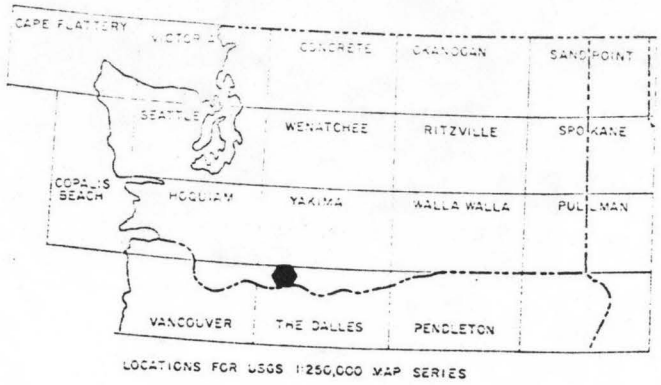
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	467	3.16	27.7	1.00
80	586	3.97	33.7	0.97
50	844	5.71	43.5	0.87
30	1160	7.86	51.0	0.74
10	1620	11.0	56.6	0.59

IV. TYPICAL ANNUAL HYDROGRAPH

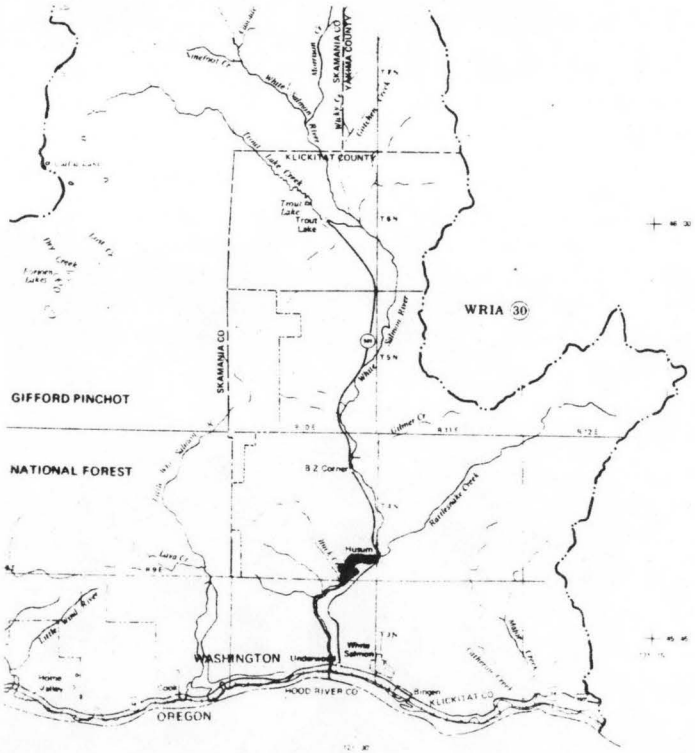
QMR = 993 cfs



W29-1131



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-120-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Klickitat	
C. Township, Range	T4N R10E	
D. Latitude, Longitude	45°49' 121°	
E. Stream Name	White Salmon River	
F. Major Basin Name	White Salmon	
G. River Mile	7.5/12.4	

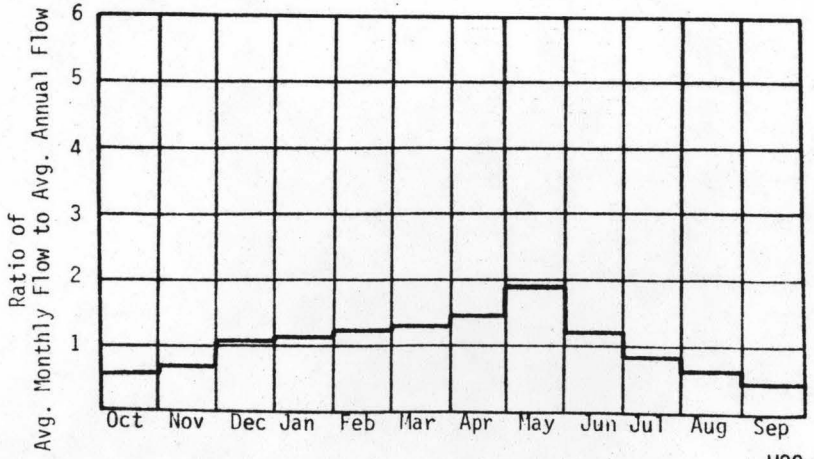
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

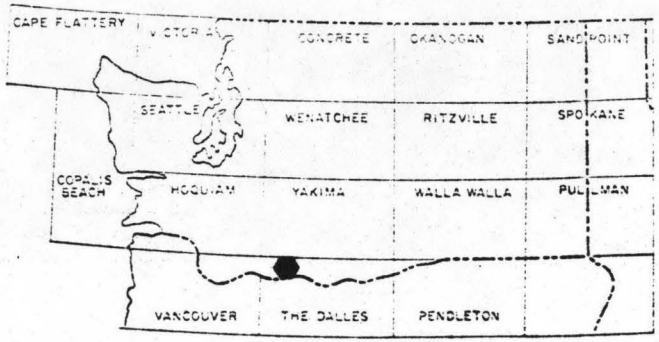
A. Upstream Elevation of Reach	680	Ft. MSL
B. Downstream Elevation of Reach	380	Ft. MSL
C. Total Available Head in Reach	300	Ft.
D. Average Slope in Reach	61.2	Ft./Mi.
E. Drainage Area above Reach Mouth	353	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

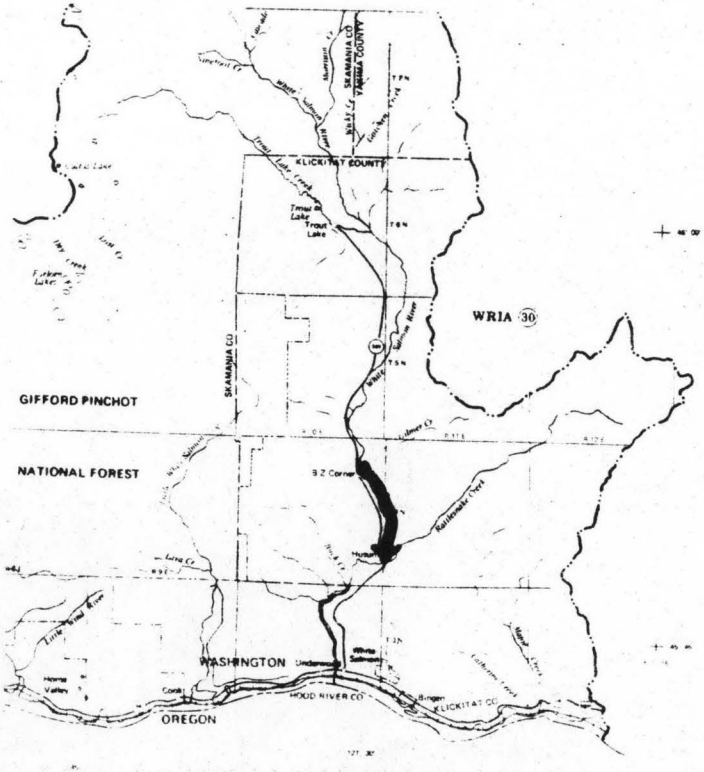
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	399	10.1	88.7	1.00
80	501	12.7	108	0.97
50	722	18.3	140	0.87
30	993	25.2	163	0.74
10	1380	35.1	182	0.59

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 849 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1132

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-120-000-000-R0004

I. LOCATION

A. State	Washington	
B. County	Klickitat	
C. Township, Range	T5N R10E	
D. Latitude, Longitude	45°57' 121°29'	
E. Stream Name	White Salmon River	
F. Major Basin Name	White Salmon	
G. River Mile	12.4/22.7	

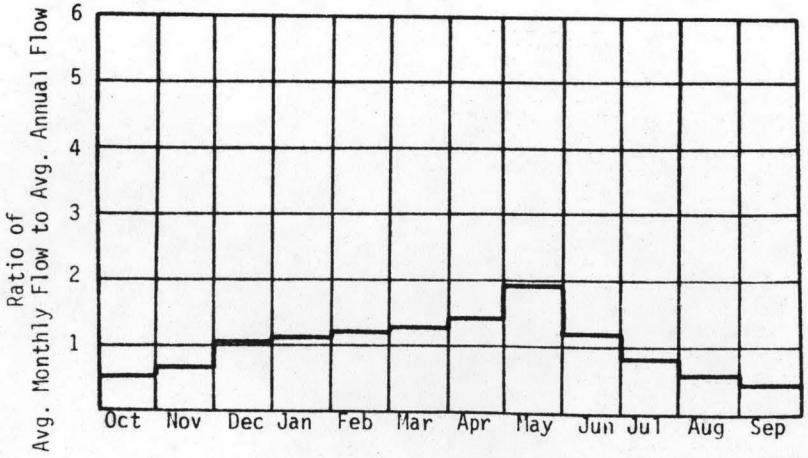
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1680	Ft. MSL
B. Downstream Elevation of Reach	680	Ft. MSL
C. Total Available Head in Reach	1000	Ft.
D. Average Slope in Reach	97.1	Ft./Mi.
E. Drainage Area above Reach Mouth	272	Sq.Mi.
F. Inflow Classification	Regulated	

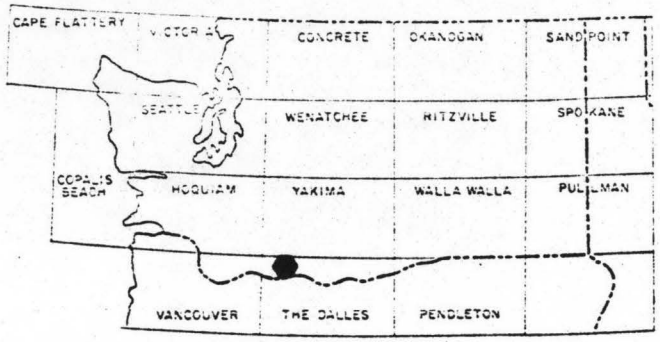
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	162	13.7	120	1.00
80	300	25.4	211	0.95
50	485	41.0	298	0.83
30	924	78.2	431	0.63
10	1740	147	555	0.43

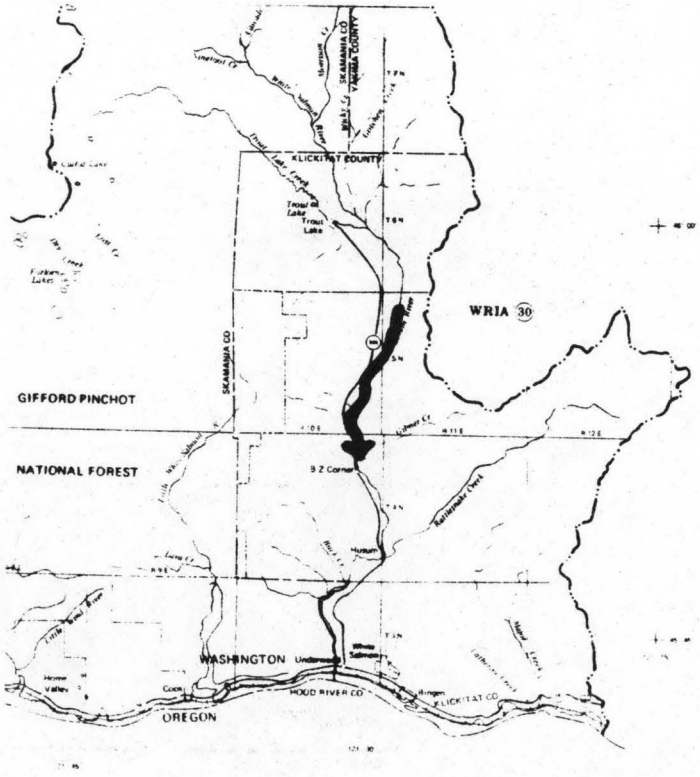
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 770 cfs



W29-1133



LOCATIONS FOR USGS 1:250,000 MAP SERIES

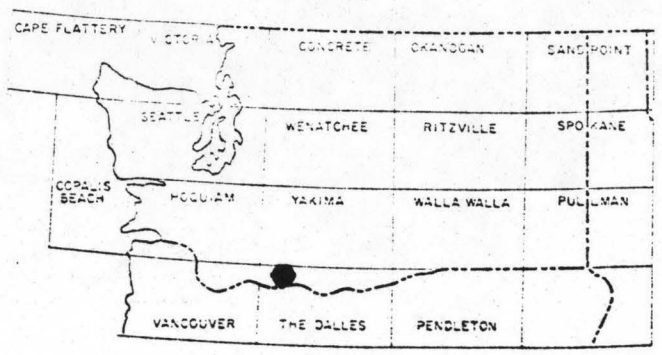


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-120-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Klickatat
C.	Township, Range	T6N R10E
D.	Latitude, Longitude	45°59' 121°29'
E.	Stream Name	White Salmon River
F.	Major Basin Name	White Salmon
G.	River Mile	22.7/25.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

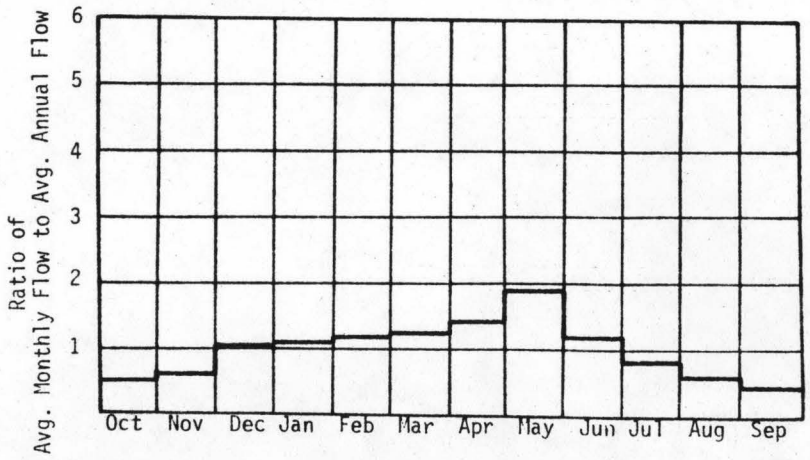
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

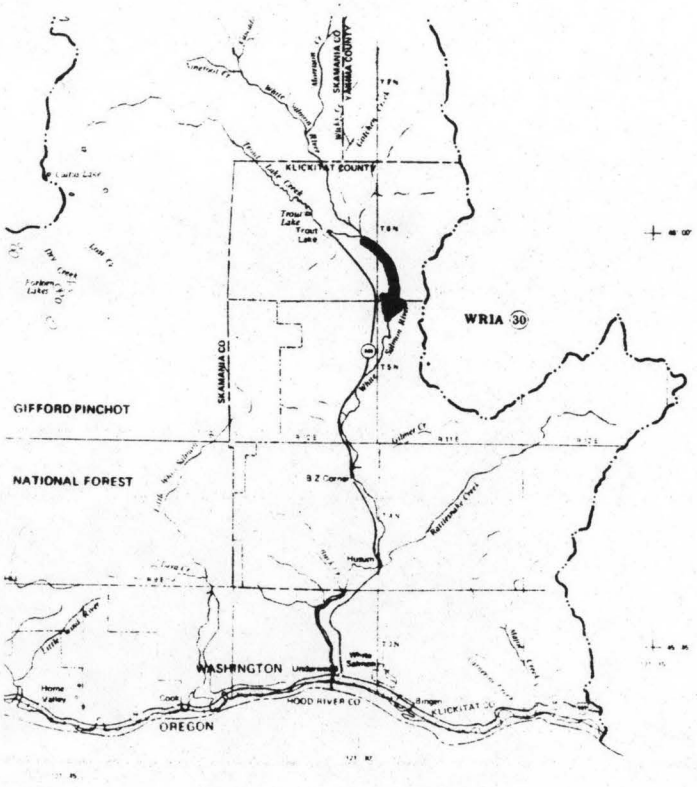
A.	Upstream Elevation of Reach	1820	Ft. MSL
B.	Downstream Elevation of Reach	1680	Ft. MSL
C.	Total Available Head in Reach	140	Ft.
D.	Average Slope in Reach	50.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	234	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	144	1.70	14.9	1.00
80	219	2.59	21.8	0.96
50	554	6.56	43.7	0.76
30	882	10.5	57.7	0.63
10	1470	17.4	68.7	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 684 cfs





W29-1134

REACH HYDRO POTENTIAL CHARACTERISTICS

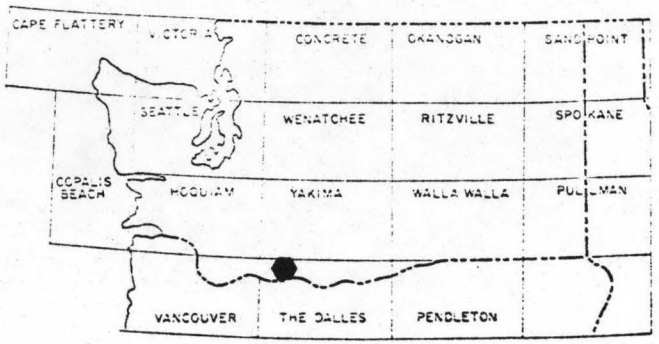
REACH # 01-500-120-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Klickatat	
C. Township, Range	T6N R10E	
D. Latitude, Longitude	46°02' 121°32'	
E. Stream Name	White Salmon River	
F. Major Basin Name	White Salmon	
G. River Mile	25.5/32.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2600	Ft. MSL
B. Downstream Elevation of Reach	1820	Ft. MSL
C. Total Available Head in Reach	780	Ft.
D. Average Slope in Reach	111	Ft./Mi.
E. Drainage Area above Reach Mouth	104	Sq.Mi.
F. Inflow Classification	Natural	

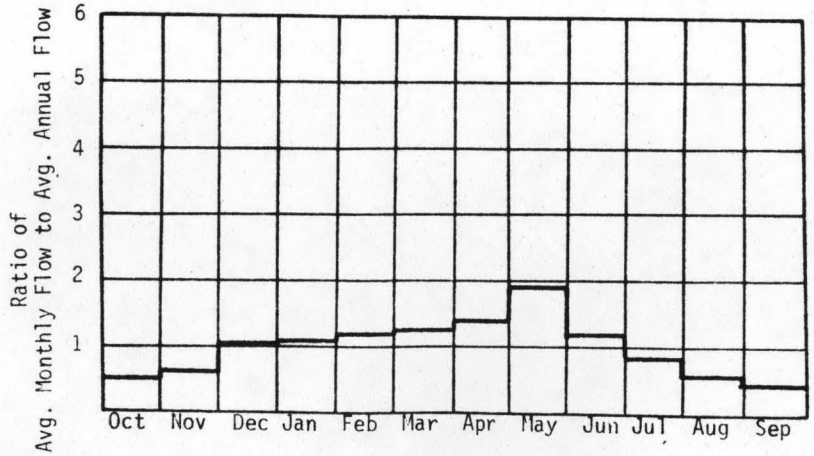


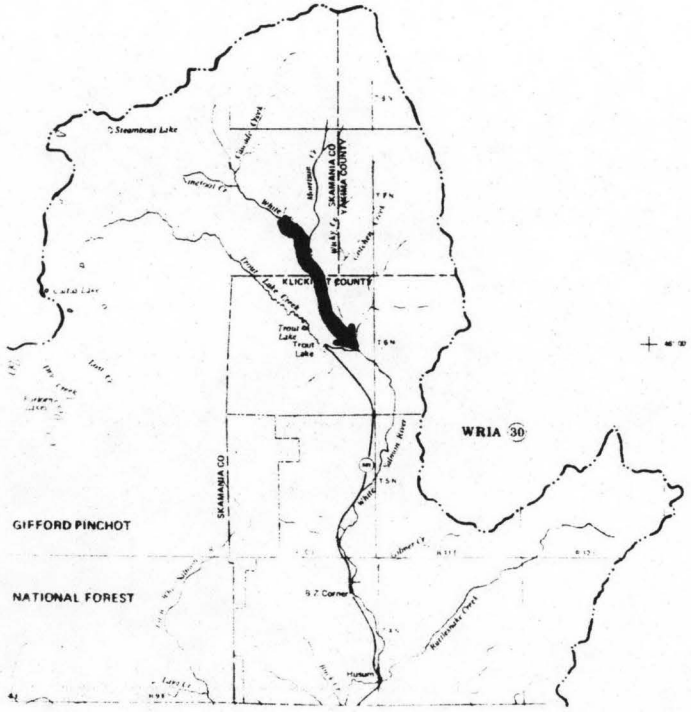
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	158	10.4	91.4	1.00
80	190	12.6	108	0.98
50	239	15.7	125	0.91
30	297	19.6	139	0.81
10	407	26.9	151	0.64

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 268 cfs





W29-1135

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0007

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T7N R10E	
D. Latitude, Longitude	46°05' 121°35'	
E. Stream Name	White Salmon River	
F. Major Basin Name	White Salmon	
G. River Mile	32.5/35.5	

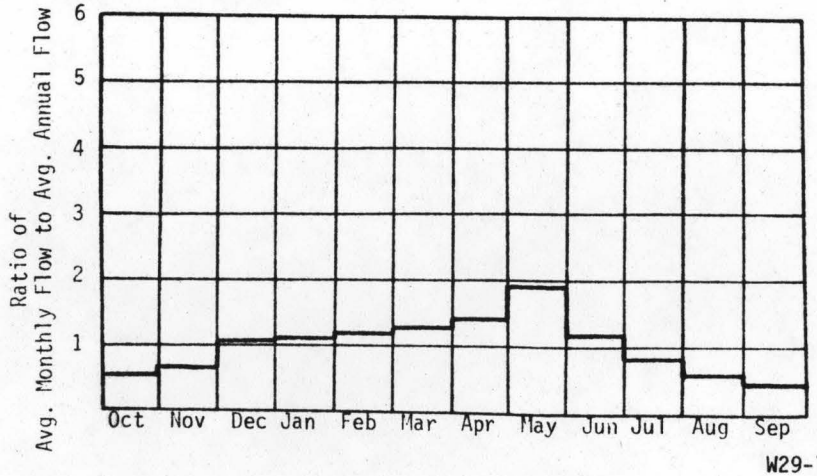
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

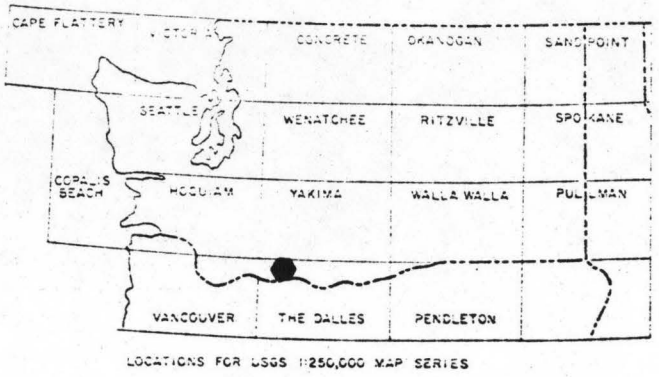
A. Upstream Elevation of Reach	3090	Ft. MSL
B. Downstream Elevation of Reach	2600	Ft. MSL
C. Total Available Head in Reach	490	Ft.
D. Average Slope in Reach	163	Ft./Mi.
E. Drainage Area above Reach Mouth	34.5	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

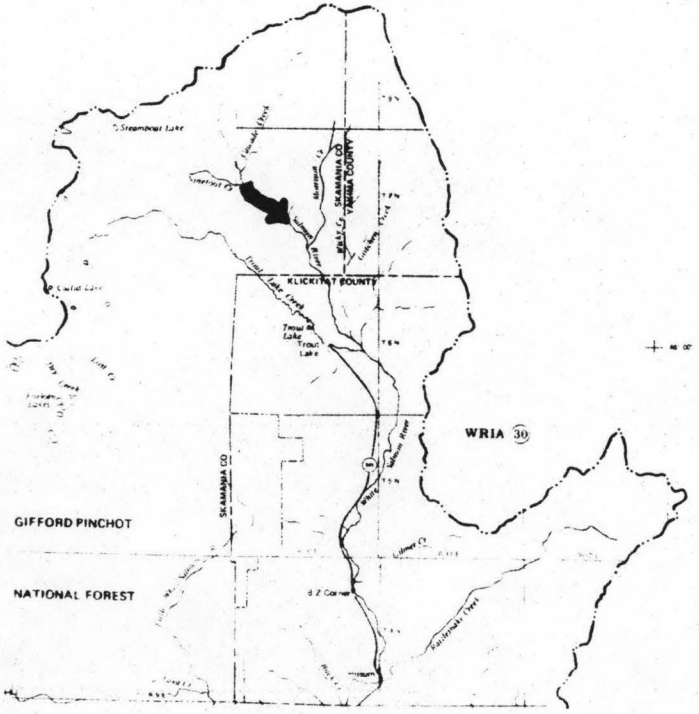
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	79.6	3.30	28.9	1.00
80	95.2	3.94	33.9	0.98
50	131	5.43	42.4	0.89
30	172	7.11	48.6	0.78
10	262	10.9	55.2	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 156 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1136

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R10E
D.	Latitude, Longitude	46°07' 121°37'
E.	Stream Name	White Salmon River
F.	Major Basin Name	White Salmon
G.	River Mile	35.5/37.1

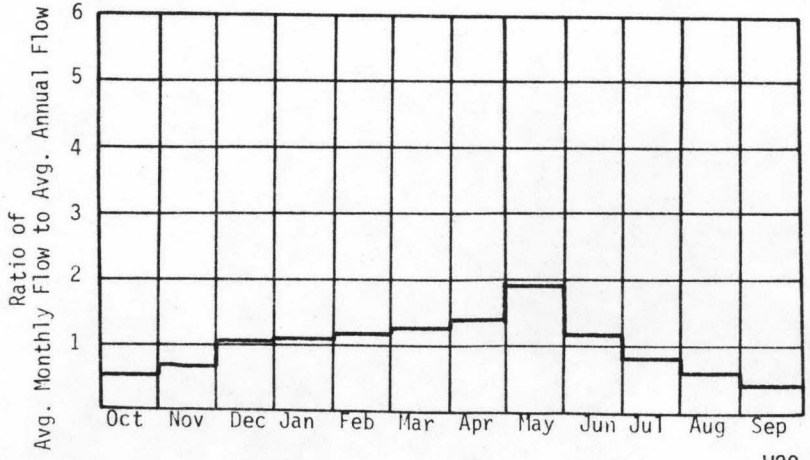
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

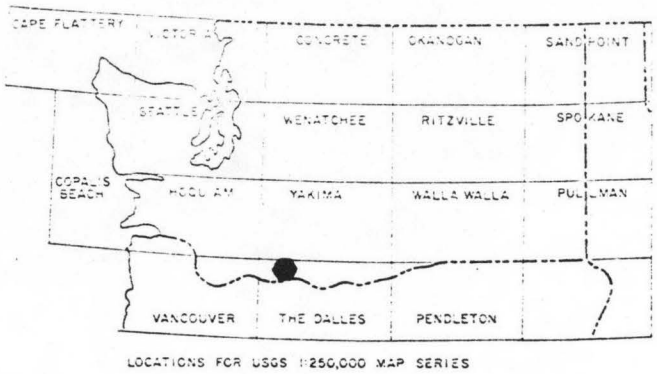
A.	Upstream Elevation of Reach	3640	Ft. MSL
B.	Downstream Elevation of Reach	3090	Ft. MSL
C.	Total Available Head in Reach	550 + 66 = 616	Ft.
D.	Average Slope in Reach	344	Ft./Mi.
E.	Drainage Area above Reach Mouth	9.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

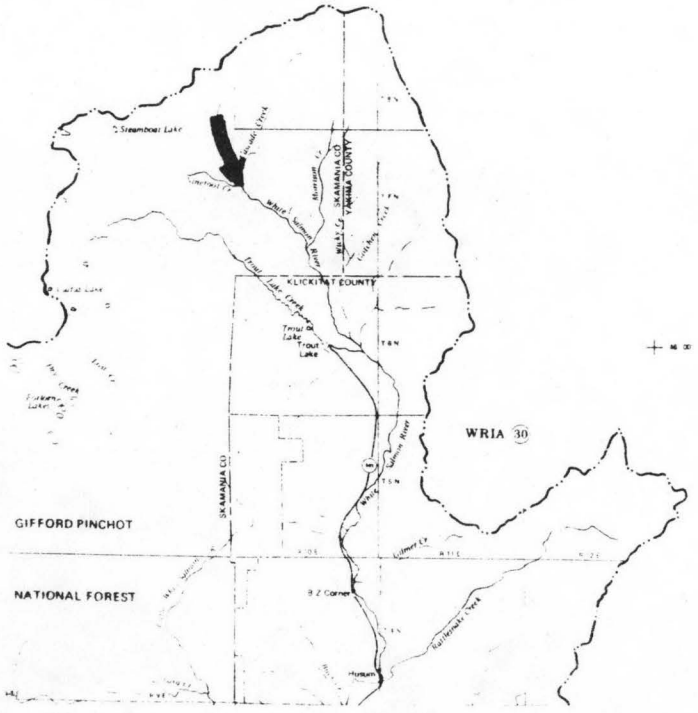
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22.4	1.17	10.2	1.00
80	26.8	1.40	12.0	0.98
50	37.0	1.93	15.0	0.89
30	48.4	2.52	17.2	0.78
10	73.9	3.85	19.6	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 44 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1137

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Klickatat
C.	Township, Range	T4N R10E
D.	Latitude, Longitude	45°48' 121°31'
E.	Stream Name	Buck Creek
F.	Major Basin Name	White Salmon
G.	River Mile	0/0

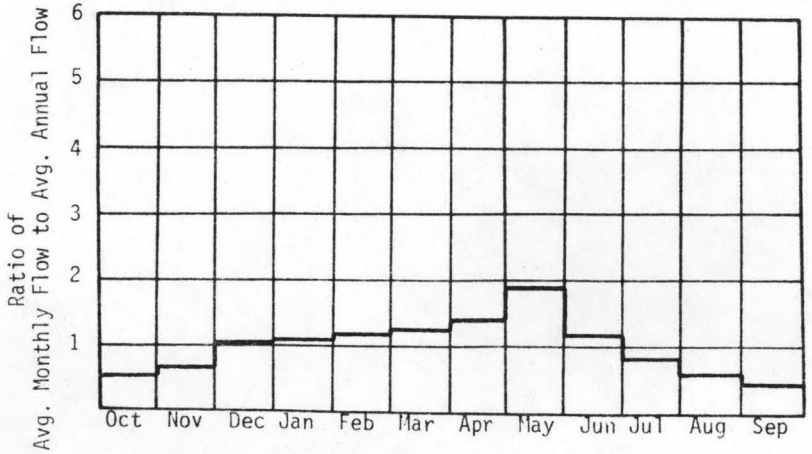
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

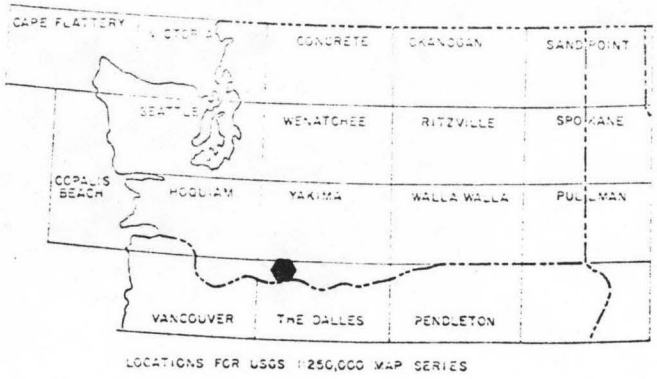
A.	Upstream Elevation of Reach	300	Ft. MSL
B.	Downstream Elevation of Reach	300	Ft. MSL
C.	Total Available Head in Reach	300 + 66 = 366	Ft.
D.	Average Slope in Reach	---	Ft./Mi.
E.	Drainage Area above Reach Mouth	14.0	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

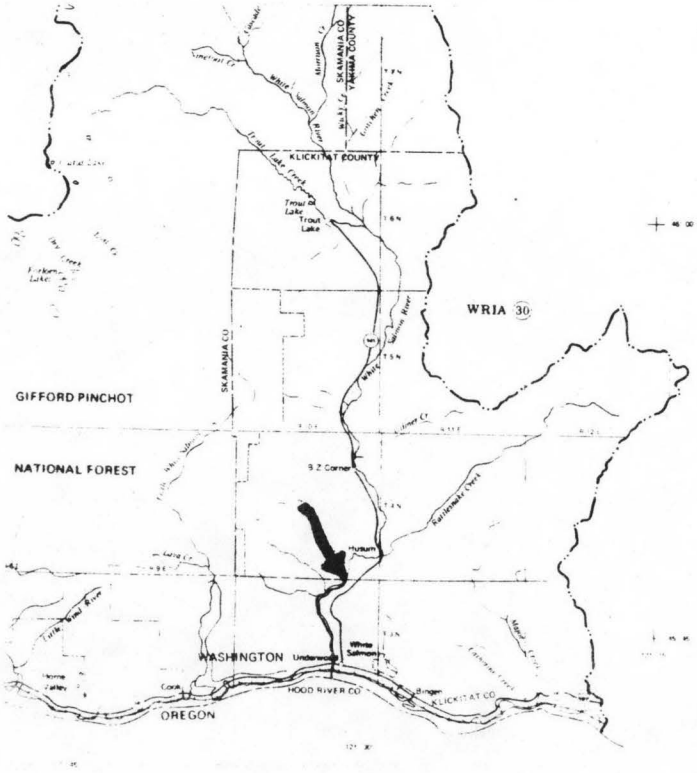
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3.01	0.09	0.82	1.00
80	12.5	0.39	3.04	0.90
50	39.1	1.21	7.85	0.74
30	52.5	1.62	9.25	0.65
10	85.1	2.64	10.9	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 43 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1138

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Klickatat
C.	Township, Range	T4N R11E
D.	Latitude, Longitude	45°50' 121°26'
E.	Stream Name	Rattlesnake Creek
F.	Major Basin Name	White Salmon
G.	River Mile	0/7.6

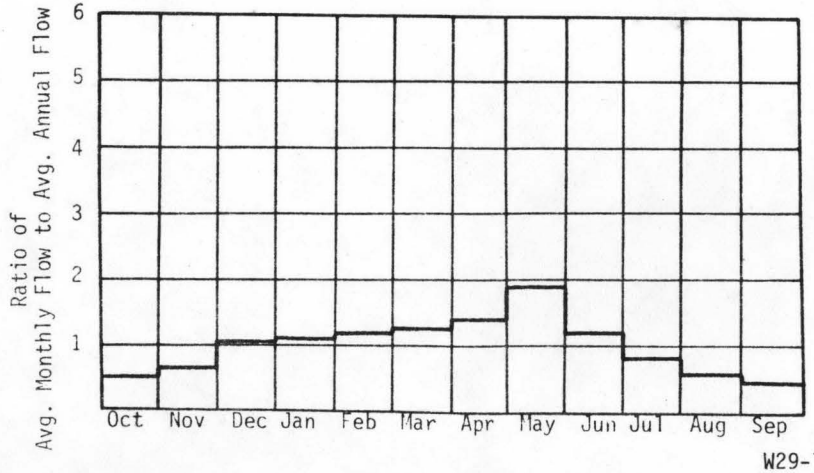
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

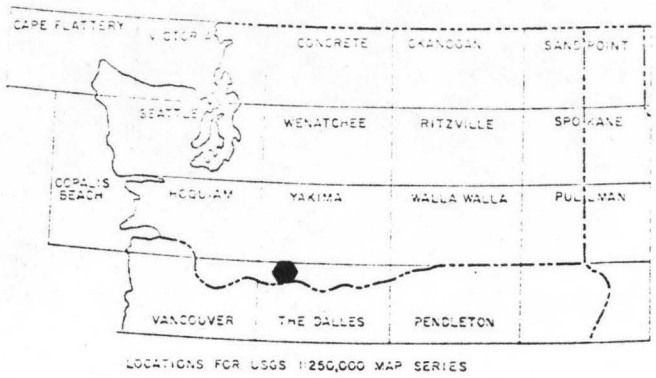
A.	Upstream Elevation of Reach	1040	Ft. MSL
B.	Downstream Elevation of Reach	380	Ft. MSL
C.	Total Available Head in Reach	660 + 66 = 720	Ft.
D.	Average Slope in Reach	86.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	56.6	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

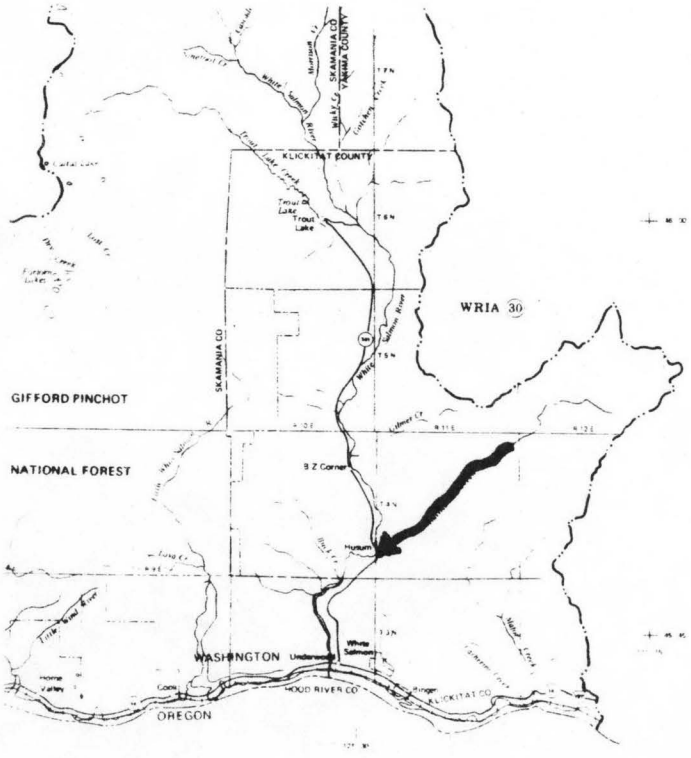
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	44.9	2.74	24.0	1.00
80	57.1	3.46	29.6	0.97
50	85.7	5.22	39.3	0.86
30	119	7.27	46.5	0.73
10	169	10.3	52.4	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 102 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1139

REACH HYDRO POTENTIAL CHARACTERISTICS

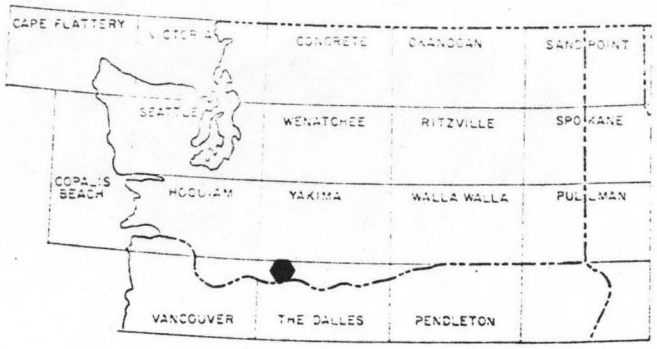
REACH # 01-500-106-000-000-R0011

I. LOCATION

A. State	Washington	
B. County	Klickatat	
C. Township, Range	T6N R10E	
D. Latitude, Longitude	45°59' 121°31'	
E. Stream Name	Trout Lake Creek	
F. Major Basin Name	White Salmon	
G. River Mile	0/2.29	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1940	Ft. MSL
B. Downstream Elevation of Reach	1830	Ft. MSL
C. Total Available Head in Reach	110	Ft.
D. Average Slope in Reach	48.0	Ft./Mi.
E. Drainage Area above Reach Mouth	77.8	Sq.Mi.
F. Inflow Classification	Natural	

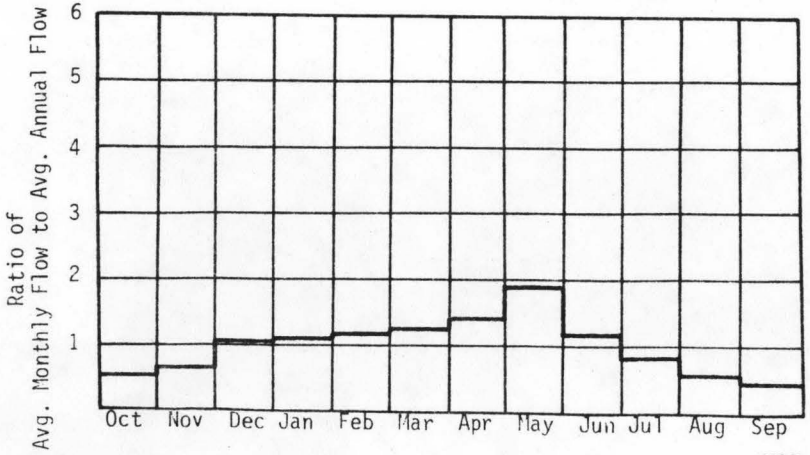


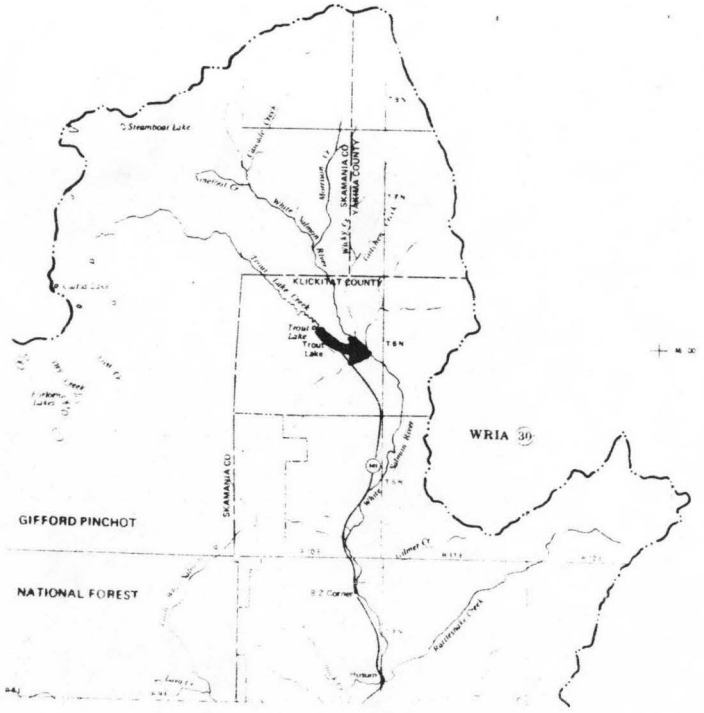
LOCATIONS FOR USGS 1:250,000 MAP SERIES

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	0.41	3.56	1.00
80	65.5	0.61	5.13	0.96
50	186	1.73	11.4	0.75
30	341	3.18	16.4	0.59
10	609	5.67	20.8	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 273 cfs





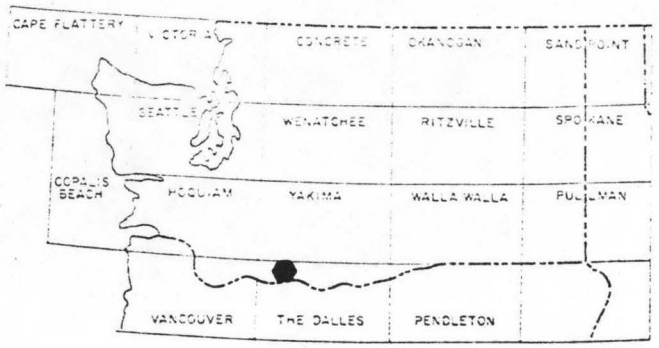
W29-1140

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R10E
D.	Latitude, Longitude	46°03' 121°35'
E.	Stream Name	Trout Lake Creek
F.	Major Basin Name	White Salmon
G.	River Mile	2.29/12.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

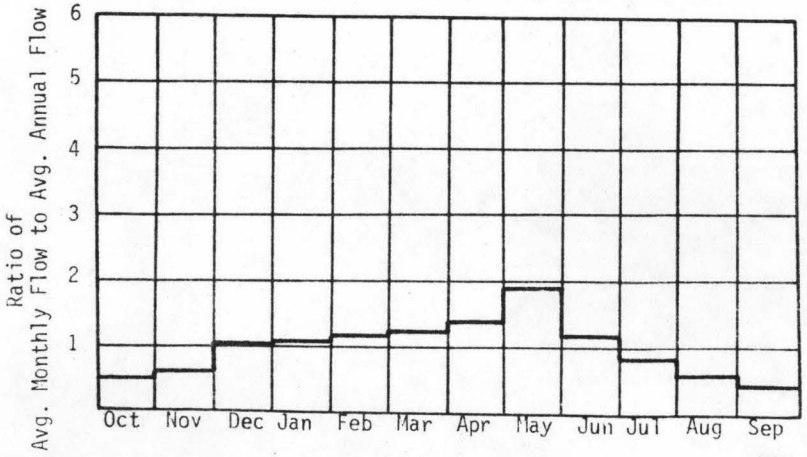
A.	Upstream Elevation of Reach	2240	Ft. MSL
B.	Downstream Elevation of Reach	1940	Ft. MSL
C.	Total Available Head in Reach	300	Ft.
D.	Average Slope in Reach	30.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	68.3	Sq.Mi.
F.	Inflow Classification	Natural	

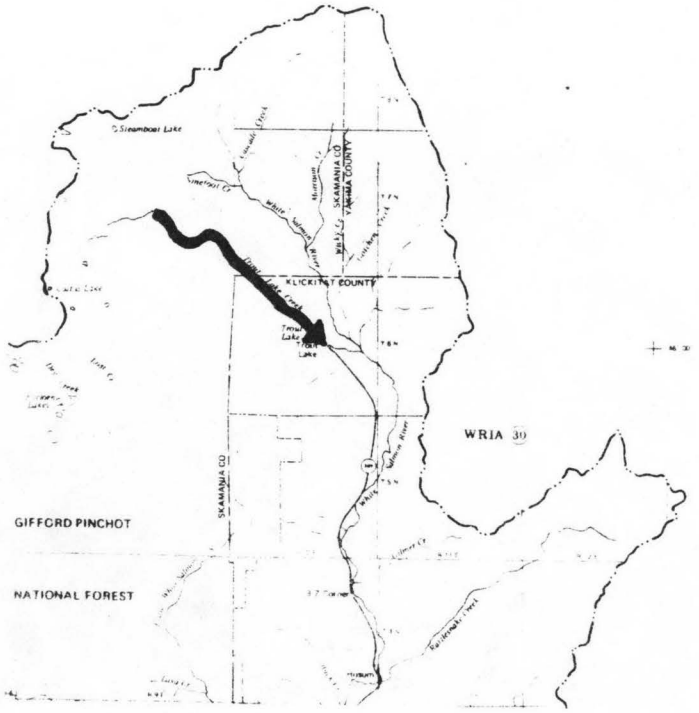
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	35.8	0.91	7.97	1.00
80	53.8	1.36	11.5	0.96
50	152	3.87	25.4	0.75
30	280	7.11	36.7	0.59
10	500	12.7	46.6	0.42

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 224 cfs





W29-1141

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0013

I. LOCATION

A. State	Washington	
B. County	Skamania	
C. Township, Range	T8N R10E	
D. Latitude, Longitude	46°04' 121°40'	
E. Stream Name	Trout Lake Creek	
F. Major Basin Name	White Salmon	
G. River Mile	12.1/14.0	

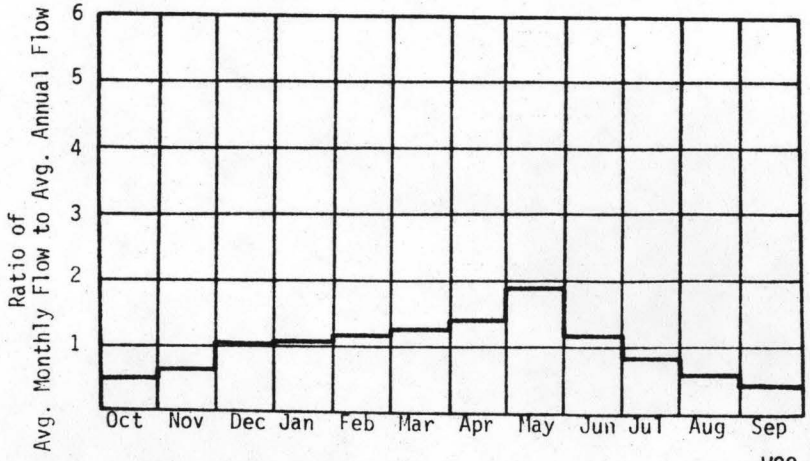
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

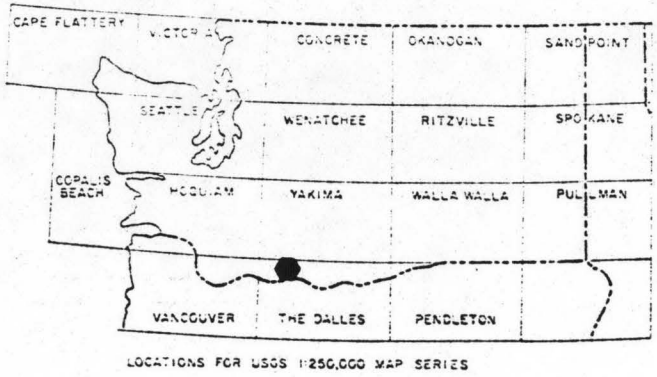
A. Upstream Elevation of Reach	2900	Ft. MSL
B. Downstream Elevation of Reach	2240	Ft. MSL
C. Total Available Head in Reach	660	Ft.
D. Average Slope in Reach	347	Ft./Mi.
E. Drainage Area above Reach Mouth	34.7	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

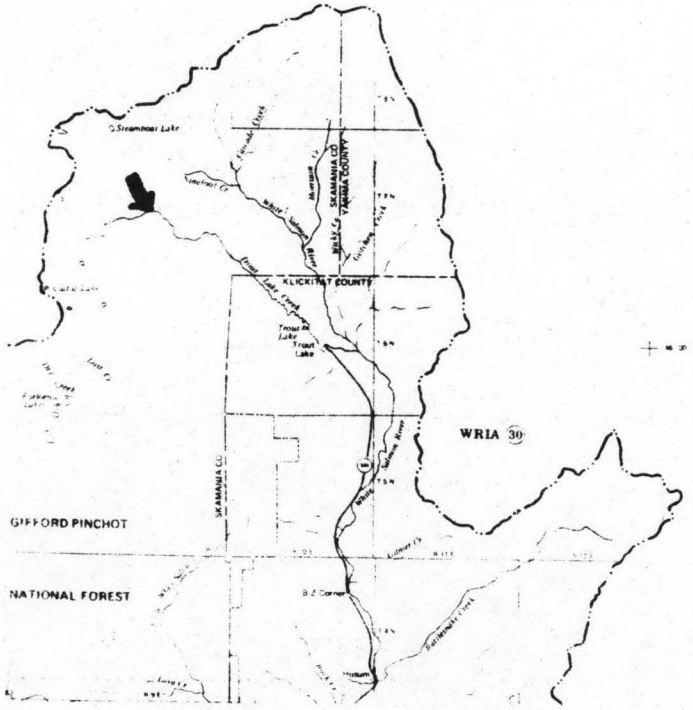
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	74.0	4.13	36.2	1.00
80	88.5	4.94	42.4	0.98
50	122	6.80	53.0	0.89
30	160	8.91	60.9	0.78
10	244	13.6	69.1	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 145 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W29-1142

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0014

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T8N R10E
D.	Latitude, Longitude	46°06' 121°42'
E.	Stream Name	Trout Lake Creek
F.	Major Basin Name	White Salmon
G.	River Mile	14.0/15.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

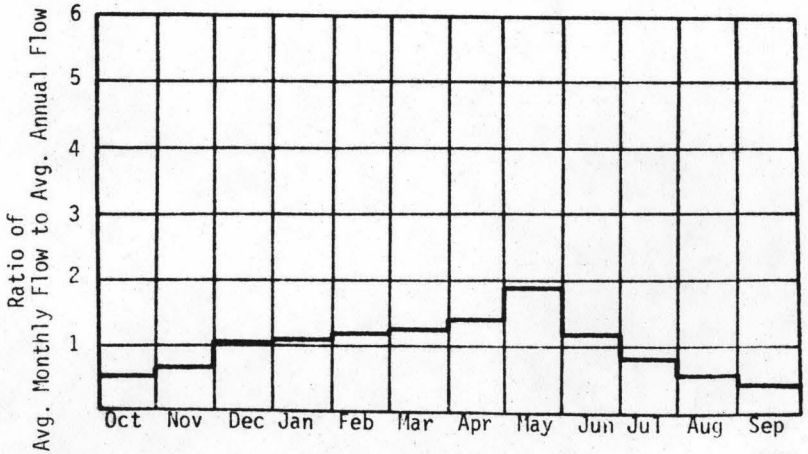
A.	Upstream Elevation of Reach	3160	Ft. MSL
B.	Downstream Elevation of Reach	2900	Ft. MSL
C.	Total Available Head in Reach	260 + 66 = 326	Ft.
D.	Average Slope in Reach	163	Ft./Mi.
E.	Drainage Area above Reach Mouth	19.3	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

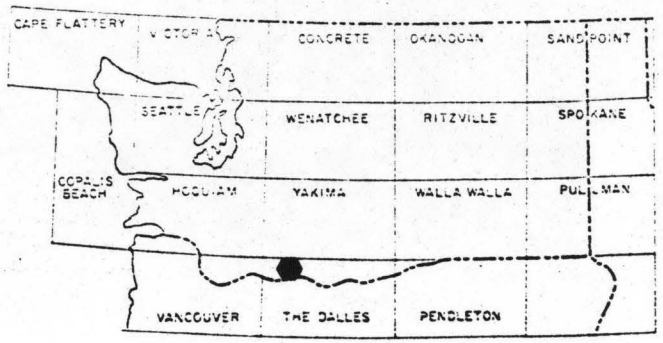
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	41.8	1.15	10.1	1.00
80	50.0	1.38	11.8	0.98
50	68.9	1.90	14.8	0.89
30	90.2	2.49	17.0	0.78
10	138	3.80	19.3	0.58

IV. TYPICAL ANNUAL HYDROGRAPH

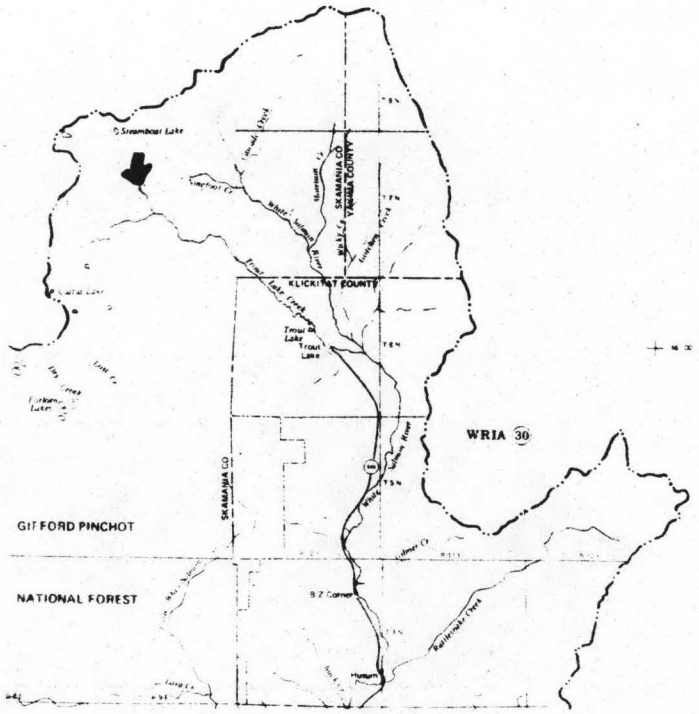
QMR = 82 cfs



W29-1143



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0015

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T8N R10E
D.	Latitude, Longitude	46°04' 121°42'
E.	Stream Name	Cultus Creek
F.	Major Basin Name	White Salmon
G.	River Mile	0/0.70

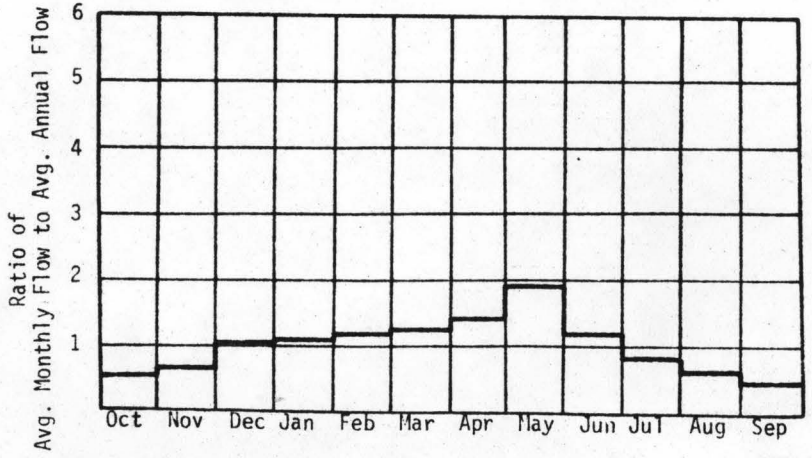
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

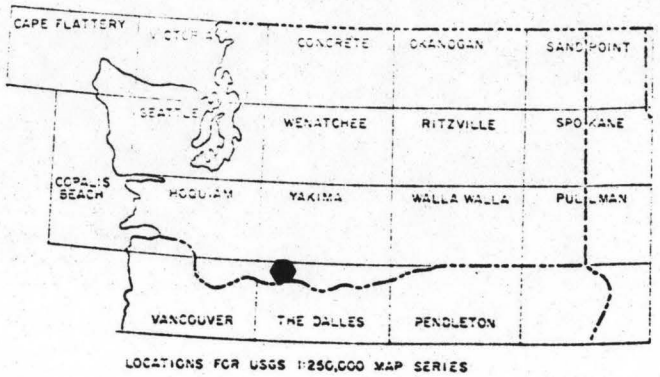
A.	Upstream Elevation of Reach	2910	Ft. MSL
B.	Downstream Elevation of Reach	2240	Ft. MSL
C.	Total Available Head in Reach	670 + 66 = 736	Ft.
D.	Average Slope in Reach	957	Ft./Mi.
E.	Drainage Area above Reach Mouth	13.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

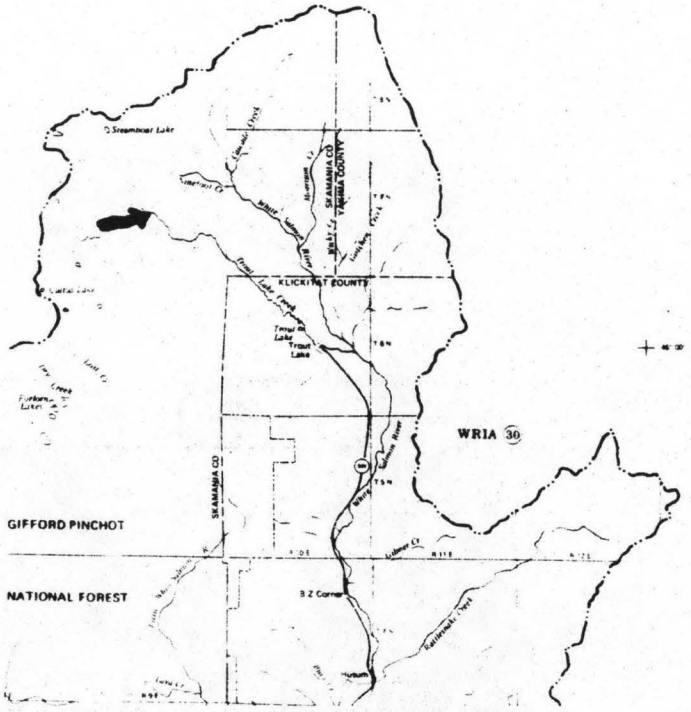
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	28.6	1.78	15.6	1.00
80	34.2	2.13	18.3	0.98
50	47.0	2.93	22.8	0.89
30	61.6	3.84	26.2	0.78
10	94.1	5.86	29.8	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 56 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



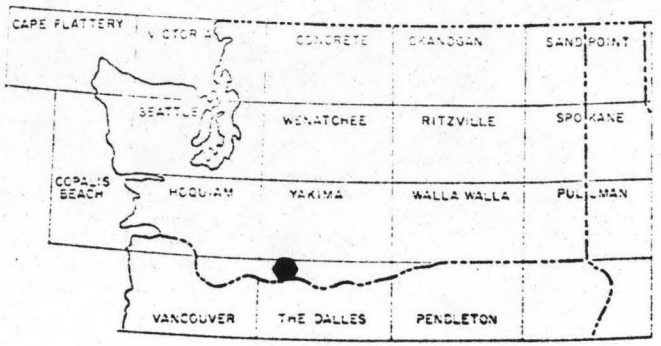
W29-1144

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-106-000-000-R0016

I. LOCATION

A.	State	Washington
B.	County	Skamania
C.	Township, Range	T7N R10E
D.	Latitude, Longitude	46°06' 121°35'
E.	Stream Name	Cascade Creek
F.	Major Basin Name	White Salmon
G.	River Mile	0/4.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

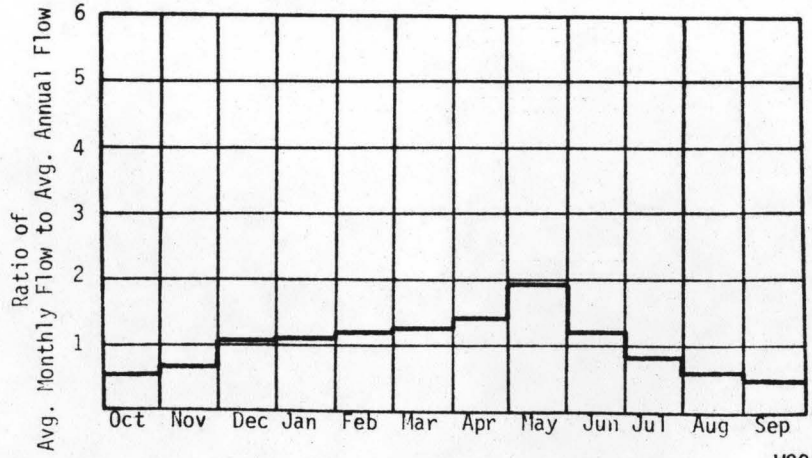
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

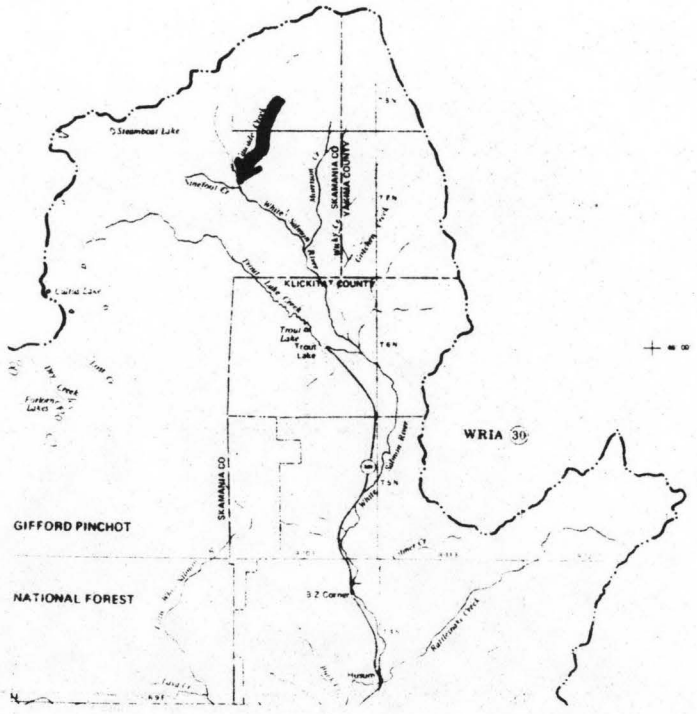
A.	Upstream Elevation of Reach	3980	Ft. MSL
B.	Downstream Elevation of Reach	3090	Ft. MSL
C.	Total Available Head in Reach	890 + 66 = 956	Ft.
D.	Average Slope in Reach	202	Ft./Mi.
E.	Drainage Area above Reach Mouth	19.6	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	43.4	3.51	30.7	1.00
80	51.9	4.19	36.0	0.98
50	71.4	4.77	45.0	0.89
30	93.5	7.56	51.7	0.78
10	143	11.6	58.7	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 85 cfs

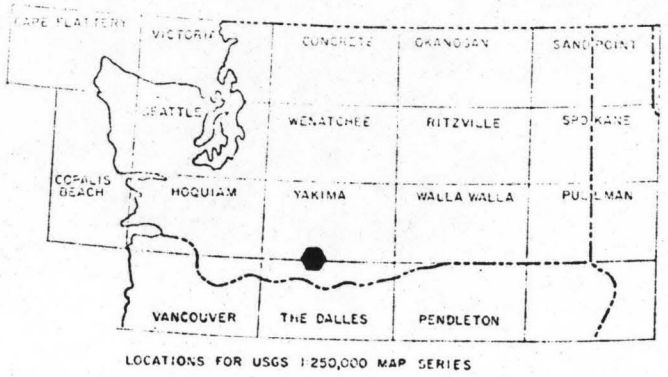




W29-1145

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0001



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

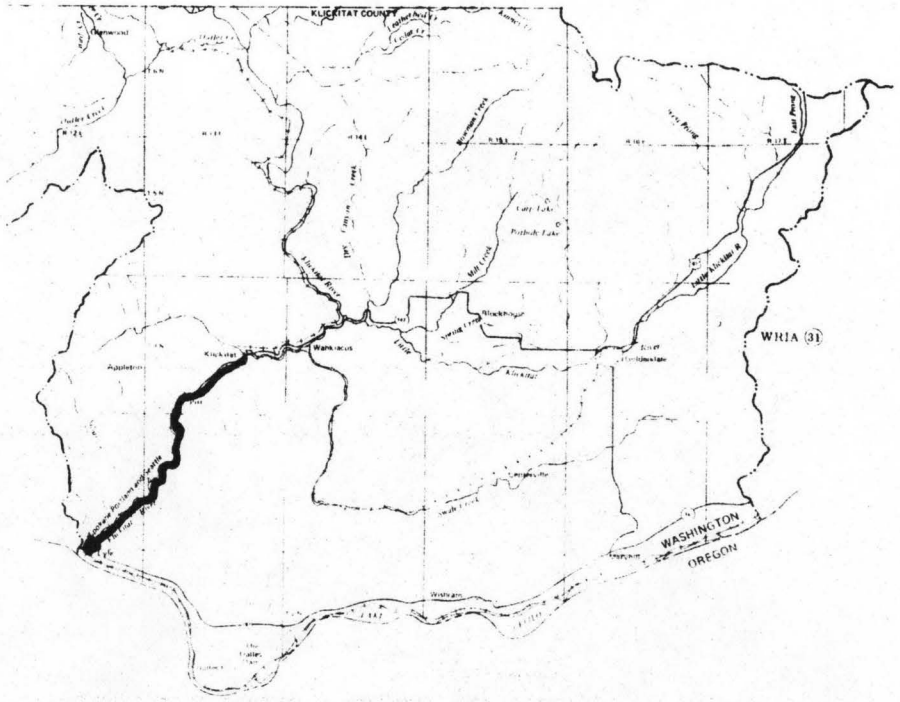
A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T3N R13E
D.	Latitude, Longitude	48°45' 121°13'
E.	Stream Name	Klickitat River
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/13.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

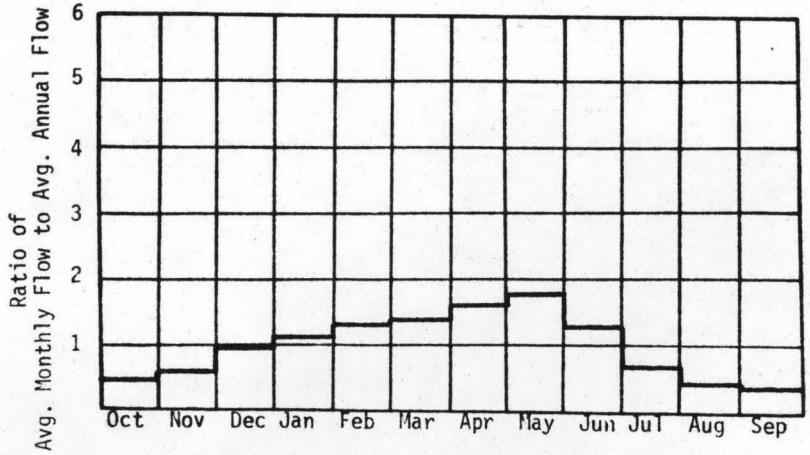
A.	Upstream Elevation of Reach	440	Ft. MSL
B.	Downstream Elevation of Reach	75	Ft. MSL
C.	Total Available Head in Reach	365	Ft.
D.	Average Slope in Reach	28	Ft./Mi.
E.	Drainage Area above Reach Mouth	1373.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	589	18.2	160	1.00
80	749	23.1	199	0.98
50	1160	35.9	268	0.85
30	1830	56.6	342	0.69
10	3120	96.5	406	0.48



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1593 cfs

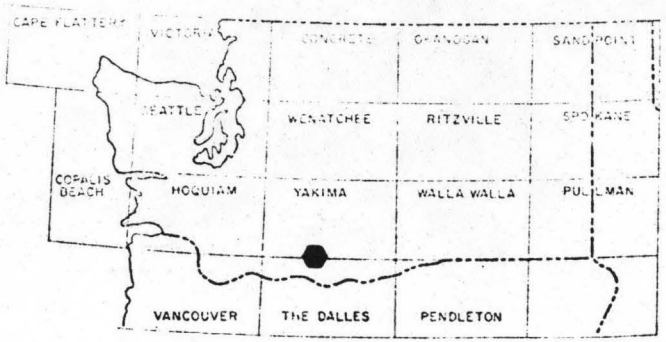


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T4N R13E
D.	Latitude, Longitude	45°49' 121°07'
E.	Stream Name	Klickitat River
F.	Major Basin Name	Klickitat
G.	River Mile	13.2/16.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

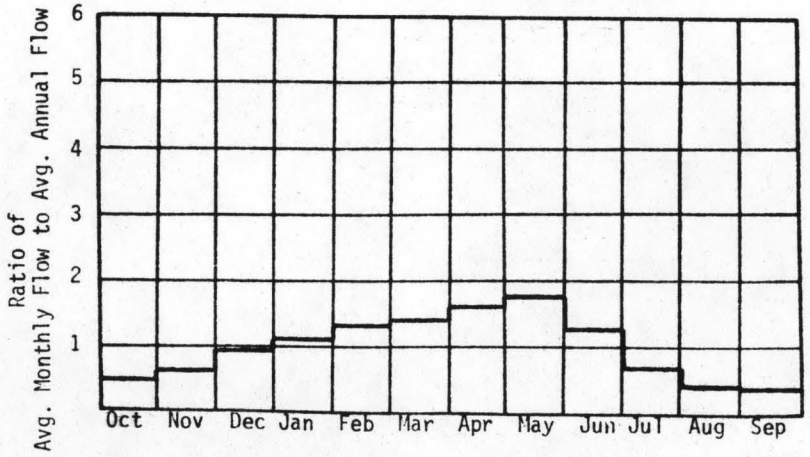
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

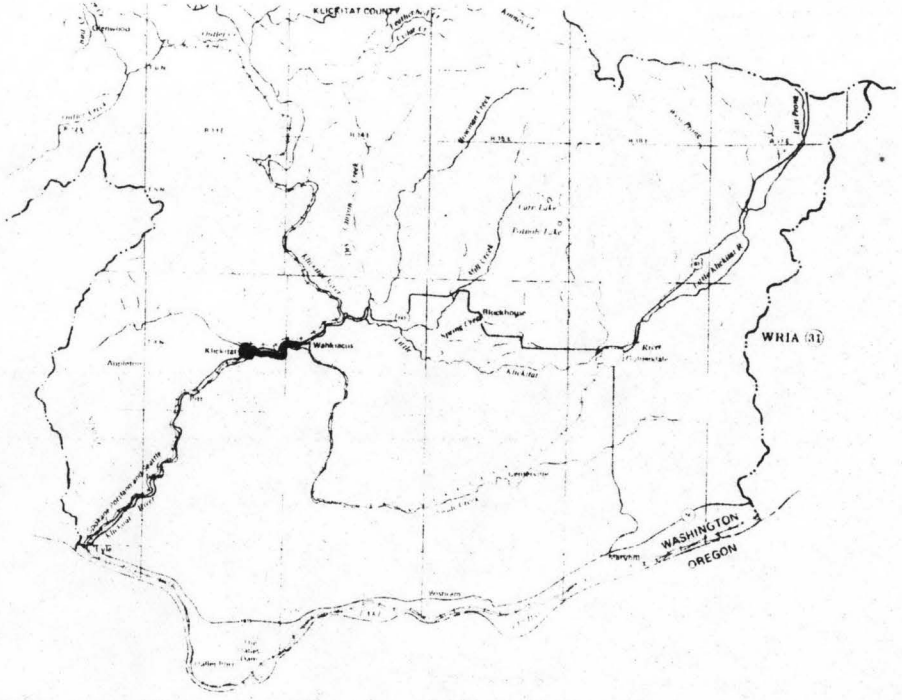
A.	Upstream Elevation of Reach	500	Ft. MSL
B.	Downstream Elevation of Reach	440	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	19	Ft./Mi.
E.	Drainage Area above Reach Mouth	1266.2	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	568	2.89	25.2	1.00
80	721	3.67	31.5	0.98
50	1120	5.69	42.4	0.85
30	1770	8.97	54.2	0.69
10	3010	15.3	64.3	0.48

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1536 cfs





W30-1147

REACH HYDRO POTENTIAL CHARACTERISTICS

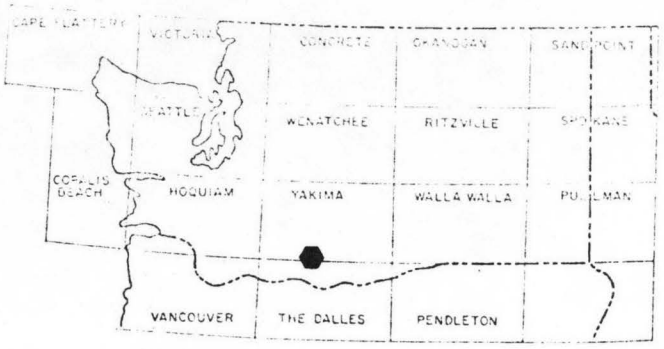
REACH # 01-500-160-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Klickitat	
C. Township, Range	T4N R14E	
D. Latitude, Longitude	45°50' 121°05'	
E. Stream Name	Klickitat River	
F. Major Basin Name	Klickitat	
G. River Mile	16.4/19.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

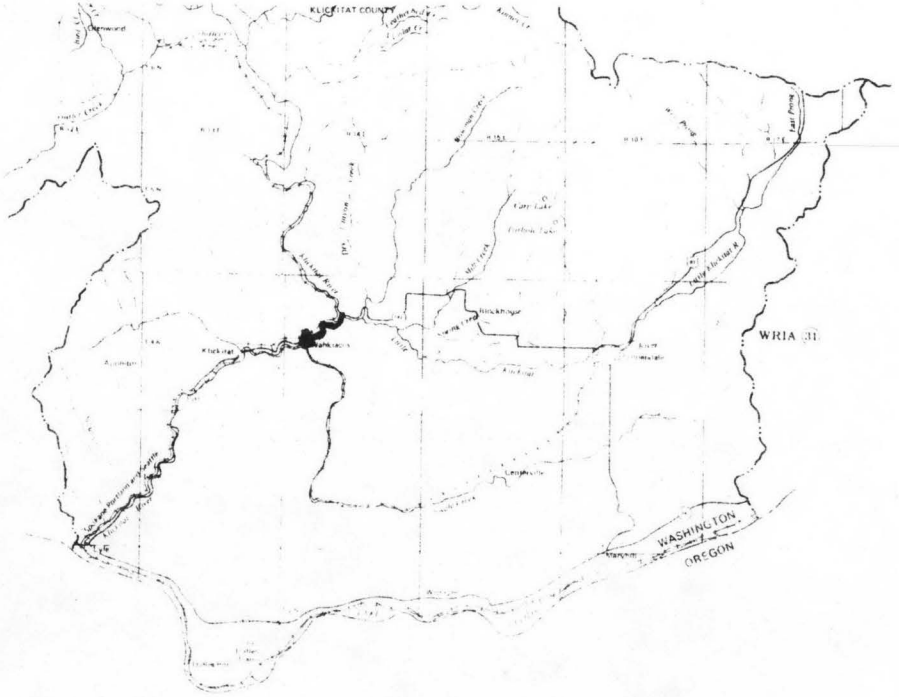
A. Upstream Elevation of Reach	560	Ft. MSL
B. Downstream Elevation of Reach	500	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	19	Ft./Mi.
E. Drainage Area above Reach Mouth	1120.8	Sq.Mi.
F. Inflow Classification	Natural	



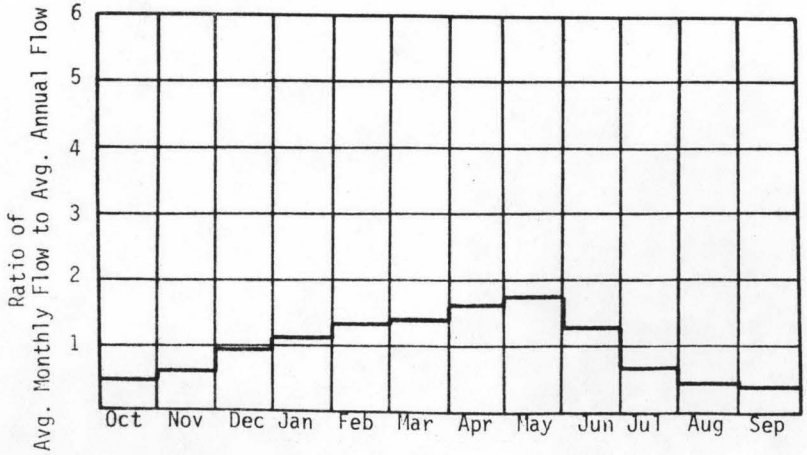
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	545	2.77	24.3	1.00
80	693	3.52	30.2	0.98
50	1080	5.46	40.7	0.85
30	1700	8.61	52.0	0.69
10	2890	14.7	61.7	0.48



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1474 cfs



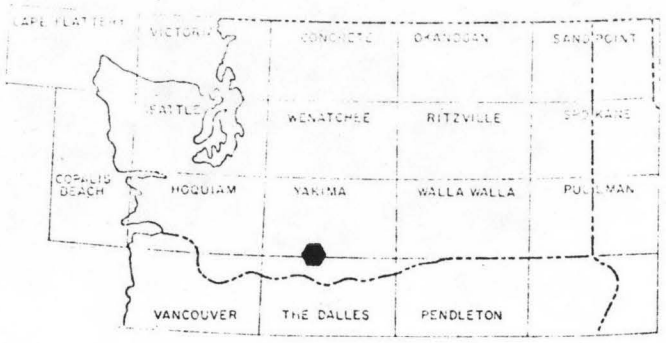
W30-1148

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T5N R14E
D.	Latitude, Longitude	45°54' 121°06'
E.	Stream Name	Klickitat River
F.	Major Basin Name	Klickitat
G.	River Mile	19.6/30.4



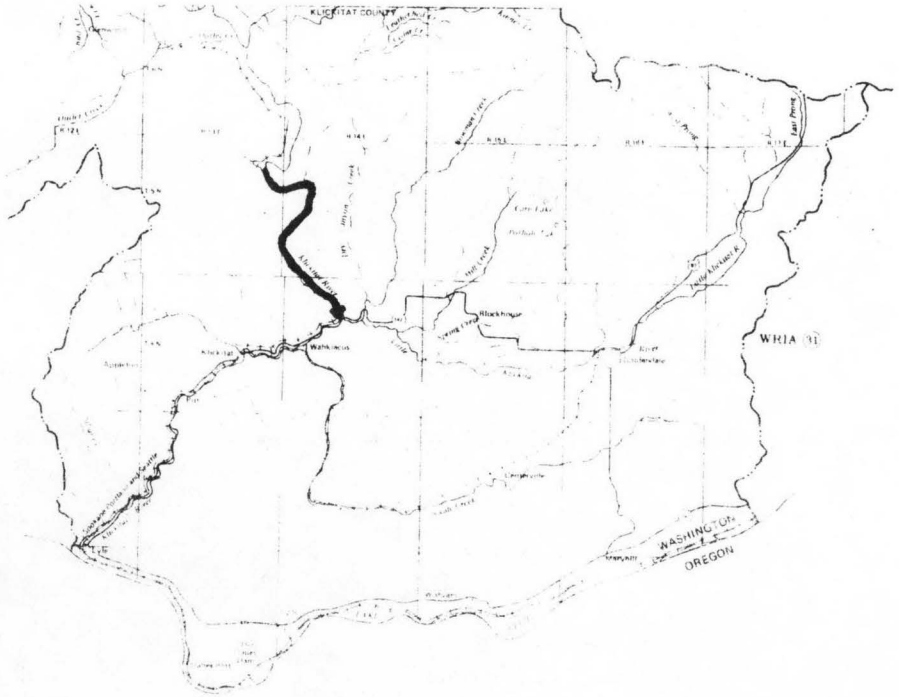
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

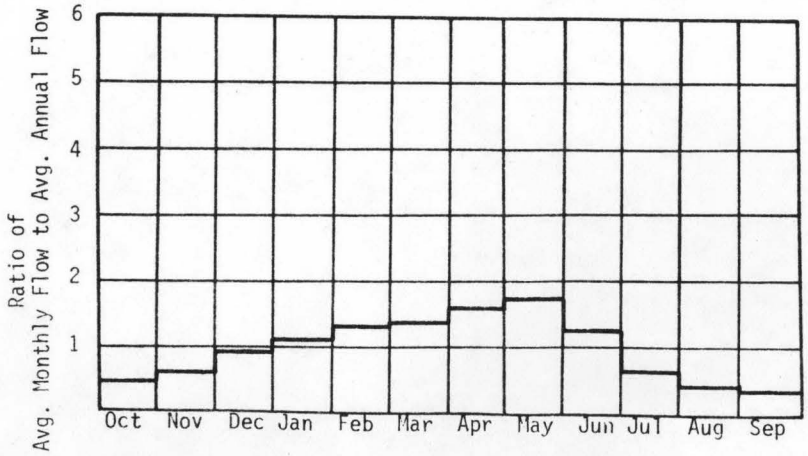
A.	Upstream Elevation of Reach	830	Ft. MSL
B.	Downstream Elevation of Reach	560	Ft. MSL
C.	Total Available Head in Reach	270	Ft.
D.	Average Slope in Reach	25	Ft./Mi.
E.	Drainage Area above Reach Mouth	827.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	480	11.0	96.0	1.00
80	609	13.3	120	0.98
50	946	21.6	161	0.85
30	1490	34.1	206	0.69
10	2540	58.1	244	0.48



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1296 cfs



W30-1149

REACH HYDRO POTENTIAL CHARACTERISTICS

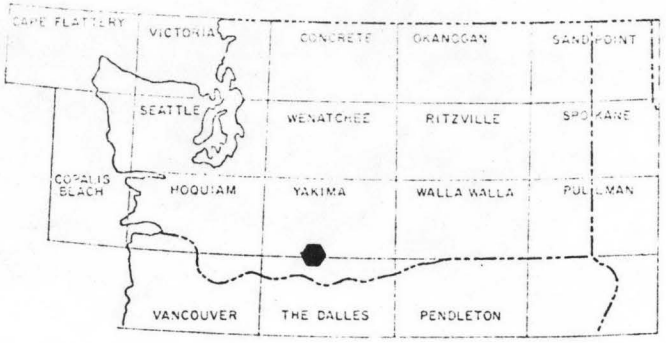
REACH # 01-500-160-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Klickitat	
C. Township, Range	T6N R14E	
D. Latitude, Longitude	45°57' 121°07'	
E. Stream Name	Klickitat River	
F. Major Basin Name	Klickitat	
G. River Mile	30.6/36.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1020	Ft. MSL
B. Downstream Elevation of Reach	830	Ft. MSL
C. Total Available Head in Reach	190	Ft.
D. Average Slope in Reach	33	Ft./Mi.
E. Drainage Area above Reach Mouth	772.9	Sq.Mi.
F. Inflow Classification	Natural	

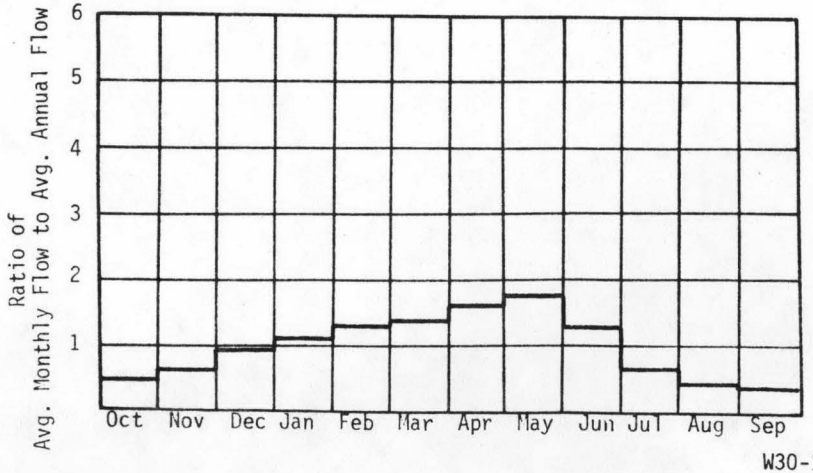


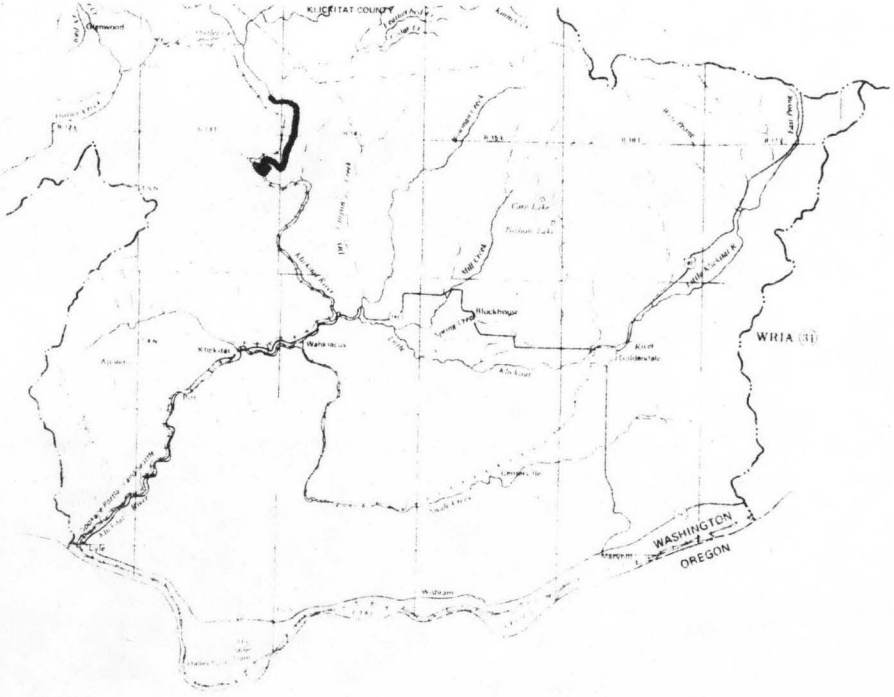
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	464	7.47	65.4	1.00
80	590	9.49	81.4	0.98
50	916	14.7	110	0.85
30	1440	23.2	140	0.69
10	2460	40.0	166	0.48

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1255 cfs





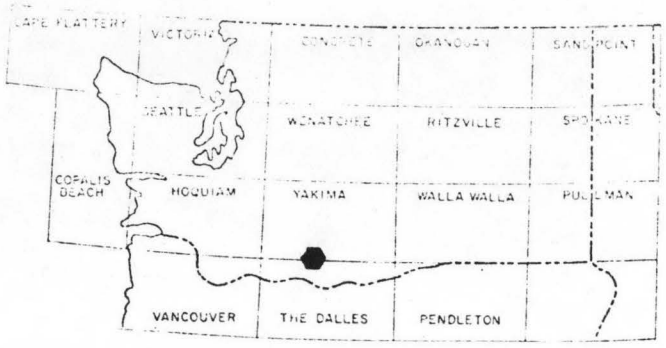
W30-1150

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T6N R13E
D.	Latitude, Longitude	46°00' 121°08'
E.	Stream Name	Klickitat River
F.	Major Basin Name	Klickitat
G.	River Mile	36.4/38.8



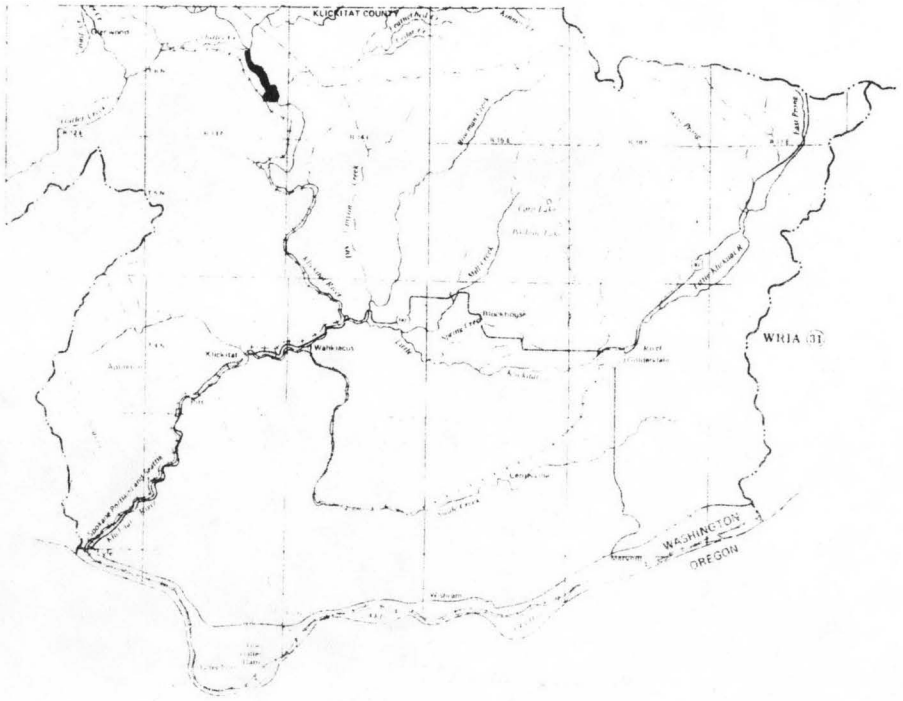
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

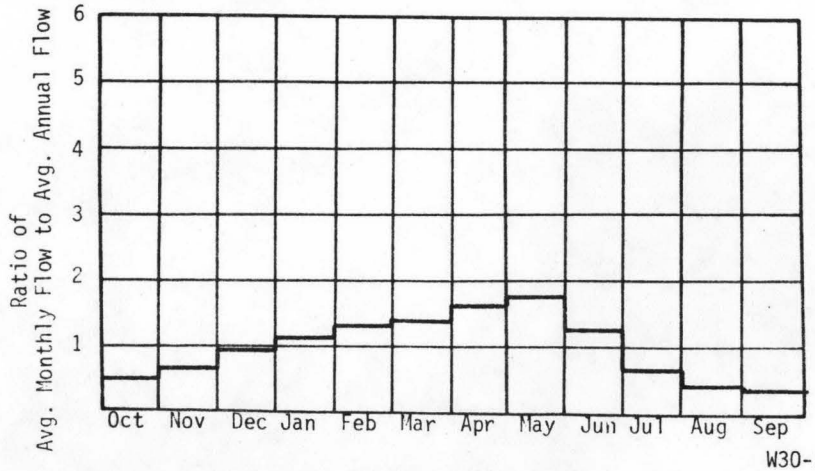
A.	Upstream Elevation of Reach	1110	Ft. MSL
B.	Downstream Elevation of Reach	1020	Ft. MSL
C.	Total Available Head in Reach	90	Ft.
D.	Average Slope in Reach	38	Ft./Mi.
E.	Drainage Area above Reach Mouth	716.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	445	3.39	29.7	1.00
80	565	4.31	37.0	0.98
50	878	6.69	49.8	0.85
30	1380	10.5	63.7	0.69
10	2360	18.0	75.5	0.48



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1203 cfs



W30-1151

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0007

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T76N R13E	
D. Latitude, Longitude	46°03' 121°14'	
E. Stream Name	Klickitat	
F. Major Basin Name	Klickitat	
G. River Mile	39.1/50.0	

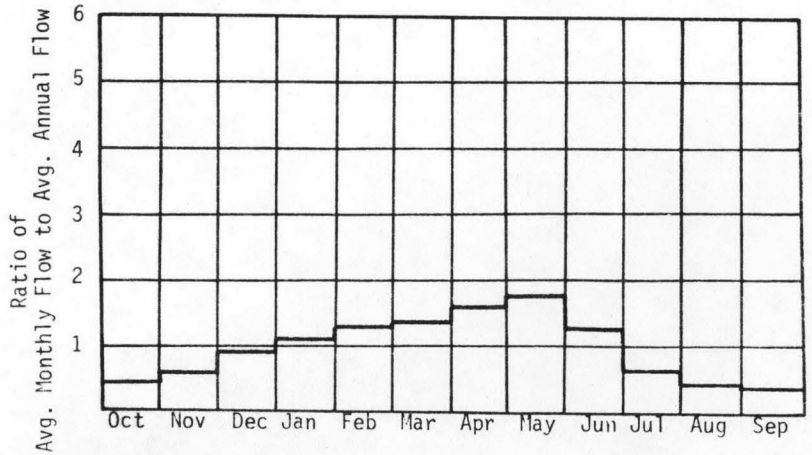
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

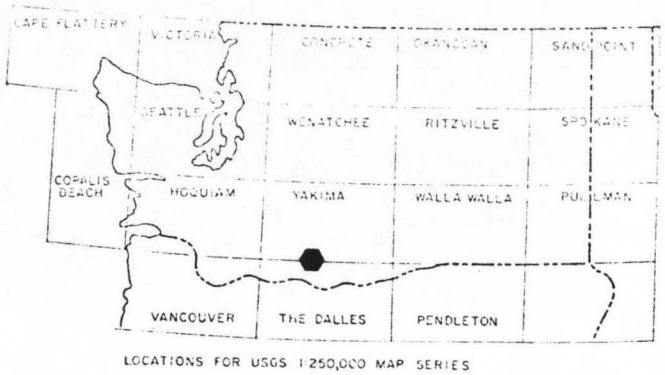
A. Upstream Elevation of Reach	1710	Ft. MSL
B. Downstream Elevation of Reach	1130	Ft. MSL
C. Total Available Head in Reach	580	Ft.
D. Average Slope in Reach	53	Ft./Mi.
E. Drainage Area above Reach Mouth	452.6	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

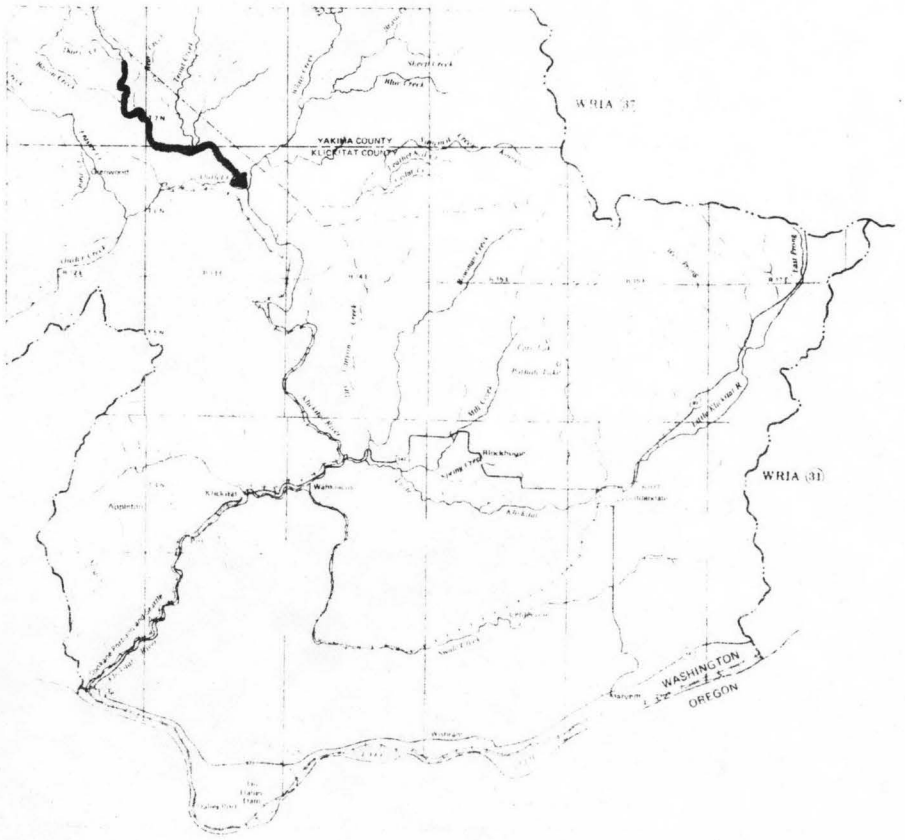
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	337	16.6	145	1.00
80	433	21.2	180	0.97
50	614	30.2	232	0.88
30	917	45.0	284	0.72
10	1750	85.8	353	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 865 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T7N R12E
D.	Latitude, Longitude	46°07' 121°17'
E.	Stream Name	Klickitat River
F.	Major Basin Name	Klickitat
G.	River Mile	50.0/53.5

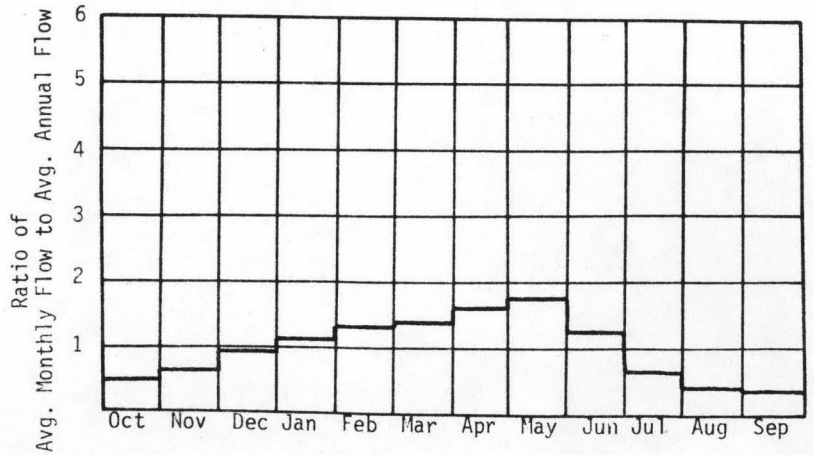
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

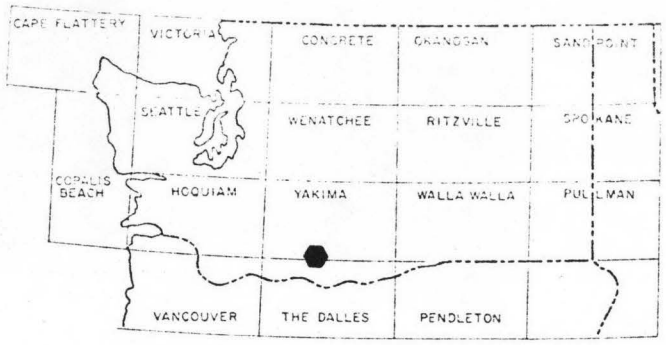
A.	Upstream Elevation of Reach	1980	Ft. MSL
B.	Downstream Elevation of Reach	1710	Ft. MSL
C.	Total Available Head in Reach	270	Ft.
D.	Average Slope in Reach	77	Ft./Mi.
E.	Drainage Area above Reach Mouth	364.5	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

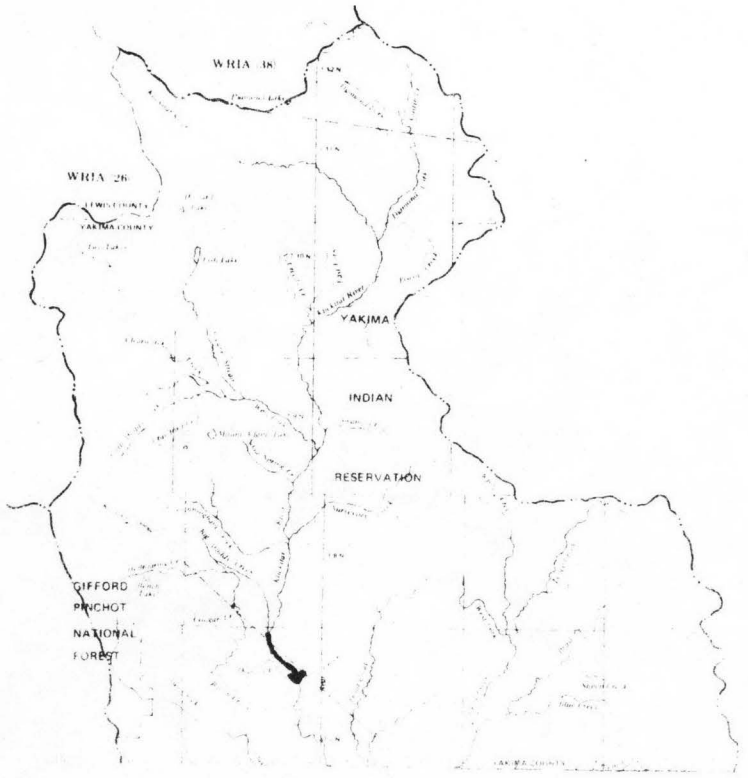
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	319	7.28	63.8	1.00
80	409	9.34	79.3	0.97
50	580	13.3	102	0.88
30	866	19.8	125	0.72
10	1650	37.7	155	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 817 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W30-1153

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T8N R12E
D.	Latitude, Longitude	46°12' 121°17'
E.	Stream Name	Klickitat River
F.	Major Basin Name	Klickitat
G.	River Mile	54.1/62.9

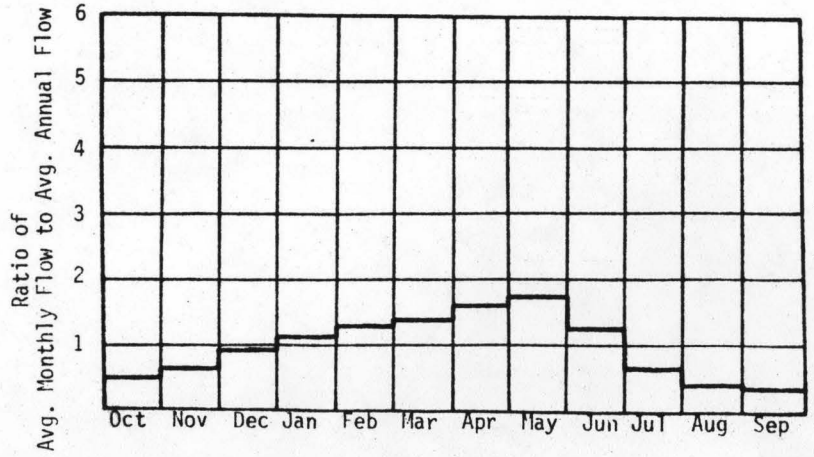
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

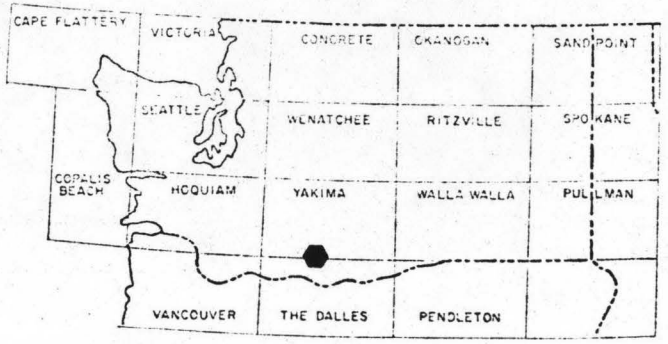
A.	Upstream Elevation of Reach	2540	Ft. MSL
B.	Downstream Elevation of Reach	2000	Ft. MSL
C.	Total Available Head in Reach	540	Ft.
D.	Average Slope in Reach	61	Ft./Mi.
E.	Drainage Area above Reach Mouth	322.2	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

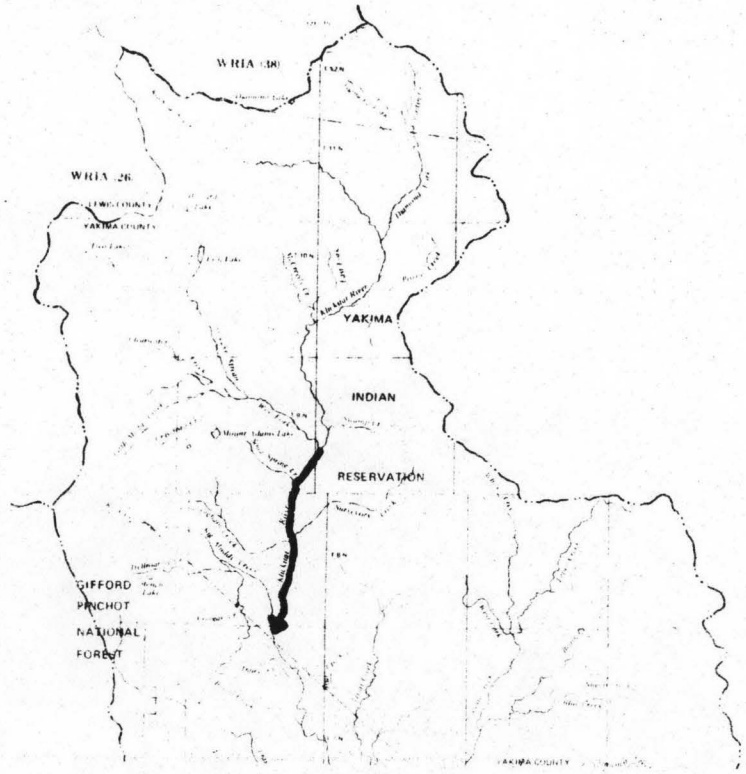
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	261	11.9	105	1.00
80	335	15.3	130	0.97
50	475	21.7	168	0.88
30	709	32.4	204	0.72
10	1351	61.8	254	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 669 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W30-1154

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0010

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T9N R13E	
D. Latitude, Longitude	46°15' 121°14'	
E. Stream Name	Klickitat River	
F. Major Basin Name	Klickitat	
G. River Mile	63.3/64.9	

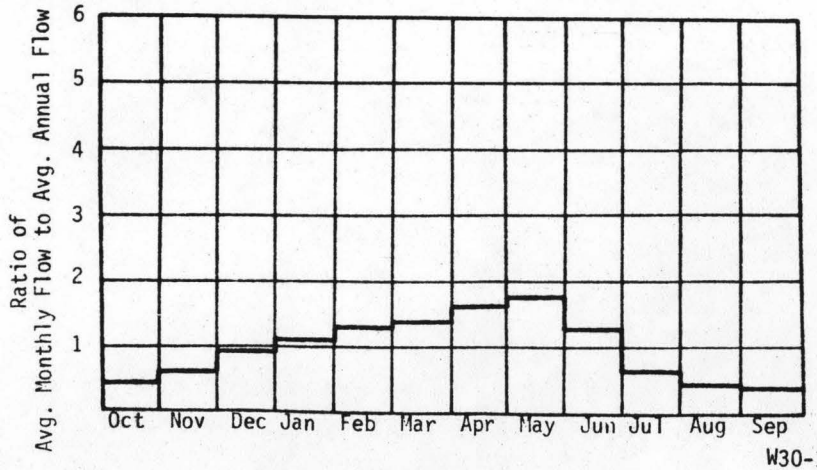
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2680	Ft. MSL
B. Downstream Elevation of Reach	2560	Ft. MSL
C. Total Available Head in Reach	120	Ft.
D. Average Slope in Reach	75	Ft./Mi.
E. Drainage Area above Reach Mouth	166.1	Sq.Mi.
F. Inflow Classification	Natural	

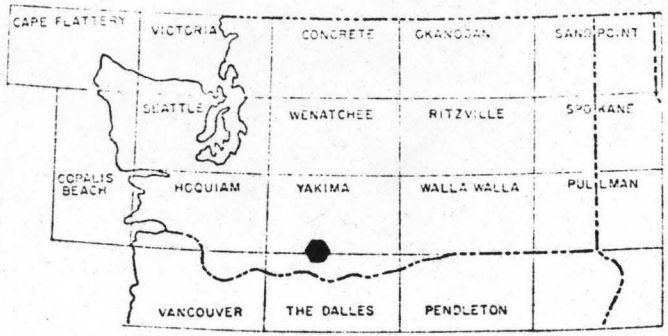
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	82.4	0.84	7.33	1.00
80	111	1.13	9.58	0.97
50	187	1.90	14.0	0.84
30	311	3.16	18.2	0.66
10	761	7.73	25.7	0.38

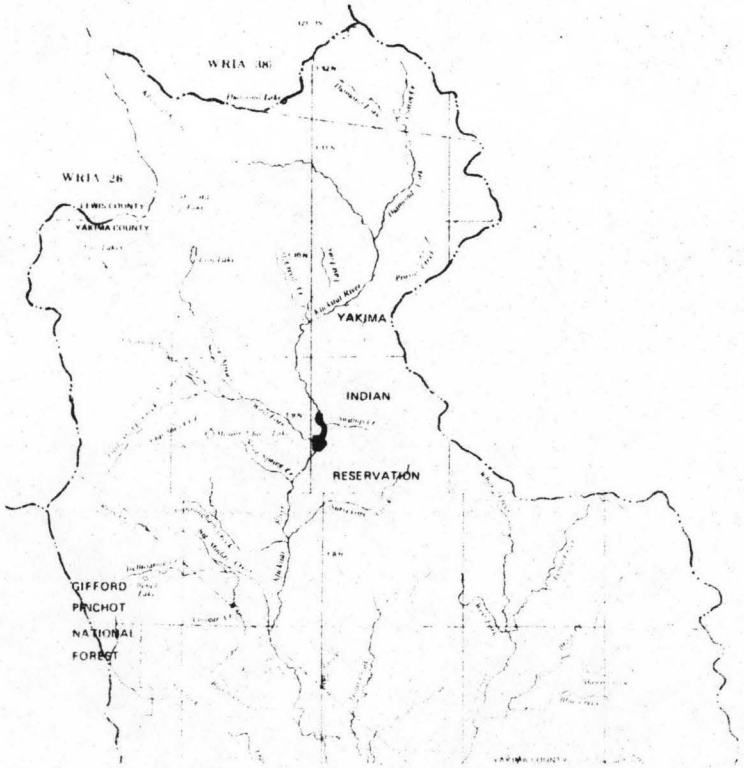
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 317 cfs



W30-1155



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0011

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T10N R12E	
D. Latitude, Longitude	46°19' 121°15'	
E. Stream Name	Klickitat River	
F. Major Basin Name	Klickitat	
G. River Mile	64.9/75.5	

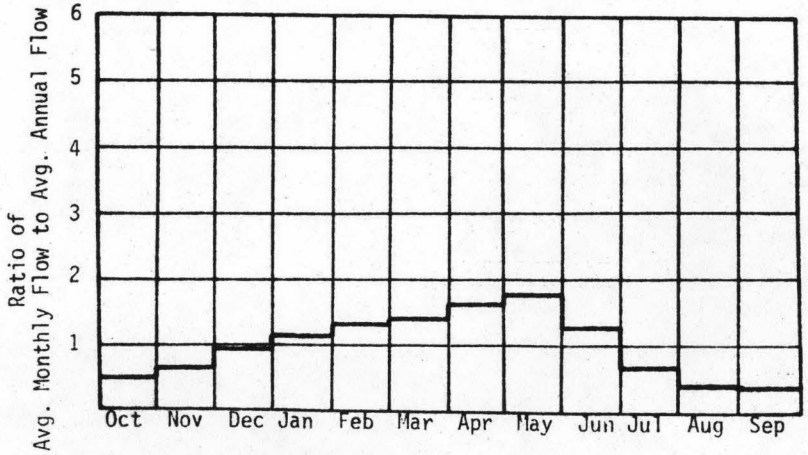
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

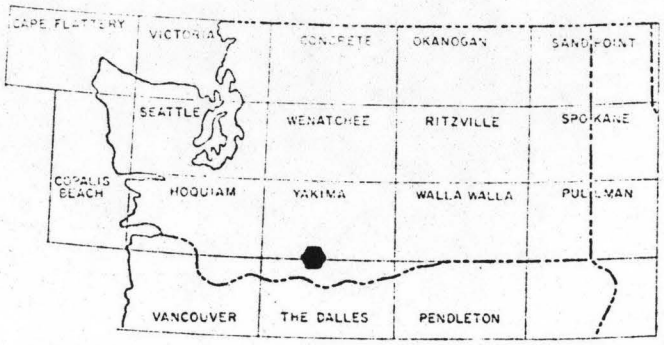
A. Upstream Elevation of Reach	3340	Ft. MSL
B. Downstream Elevation of Reach	2680	Ft. MSL
C. Total Available Head in Reach	660	Ft.
D. Average Slope in Reach	62	Ft./Mi.
E. Drainage Area above Reach Mouth	153.7	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

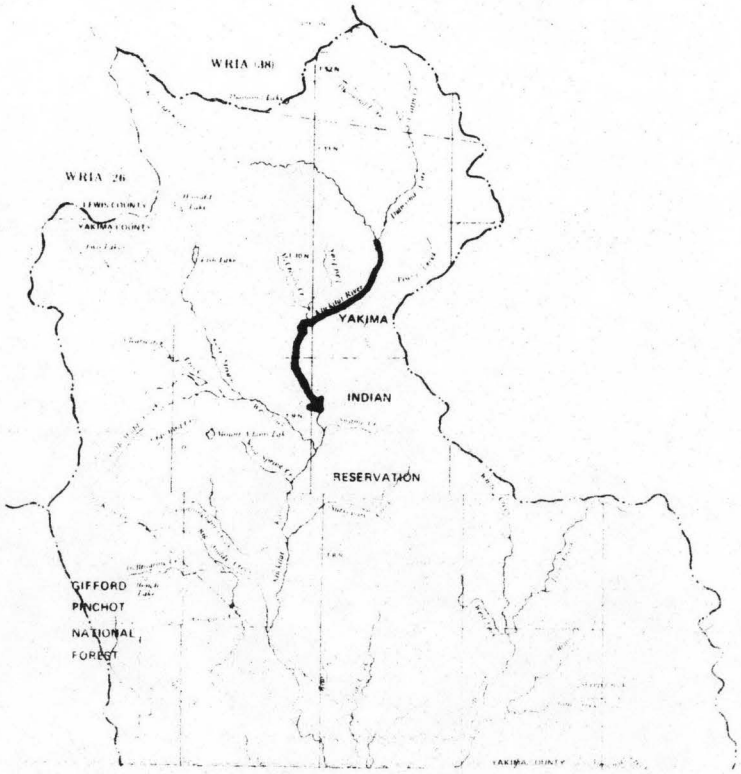
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	66.3	3.70	32.4	1.00
80	89.3	4.99	42.4	0.97
50	151	8.40	61.8	0.84
30	250	14.0	80.7	0.66
10	612	34.2	114	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 255 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

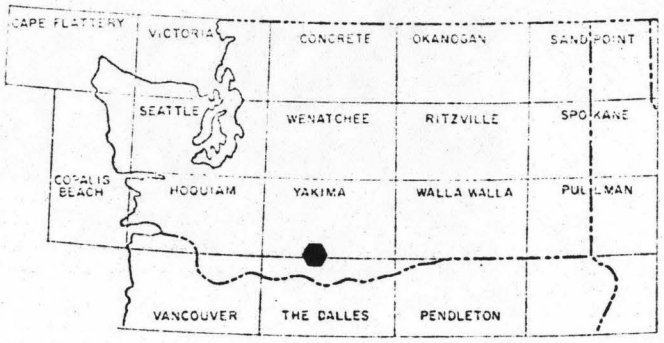


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T11N R13E
D.	Latitude, Longitude	46°25' 121°14'
E.	Stream Name	Klickitat Tiver
F.	Major Basin Name	Klickitat
G.	River Mile	75.5/85.2



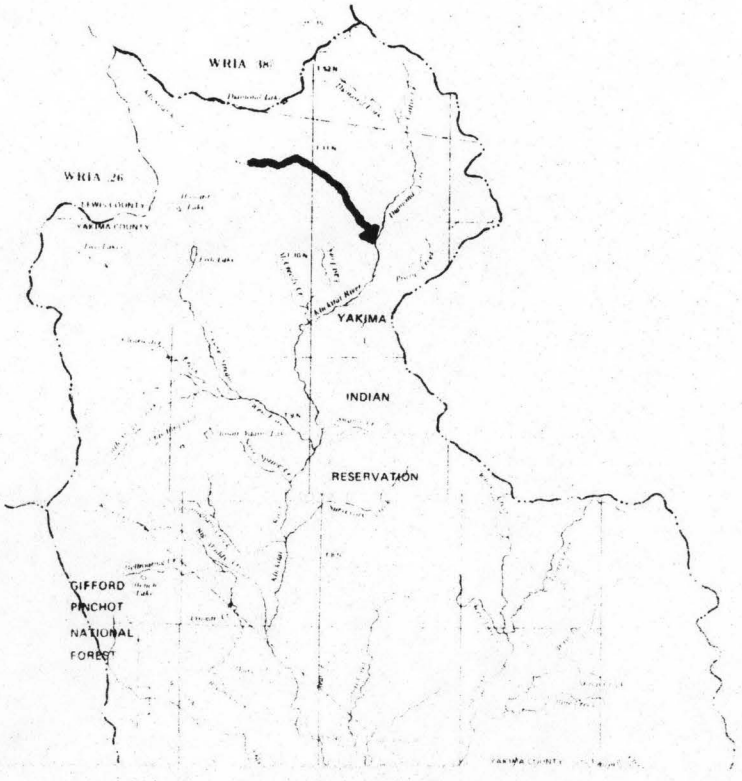
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	3630	Ft. MSL
B.	Downstream Elevation of Reach	3340	Ft. MSL
C.	Total Available Head in Reach	290 + 66 = 356	Ft.
D.	Average Slope in Reach	30	Ft./Mi.
E.	Drainage Area above Reach Mouth	43.2	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	21.1	0.63	5.56	1.00
80	28.4	0.85	7.26	0.97
50	47.8	1.44	10.6	0.84
30	79.4	2.39	13.8	0.66
10	194	5.86	19.5	0.38



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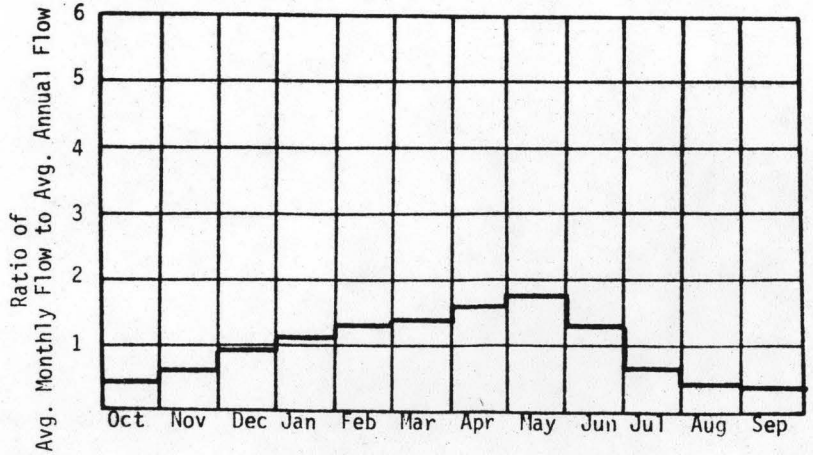
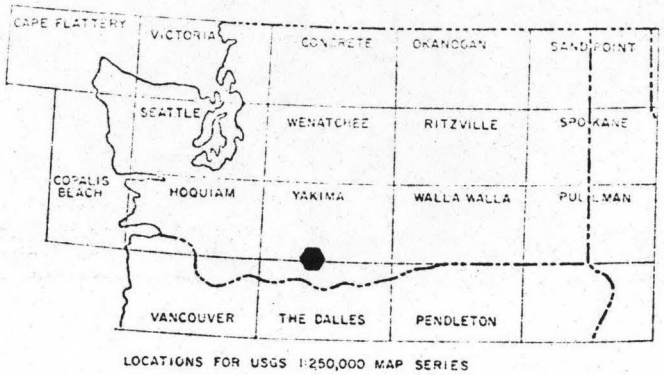
QMR = 81 cfs



W30-1157

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0013



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

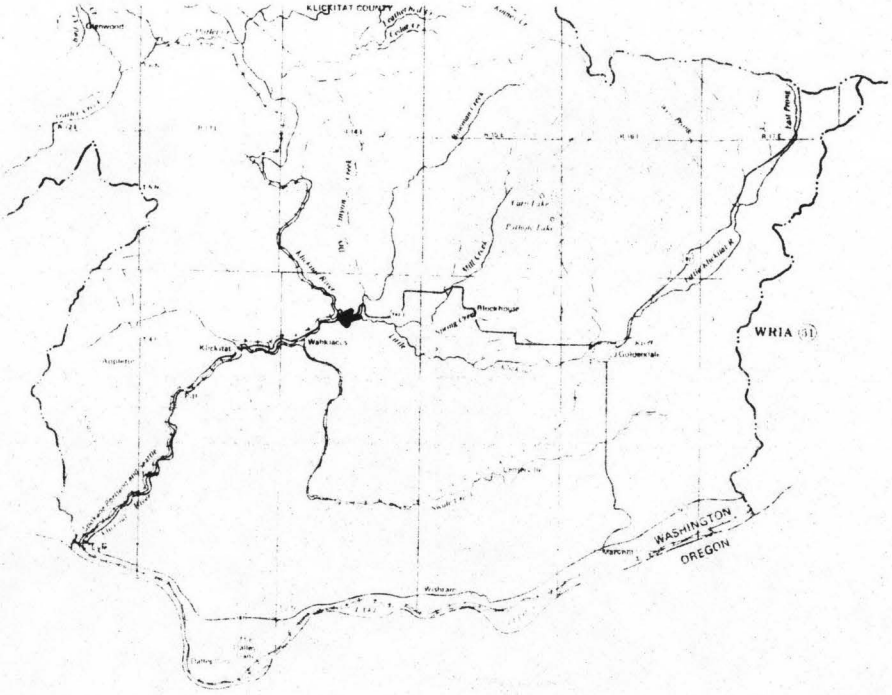
A. State	Washington	
B. County	Klickitat	
C. Township, Range	T4N R14E	
D. Latitude, Longitude	45°50' 121°03'	
E. Stream Name	Little Klickitat	
F. Major Basin Name	Klickitat	
G. River Mile	0.0/1.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

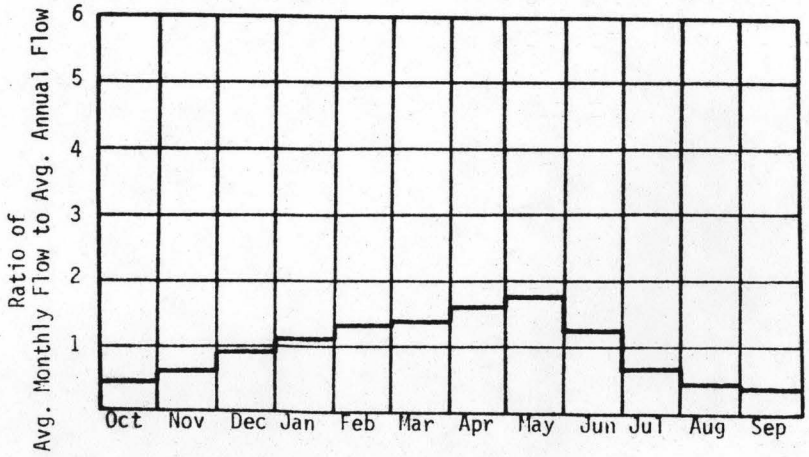
A. Upstream Elevation of Reach	620	Ft. MSL
B. Downstream Elevation of Reach	560	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	55	Ft./Mi.
E. Drainage Area above Reach Mouth	288.8	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.0	0.10	0.89	1.00
80	31.6	0.15	1.34	0.95
50	68.3	0.35	2.37	0.78
30	164	0.84	4.11	0.56
10	385	1.95	5.99	0.35



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 166.5 cfs

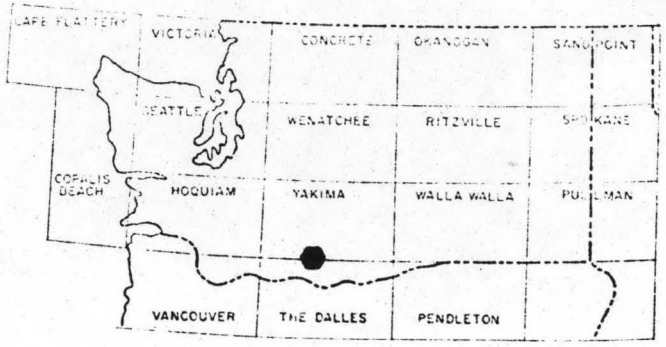


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0014

I. LOCATION

A. State	Washington	
B. County	Klickitat	
C. Township, Range	T4N R14E	
D. Latitude, Longitude	45°50' 121°03'	
E. Stream Name	Little Klickitat Riv.	
F. Major Basin Name	Klickitat	
G. River Mile	1.1/3.5	



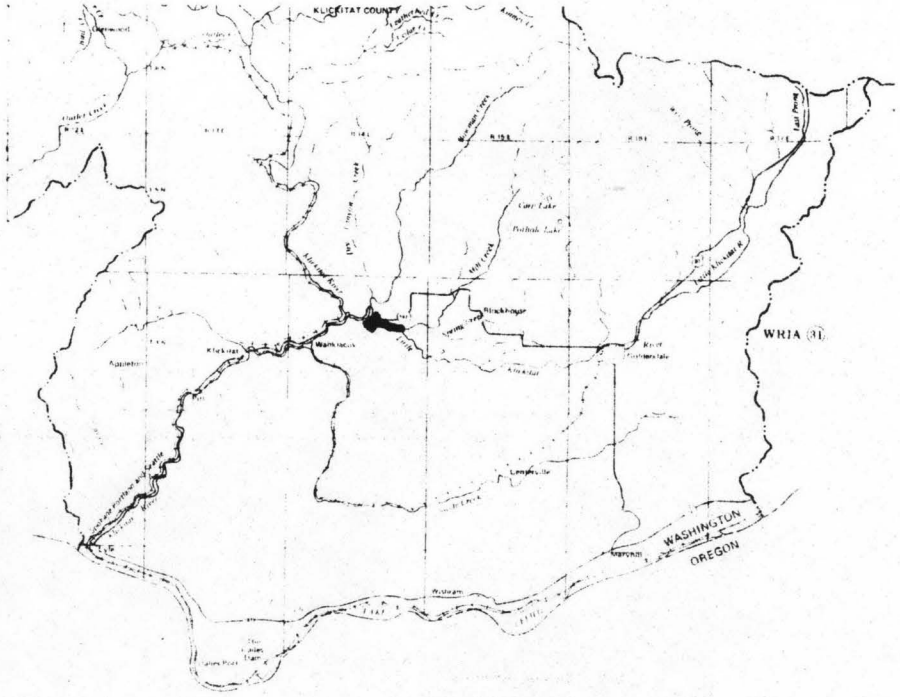
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

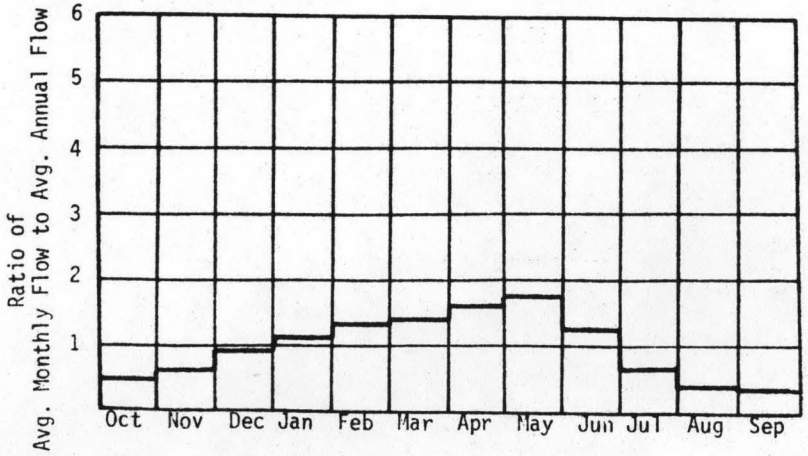
A. Upstream Elevation of Reach	780	Ft. MSL
B. Downstream Elevation of Reach	620	Ft. MSL
C. Total Available Head in Reach	160	Ft.
D. Average Slope in Reach	67	Ft./Mi.
E. Drainage Area above Reach Mouth	222.9	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.9	0.20	1.77	1.00
80	23.7	0.32	2.67	0.95
50	51.1	0.63	4.72	0.78
30	123	1.57	8.19	0.56
10	288	3.89	11.9	0.35

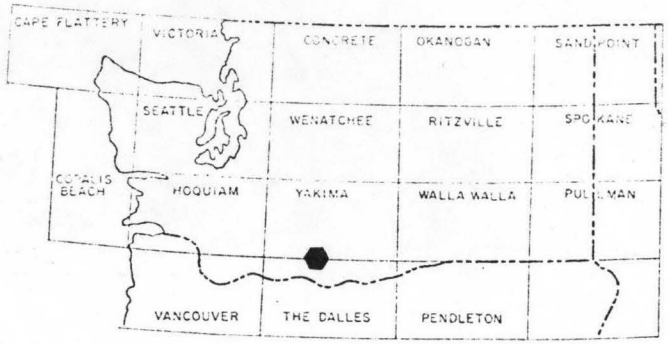


IV. TYPICAL ANNUAL HYDROGRAPH QMR = 124.5 cfs



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0015



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T4N R14E
D.	Latitude, Longitude	45°49' 120°59'
E.	Stream Name	Little Klickitat Riv.
F.	Major Basin Name	Klickitat
G.	River Mile	3.5/8.6

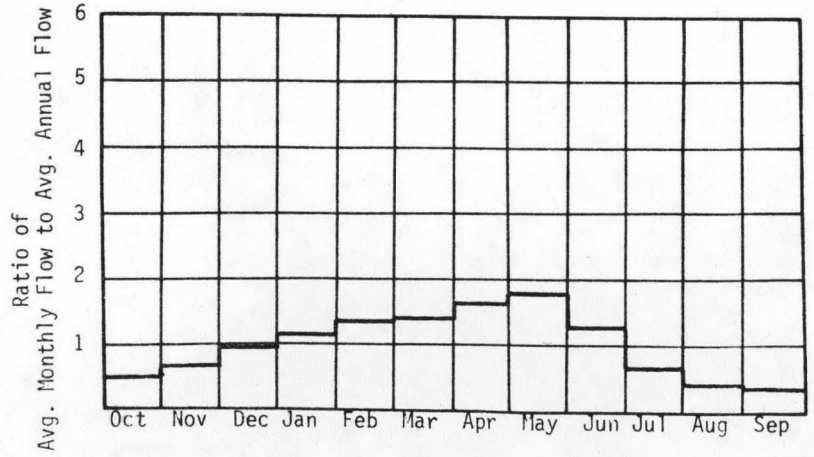
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

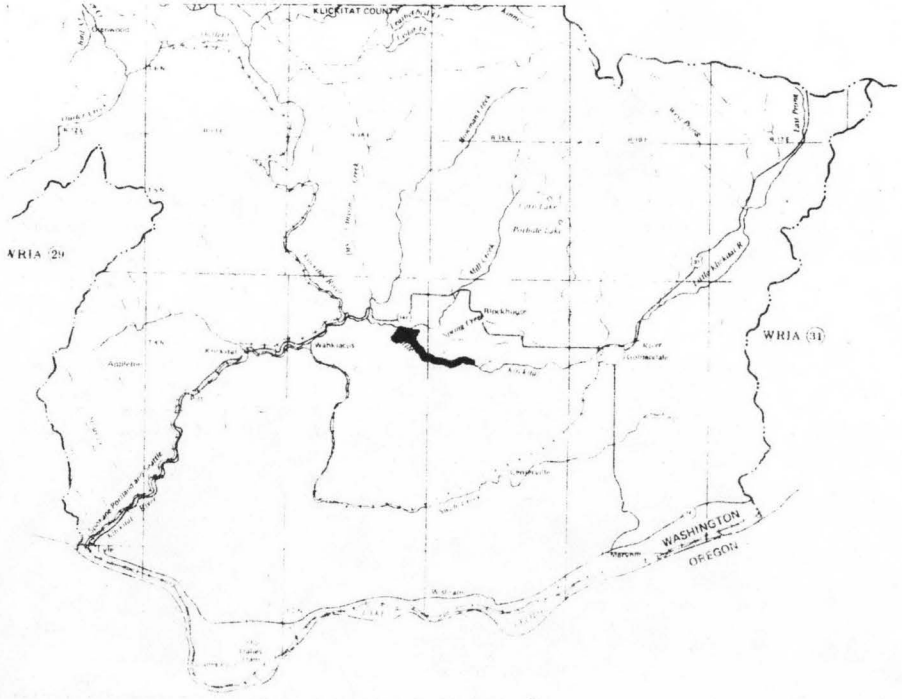
A.	Upstream Elevation of Reach	1320	Ft. MSL
B.	Downstream Elevation of Reach	780	Ft. MSL
C.	Total Available Head in Reach	540 + 66 = 660	Ft.
D.	Average Slope in Reach	99	Ft./Mi.
E.	Drainage Area above Reach Mouth	178.3	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.5	0.59	5.18	1.00
80	18.2	0.94	7.79	0.95
50	39.4	2.02	13.8	0.78
30	95.0	4.78	23.9	0.56
10	222	11.4	34.9	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 96 cfs





W30-1160

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0016

I. LOCATION

A. State	Washington	
B. County	Klickitat	
C. Township, Range	T6N R13E	
D. Latitude, Longitude	46°02' 121°07'	
E. Stream Name	White Creek	
F. Major Basin Name	Klickitat	
G. River Mile	0.0/5.3	

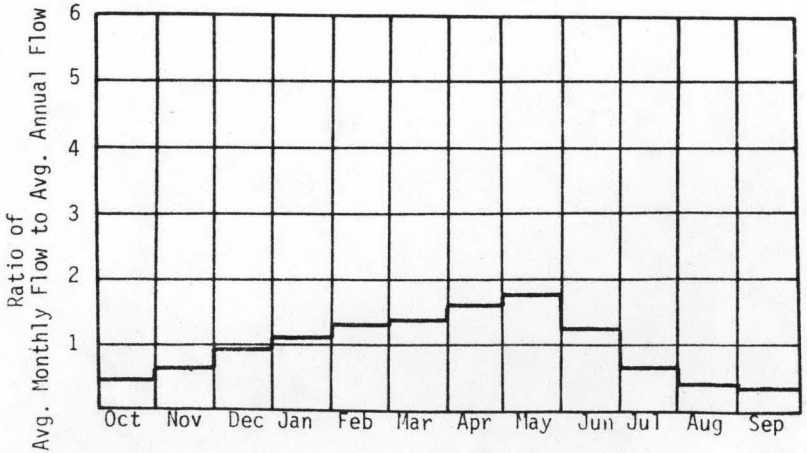
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

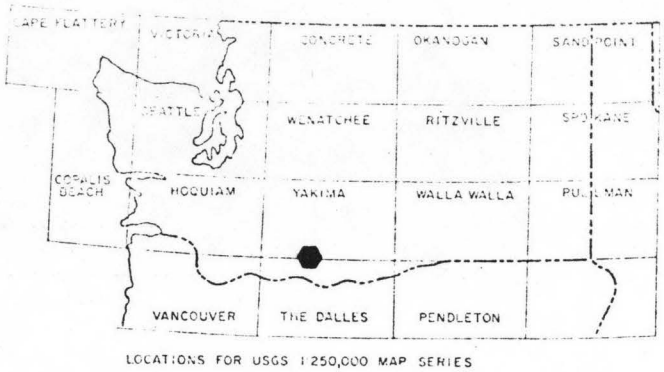
A. Upstream Elevation of Reach	1895	Ft. MSL
B. Downstream Elevation of Reach	1110	Ft. MSL
C. Total Available Head in Reach	785	Ft.
D. Average Slope in Reach	148	Ft./Mi.
E. Drainage Area above Reach Mouth	131.3	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

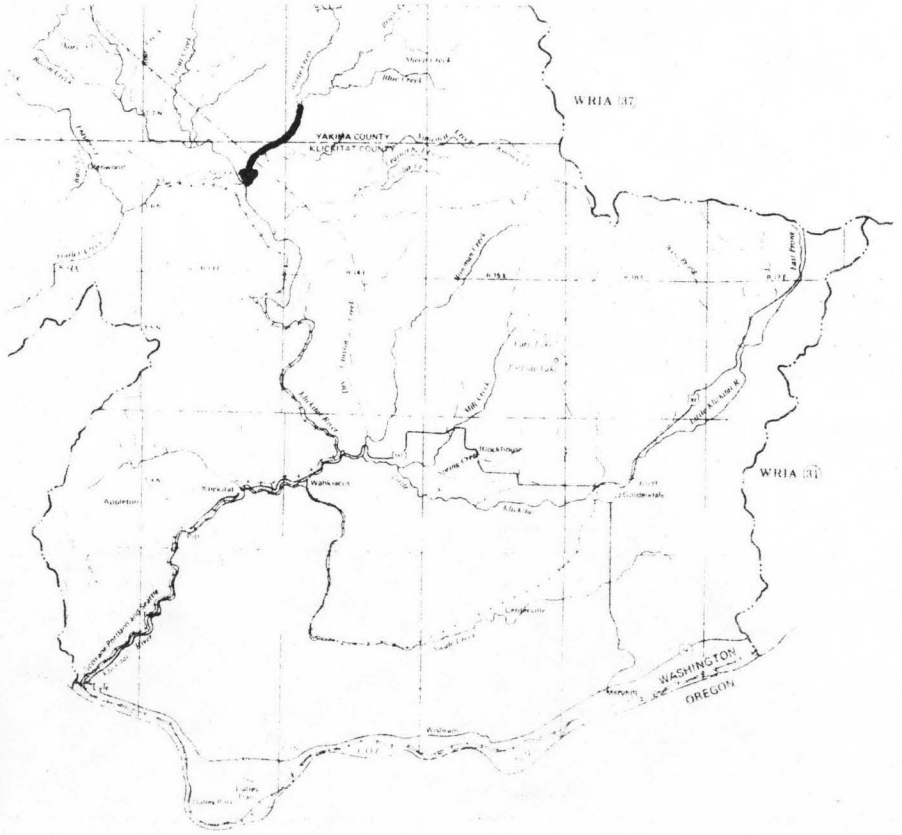
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.0	0.93	8.17	1.00
80	22.2	1.48	12.3	0.95
50	48.0	3.19	21.7	0.78
30	116	7.70	37.8	0.56
10	270	18.0	55.1	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 117 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0017

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T7N R14E
D.	Latitude, Longitude	46°06' 121°06'
E.	Stream Name	White Creek
F.	Major Basin Name	Klickitat
G.	River Mile	5.3/10.6

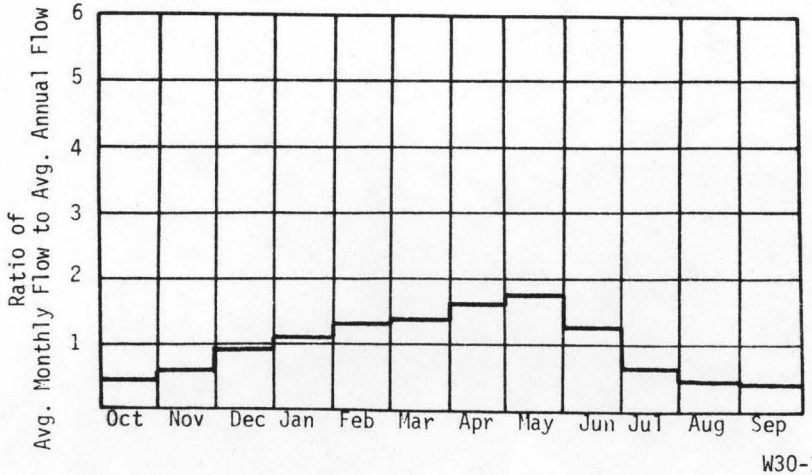
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

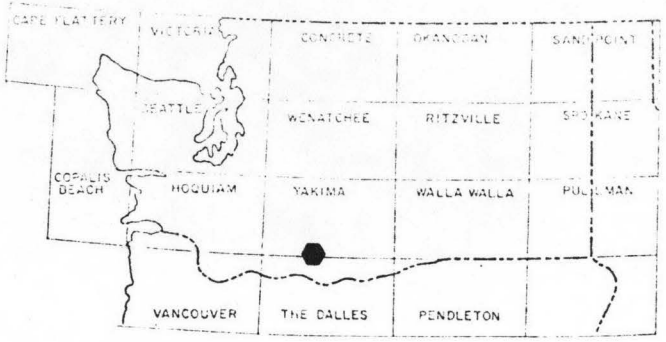
A.	Upstream Elevation of Reach	2535	Ft. MSL
B.	Downstream Elevation of Reach	1895	Ft. MSL
C.	Total Available Head in Reach	640 + 66 = 706	Ft.
D.	Average Slope in Reach	121	Ft./Mi.
E.	Drainage Area above Reach Mouth	59.4	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

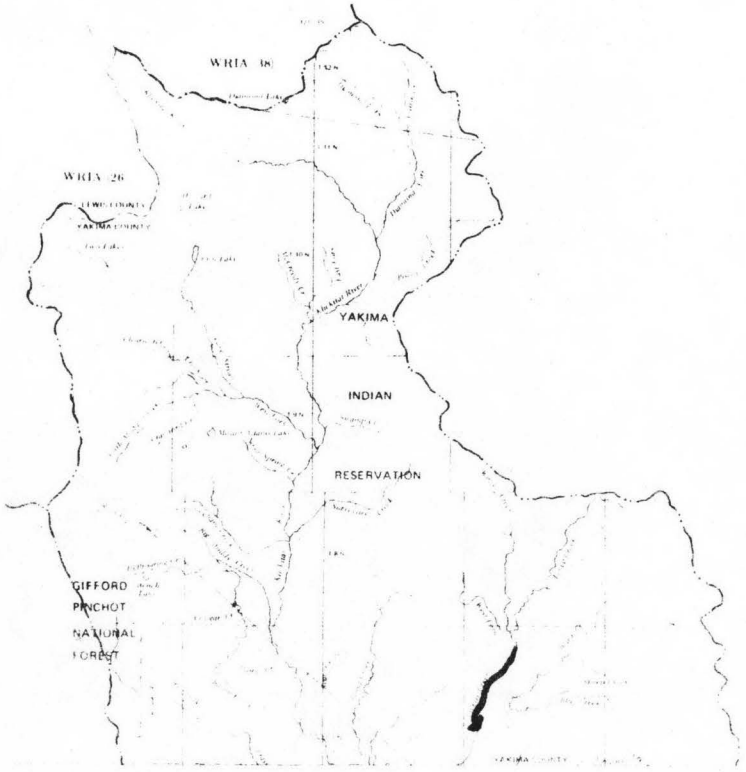
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	7.02	0.42	3.67	1.00
80	13.5	0.81	6.64	0.94
50	28.1	1.68	11.5	0.78
30	56.7	3.39	17.5	0.59
10	140	8.35	26.4	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 54 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W30-1162

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0018

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T7N R14E
D.	Latitude, Longitude	46°05' 121°05'
E.	Stream Name	Brush Creek
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/2.3

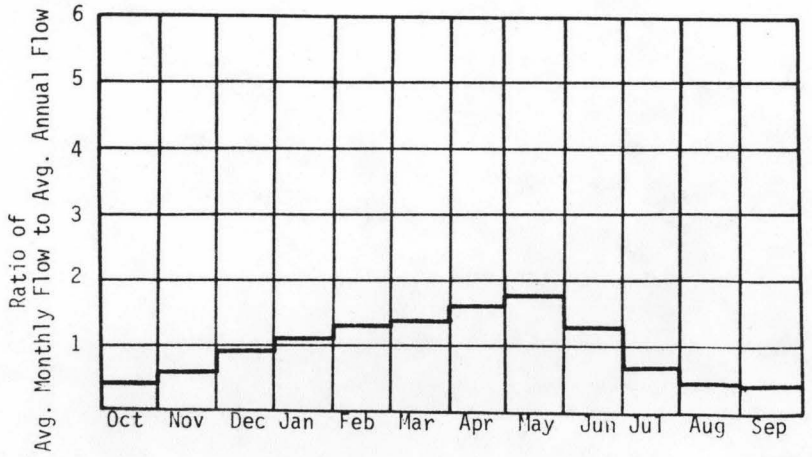
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

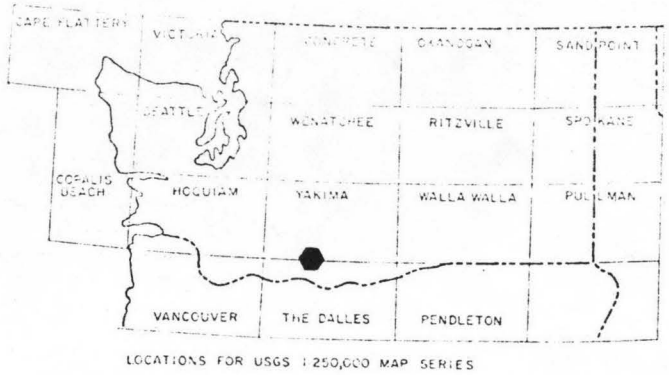
A.	Upstream Elevation of Reach	2230	Ft. MSL
B.	Downstream Elevation of Reach	1895	Ft. MSL
C.	Total Available Head in Reach	235 + 66 = 301	Ft.
D.	Average Slope in Reach	102	Ft./Mi.
E.	Drainage Area above Reach Mouth	57.3	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

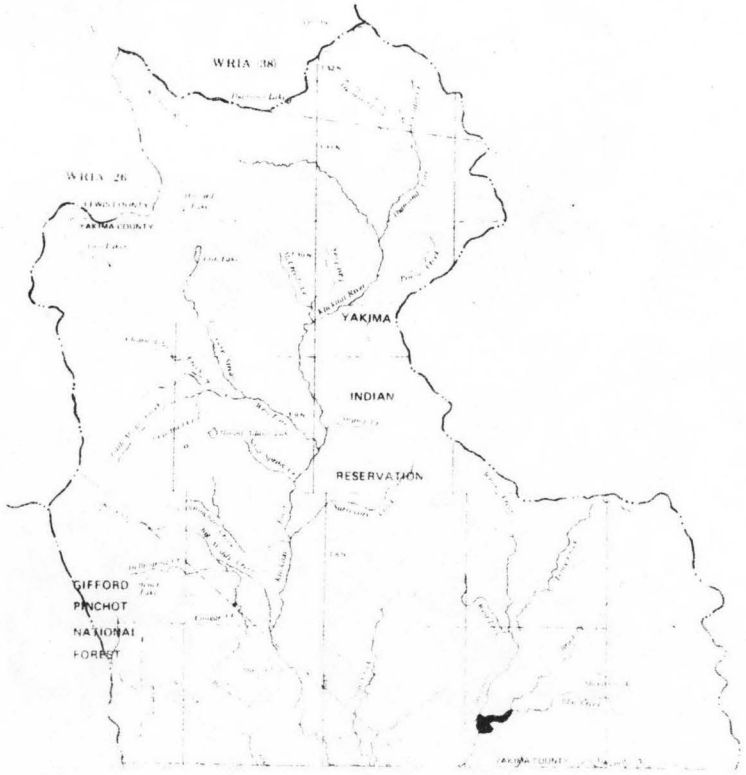
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.06	0.15	1.35	1.00
80	9.60	0.24	2.03	0.95
50	20.7	0.53	3.60	0.78
30	50.0	1.27	6.25	0.56
10	117	2.97	9.11	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 50.5 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



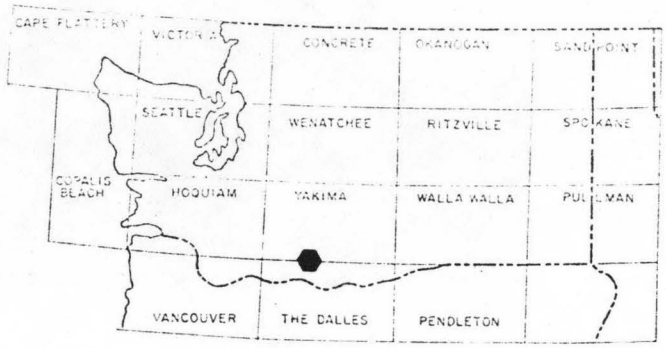
W30-1163

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0019

I. LOCATION

A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T6N R13E
D.	Latitude, Longitude	46°01' 121°10'
E.	Stream Name	Outlet Falls
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/3.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

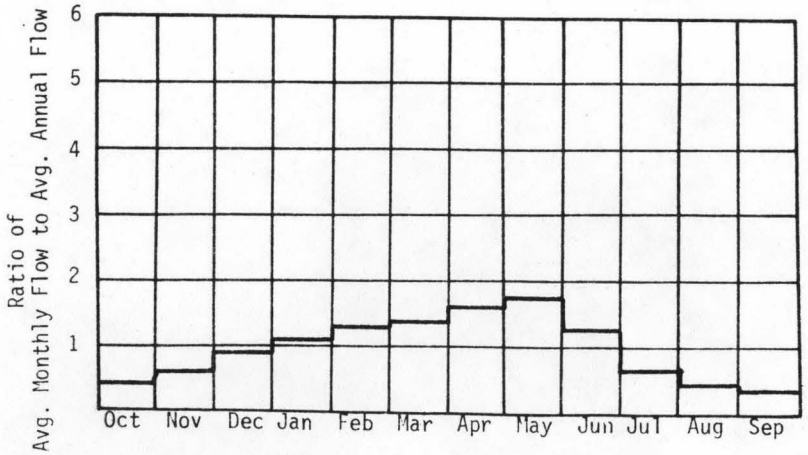
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

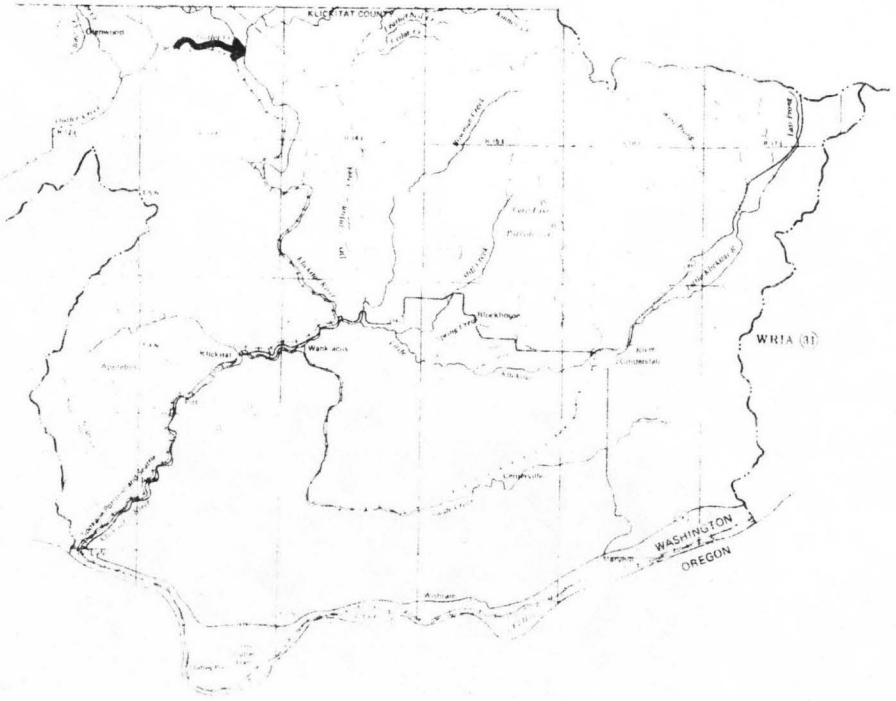
A.	Upstream Elevation of Reach	1790	Ft. MSL
B.	Downstream Elevation of Reach	1130	Ft. MSL
C.	Total Available Head in Reach	660	Ft.
D.	Average Slope in Reach	169	Ft./Mi.
E.	Drainage Area above Reach Mouth	125.9	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	63.6	3.55	31.1	1.00
80	81.5	4.55	38.7	0.97
50	116	6.46	49.8	0.88
30	173	9.65	60.9	0.72
10	329	18.4	75.7	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 163 cfs





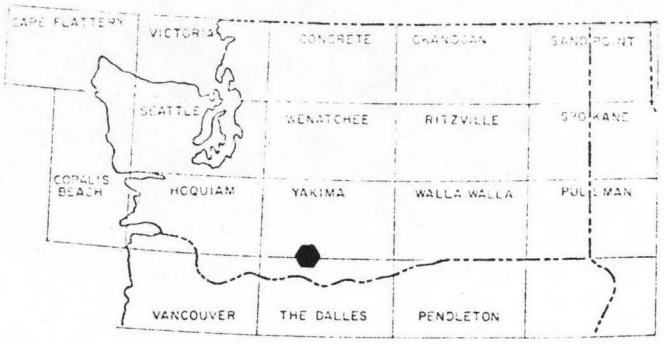
W30-1164

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0020

I. LOCATION

A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T6N R13E
D.	Latitude, Longitude	46°00' 131°14'
E.	Stream Name	Outlet Creek
F.	Major Basin Name	Klickitat
G.	River Mile	4.5/7.5



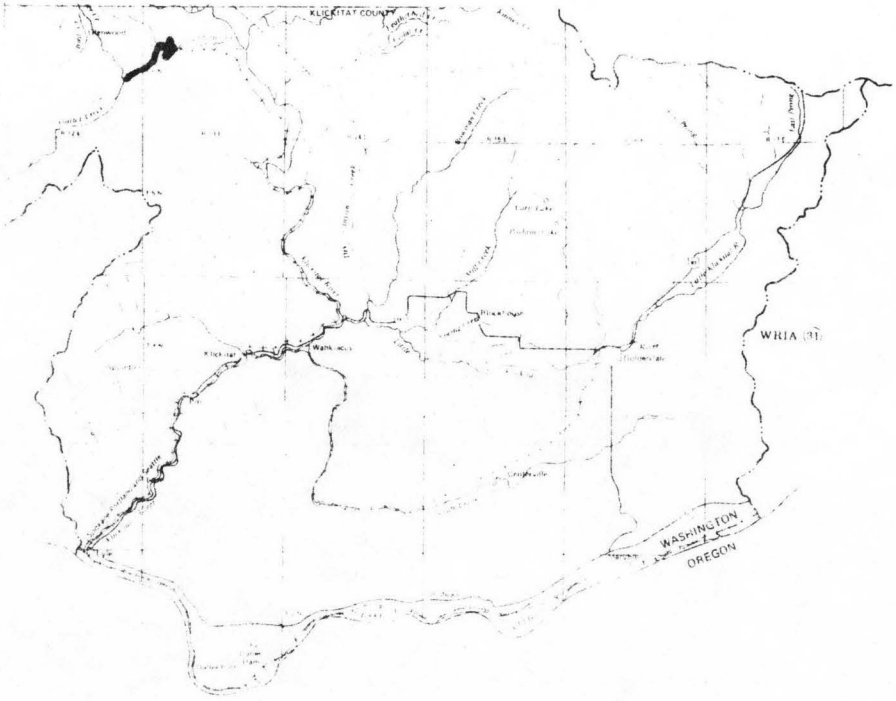
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

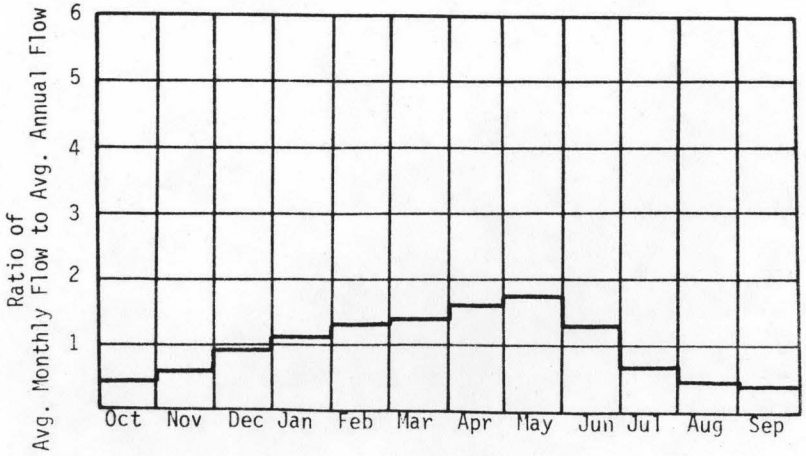
A.	Upstream Elevation of Reach	1815	Ft. MSL
B.	Downstream Elevation of Reach	1804	Ft. MSL
C.	Total Available Head in Reach	11	Ft.
D.	Average Slope in Reach	4.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	117	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	58.5	0.05	0.48	1.00
80	75.0	0.07	0.54	0.97
50	107	0.10	0.76	0.88
30	159	0.15	0.93	0.72
10	303	0.28	1.16	0.47



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 150 cfs

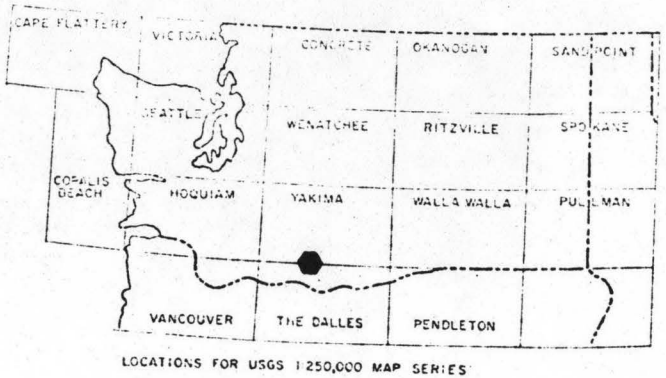


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0021

I. LOCATION

A.	State	Washington
B.	County	Klickitat
C.	Township, Range	T6N R12E
D.	Latitude, Longitude	46°00' 121°15'
E.	Stream Name	Outlet Falls
F.	Major Basin Name	Klickitat
G.	River Mile	7.5/7.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

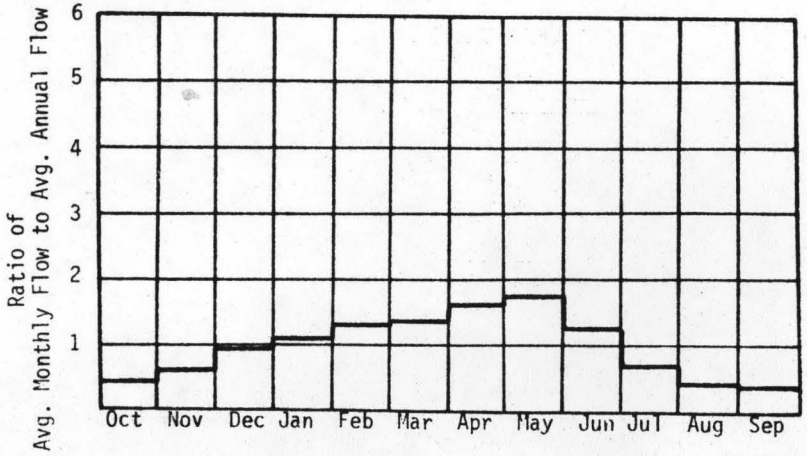
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

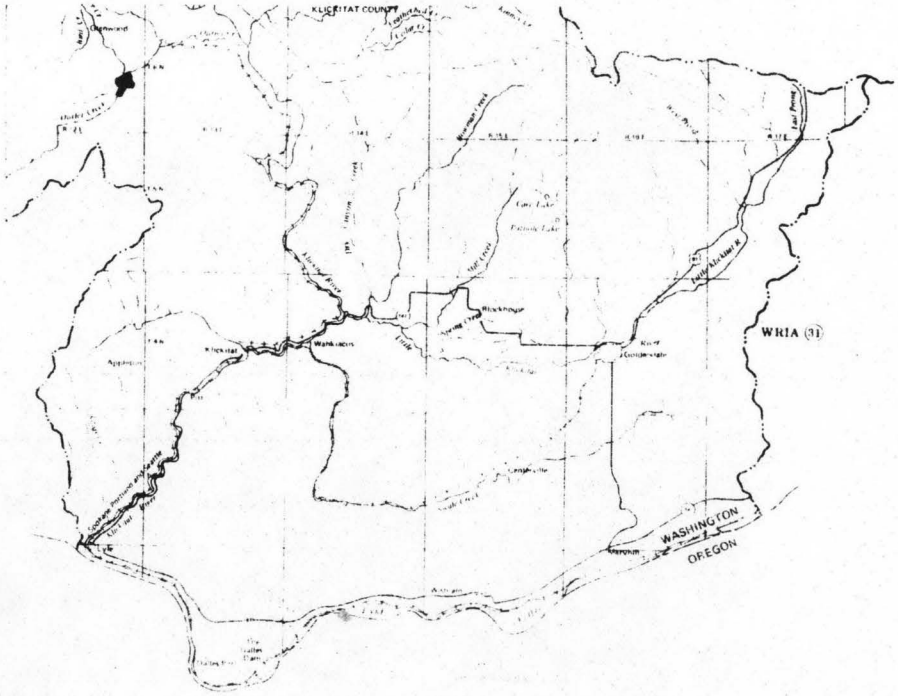
A.	Upstream Elevation of Reach	1815	Ft. MSL
B.	Downstream Elevation of Reach	1815	Ft. MSL
C.	Total Available Head in Reach	0 + 66 = 66	Ft.
D.	Average Slope in Reach	--	Ft./Mi.
E.	Drainage Area above Reach Mouth	42.4	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.3	0.11	0.99	1.00
80	26.0	0.15	1.23	0.97
50	36.9	0.21	1.59	0.88
30	55.1	0.31	1.94	0.72
10	105	0.59	2.42	0.47

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 52 cfs



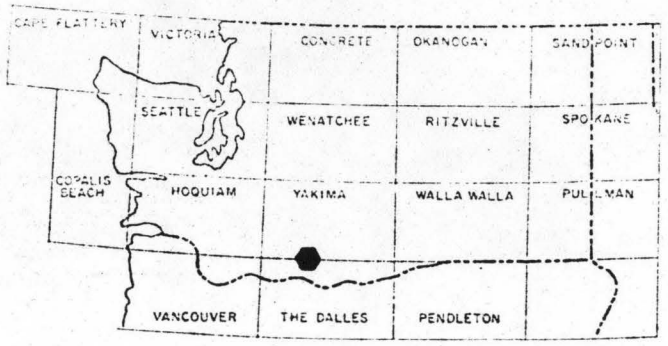


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0022

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T8N R12E
D.	Latitude, Longitude	46°09' 121°17'
E.	Stream Name	Muddy Creek
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/3.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

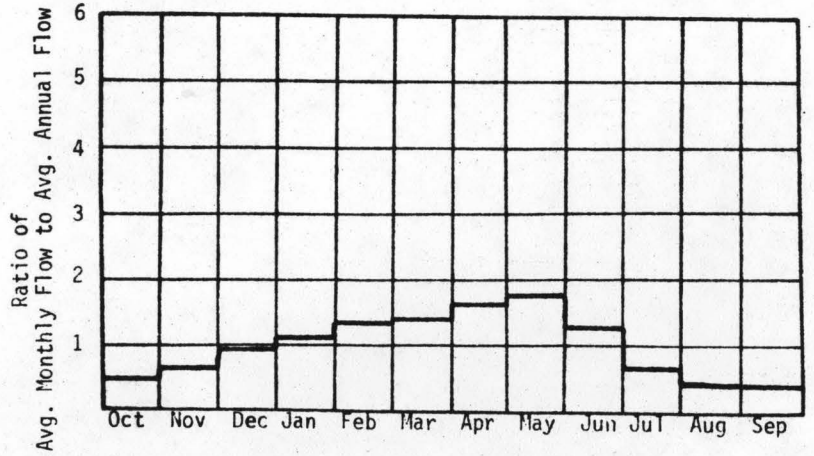
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

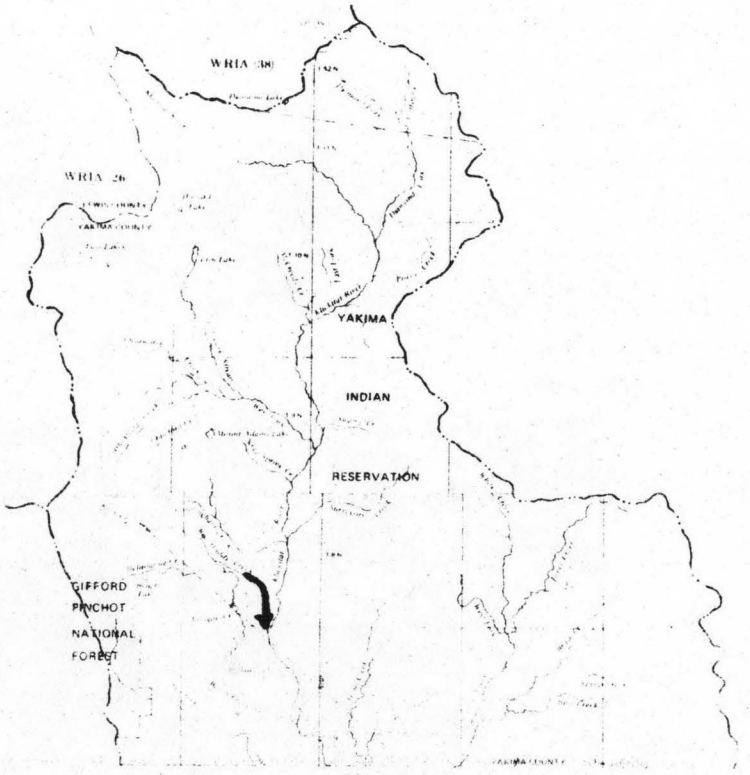
A.	Upstream Elevation of Reach	2960	Ft. MSL
B.	Downstream Elevation of Reach	1980	Ft. MSL
C.	Total Available Head in Reach	980	Ft.
D.	Average Slope in Reach	251	Ft./Mi.
E.	Drainage Area above Reach Mouth	32.3	Sq.Mi.
F.	Inflow Classification	Diversion	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	35.3	2.93	25.7	1.00
80	48.2	3.99	33.9	0.97
50	67.4	5.59	43.1	0.88
30	101	8.34	52.6	0.72
10	214	17.8	68.4	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 107 cfs





W30-1167

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0023

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T8N R12E
D.	Latitude, Longitude	46°10' 121°20'
E.	Stream Name	Muddy Creek
F.	Major Basin Name	Klickitat
G.	River Mile	3.9/5.1

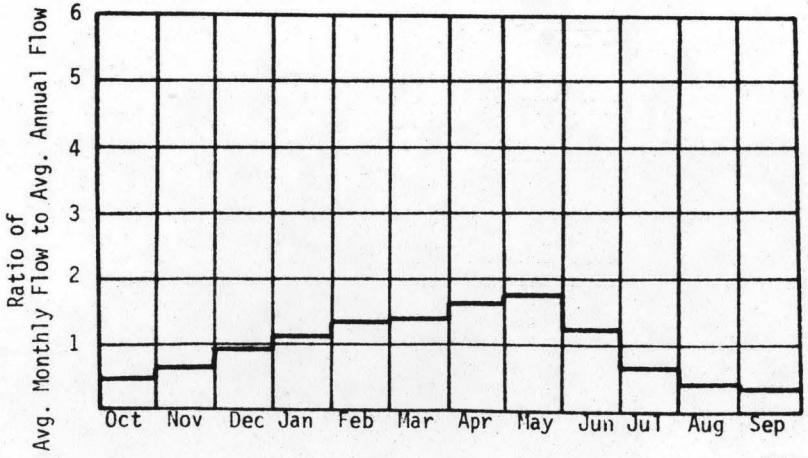
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

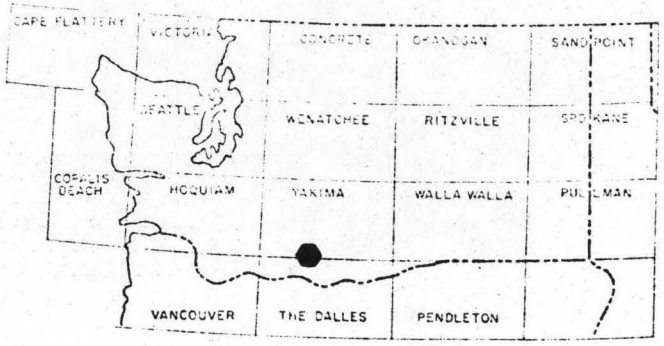
A.	Upstream Elevation of Reach	3310	Ft. MSL
B.	Downstream Elevation of Reach	2960	Ft. MSL
C.	Total Available Head in Reach	350 + 66 = 416	Ft.
D.	Average Slope in Reach	292	Ft./Mi.
E.	Drainage Area above Reach Mouth	14.2	Sq.Mi.
F.	Inflow Classification	Diversion	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

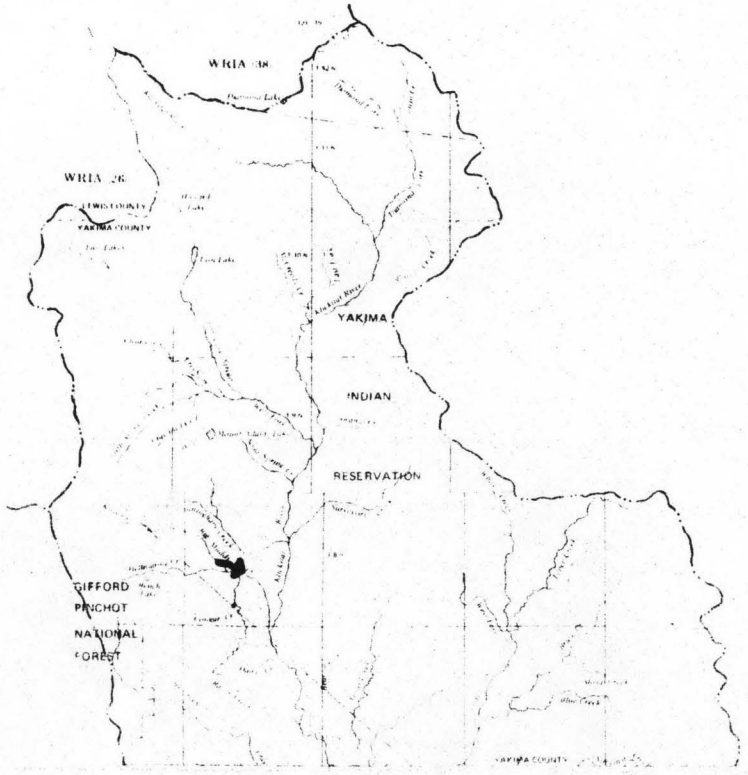
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.5	0.69	6.01	1.00
80	26.6	0.93	7.94	0.97
50	37.2	1.31	10.1	0.88
30	55.5	1.95	12.3	0.72
10	118	4.15	16.0	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 59 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W30-1168

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0024

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T9N R12E
D.	Latitude, Longitude	46°16' 121°17'
E.	Stream Name	W.F. Klickitat Riv.
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/4.5

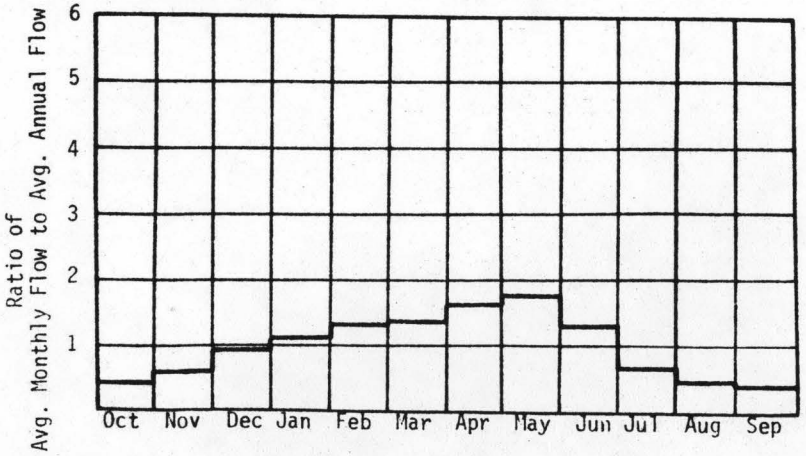
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

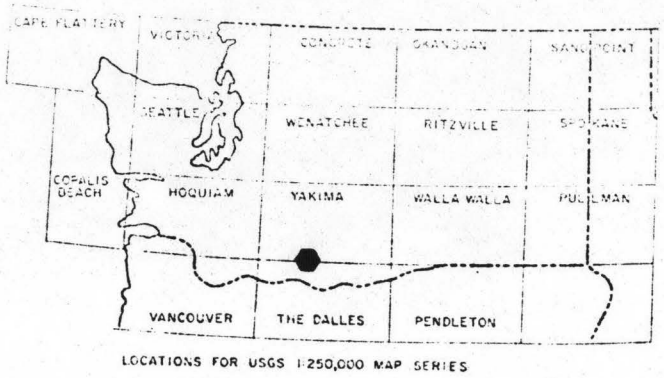
A.	Upstream Elevation of Reach	3020	Ft. MSL
B.	Downstream Elevation of Reach	2540	Ft. MSL
C.	Total Available Head in Reach	480	Ft.
D.	Average Slope in Reach	107	Ft./Mi.
E.	Drainage Area above Reach Mouth	92.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

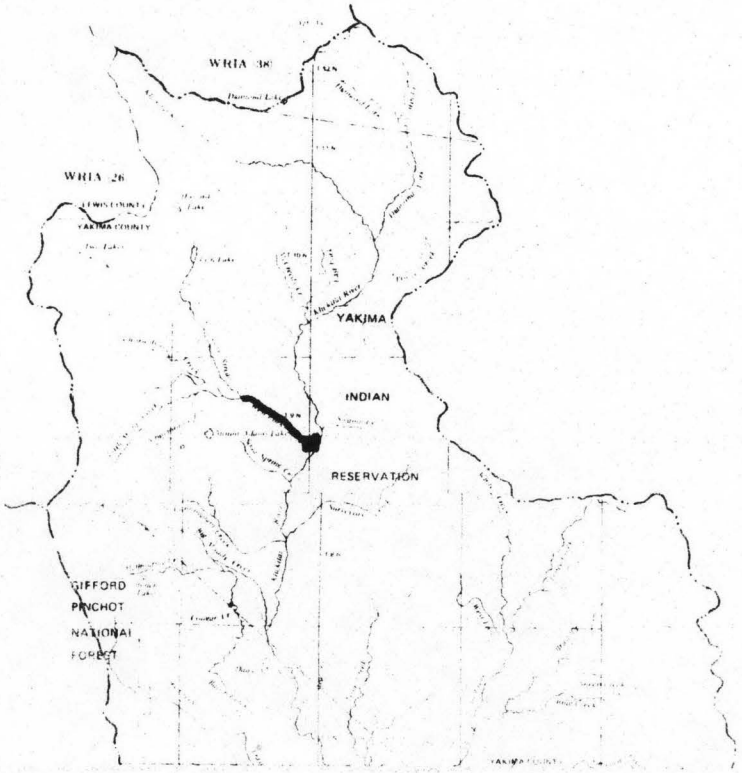
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	131	5.33	46.7	1.00
80	180	7.31	62.1	0.97
50	241	9.79	76.3	0.89
30	311	12.6	86.4	0.78
10	573	23.3	104	0.51

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 305 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W30-1169

REACH HYDRO POTENTIAL CHARACTERISTICS

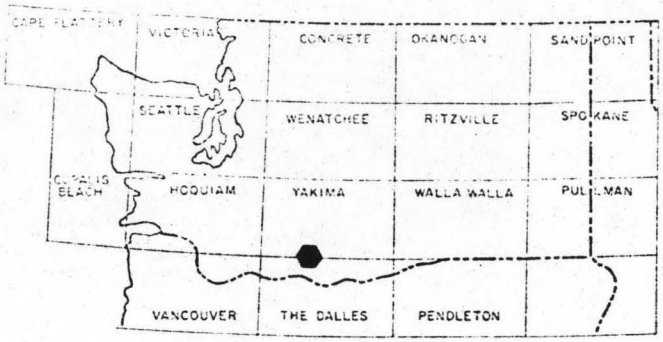
REACH # 01-500-160-000-000-R0025

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T10N R12E	
D. Latitude, Longitude	46°16' 121°20'	
E. Stream Name	Fish Lake Stream	
F. Major Basin Name	Klickitat	
G. River Mile	4.5/11.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3700	Ft. MSL
B. Downstream Elevation of Reach	3020	Ft. MSL
C. Total Available Head in Reach	680 + 66 = 746	Ft.
D. Average Slope in Reach	103	Ft./Mi.
E. Drainage Area above Reach Mouth	49.5	Sq.Mi.
F. Inflow Classification	Natural	

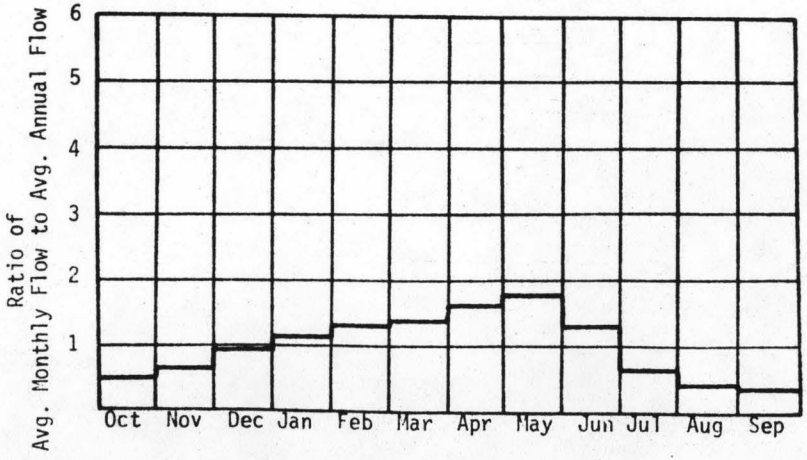


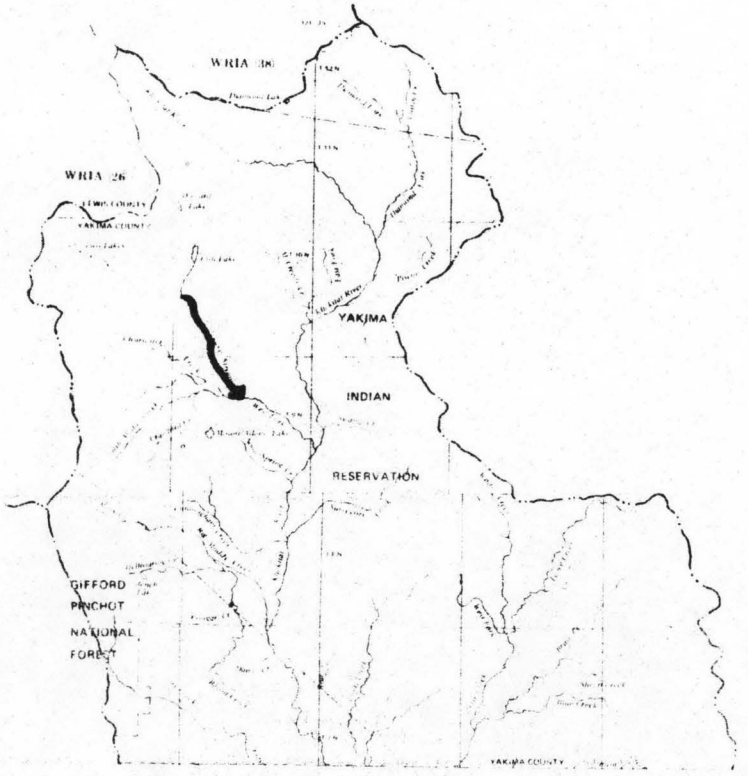
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	50.3	3.18	27.8	1.00
80	69.0	4.36	37.0	0.97
50	92.4	5.84	45.5	0.89
30	119	7.54	51.5	0.78
10	220	13.9	62.1	0.51

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 117 cfs





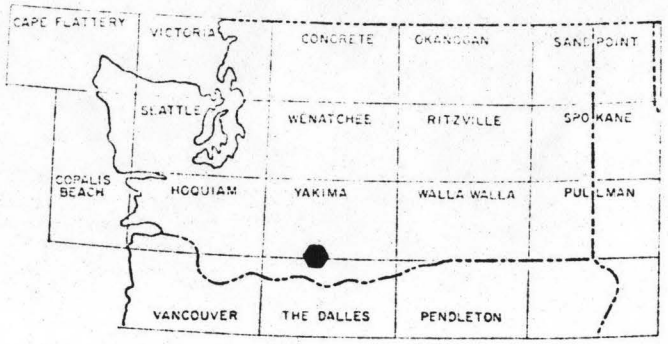
W30-1170

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0026

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T9N R12E
D.	Latitude, Longitude	46°16' 121°20'
E.	Stream Name	W.F. Klickitat Riv.
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/0.8



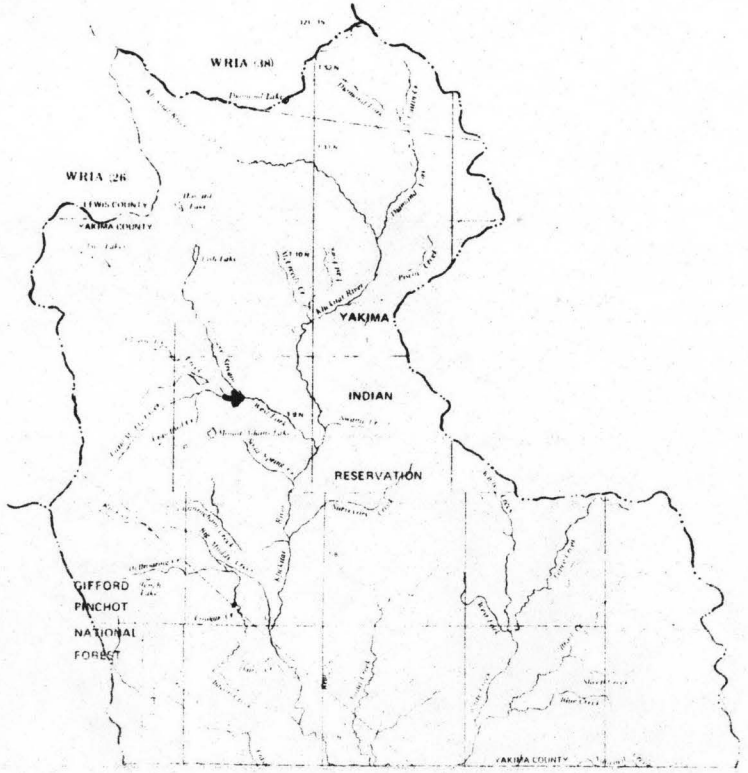
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

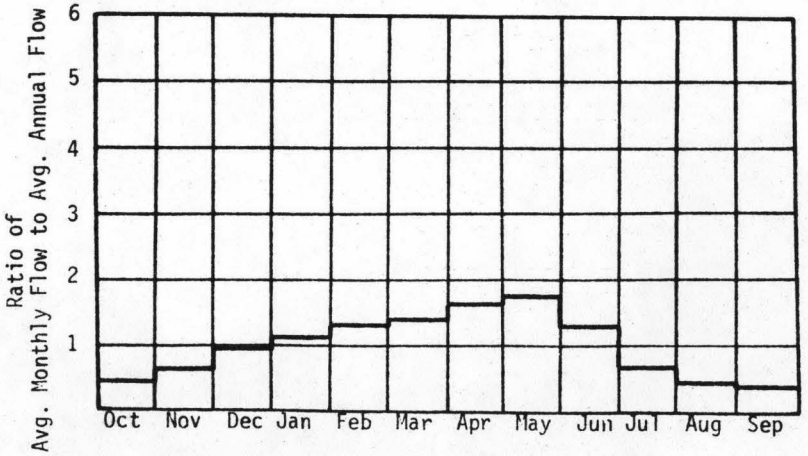
A.	Upstream Elevation of Reach	3110	Ft. MSL
B.	Downstream Elevation of Reach	3020	Ft. MSL
C.	Total Available Head in Reach	90	Ft.
D.	Average Slope in Reach	113	Ft./Mi.
E.	Drainage Area above Reach Mouth	37.5	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	65.8	0.50	4.39	1.00
80	90.3	0.69	5.84	0.97
50	121	0.92	7.18	0.89
30	156	1.19	8.12	0.78
10	288	2.19	9.79	0.51



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 153 cfs



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0027

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T9N R12E
D.	Latitude, Longitude	46°17' 121°21'
E.	Stream Name	Clear Water Creek
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/6.0

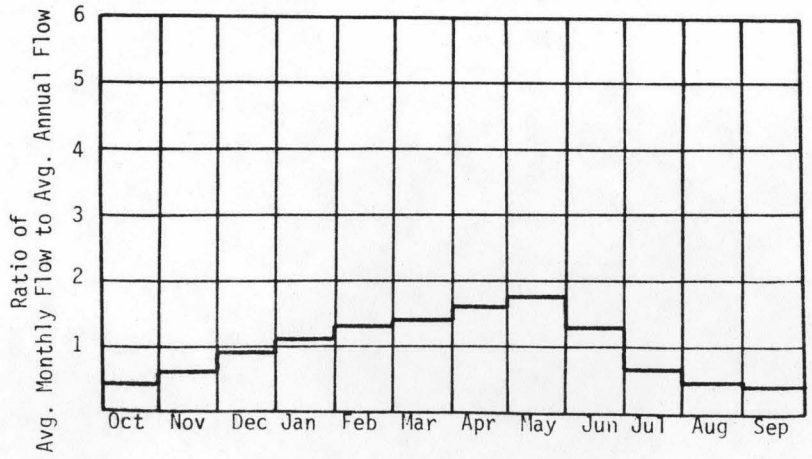
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

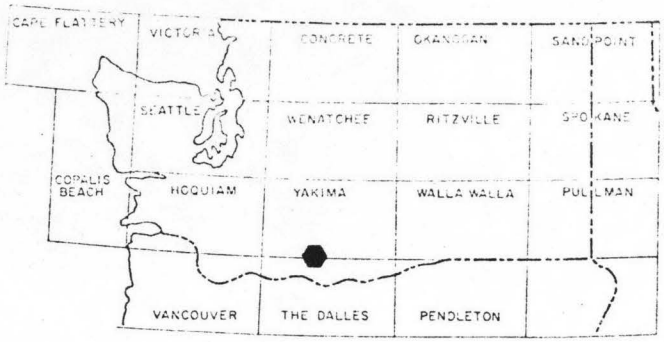
A.	Upstream Elevation of Reach	3630	Ft. MSL
B.	Downstream Elevation of Reach	3110	Ft. MSL
C.	Total Available Head in Reach	520 + 66 = 586	Ft.
D.	Average Slope in Reach	87	Ft./Mi.
E.	Drainage Area above Reach Mouth	24.1	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

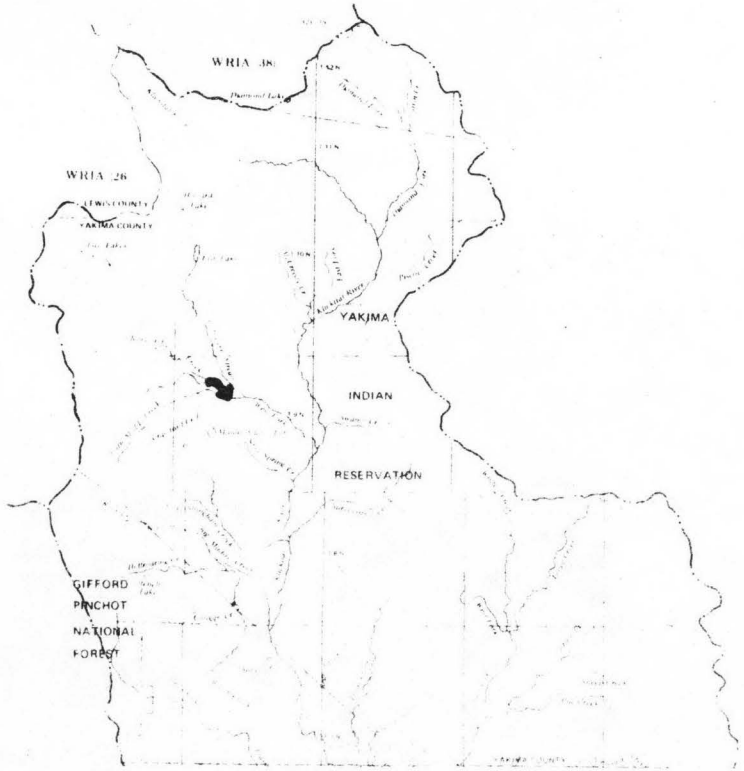
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	32.3	1.60	1.40	1.00
80	44.3	2.19	18.7	0.97
50	59.3	2.94	22.9	0.89
30	76.5	3.79	25.9	0.78
10	141	6.99	31.2	0.51

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 75 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0028

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T9N R12E	
D. Latitude, Longitude	46°16' 121°22'	
E. Stream Name	Muddy Creek	
F. Major Basin Name	Klickitat	
G. River Mile	0.0/1.4	

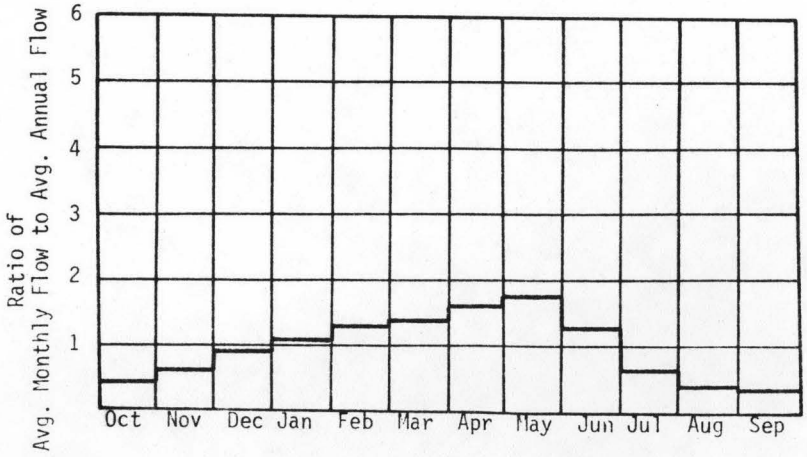
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

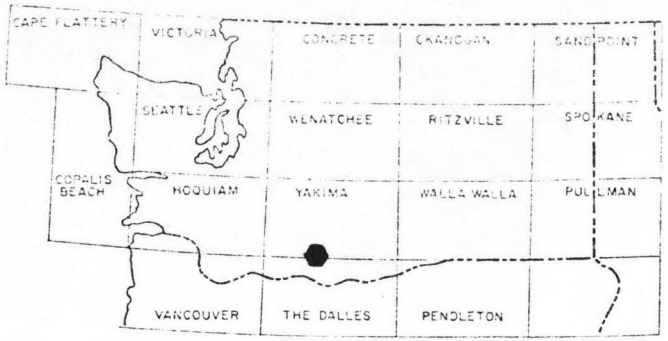
A. Upstream Elevation of Reach	2520	Ft. MSL
B. Downstream Elevation of Reach	3110	Ft. MSL
C. Total Available Head in Reach	410 + 66 = 476	Ft.
D. Average Slope in Reach	293	Ft./Mi.
E. Drainage Area above Reach Mouth	12.1	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

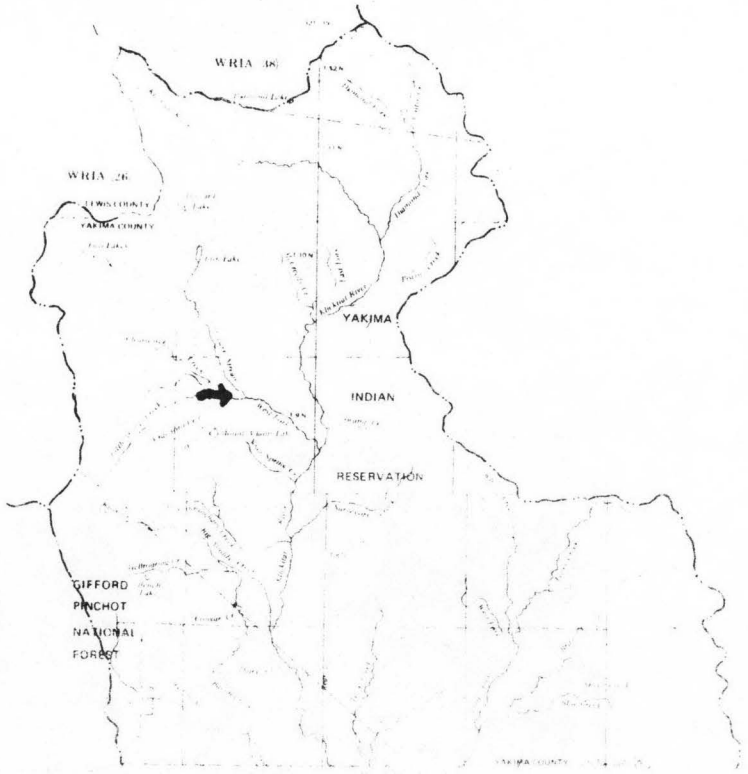
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22.8	0.92	8.04	1.00
80	31.3	1.26	10.0	0.97
50	41.9	1.69	13.2	0.89
30	54.1	2.18	14.9	0.78
10	99.6	4.01	17.9	0.51

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 53 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



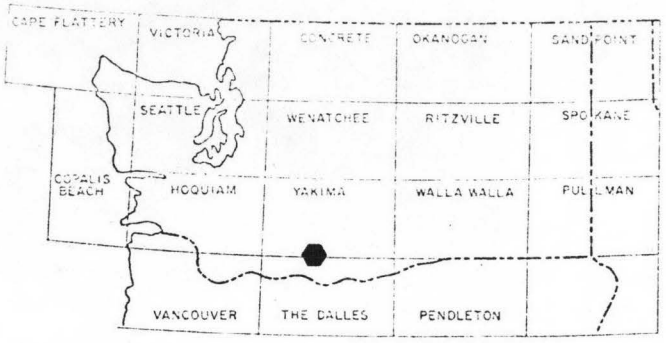
W30-1173

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-160-000-000-R0029

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T11N R13E
D.	Latitude, Longitude	46°23' 121°11'
E.	Stream Name	Diamond Fork
F.	Major Basin Name	Klickitat
G.	River Mile	0.0/4.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

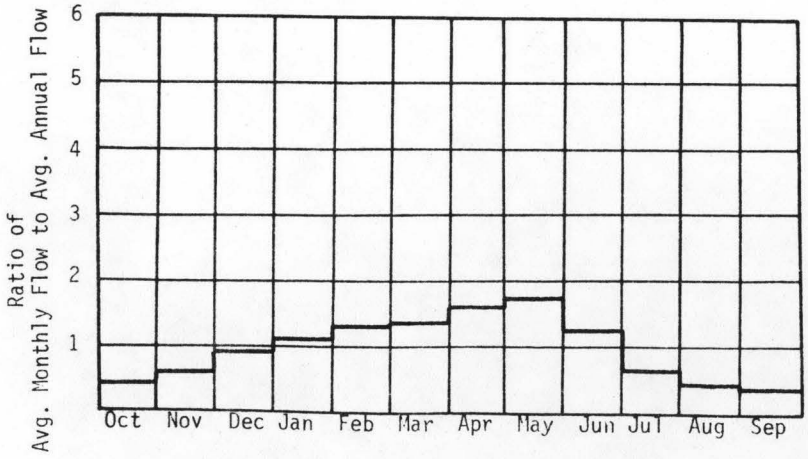
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

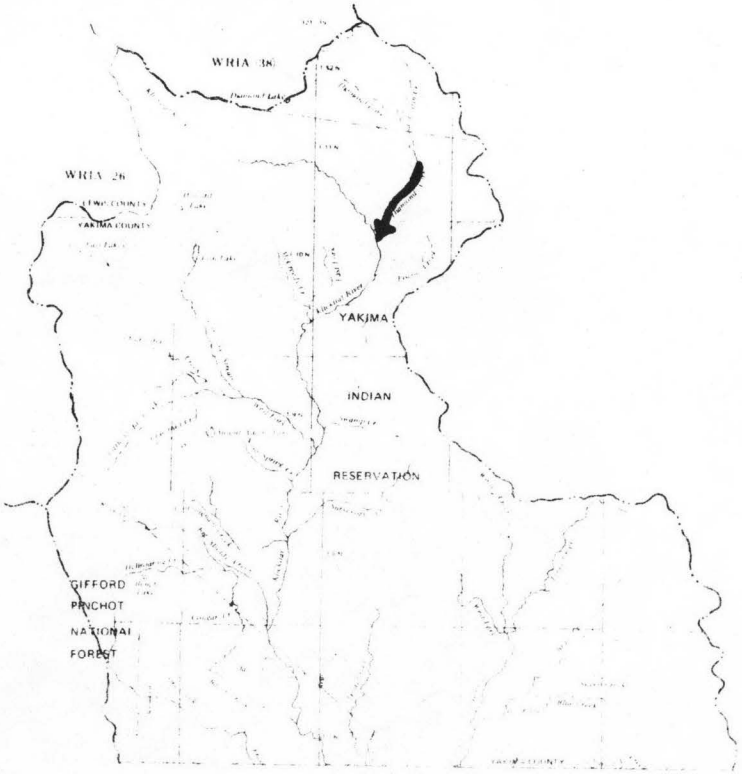
A.	Upstream Elevation of Reach	4005	Ft. MSL
B.	Downstream Elevation of Reach	3340	Ft. MSL
C.	Total Available Head in Reach	665 + 66 = 731	Ft.
D.	Average Slope in Reach	166	Ft./Mi.
E.	Drainage Area above Reach Mouth	42.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29.0	1.80	15.7	1.00
80	39.6	2.45	20.8	0.97
50	55.4	3.43	26.4	0.88
30	82.7	5.12	32.3	0.72
10	176	10.9	42.0	0.44

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 88 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T7N R32E
D.	Latitude, Longitude	46°05' 185°47'
E.	Stream Name	Walla Walla River
F.	Major Basin Name	Walla Walla
G.	River Mile	0.0/21.3

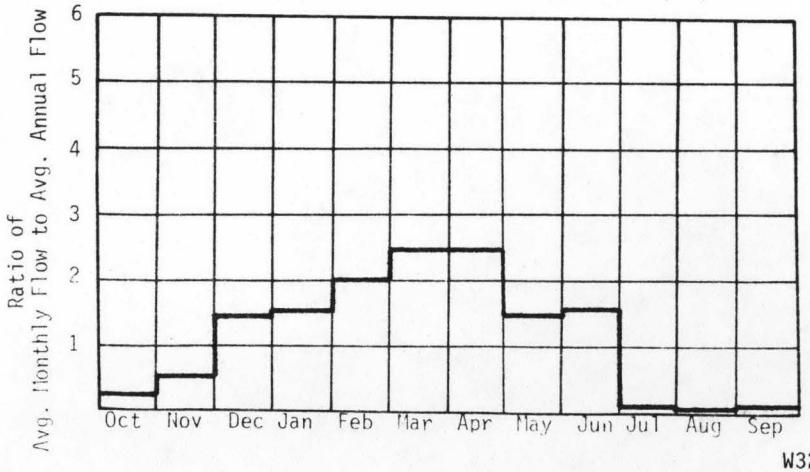
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

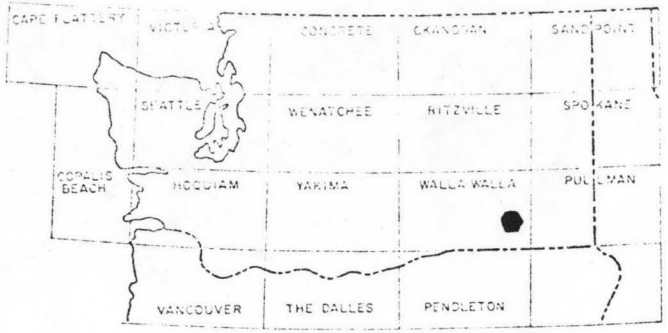
A.	Upstream Elevation of Reach	420	Ft. MSL
B.	Downstream Elevation of Reach	340	Ft. MSL
C.	Total Available Head in Reach	80	Ft.
D.	Average Slope in Reach	3.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	1758	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

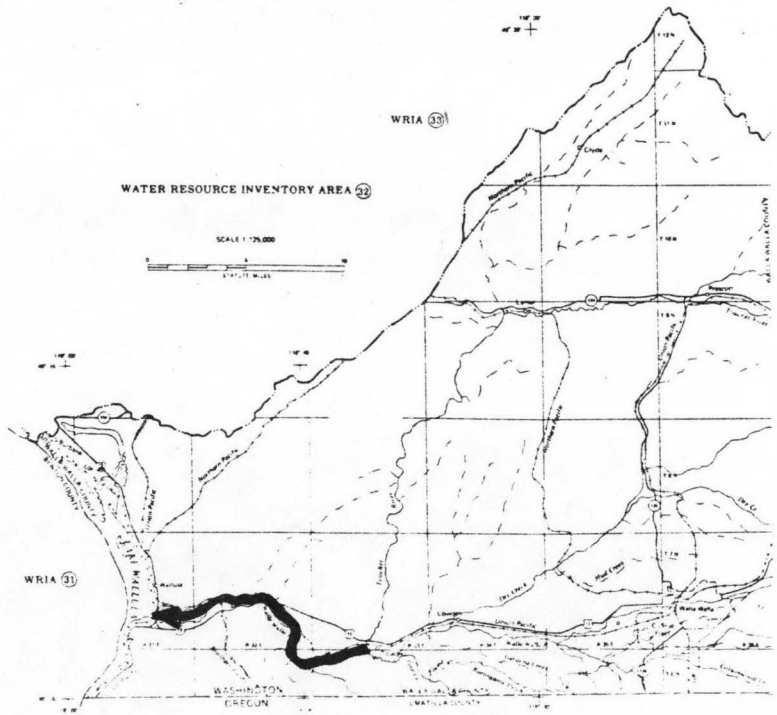
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.5	0.07	0.63	1.00
80	31.6	0.21	1.67	0.89
50	274	1.86	10.6	0.65
30	643	4.35	19.5	0.51
10	1380	9.31	27.7	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 527 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W32-1175

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-238-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T6N R33E
D.	Latitude, Longitude	46°06' 118°40'
E.	Stream Name	Walla Walla River
F.	Major Basin Name	Walla Walla
G.	River Mile	21.3/23.3

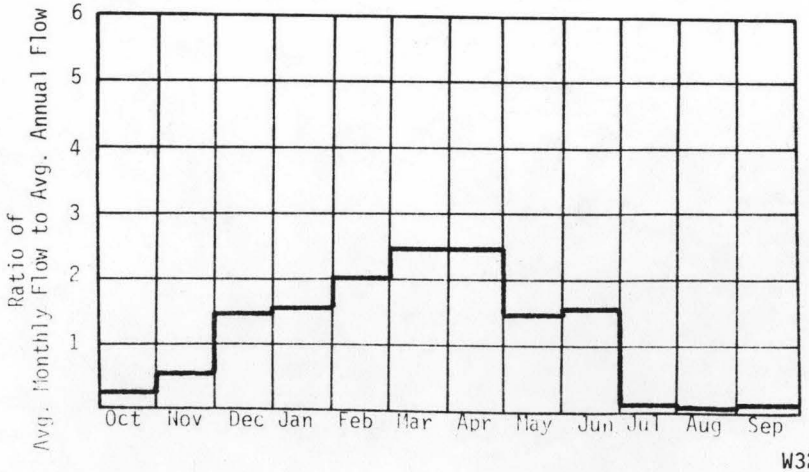
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

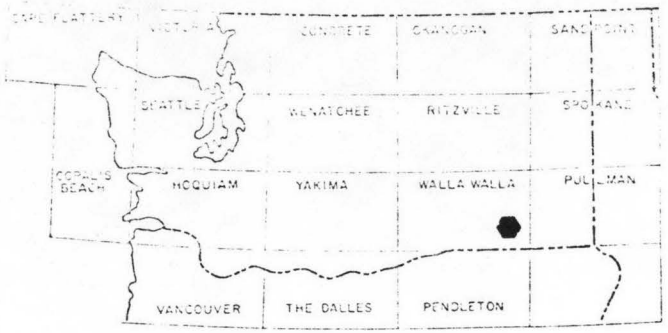
A.	Upstream Elevation of Reach	440	Ft. MSL
B.	Downstream Elevation of Reach	420	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	10	Ft./Mi.
E.	Drainage Area above Reach Mouth	920	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

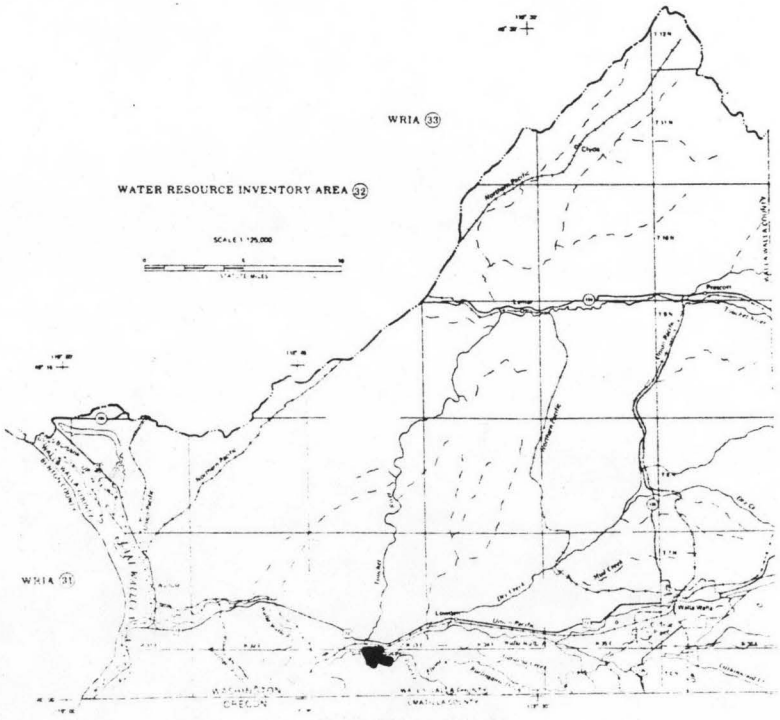
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4.58	0.01	0.07	1.00
80	13.7	0.02	0.18	0.89
50	119	0.20	1.15	0.65
30	279	0.47	2.11	0.51
10	598	1.01	3.01	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 229 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



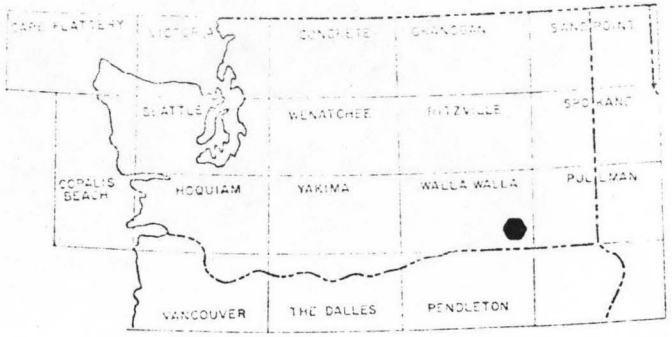
W32-1176

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T7N R33E
D.	Latitude, Longitude	46°02' 118°37'
E.	Stream Name	Walla Walla River
F.	Major Basin Name	Walla Walla
G.	River Mile	23.3/27.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

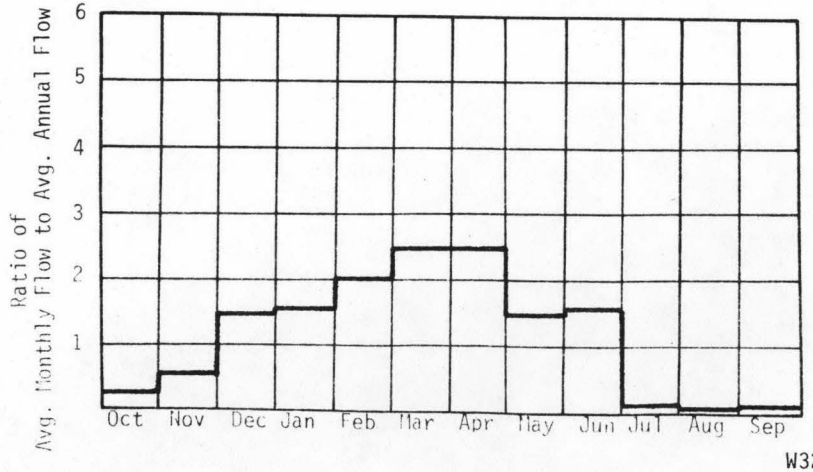
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

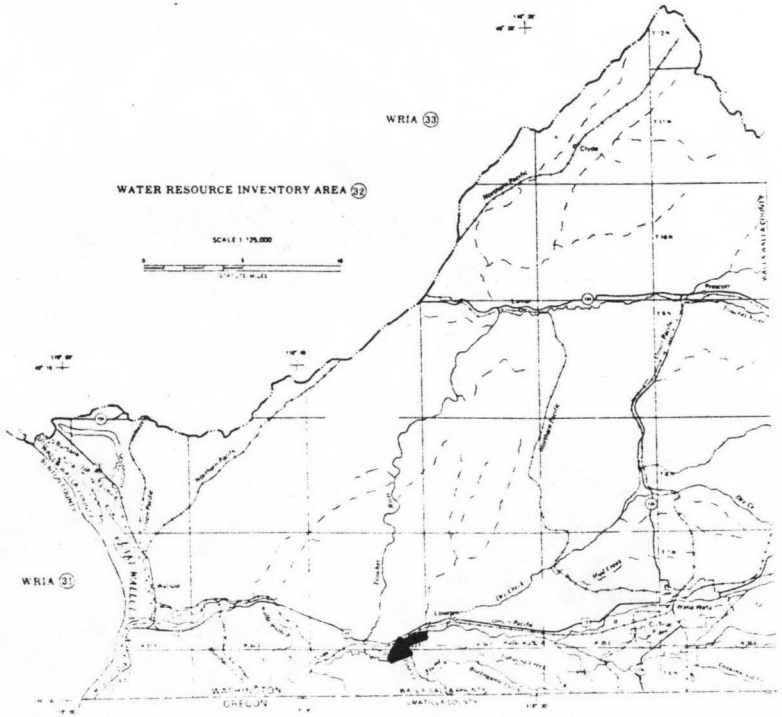
A.	Upstream Elevation of Reach	460	Ft. MSL
B.	Downstream Elevation of Reach	440	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	5.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	761	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4.38	0.01	0.06	1.00
80	13.1	0.02	0.17	0.89
50	114	0.19	1.10	0.65
30	267	0.45	2.02	0.51
10	572	0.97	2.88	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 219 cfs





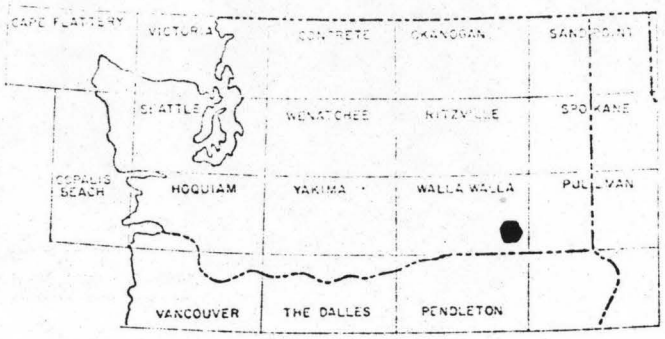
W32-1177

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T7N R34E
D.	Latitude, Longitude	46°02' 118°36'
E.	Stream Name	Walla Walla River
F.	Major Basin Name	Walla Walla
G.	River Mile	27.0/28.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

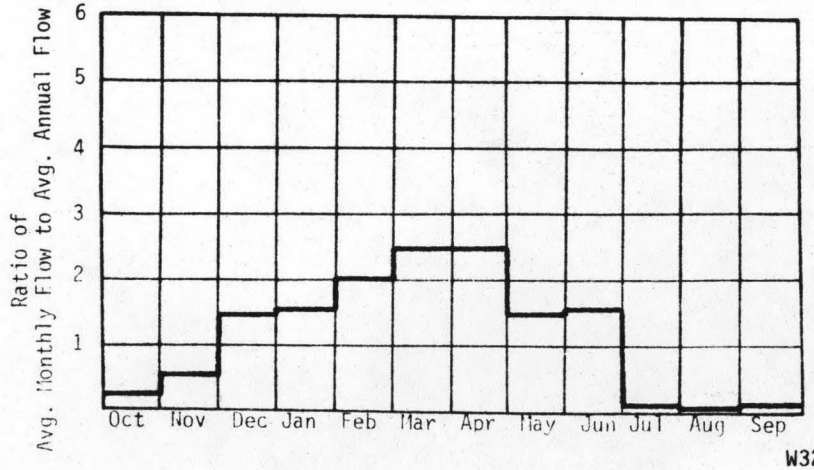
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

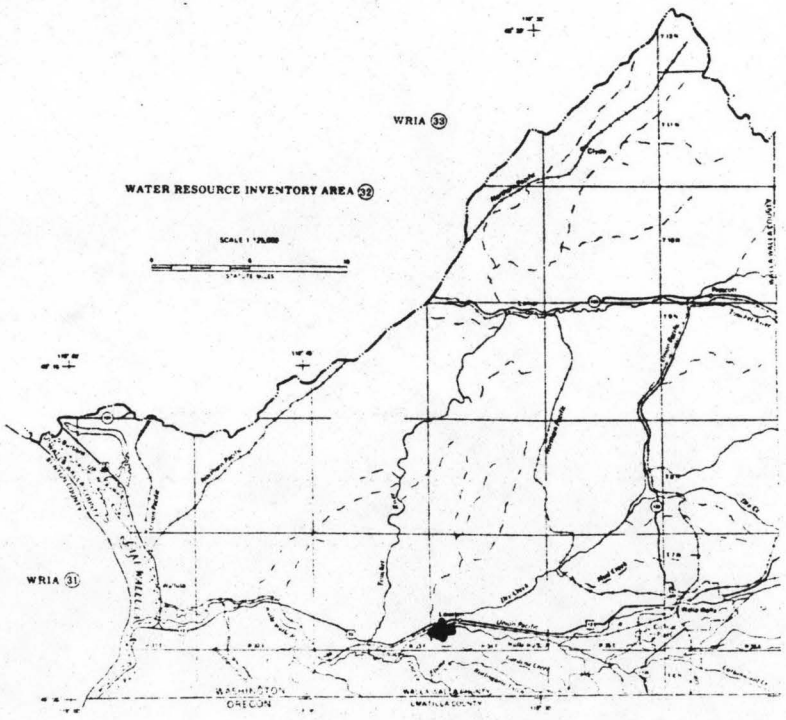
A.	Upstream Elevation of Reach	480	Ft. MSL
B.	Downstream Elevation of Reach	460	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	15.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	720	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4.30	0.01	0.06	1.00
80	12.9	0.02	0.17	0.89
50	112	0.19	1.08	0.65
30	262	0.44	1.98	0.51
10	561	0.95	2.83	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 215 cfs





W32-1178

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Walla Walla	
C. Township, Range	T7N R34E	
D. Latitude, Longitude	46°02' 118°32'	
E. Stream Name	Walla Walla River	
F. Major Basin Name	Walla Walla	
G. River Mile	28.3/34.6	

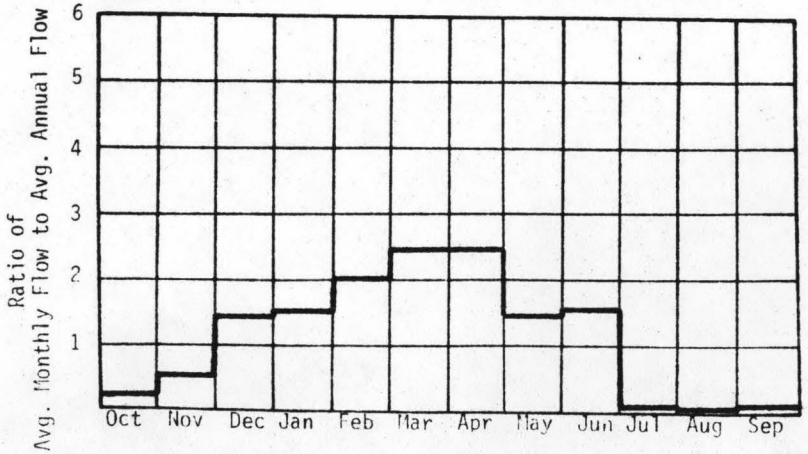
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

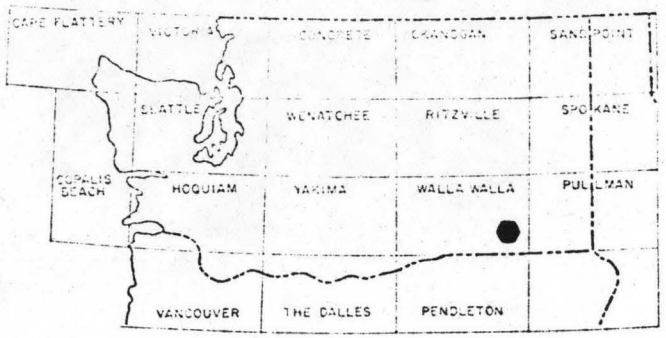
A. Upstream Elevation of Reach	530	Ft. MSL
B. Downstream Elevation of Reach	480	Ft. MSL
C. Total Available Head in Reach	50	Ft.
D. Average Slope in Reach	7.94	Ft./Mi.
E. Drainage Area above Reach Mouth	460	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

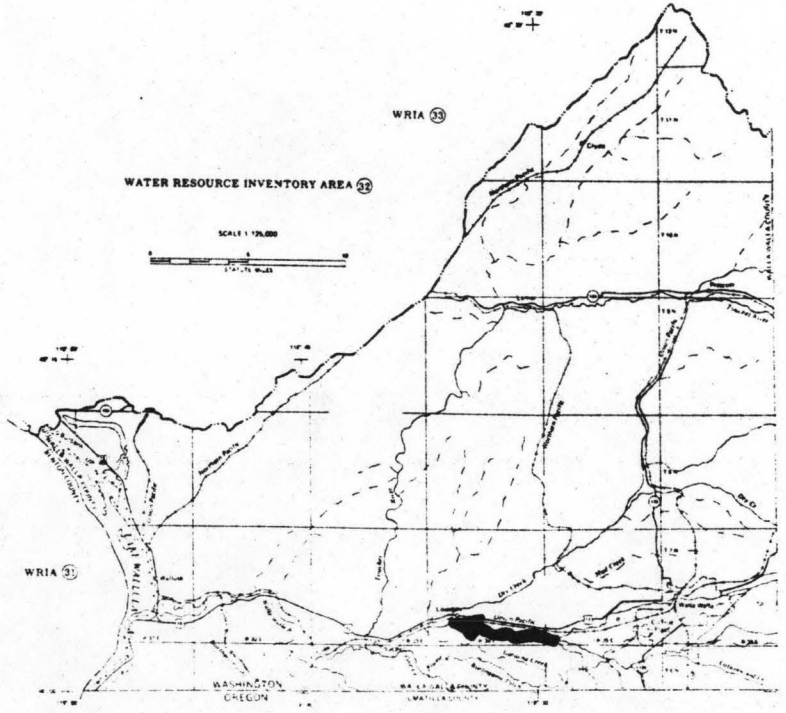
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3.80	0.02	0.14	1.00
80	11.4	0.05	0.38	0.89
50	98.8	0.42	2.38	0.65
30	232	0.98	4.38	0.51
10	496	2.10	6.25	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 190 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



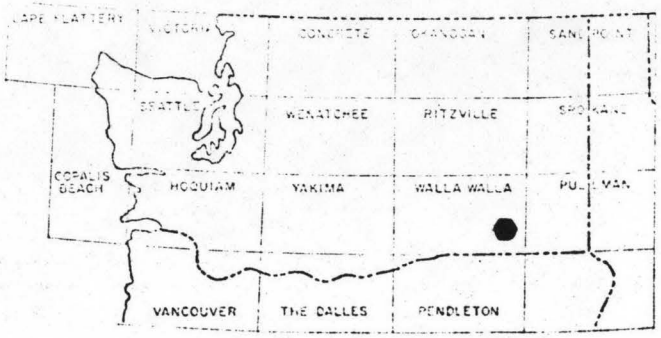
W38-1179

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T6N R35E
D.	Latitude, Longitude	46°01' 118°25'
E.	Stream Name	Walla Walla River
F.	Major Basin Name	Walla Walla
G.	River Mile	34.6/41.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

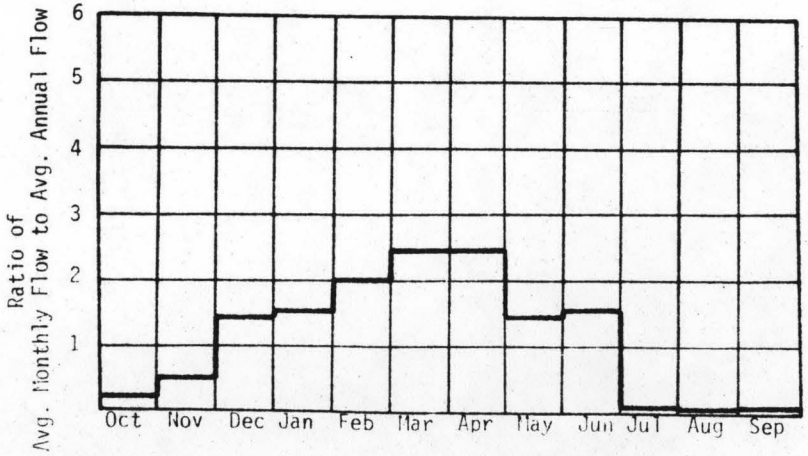
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

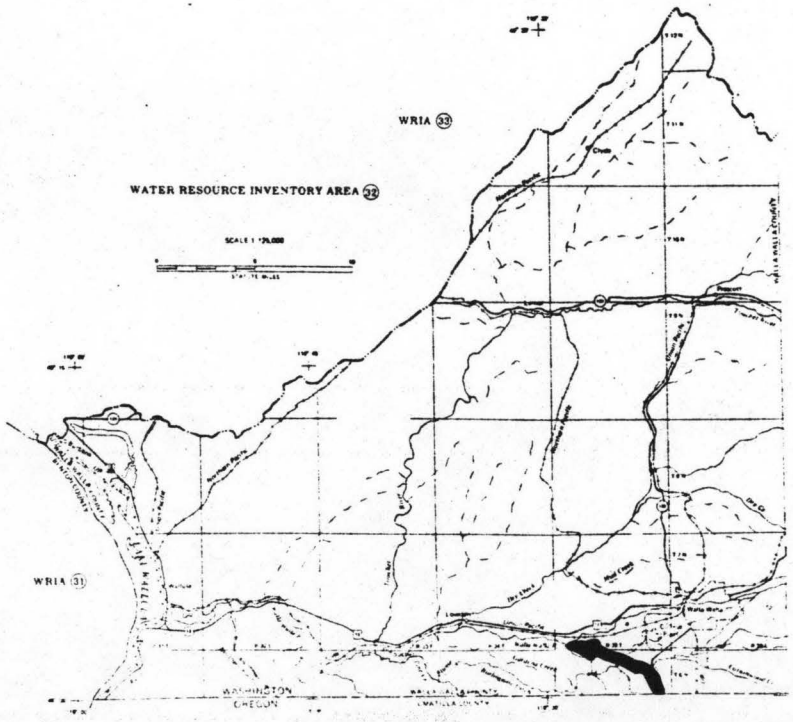
A.	Upstream Elevation of Reach	770	Ft. MSL
B.	Downstream Elevation of Reach	530	Ft. MSL
C.	Total Available Head in Reach	240	Ft.
D.	Average Slope in Reach	36.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	360	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2.40	0.05	0.43	1.00
80	7.20	0.15	1.14	0.89
50	62.4	1.27	7.22	0.65
30	146	2.97	13.3	0.51
10	313	6.36	19.0	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 120 cfs





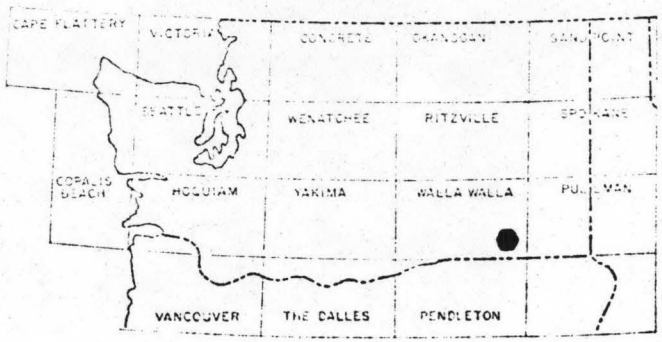
W32-1180

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T7N R33E
D.	Latitude, Longitude	46°05' 116°40'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	0.0/8.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

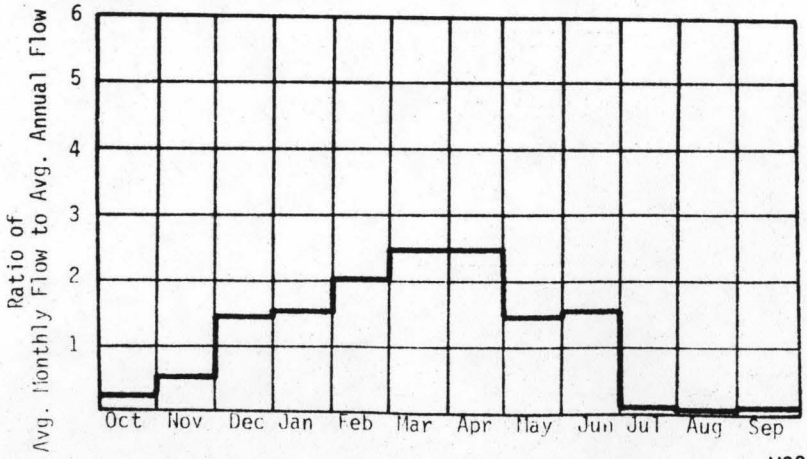
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

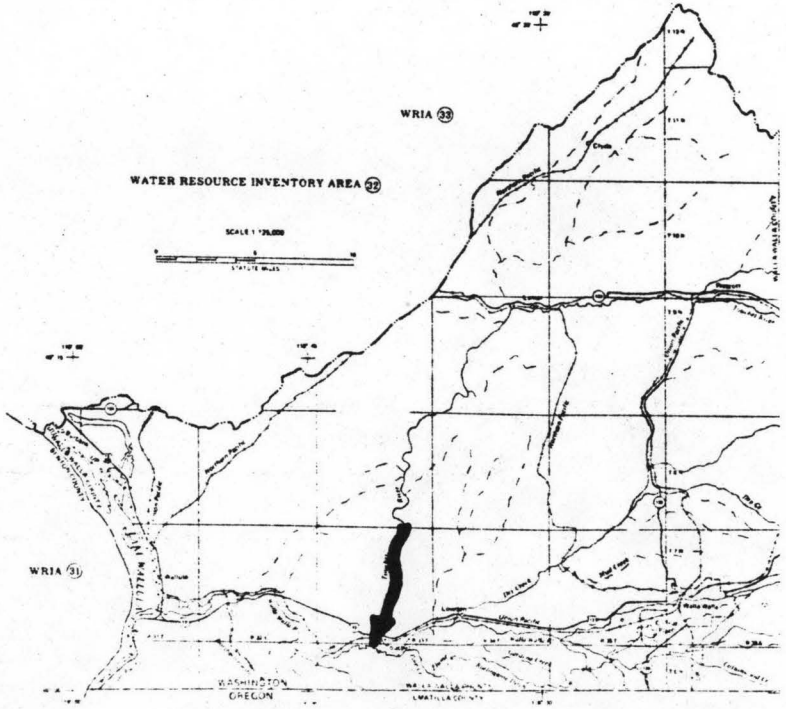
A.	Upstream Elevation of Reach	530	Ft. MSL
B.	Downstream Elevation of Reach	410	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	9.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	729	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.6	0.27	2.36	1.00
80	50.2	0.51	4.19	0.94
50	171	1.74	11.0	0.72
30	342	3.48	17.1	0.56
10	681	6.92	23.0	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 295 cfs





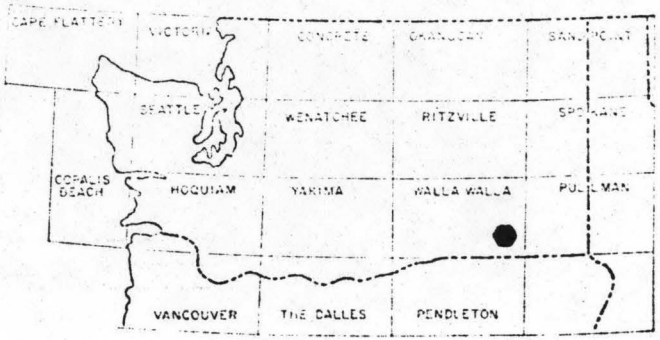
W32-1181

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T8N R33E
D.	Latitude, Longitude	46°10' 118°38'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	8.3/28.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

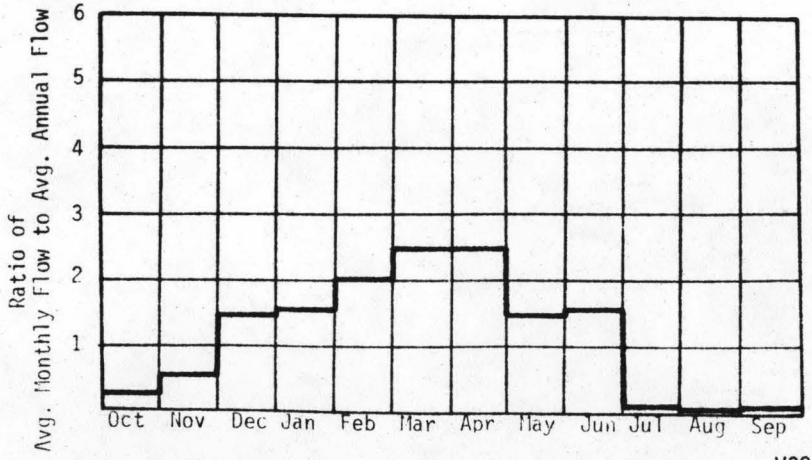
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

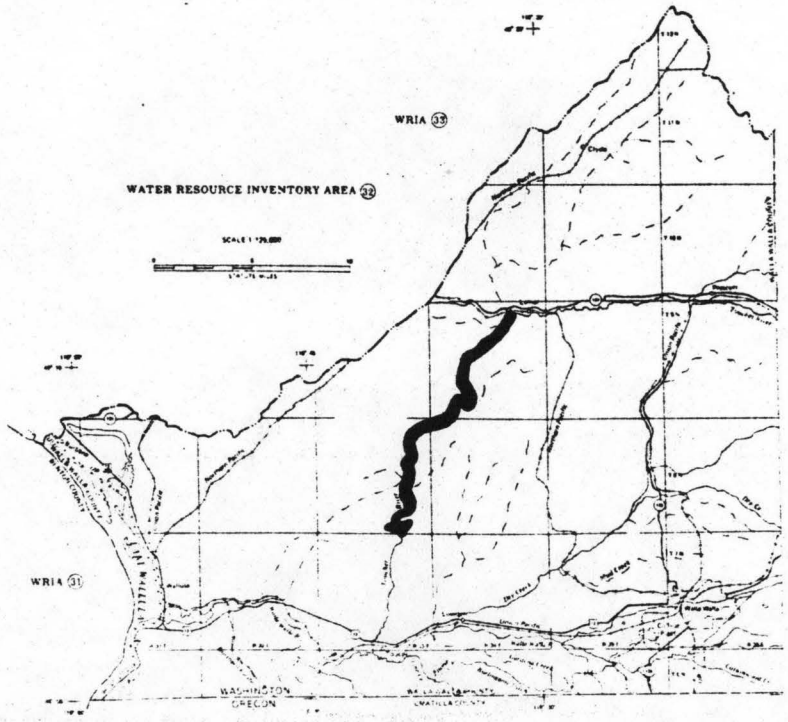
A.	Upstream Elevation of Reach	805	Ft. MSL
B.	Downstream Elevation of Reach	530	Ft. MSL
C.	Total Available Head in Reach	275	Ft.
D.	Average Slope in Reach	13.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	709	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.0	0.61	5.30	1.00
80	49.1	1.14	9.42	0.94
50	168	3.90	24.6	0.72
30	335	7.80	38.3	0.56
10	668	15.5	51.7	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 289 cfs





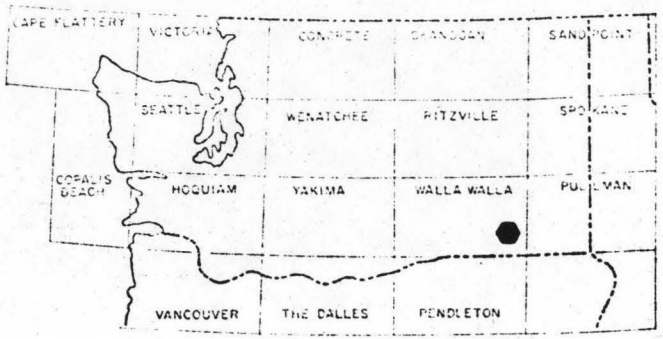
W32-1182

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T9N R35E
D.	Latitude, Longitude	46°17' 118°25'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	28.3/40.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

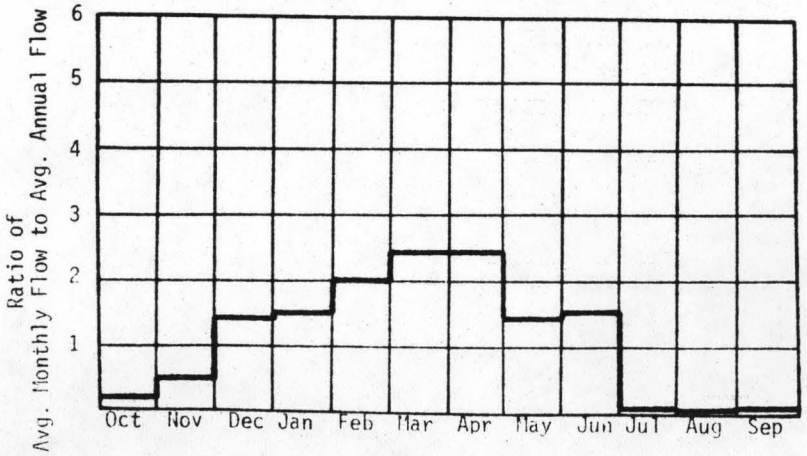
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

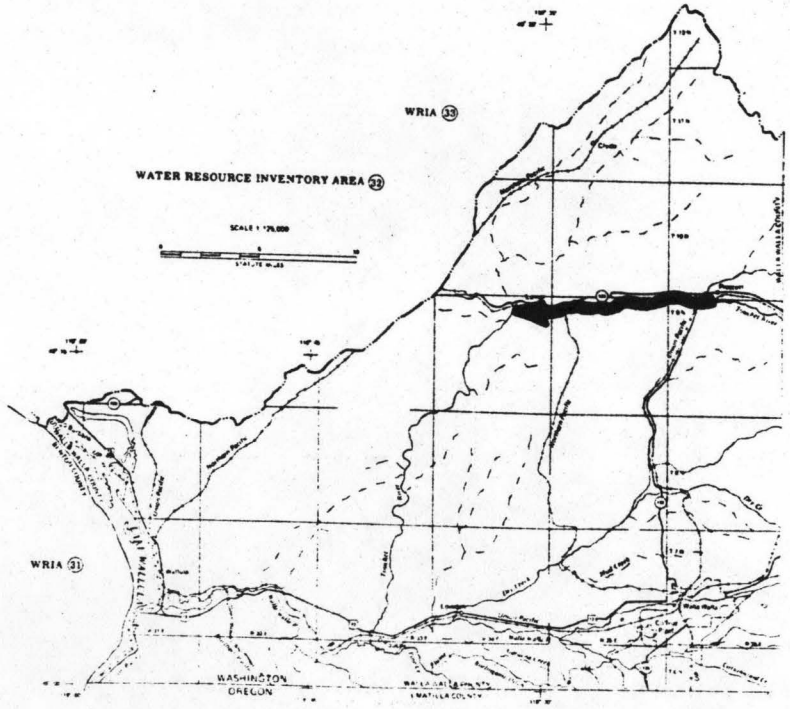
A.	Upstream Elevation of Reach	1000	Ft. MSL
B.	Downstream Elevation of Reach	805	Ft. MSL
C.	Total Available Head in Reach	195	Ft.
D.	Average Slope in Reach	16.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	519	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23.4	0.39	3.38	1.00
80	44.2	0.73	6.01	0.94
50	151	2.49	15.7	0.72
30	302	4.98	24.4	0.56
10	601	9.91	33.0	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 260 cfs





W32-1183

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T9N R36E
D.	Latitude, Longitude	46°17' 118°17'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	40.2/47.0

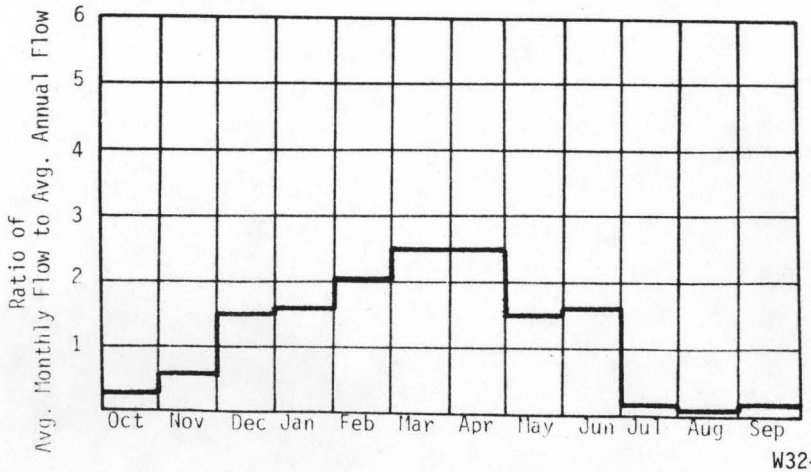
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1155	Ft. MSL
B.	Downstream Elevation of Reach	1000	Ft. MSL
C.	Total Available Head in Reach	155	Ft.
D.	Average Slope in Reach	22.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	369	Sq.Mi.
F.	Inflow Classification	Regulated	

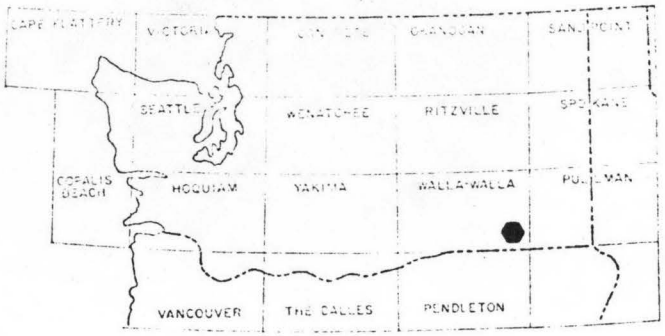
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	27.6	0.36	3.17	1.00
80	48.3	0.63	5.27	0.95
50	124	1.63	10.7	0.75
30	265	3.47	17.0	0.56
10	529	6.94	23.1	0.38

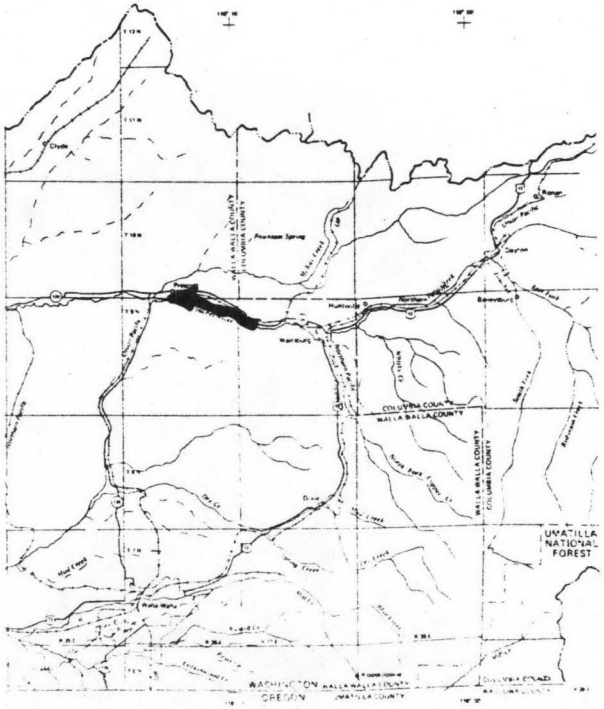
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 230 cfs



W32-1184



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-238-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T9N R37E
D.	Latitude, Longitude	46°17' 118°12'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	47.0/49.9

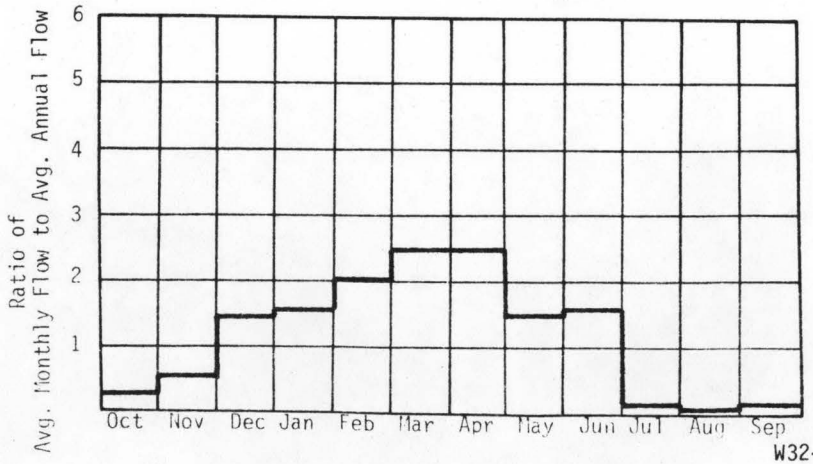
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1217	Ft. MSL
B.	Downstream Elevation of Reach	1155	Ft. MSL
C.	Total Available Head in Reach	62	Ft.
D.	Average Slope in Reach	21.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	350	Sq.Mi.
F.	Inflow Classification	Regulated	

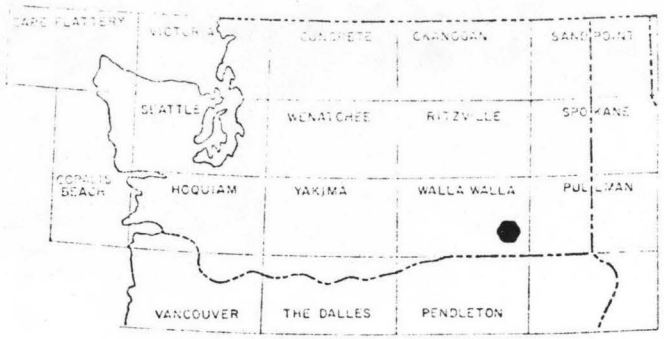
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	27.4	0.14	1.26	1.00
80	47.9	0.25	2.09	0.95
50	123	0.65	4.24	0.75
30	262	1.38	6.75	0.56
10	524	2.75	9.16	0.38

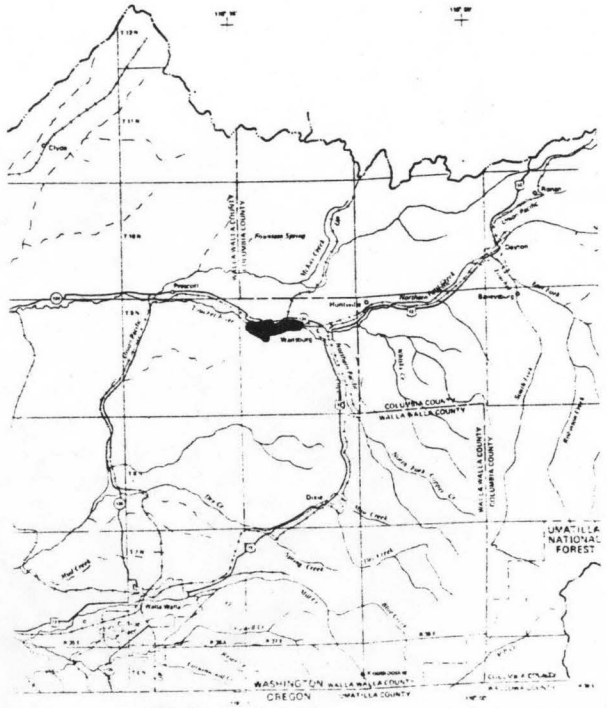
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 228 cfs



W32-1185



LOCATIONS FOR USGS 1:250,000 MAP SERIES

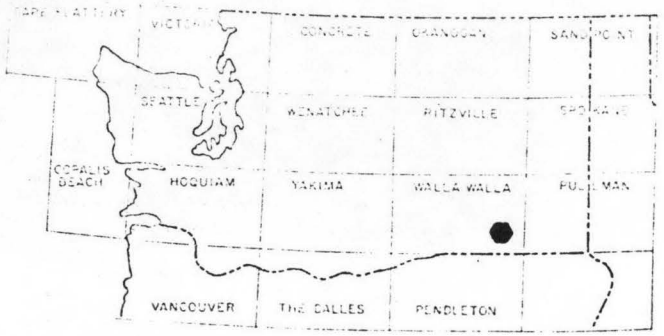


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T9N R37E
D.	Latitude, Longitude	46°16' 118°09'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	49.9/53.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

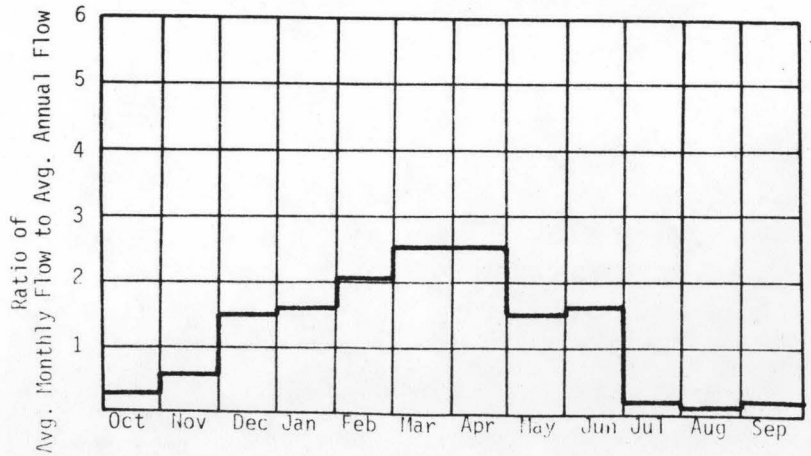
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

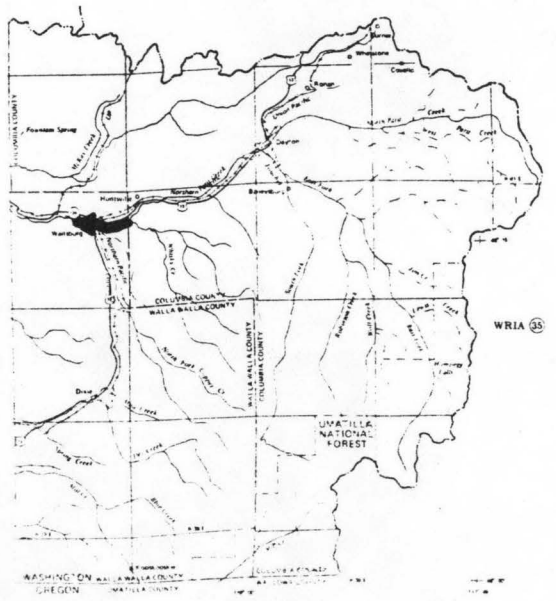
A.	Upstream Elevation of Reach	1300	Ft. MSL
B.	Downstream Elevation of Reach	1217	Ft. MSL
C.	Total Available Head in Reach	83	Ft.
D.	Average Slope in Reach	25.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	344	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.5	0.19	1.63	1.00
80	46.4	0.33	2.71	0.95
50	119	0.84	5.51	0.75
30	254	1.79	8.76	0.56
10	508	3.57	11.9	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 221 cfs





W32-1186

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0013

I. LOCATION

A.	State	Washington
B.	County	Columbia
C.	Township, Range	T9N R38E
D.	Latitude, Longitude	46°17' 118°05'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	53.2/58.0

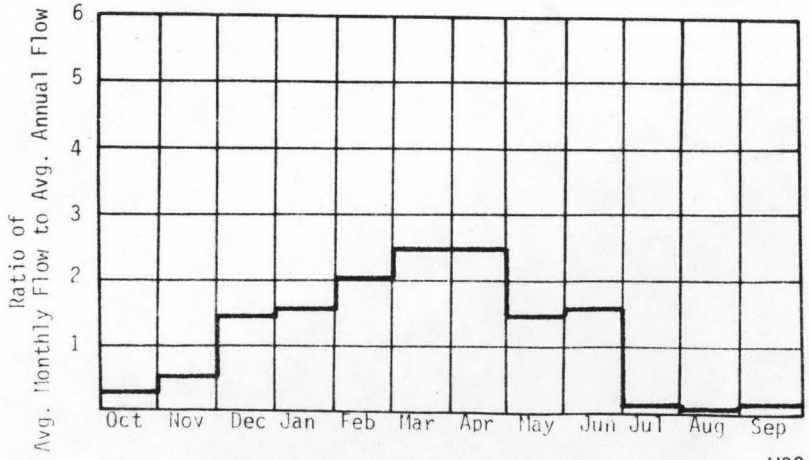
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

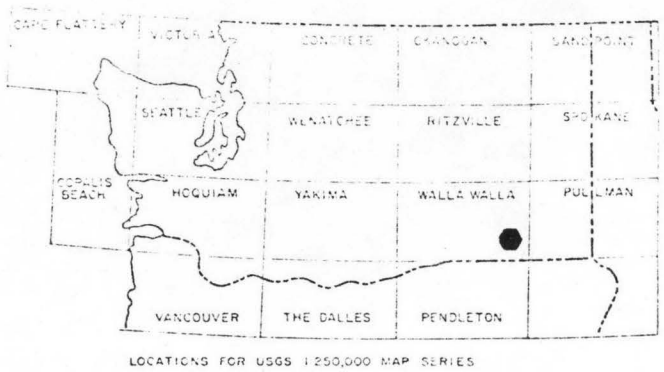
A.	Upstream Elevation of Reach	1465	Ft. MSL
B.	Downstream Elevation of Reach	1300	Ft. MSL
C.	Total Available Head in Reach	165	Ft.
D.	Average Slope in Reach	34.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	256	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

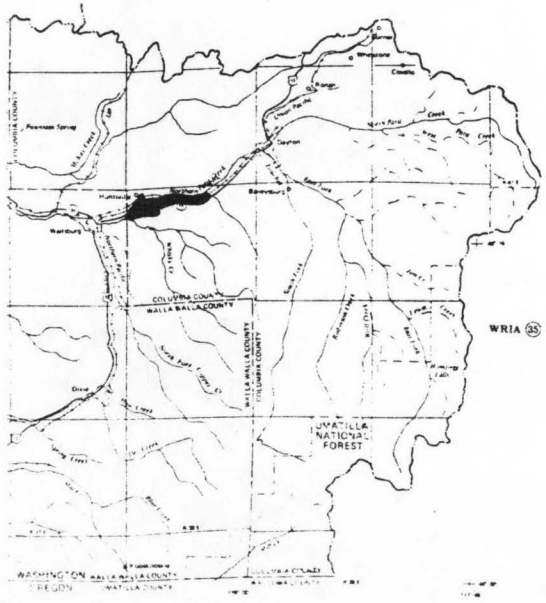
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	24.2	0.34	2.97	1.00
80	42.4	0.59	4.93	0.95
50	109	1.52	10.0	0.75
30	232	3.24	15.9	0.56
10	465	6.49	21.6	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 202 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



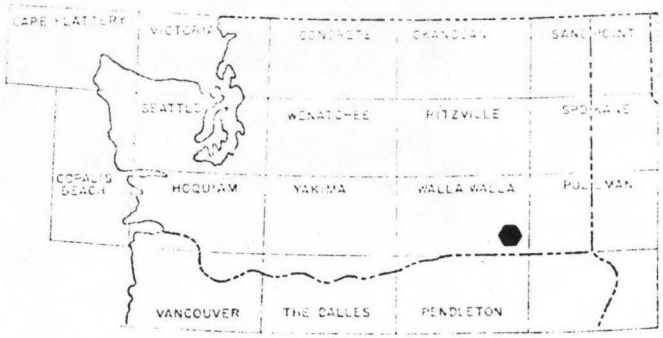
W32-1187

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0014

I. LOCATION

A.	State	Washington
B.	County	Columbia
C.	Township, Range	T10N R38E
D.	Latitude, Longitude	46°18' 118°01'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	58/61.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

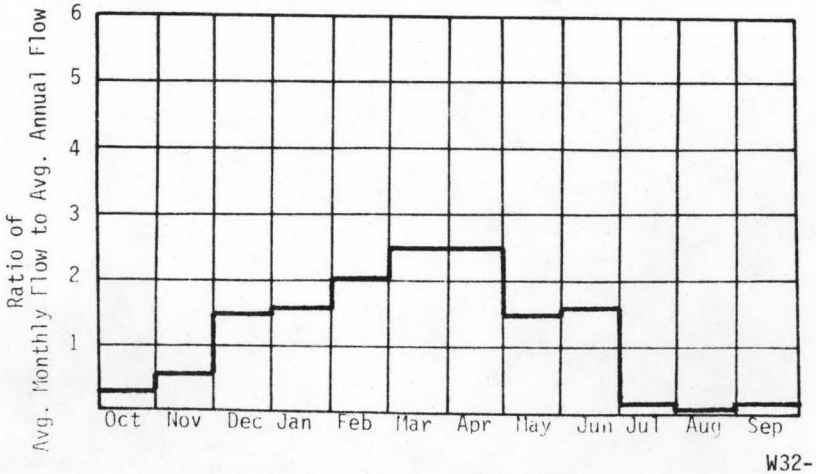
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

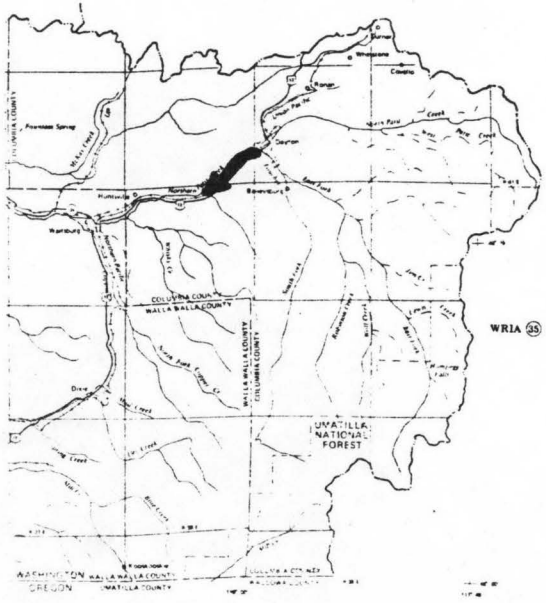
A.	Upstream Elevation of Reach	1600	Ft. MSL
B.	Downstream Elevation of Reach	1465	Ft. MSL
C.	Total Available Head in Reach	130	Ft.
D.	Average Slope in Reach	35.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	241	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23.9	0.26	2.30	1.00
80	41.8	0.46	3.83	0.95
50	107	1.18	7.77	0.75
30	229	2.52	12.4	0.56
10	458	5.04	16.8	0.38

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 199 cfs





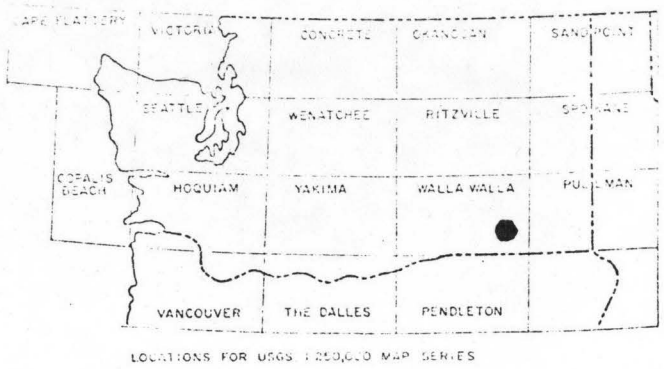
W32-1188

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0015

I. LOCATION

A.	State	Washington
B.	County	Columbia
C.	Township, Range	T10N R39E
D.	Latitude, Longitude	46°18' 117°59'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	61.7/63.6



LOCATIONS FOR USGS 1:250,000 MAP SERIES

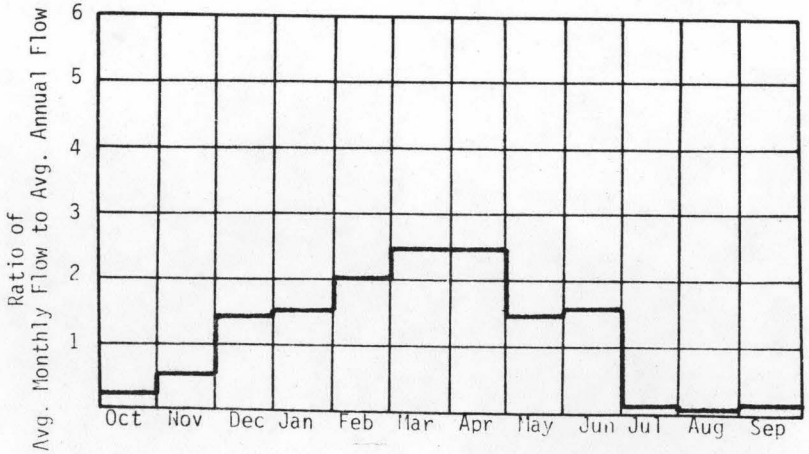
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

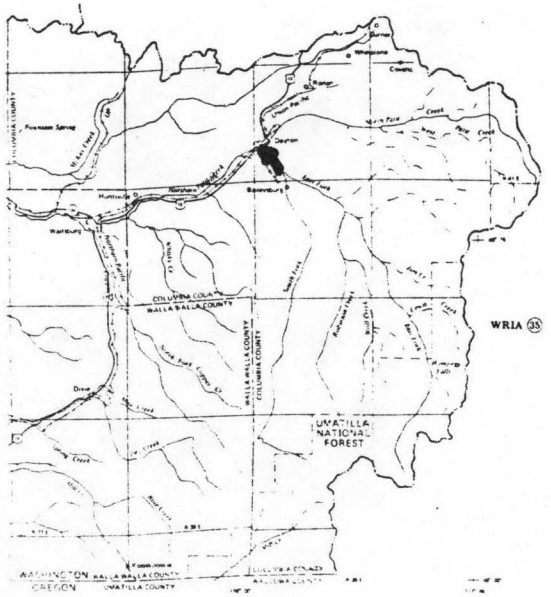
A.	Upstream Elevation of Reach	1660	Ft. MSL
B.	Downstream Elevation of Reach	1600	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	31.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	164	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	55.5	0.28	2.47	1.00
80	69.8	0.35	3.01	0.97
50	118	0.60	4.36	0.83
30	208	1.05	6.00	0.65
10	358	1.82	7.33	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 179 cfs





W32-1189

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0016

I. LOCATION

A.	State	Washington
B.	County	Columbia
C.	Township, Range	T9N R39E
D.	Latitude, Longitude	46°15' 118°54'
E.	Stream Name	Touchet River
F.	Major Basin Name	Walla Walla
G.	River Mile	63.6/66.9

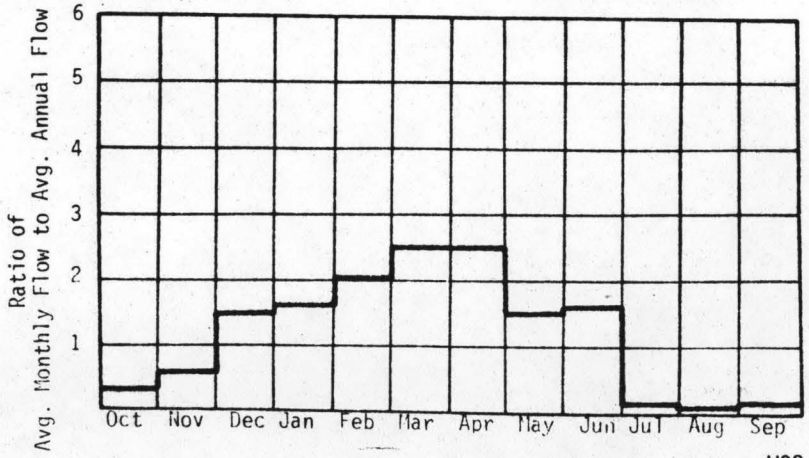
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

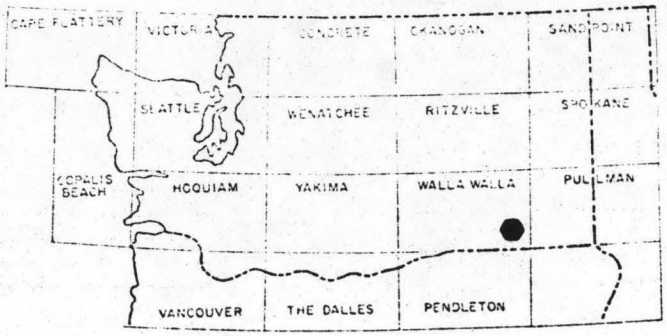
A.	Upstream Elevation of Reach	1870	Ft. MSL
B.	Downstream Elevation of Reach	1660	Ft. MSL
C.	Total Available Head in Reach	210	Ft.
D.	Average Slope in Reach	63.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	115	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

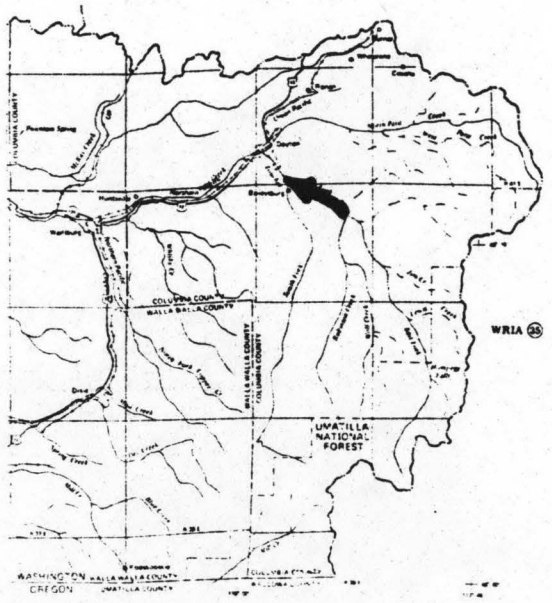
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	40.3	0.72	6.27	1.00
80	50.7	0.90	7.66	0.97
50	85.8	1.53	11.1	0.83
30	151	2.68	15.3	0.65
10	260	4.62	18.6	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 130 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W32-1190

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0017

I. LOCATION

A. State	Washington	
B. County	Columbia	
C. Township, Range	T9N R39E	
D. Latitude, Longitude	46°16' 117°54'	
E. Stream Name	Touchet River	
F. Major Basin Name	Walla Walla	
G. River Mile	66.9/68.4	

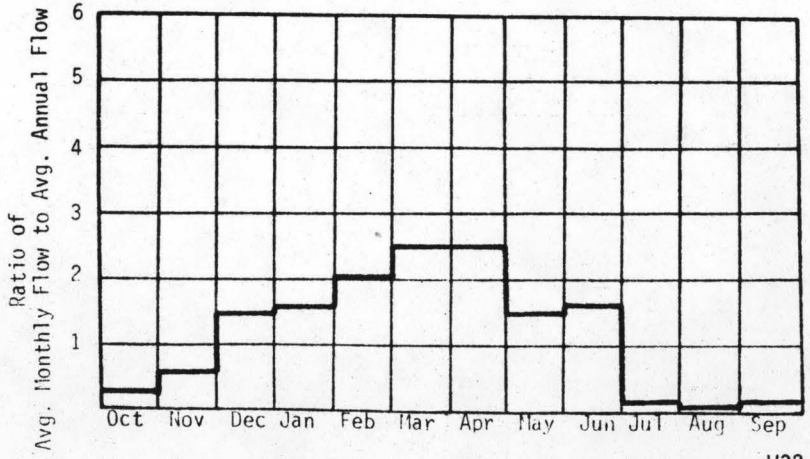
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

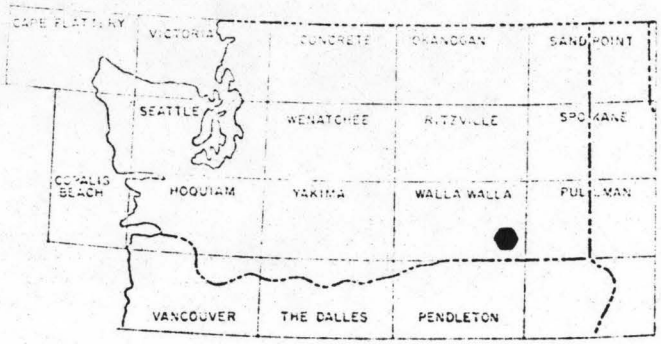
A. Upstream Elevation of Reach	1960	Ft. MSL
B. Downstream Elevation of Reach	1870	Ft. MSL
C. Total Available Head in Reach	90 + 66 = 156	Ft.
D. Average Slope in Reach	60	Ft./Mi.
E. Drainage Area above Reach Mouth	57	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

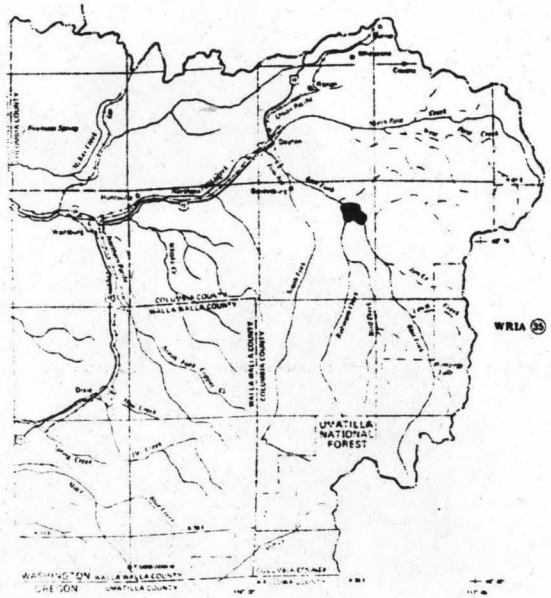
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.5	0.27	2.37	1.00
80	25.7	0.34	2.89	0.97
50	43.6	0.58	4.18	0.83
30	76.6	1.01	5.76	0.65
10	132	1.74	7.02	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 66 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W32-1191

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0018

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T7N R35E
D.	Latitude, Longitude	46°04' 118°22'
E.	Stream Name	Mill Creek
F.	Major Basin Name	Walla Walla
G.	River Mile	0.0/10.8

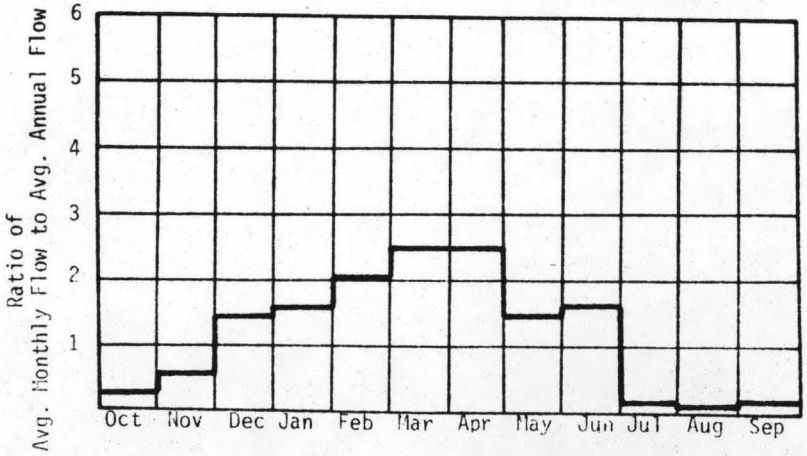
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

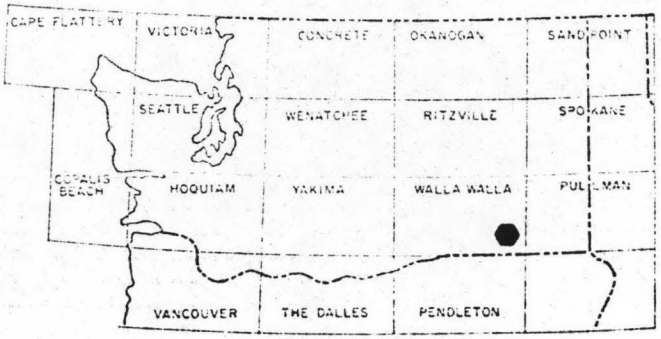
A.	Upstream Elevation of Reach	1170	Ft. MSL
B.	Downstream Elevation of Reach	770	Ft. MSL
C.	Total Available Head in Reach	400	Ft.
D.	Average Slope in Reach	37	Ft./Mi.
E.	Drainage Area above Reach Mouth	100	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

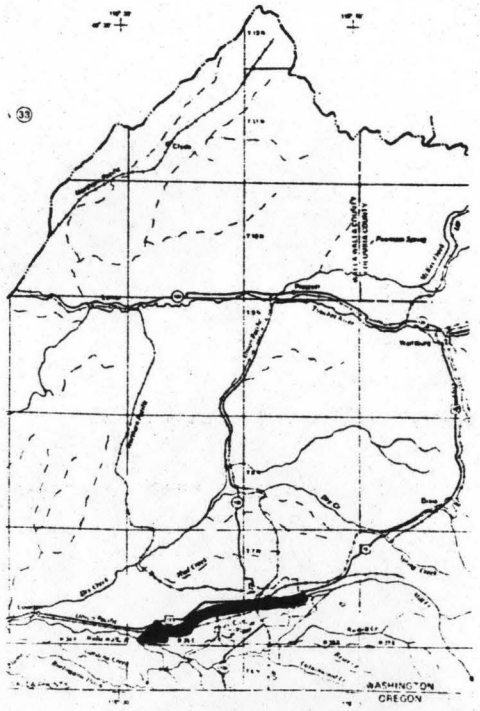
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.9	0.64	5.61	1.00
80	24.5	0.83	7.05	0.97
50	43.4	1.47	10.6	0.82
30	77.0	2.61	14.6	0.64
10	148	5.00	18.8	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 70 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



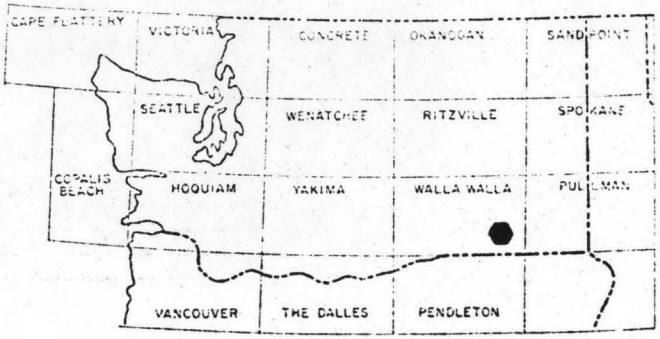
W32-1192

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0019

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T7N R37E
D.	Latitude, Longitude	46°05' 118°11'
E.	Stream Name	Mill Creek
F.	Major Basin Name	Walla Walla
G.	River Mile	10.8/17.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

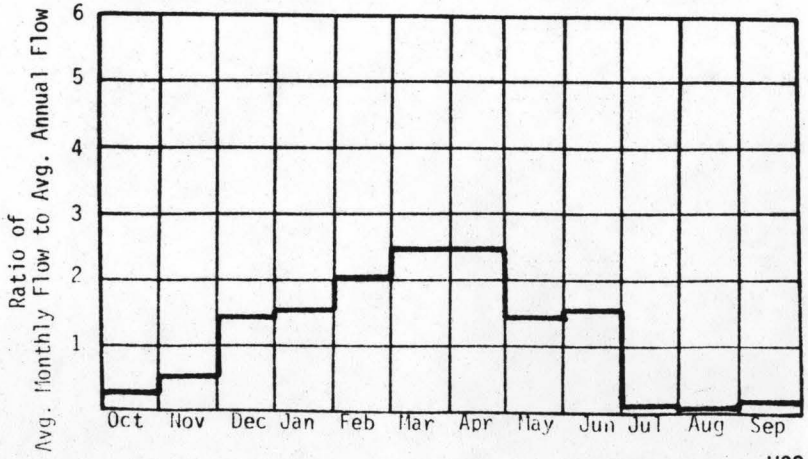
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

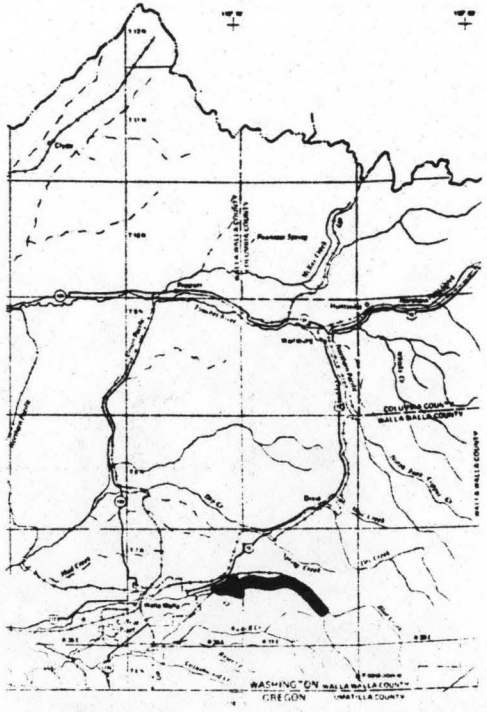
A.	Upstream Elevation of Reach	1640	Ft. MSL
B.	Downstream Elevation of Reach	770	Ft. MSL
C.	Total Available Head in Reach	870	Ft.
D.	Average Slope in Reach	132	Ft./Mi.
E.	Drainage Area above Reach Mouth	96	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	31.1	2.29	20.0	1.00
80	40.3	2.96	25.2	0.97
50	71.3	5.25	37.7	0.82
30	127	9.32	52.2	0.64
10	243	17.9	67.3	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 115 cfs





W32-1193

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-238-000-000-R0020

I. LOCATION

A.	State	Washington
B.	County	Walla Walla
C.	Township, Range	T6N R37E
D.	Latitude, Longitude	46°02' 118°09'
E.	Stream Name	Mill Creek
F.	Major Basin Name	Walla Walla
G.	River Mile	17.4/21.9

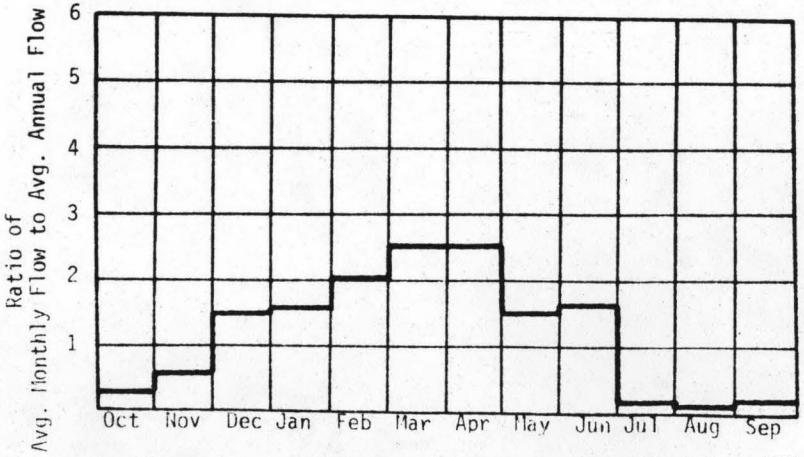
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

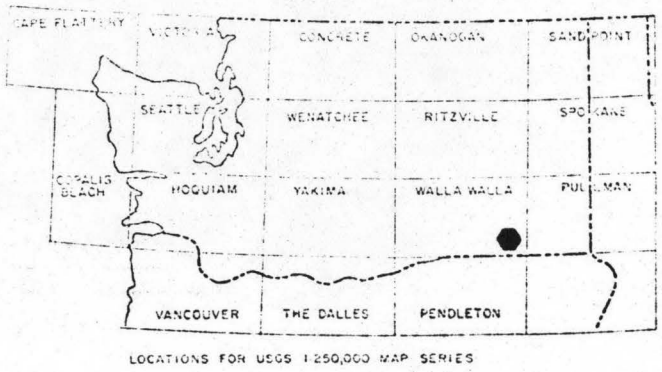
A.	Upstream Elevation of Reach	2020	Ft. MSL
B.	Downstream Elevation of Reach	1640	Ft. MSL
C.	Total Available Head in Reach	380	Ft.
D.	Average Slope in Reach	84.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	64	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

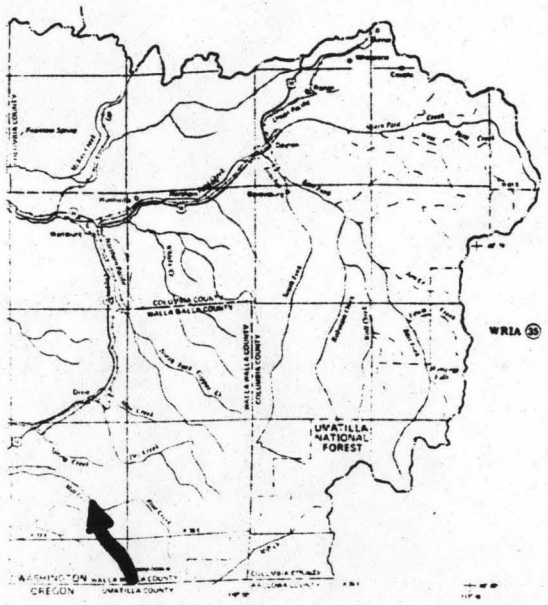
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.1	0.81	7.07	1.00
80	32.6	1.05	8.90	0.97
50	57.7	1.85	13.3	0.82
30	102	3.29	18.5	0.64
10	196	6.31	23.8	0.43

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 93 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W32-1194

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-020-000-R0001

I. LOCATION

A. State	Washington	
B. County	Whitman	
C. Township, Range	T15N R37E	
D. Latitude, Longitude	46°47' 118°05'	
E. Stream Name	Palouse River	
F. Major Basin Name	Palouse	
G. River Mile	0.0/40.6	

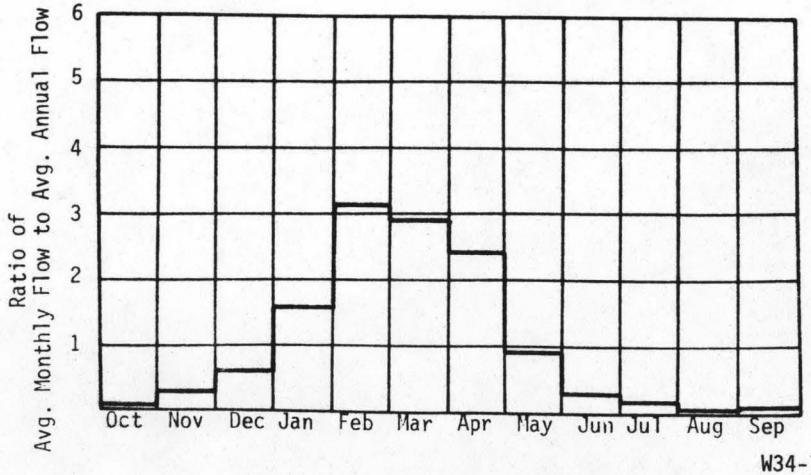
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

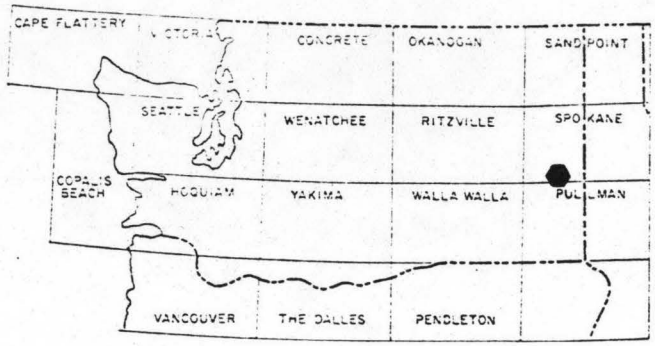
A. Upstream Elevation of Reach	1270	Ft. MSL
B. Downstream Elevation of Reach	480	Ft. MSL
C. Total Available Head in Reach	780	Ft.
D. Average Slope in Reach	19	Ft./Mi.
E. Drainage Area above Reach Mouth	3400	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

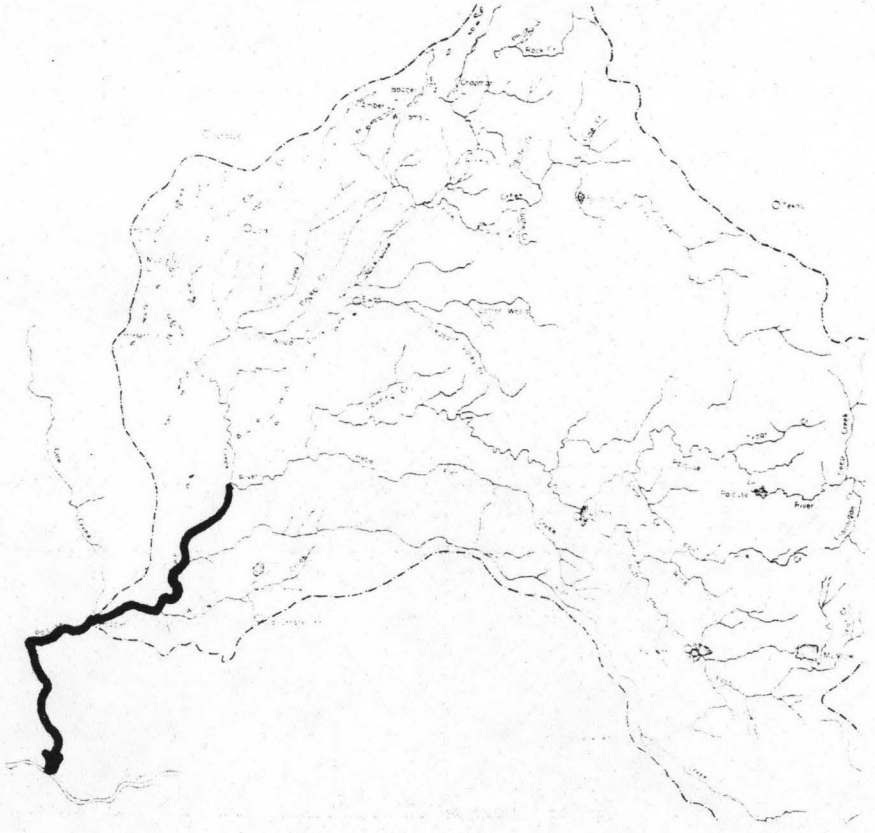
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.0	0.73	6.38	1.00
80	44.2	2.91	23.5	0.92
50	155	10.2	63.4	0.71
30	475	31.3	137	0.50
10	1480	98.0	249	0.29

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 552 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



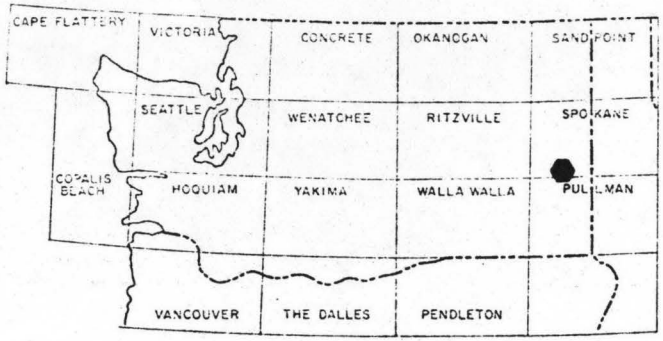
W34-1195

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-020-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Whitman
C.	Township, Range	T17N R42E
D.	Latitude, Longitude	46°58' 117°32'
E.	Stream Name	Palouse River
F.	Major Basin Name	Palouse
G.	River Mile	40.6/89.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

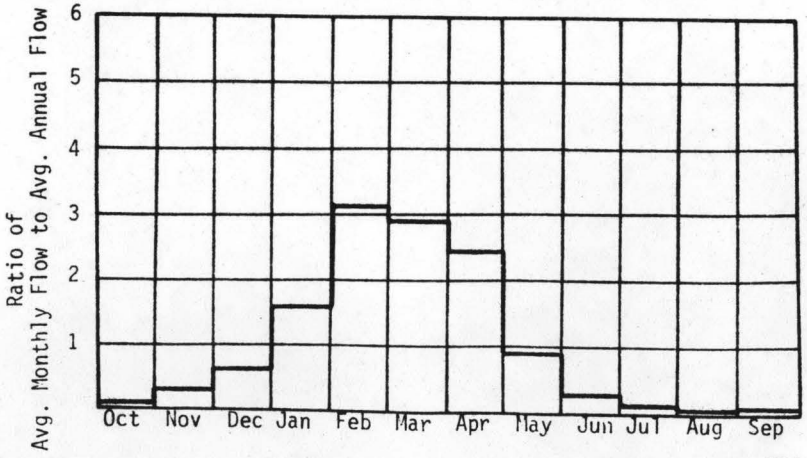
A.	Upstream Elevation of Reach	1935	Ft. MSL
B.	Downstream Elevation of Reach	1270	Ft. MSL
C.	Total Available Head in Reach	665	Ft.
D.	Average Slope in Reach	14	Ft./Mi.
E.	Drainage Area above Reach Mouth	1106	Sq.Mi.
F.	Inflow Classification	Natural	

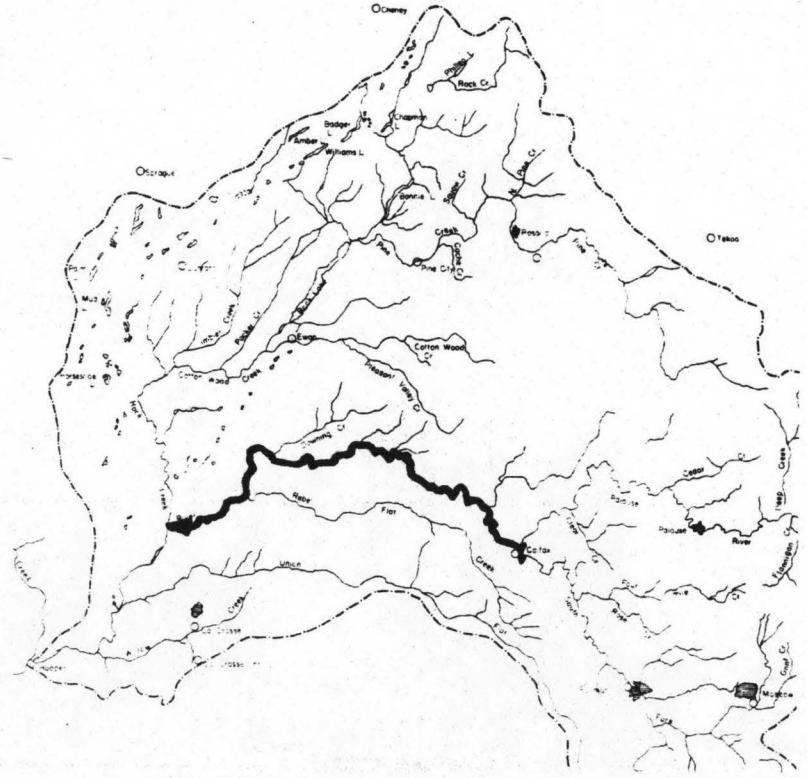
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.00	0.45	3.94	1.00
80	24.0	1.35	10.9	0.92
50	92.0	5.18	31.7	0.70
30	340	19.1	80.4	0.48
10	1030	57.8	147	0.29

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 400 cfs





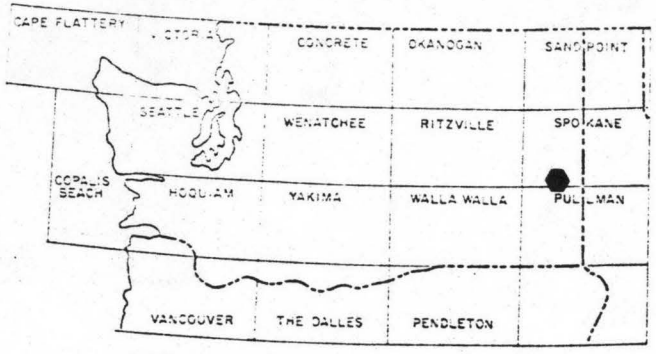
W34-1196

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-020-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Whitman
C.	Township, Range	T17N R44E
D.	Latitude, Longitude	46°59' 117°14'
E.	Stream Name	Palouse River
F.	Major Basin Name	Palouse
G.	River Mile	89.5/122.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

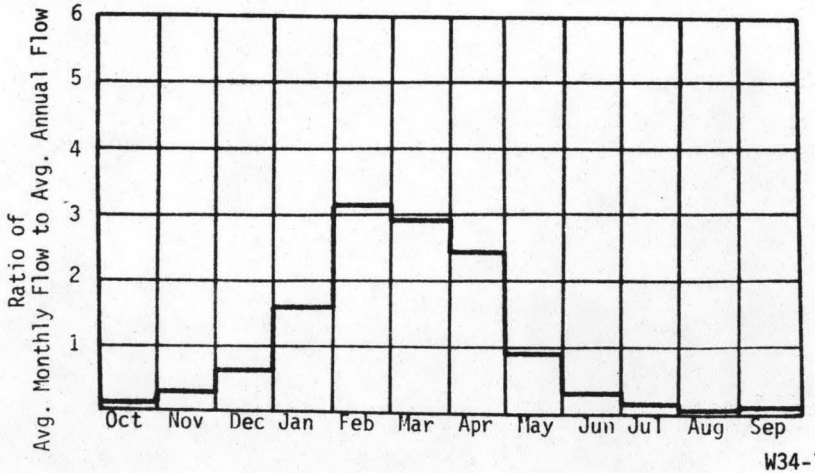
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

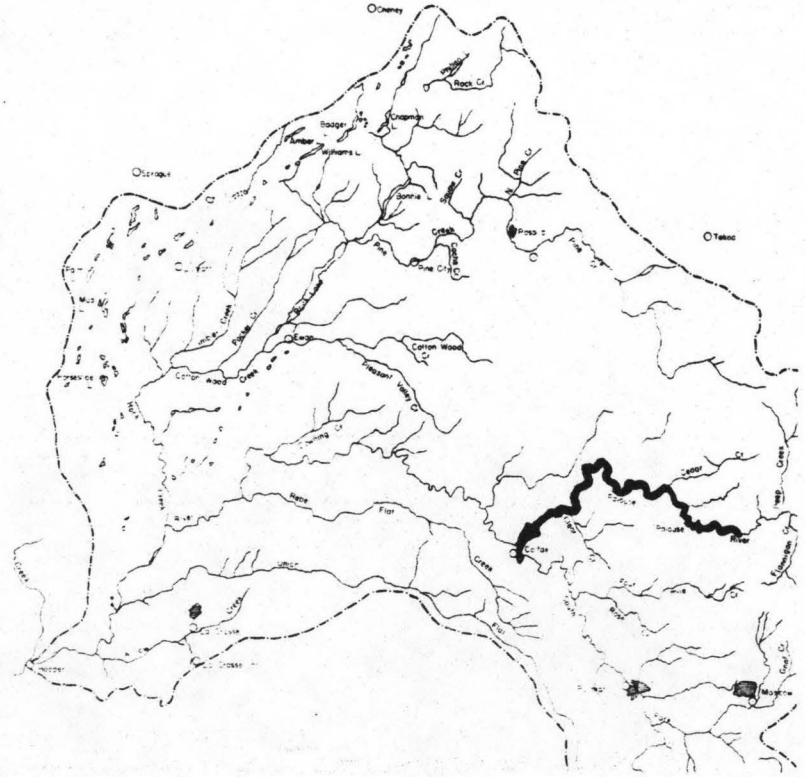
A.	Upstream Elevation of Reach	2420	Ft. MSL
B.	Downstream Elevation of Reach	1935	Ft. MSL
C.	Total Available Head in Reach	485	Ft.
D.	Average Slope in Reach	15	Ft./Mi.
E.	Drainage Area above Reach Mouth	500	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.44	0.22	1.96	1.00
80	13.6	0.56	4.50	0.92
50	76.2	3.12	18.6	0.68
30	245	10.0	43.1	0.49
10	775	31.8	78.0	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 272 cfs





W34-1197

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-050-000-R0001

I. LOCATION

A. State	Washington	
B. County	Asotin	
C. Township, Range	T10N R45E	
D. Latitude, Longitude	46°20' 117°05'	
E. Stream Name	Asotin Creek	
F. Major Basin Name	Snake River	
G. River Mile	0/3.0	

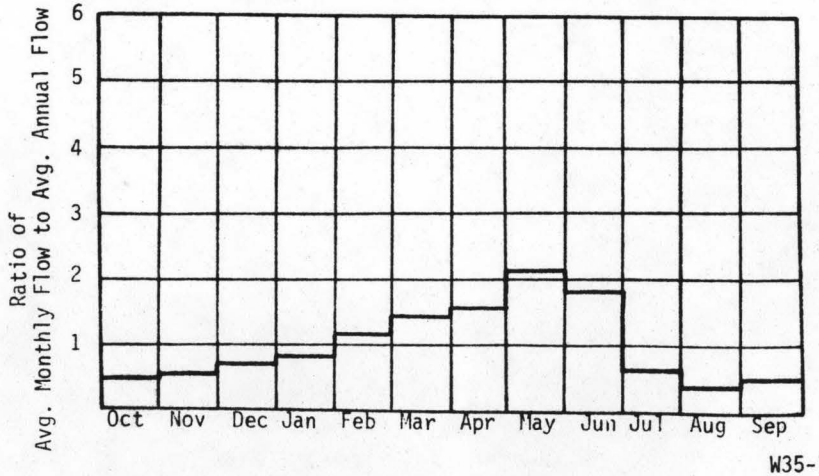
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

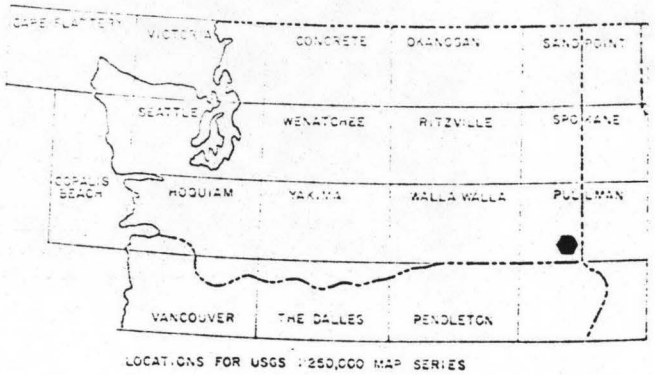
A. Upstream Elevation of Reach	940	Ft. MSL
B. Downstream Elevation of Reach	750	Ft. MSL
C. Total Available Head in Reach	190	Ft.
D. Average Slope in Reach	63	Ft./Mi.
E. Drainage Area above Reach Mouth	351	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

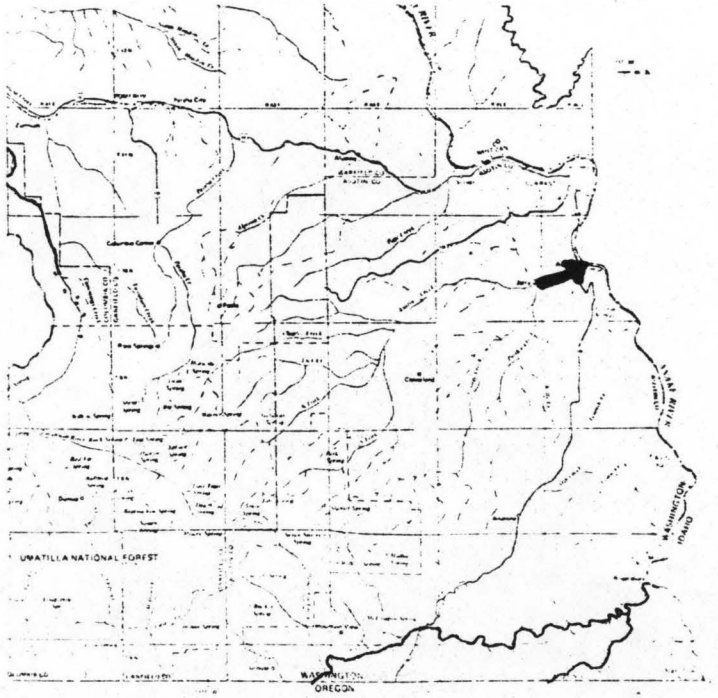
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	50.0	0.80	7.04	1.00
80	58.3	0.94	8.05	0.98
50	79.7	1.28	9.99	0.89
30	121	1.95	12.3	0.72
10	240	3.86	15.6	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 119 cfs





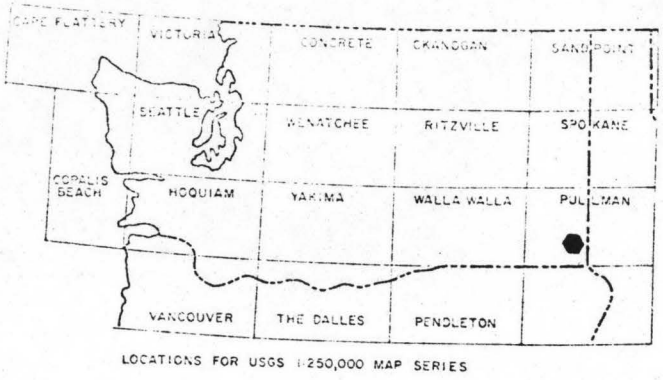
LOCATIONS FOR USGS 1:250,000 MAP SERIES



W35-1198

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-050-000-R0002



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Columbia	
C. Township, Range	T10N R44E	
D. Latitude, Longitude	46°19' 117°12'	
E. Stream Name	Asotin Creek	
F. Major Basin Name	Snake River	
G. River Mile	3.0/14.9	

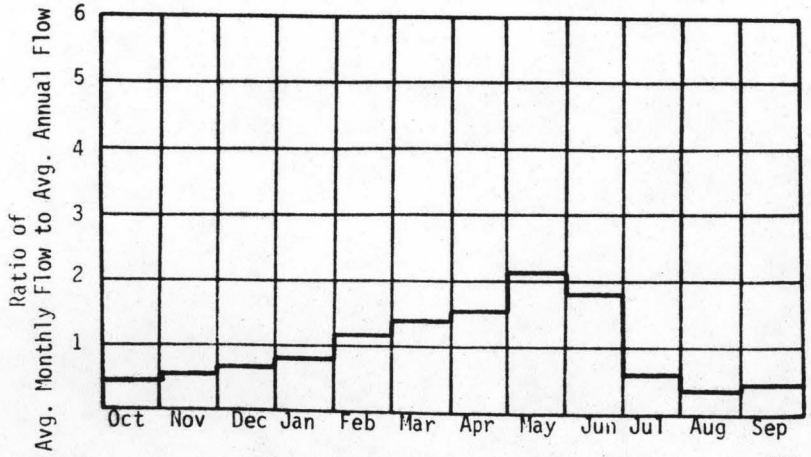
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

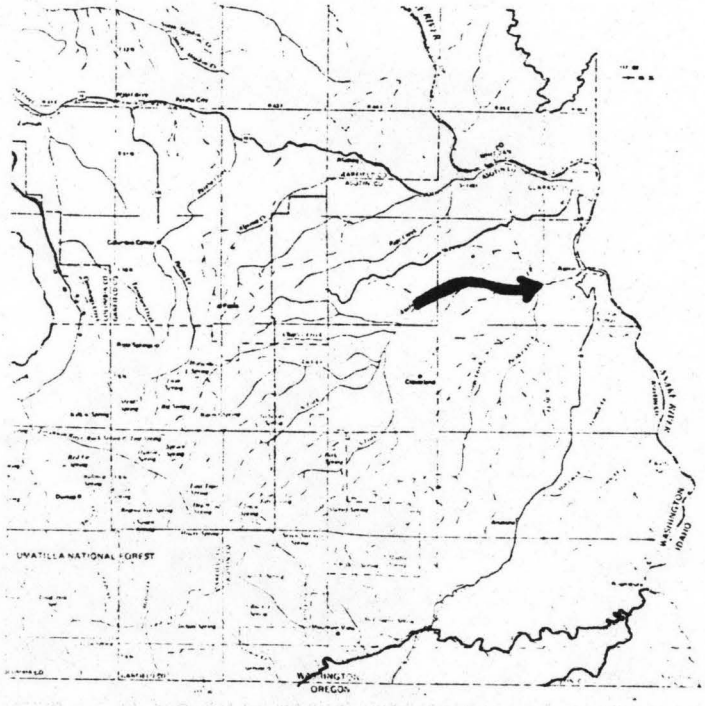
A. Upstream Elevation of Reach	1835	Ft. MSL
B. Downstream Elevation of Reach	940	Ft. MSL
C. Total Available Head in Reach	895 + 66 = 916	Ft.
D. Average Slope in Reach	75	Ft./Mi.
E. Drainage Area above Reach Mouth	188	Sq.Mi.
F. Inflow Classification	Natural	

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	2.19	19.1	1.00
80	31.4	2.55	21.9	0.98
50	42.9	3.49	27.2	0.89
30	65.3	5.31	33.5	0.72
10	129	10.5	42.4	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 64 cfs





W35-1199

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-010-000-R0001

I. LOCATION

A. State	Washington	
B. County	Columbia	
C. Township, Range	T12N R37E	
D. Latitude, Longitude	46°30' 118°05'	
E. Stream Name	Tucannon River	
F. Major Basin Name	Columbia	
G. River Mile	0/12.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

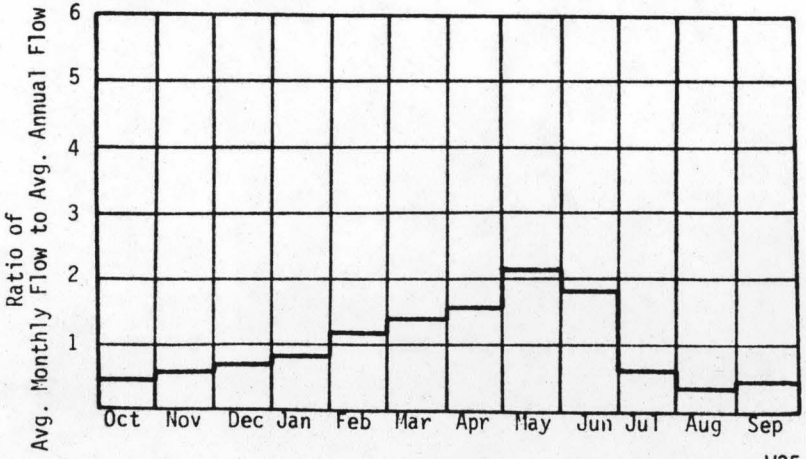
A. Upstream Elevation of Reach	850	Ft. MSL
B. Downstream Elevation of Reach	497	Ft. MSL
C. Total Available Head in Reach	353	Ft.
D. Average Slope in Reach	28	Ft./Mi.
E. Drainage Area above Reach Mouth	203	Sq.Mi.
F. Inflow Classification	Regulated	

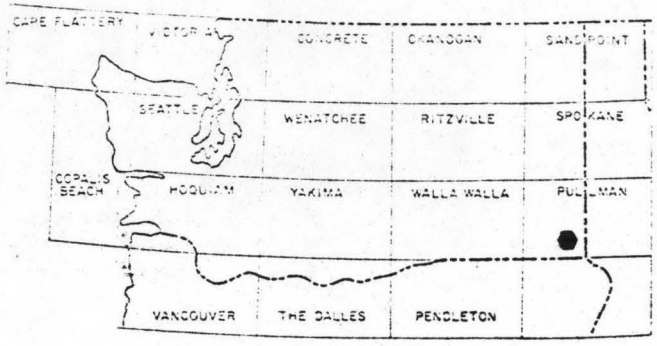
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	48.6	1.45	12.7	1.00
80	72.0	2.15	18.1	0.96
50	119	3.55	25.8	0.83
30	193	5.75	33.8	0.67
10	342	10.2	41.2	0.46

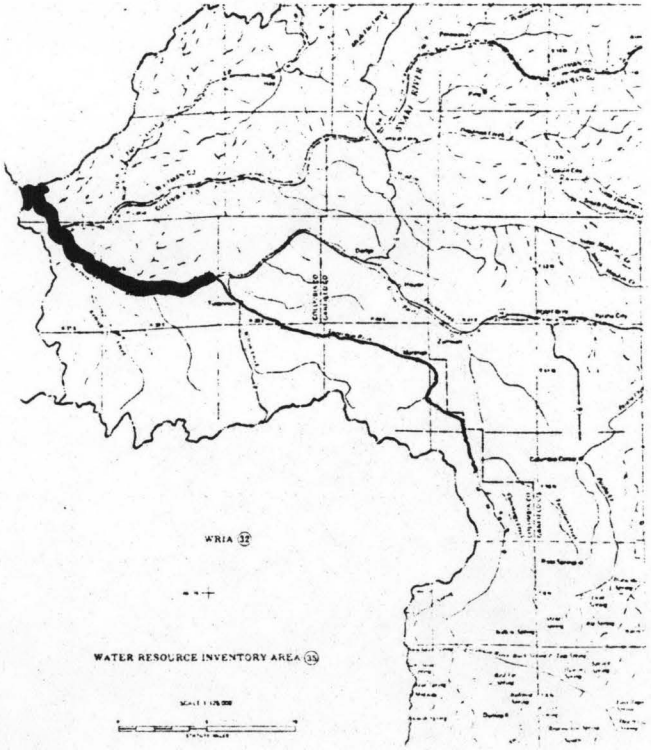
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 180 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W35-1200

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-010-000-R0002

I. LOCATION

A. State	Washington	
B. County	Columbia	
C. Township, Range	T11N R40E	
D. Latitude, Longitude	46°28' 117°52'	
E. Stream Name	Tucannon River	
F. Major Basin Name	Columbia	
G. River Mile	12.5/36.5	

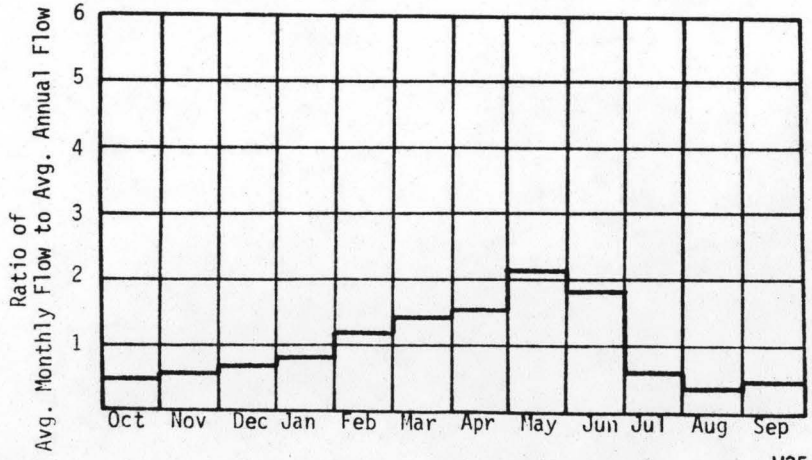
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

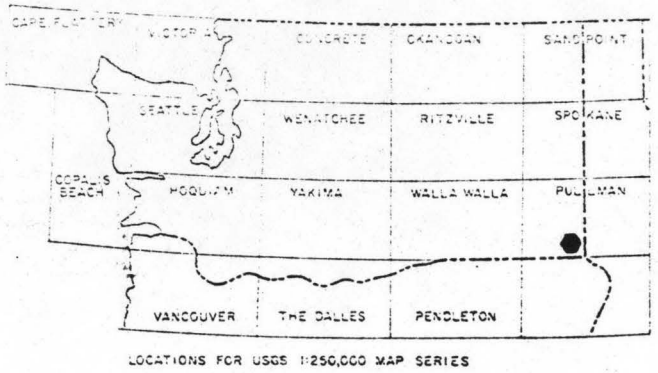
A. Upstream Elevation of Reach	1940	Ft. MSL
B. Downstream Elevation of Reach	850	Ft. MSL
C. Total Available Head in Reach	1090 + 66 = 1156	Ft.
D. Average Slope in Reach	45	Ft./Mi.
E. Drainage Area above Reach Mouth	215	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

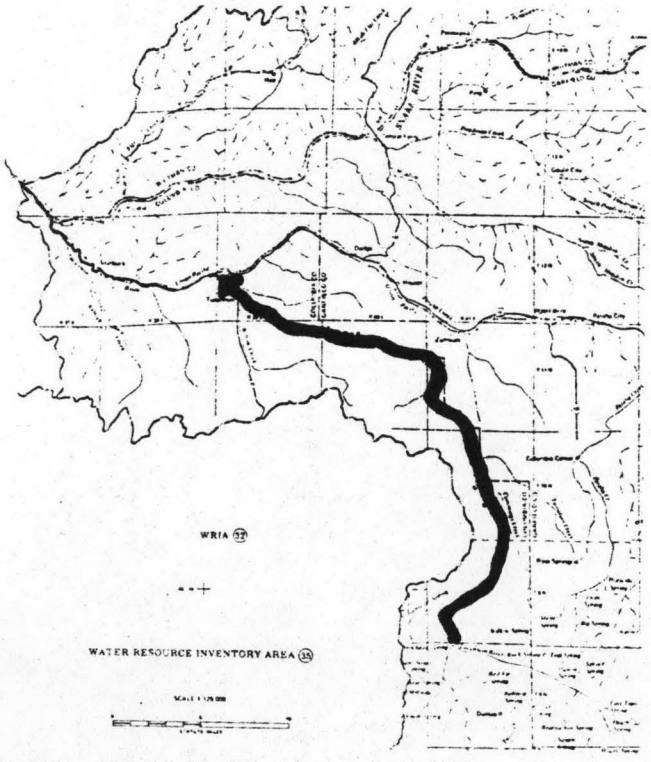
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	24.0	2.35	20.6	1.00
80	35.6	3.48	29.3	0.96
50	58.7	5.74	41.8	0.83
30	95.2	9.31	54.7	0.67
10	169	16.5	66.6	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 89 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W35-1201

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-010-000-R0003

I. LOCATION

A. State	Washington	
B. County	Columbia	
C. Township, Range	T11N R38E	
D. Latitude, Longitude	46°30' 118°00'	
E. Stream Name	Tucannon River	
F. Major Basin Name	Columbia River	
G. River Mile	0/0	

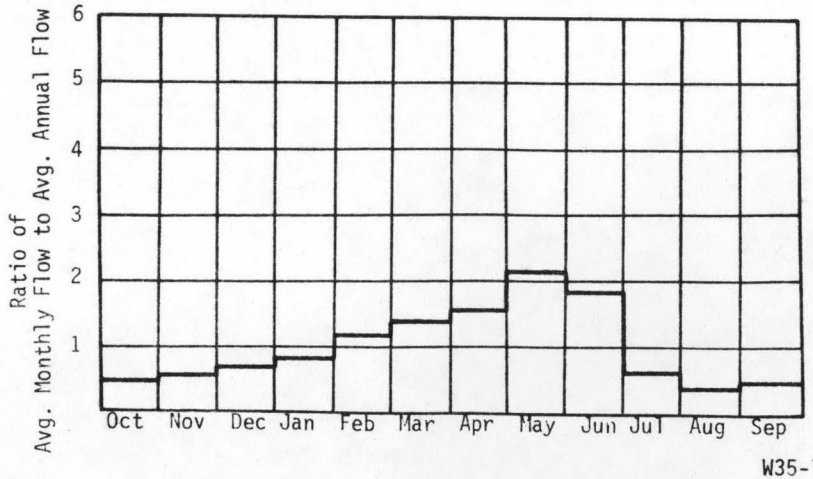
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	850	Ft. MSL
B. Downstream Elevation of Reach	850	Ft. MSL
C. Total Available Head in Reach	0 + 66 = 66	Ft.
D. Average Slope in Reach	--	Ft./Mi.
E. Drainage Area above Reach Mouth	59	Sq.Mi.
F. Inflow Classification	Natural	

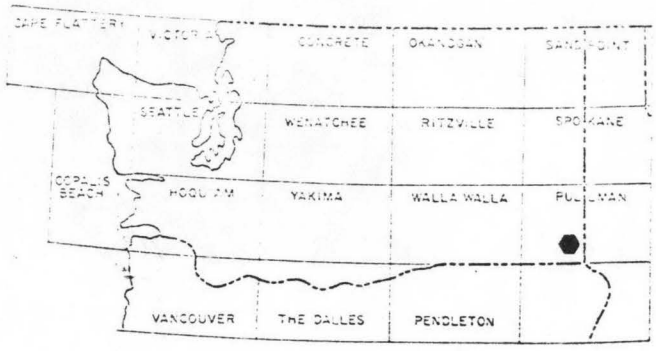
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.0	0.09	0.83	1.00
80	25.2	0.14	1.18	0.96
50	41.6	0.23	1.69	0.83
30	67.4	0.38	2.21	0.67
10	120	0.67	2.69	0.46

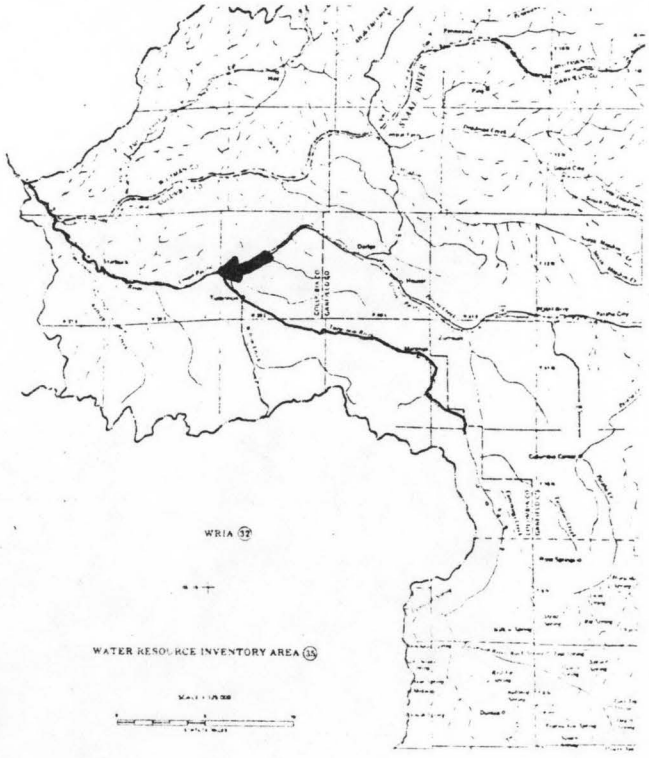
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 63 cfs



W35-1202



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

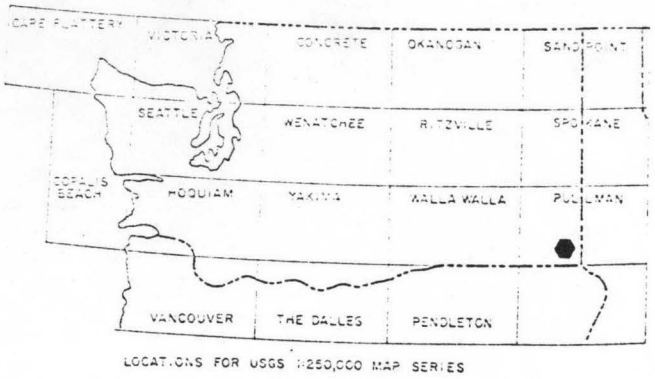
REACH # 01-500-240-060-000-R0001

I. LOCATION

A. State	Washington	
B. County	Asotin	
C. Township, Range	T7N R46E	
D. Latitude, Longitude	46°03' 116°59'	
E. Stream Name	Grande Ronde River	
F. Major Basin Name	Grande Ronde	
G. River Mile	0.0/4.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	881	Ft. MSL
B. Downstream Elevation of Reach	820	Ft. MSL
C. Total Available Head in Reach	61	Ft.
D. Average Slope in Reach	14.19	Ft./Mi.
E. Drainage Area above Reach Mouth	4031.9	Sq.Mi.
F. Inflow Classification	Natural	

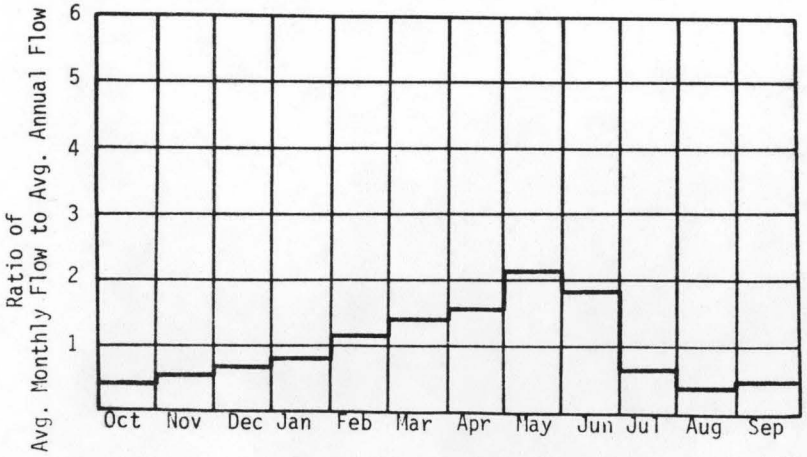


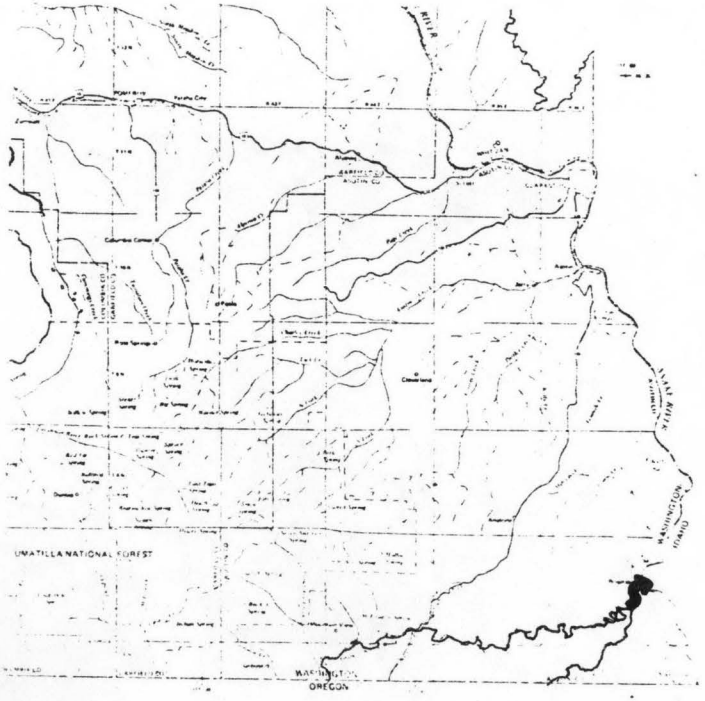
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	697	3.60	31.6	1.00
80	903	4.67	39.7	0.97
50	1940	10.0	70.3	0.80
30	4010	20.7	108	0.59
10	8200	42.4	146	0.39

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3345 cfs





W35-1203

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-060-000-R0002

I. LOCATION

A. State	Washington	
B. County	Asotin	
C. Township, Range	T6N R45E	
D. Latitude, Longitude	46°02' 117°12'	
E. Stream Name	Grande Ronde River	
F. Major Basin Name	Grande Ronde	
G. River Mile	4.3/15.7	

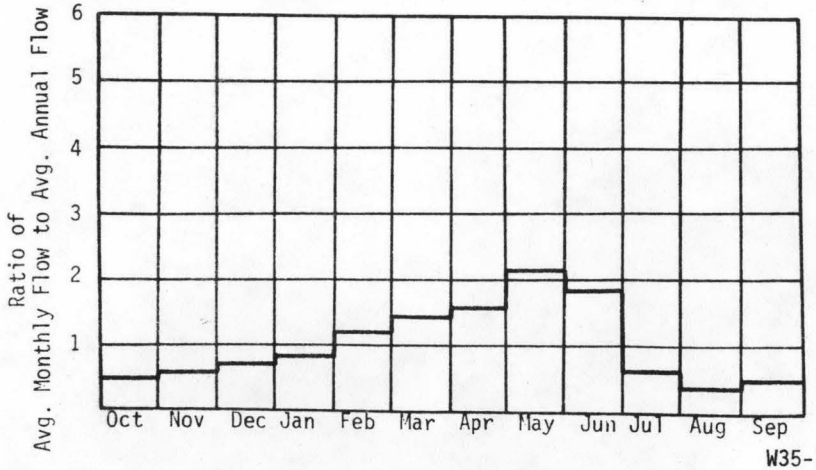
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1081	Ft. MSL
B. Downstream Elevation of Reach	881	Ft. MSL
C. Total Available Head in Reach	200	Ft.
D. Average Slope in Reach	17.5	Ft./Mi.
E. Drainage Area above Reach Mouth	3479.9	Sq.Mi.
F. Inflow Classification	Natural	

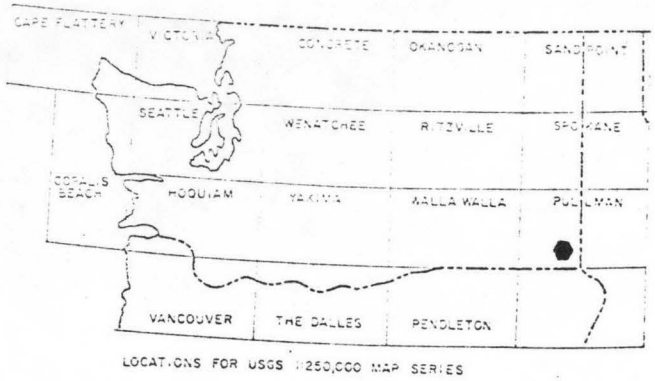
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	629	10.7	93.4	1.00
80	827	14.0	119	0.97
50	1750	29.7	209	0.80
30	3690	62.6	324	0.59
10	7630	129	441	0.39

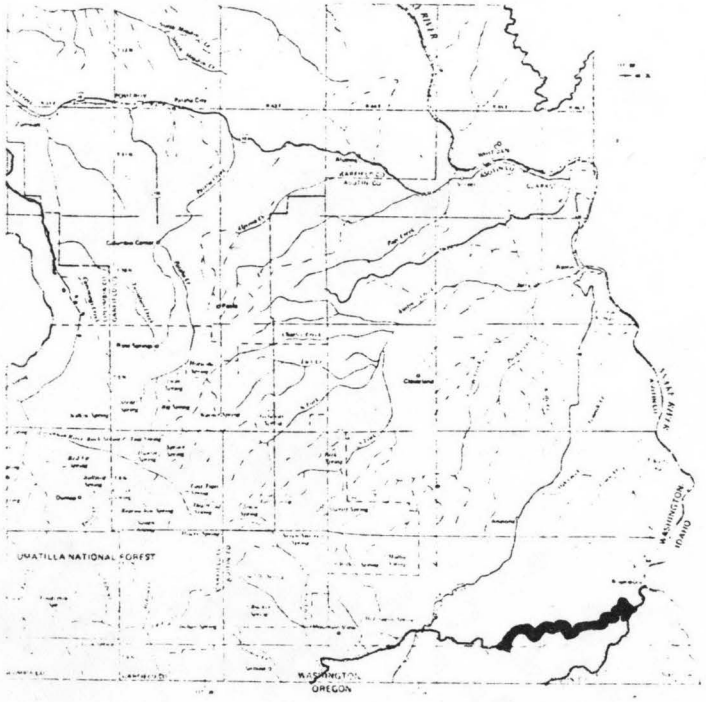
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3090 cfs



W35-1204



LOCATIONS FOR USGS 1:250,000 MAP SERIES

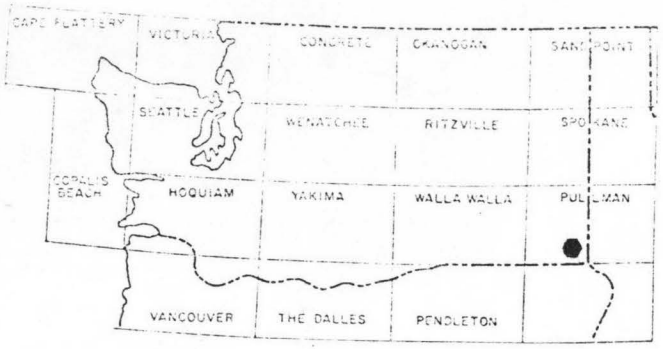


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-060-000-R0003

I. LOCATION

A. State	Washington	
B. County	Asotin	
C. Township, Range	T7N R45E	
D. Latitude, Longitude	46°02' 117°10'	
E. Stream Name	Grande Ronde River	
F. Major Basin Name	Grande Ronde	
G. River Mile	15.7/26.5	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

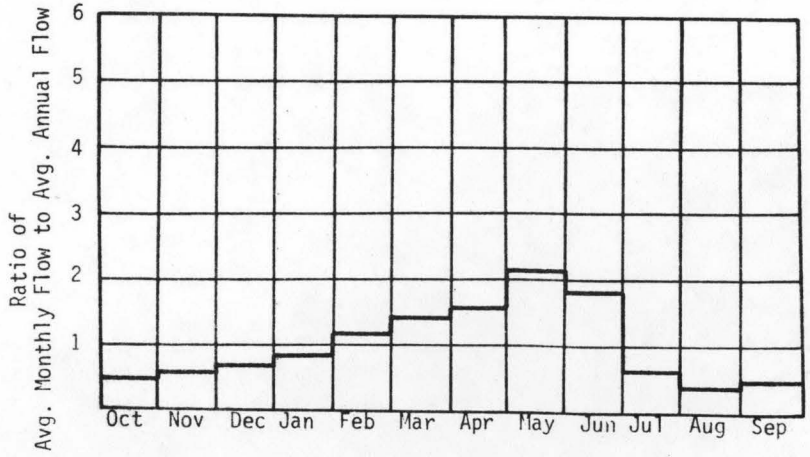
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1265	Ft. MSL
B. Downstream Elevation of Reach	1081	Ft. MSL
C. Total Available Head in Reach	184	Ft.
D. Average Slope in Reach	17	Ft./Mi.
E. Drainage Area above Reach Mouth	3462.1	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	618	9.64	84.5	1.00
80	815	12.7	108	0.97
50	1730	26.9	189	0.80
30	3640	56.8	293	0.59
10	7540	117	400	0.39

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3050 cfs



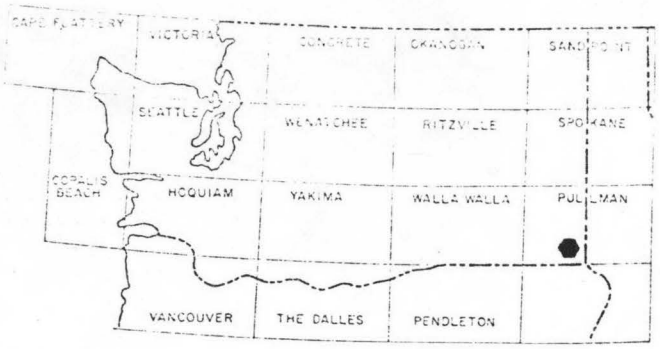
W35-1205

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-240-060-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Asotin
C.	Township, Range	T7N R44E
D.	Latitude, Longitude	46°02' 117°19'
E.	Stream Name	Grande Ronde River
F.	Major Basin Name	Grande Ronde
G.	River Mile	26.5/39.0



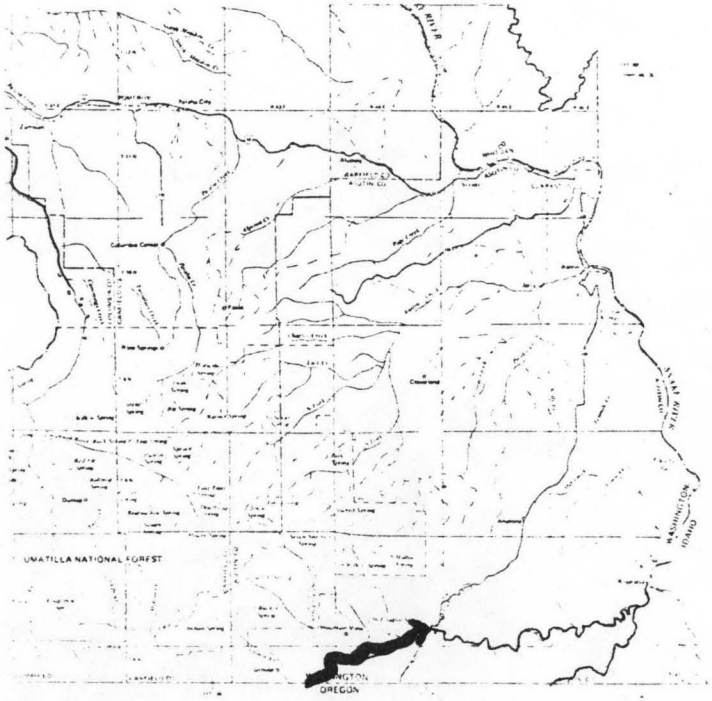
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

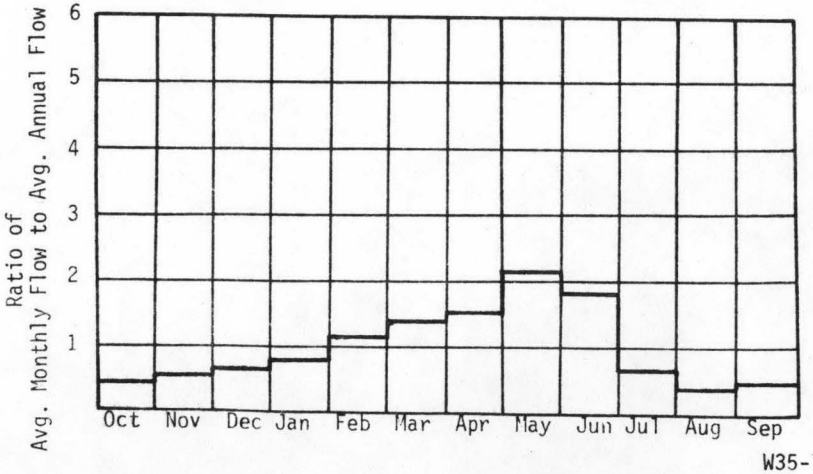
A.	Upstream Elevation of Reach	1476	Ft. MSL
B.	Downstream Elevation of Reach	1265	Ft. MSL
C.	Total Available Head in Reach	211	Ft.
D.	Average Slope in Reach	17	Ft./Mi.
E.	Drainage Area above Reach Mouth	3377.1	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	599	10.7	93.8	1.00
80	793	14.2	120	0.97
50	1670	29.9	210	0.80
30	3550	63.4	328	0.59
10	7370	132	447	0.39



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2970 cfs



W35-1206

REACH HYDRO POTENTIAL CHARACTERISTICS

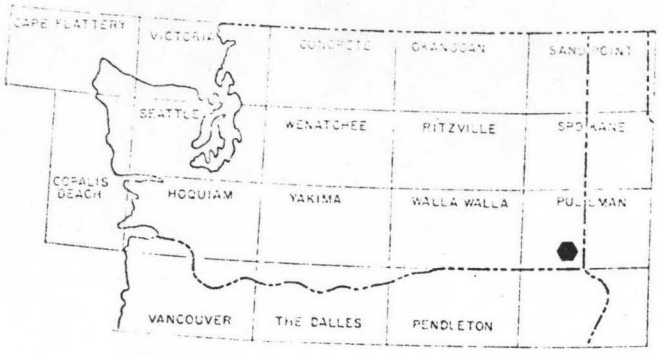
REACH # 01-500-240-060-000-R0005

I. LOCATION

A. State	Washington	
B. County	Asotin	
C. Township, Range	T6N R46E	
D. Latitude, Longitude	46°01' 117°00'	
E. Stream Name	Joseph Creek	
F. Major Basin Name	Grande Ronde	
G. River Mile	0.0/4.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1132	Ft. MSL
B. Downstream Elevation of Reach	881	Ft. MSL
C. Total Available Head in Reach	251	Ft.
D. Average Slope in Reach	57	Ft./Mi.
E. Drainage Area above Reach Mouth	544.9	Sq.Mi.
F. Inflow Classification	Natural	

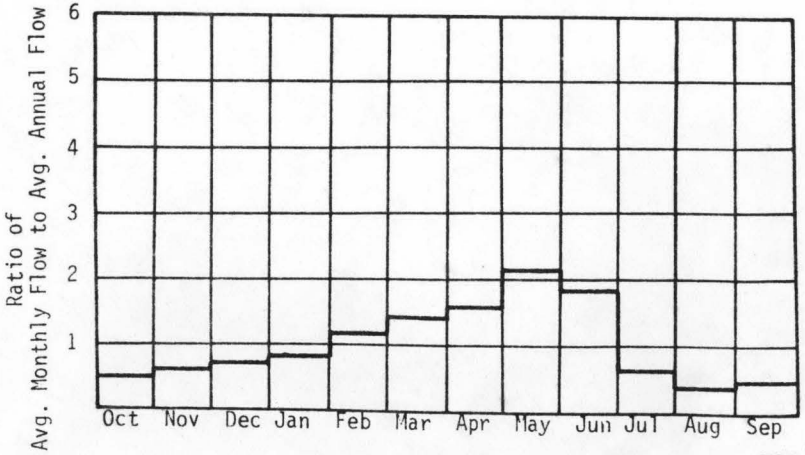


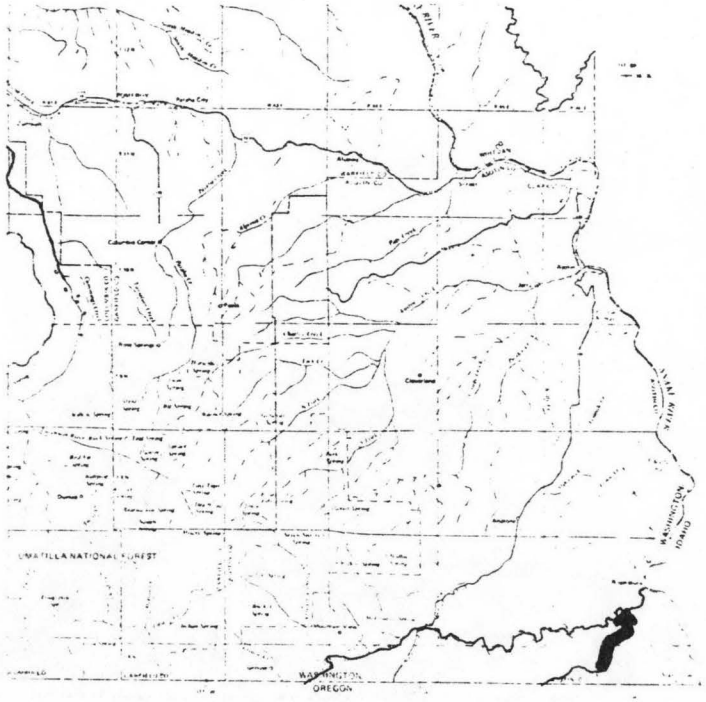
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	56.4	1.20	10.5	1.00
80	78.9	1.68	14.2	0.96
50	142	3.03	21.9	0.82
30	310	6.60	34.4	0.59
10	1042	22.2	61.6	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 337 cfs





W35-1207

REACH HYDRO POTENTIAL CHARACTERISTICS

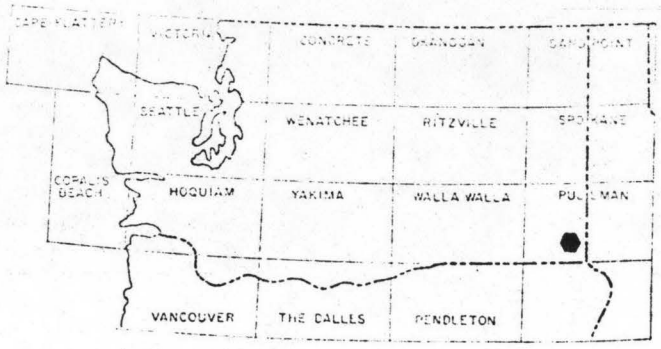
REACH # 01-500-240-060-000-R0006

I. LOCATION

A. State	Washington	
B. County	Asotin	
C. Township, Range	T6N R46E	
D. Latitude, Longitude	46°00' 117°04'	
E. Stream Name	Joseph Creek	
F. Major Basin Name	Grande Ronde	
G. River Mile	4.4/8.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1405	Ft. MSL
B. Downstream Elevation of Reach	1132	Ft. MSL
C. Total Available Head in Reach	273	Ft.
D. Average Slope in Reach	70	Ft./Mi.
E. Drainage Area above Reach Mouth	450.5	Sq.Mi.
F. Inflow Classification	Natural	

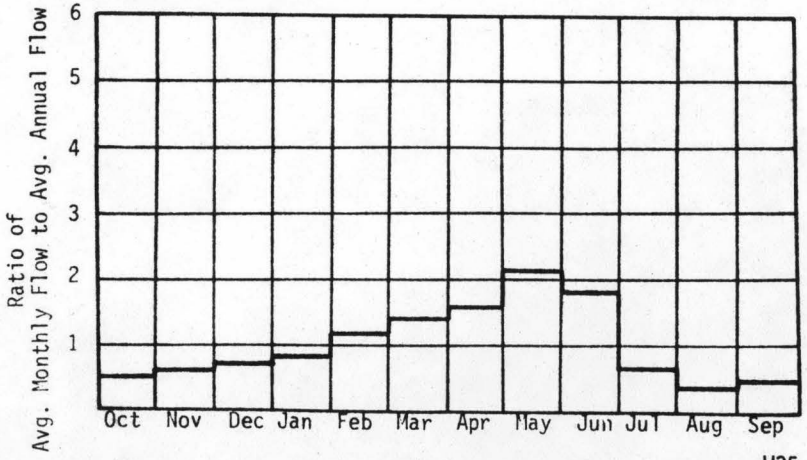


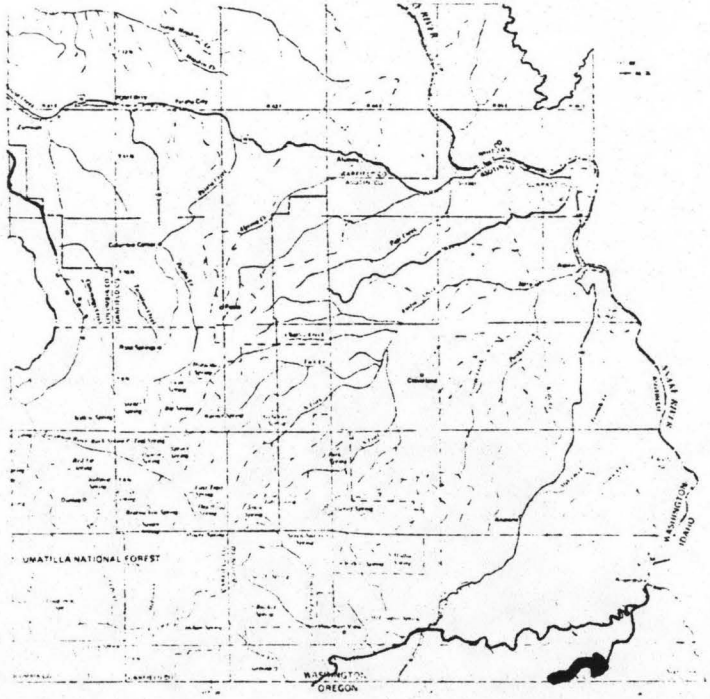
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	42.6	0.99	8.63	1.00
80	61.1	1.41	11.9	0.96
50	111	2.56	18.4	0.82
30	241	5.57	29.0	0.59
10	814	18.8	52.2	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 272 cfs





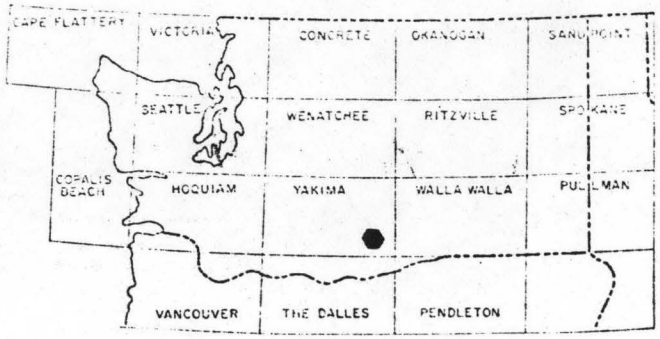
W35-1208

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T10N R24E
D.	Latitude, Longitude	46°15' 120°00'
E.	Stream Name	Yakima River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/103.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

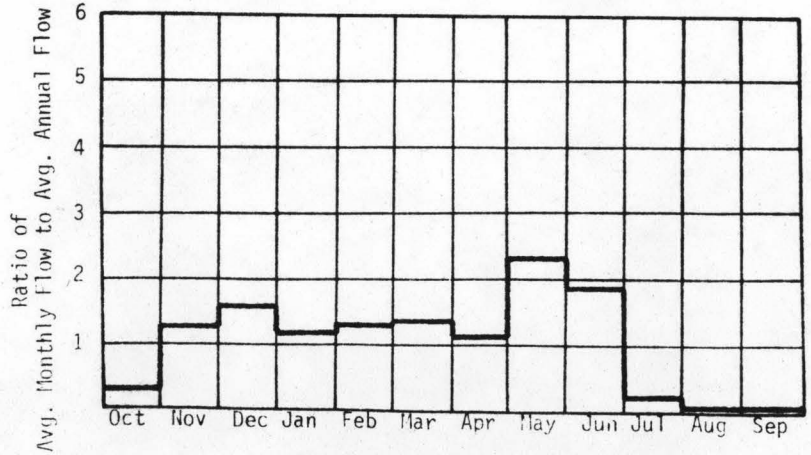
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

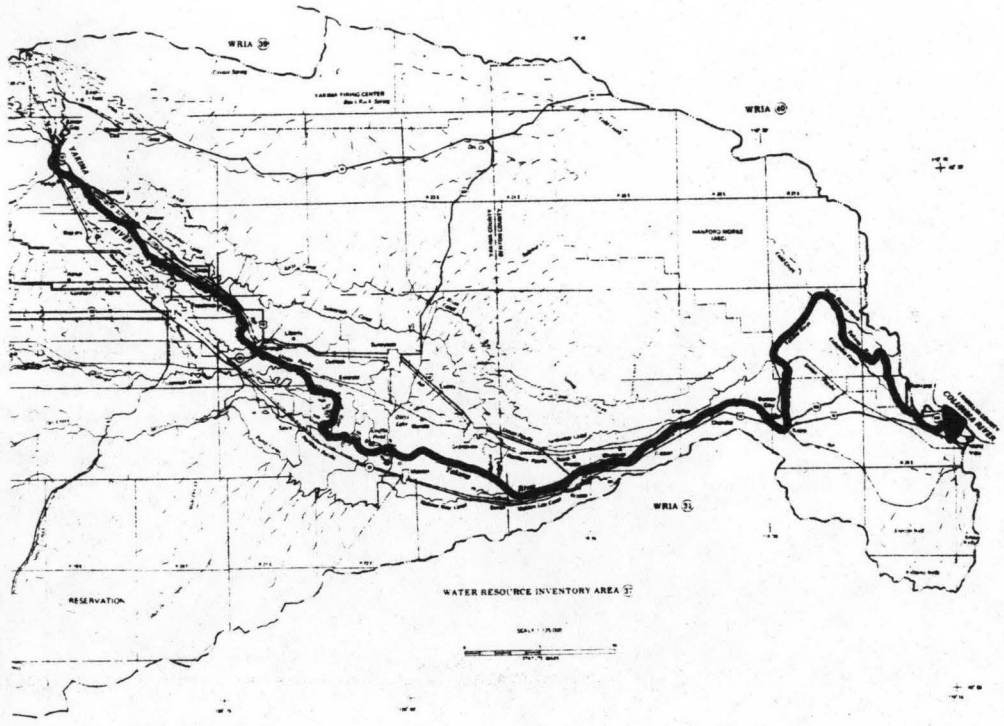
A.	Upstream Elevation of Reach	890	Ft. MSL
B.	Downstream Elevation of Reach	340	Ft. MSL
C.	Total Available Head in Reach	490	Ft.
D.	Average Slope in Reach	4.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	6155	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	296	12.3	108	1.00
80	771	32.0	258	0.92
50	2070	86.1	558	0.74
30	3440	143	762	0.61
10	5310	220	887	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2964 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T14N R22E
D.	Latitude, Longitude	46°30' 120°45'
E.	Stream Name	Yakima River
F.	Major Basin Name	Yakima
G.	River Mile	103.8/140.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

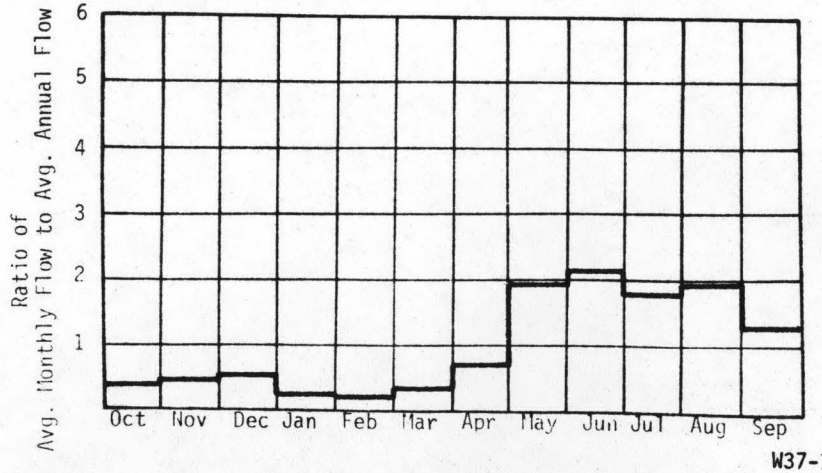
A.	Upstream Elevation of Reach	1320	Ft. MSL
B.	Downstream Elevation of Reach	890	Ft. MSL
C.	Total Available Head in Reach	430	Ft.
D.	Average Slope in Reach	11.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	3660	Sq.Mi.
F.	Inflow Classification	Regulated	

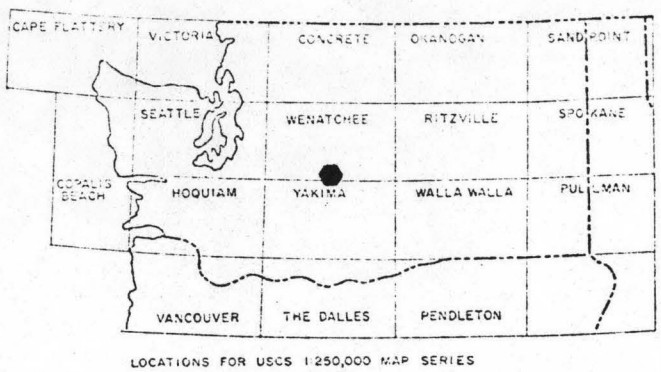
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	234	8.50	74.5	1.00
80	607	22.1	178	0.92
50	1640	59.5	386	0.74
30	2710	98.6	527	0.61
10	4180	152	613	0.46

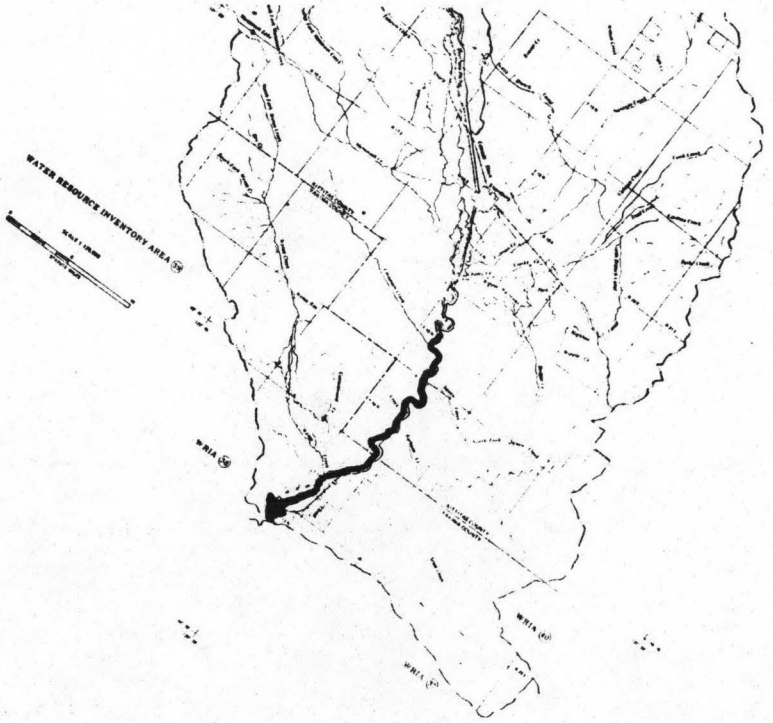
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 2336 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1210

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T18N R18E	
D. Latitude, Longitude	47°00' 120°38'	
E. Stream Name	Yakima River	
F. Major Basin Name	Yakima	
G. River Mile	140.4/176.1	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

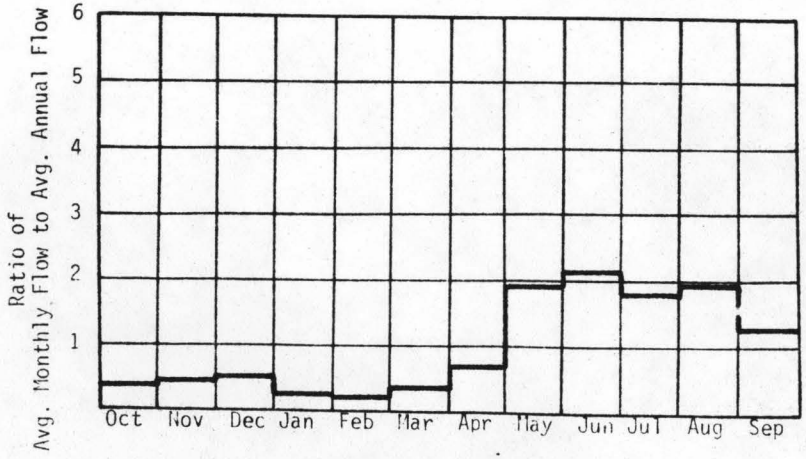
A. Upstream Elevation of Reach	1810	Ft. MSL
B. Downstream Elevation of Reach	1320	Ft. MSL
C. Total Available Head in Reach	490	Ft.
D. Average Slope in Reach	13.7	Ft./Mi.
E. Drainage Area above Reach Mouth	1594	Sq.Mi.
F. Inflow Classification	Regulated	

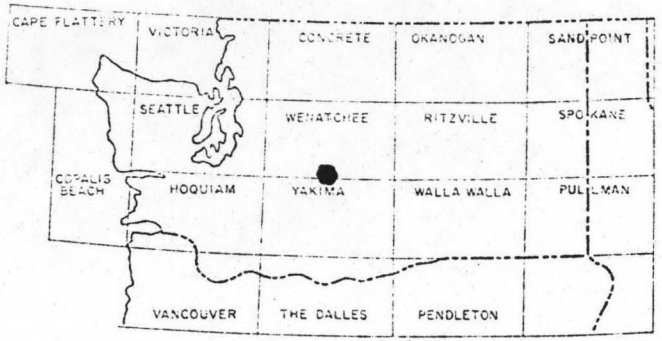
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	234	9.70	58.0	1.00
80	608	25.2	203	0.92
50	1640	67.9	440	0.74
30	2710	113	602	0.61
10	4190	174	700	0.46

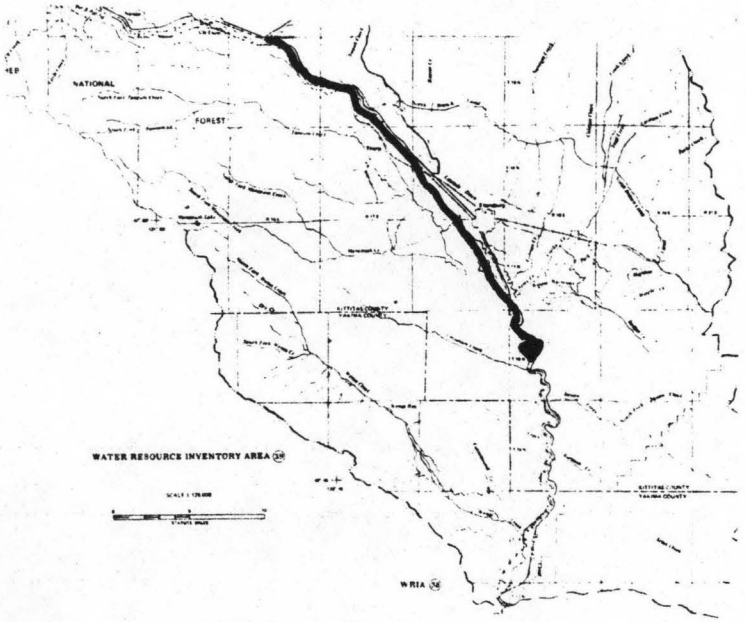
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 2340 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



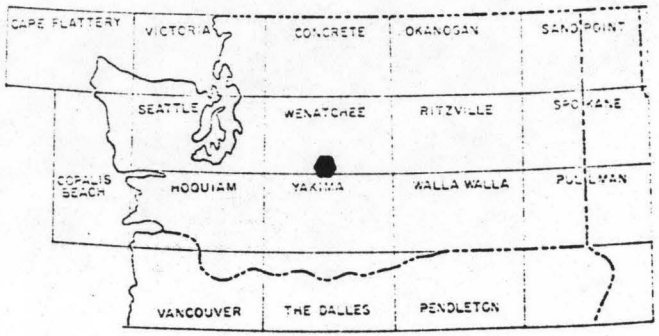
W37-1211

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T19N R16E
D.	Latitude, Longitude	47°10' 120°52'
E.	Stream Name	Yakima River
F.	Major Basin Name	Yakima
G.	River Mile	176.1/183.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

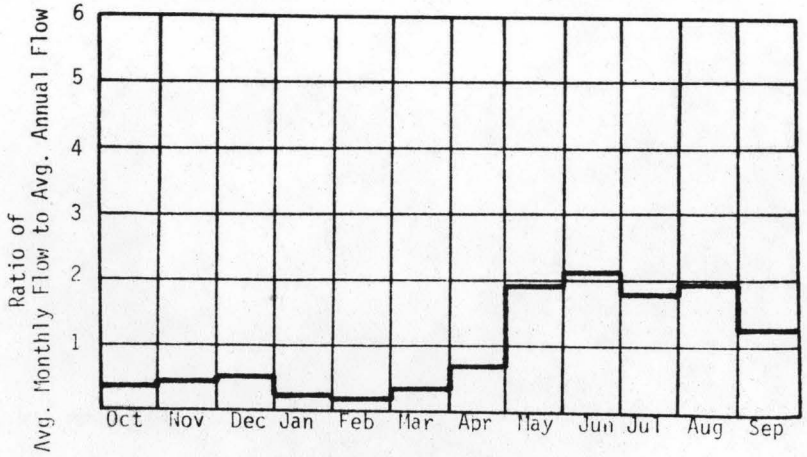
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

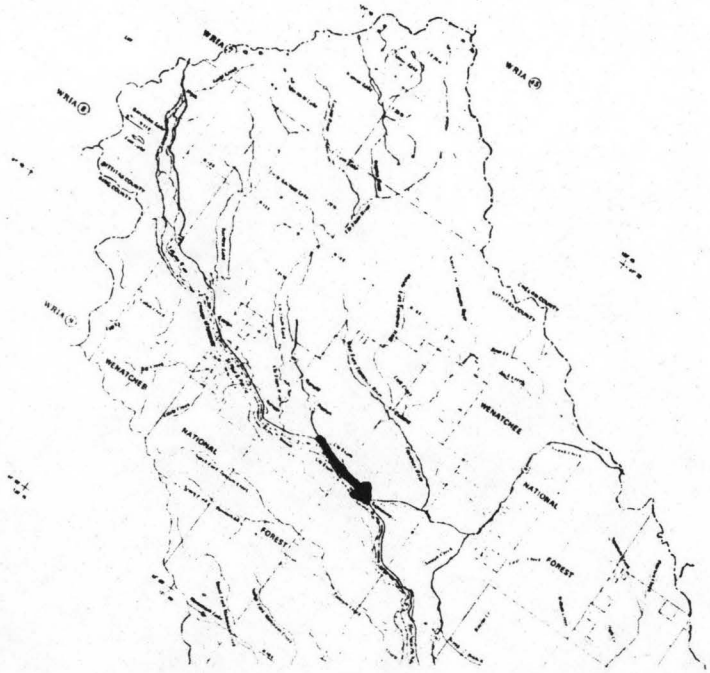
A.	Upstream Elevation of Reach	1920	Ft. MSL
B.	Downstream Elevation of Reach	1810	Ft. MSL
C.	Total Available Head in Reach	90	Ft.
D.	Average Slope in Reach	13	Ft./Mi.
E.	Drainage Area above Reach Mouth	543	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	204	1.90	16.6	1.00
80	530	4.94	39.8	0.92
50	1430	13.3	86.2	0.74
30	2370	22.0	118	0.61
10	3650	34.0	137	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2040 cfs





W37-1212

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T19N R15E
D.	Latitude, Longitude	47°11' 120°58'
E.	Stream Name	Yakima River
F.	Major Basin Name	Yakima
G.	River Mile	183.1/186

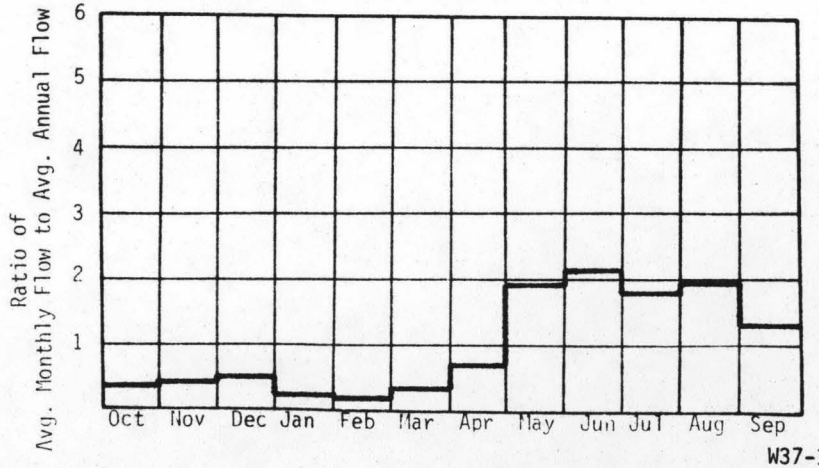
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1940	Ft. MSL
B.	Downstream Elevation of Reach	1900	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	14	Ft./Mi.
E.	Drainage Area above Reach Mouth	504	Sq.Mi.
F.	Inflow Classification	Regualted	

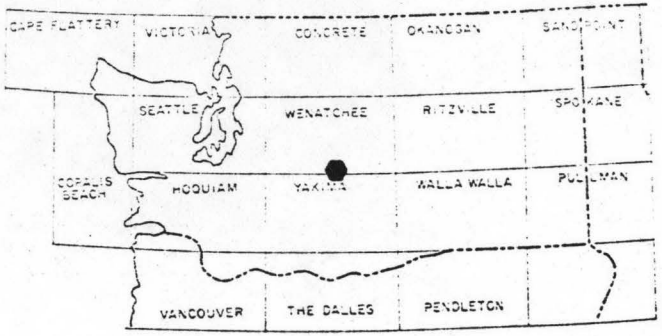
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	200	1.36	11.9	1.00
80	522	3.53	28.5	0.92
50	1400	9.51	61.6	0.74
30	2330	15.8	84.2	0.61
10	3590	24.3	100	0.46

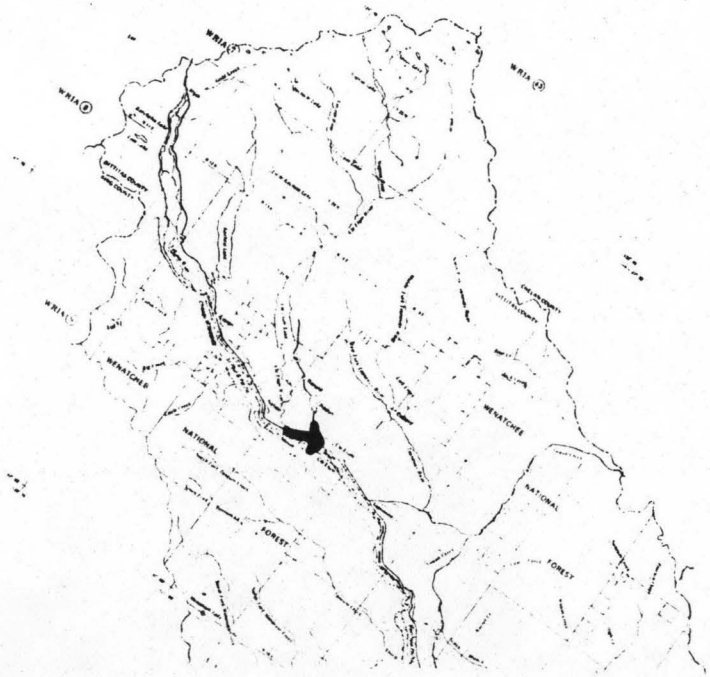
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2066 cfs



W37-1213



LOCATIONS FOR USGS 1:250,000 MAP SERIES

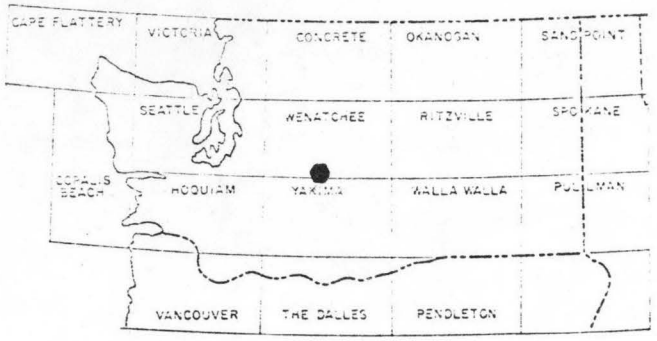


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R14E
D.	Latitude, Longitude	47°12' 121°21'
E.	Stream Name	Yakima River
F.	Major Basin Name	Yakima
G.	River Mile	186/194



LOCATIONS FOR USGS 1:250,000 MAP SERIES

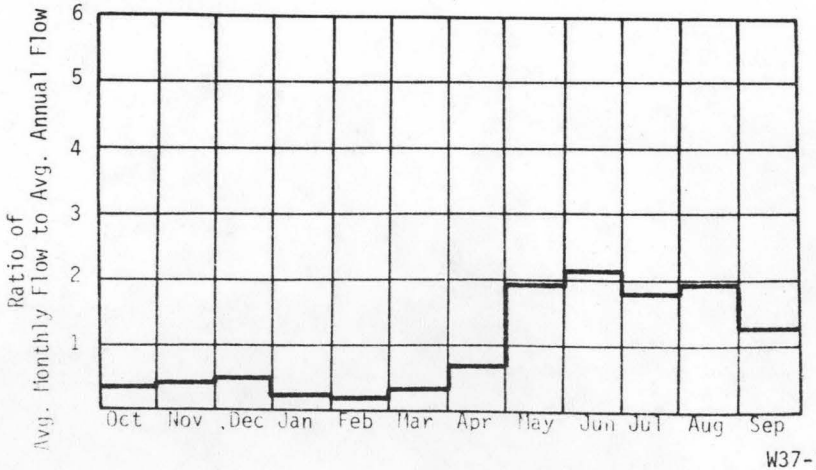
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

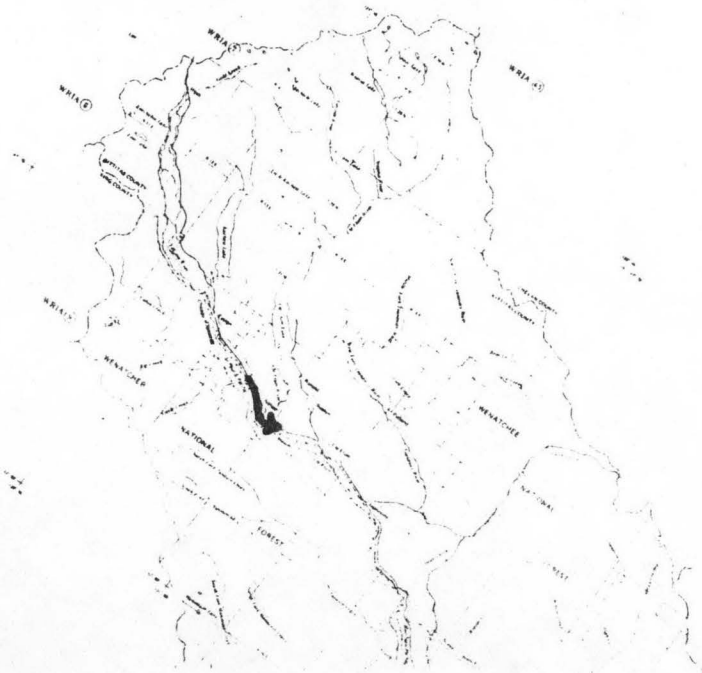
A.	Upstream Elevation of Reach	2040	Ft. MSL
B.	Downstream Elevation of Reach	1940	Ft. MSL
C.	Total Available Head in Reach	100	Ft.
D.	Average Slope in Reach	12.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	266	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	0.00	0.00	0.00	1.00
80	10.1	0.06	0.46	0.88
50	486	2.88	15.4	0.61
30	1450	8.57	35.3	0.47
10	2940	17.5	50.4	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1012 cfs





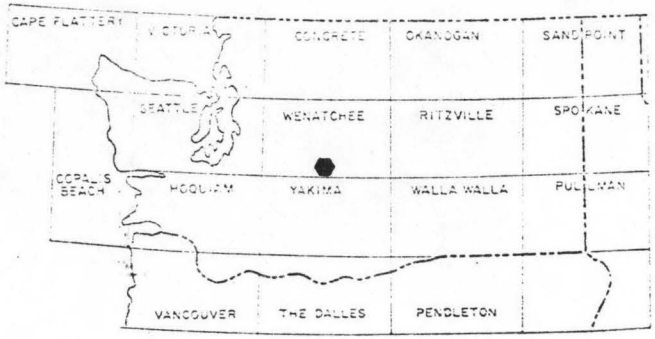
W37-1214

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R14E
D.	Latitude, Longitude	47°12' 121°05'
E.	Stream Name	Big Creek
F.	Major Basin Name	Yakima
G.	River Mile	194/195.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

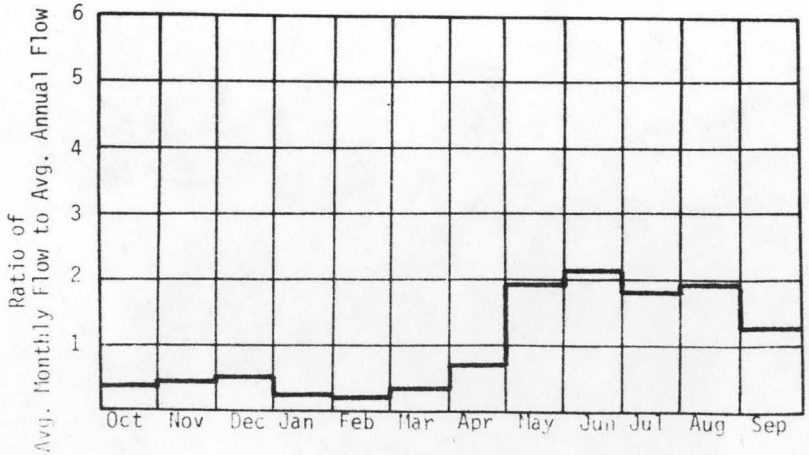
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2055	Ft. MSL
B.	Downstream Elevation of Reach	2040	Ft. MSL
C.	Total Available Head in Reach	15	Ft.
D.	Average Slope in Reach	12.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	247.3	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	0.00	0.00	0.00	1.00
80	0.71	0.04	0.34	0.38
50	34.1	2.11	11.3	0.61
30	102	6.27	25.6	0.47
10	207	12.8	36.9	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 71 cfs



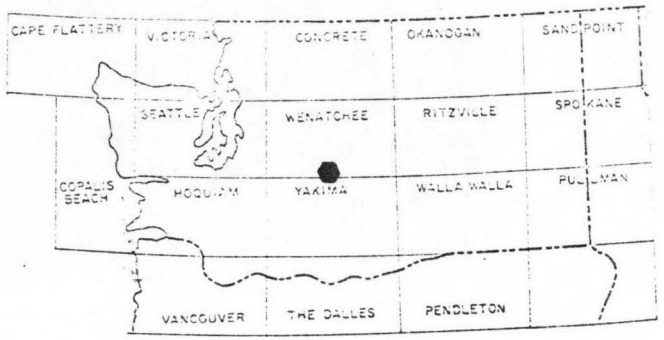
W37-1215

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R14E
D.	Latitude, Longitude	46°13' 121°07'
E.	Stream Name	Yakima River
F.	Major Basin Name	Yakima
G.	River Mile	195.2/201



LOCATIONS FOR USGS 1:250,000 MAP SERIES

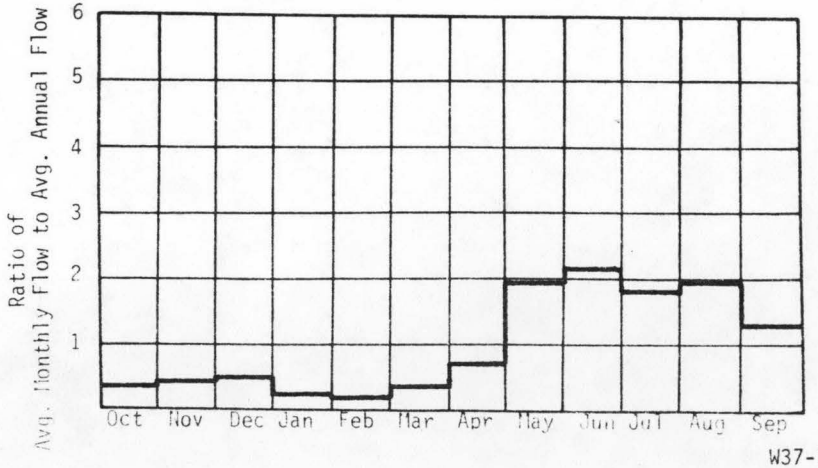
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2160	Ft. MSL
B.	Downstream Elevation of Reach	2055	Ft. MSL
C.	Total Available Head in Reach	105	Ft.
D.	Average Slope in Reach	18.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	203.9	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	0.00	0.00	0.00	1.00
80	8.55	0.07	0.50	0.88
50	410	3.13	16.7	0.61
30	1560	11.9	49.1	0.47
10	2490	19.0	54.8	0.33

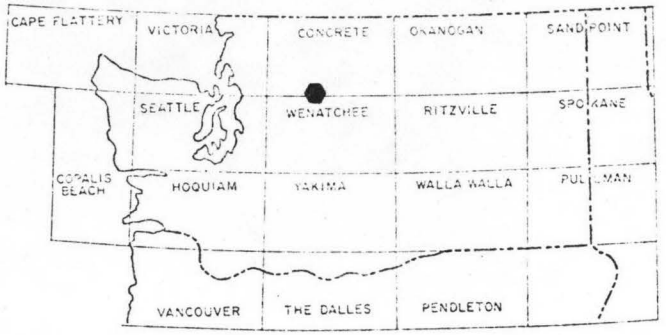
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 855 cfs



W37-1216

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0009



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T10N R13E	
D. Latitude, Longitude	47°14' 121°12'	
E. Stream Name	Yakima River	
F. Major Basin Name	Yakima	
G. River Mile	201.8/203.6	

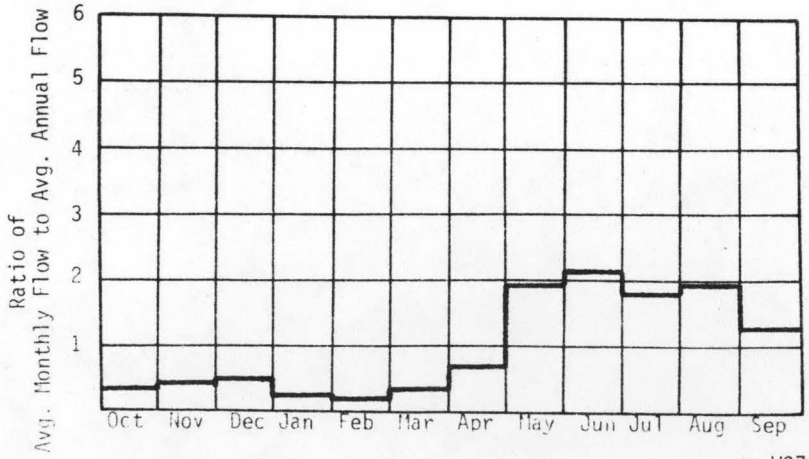
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2240	Ft. MSL
B. Downstream Elevation of Reach	2160	Ft. MSL
C. Total Available Head in Reach	80	Ft.
D. Average Slope in Reach	31	Ft./Mi.
E. Drainage Area above Reach Mouth	189.6	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	0.00	0.00	0.00	1.00
80	13.6	0.09	0.72	0.89
50	408	2.76	15.0	0.62
30	1027	6.95	30.0	0.49
10	1920	13.0	40.0	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 680 cfs



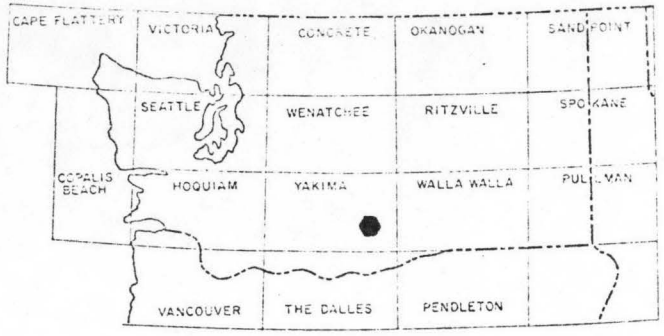
W37-1217

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T21N R12E
D.	Latitude, Longitude	47°18' 121°16'
E.	Stream Name	Yakima River
F.	Major Basin Name	Yakima
G.	River Mile	203.6/214.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

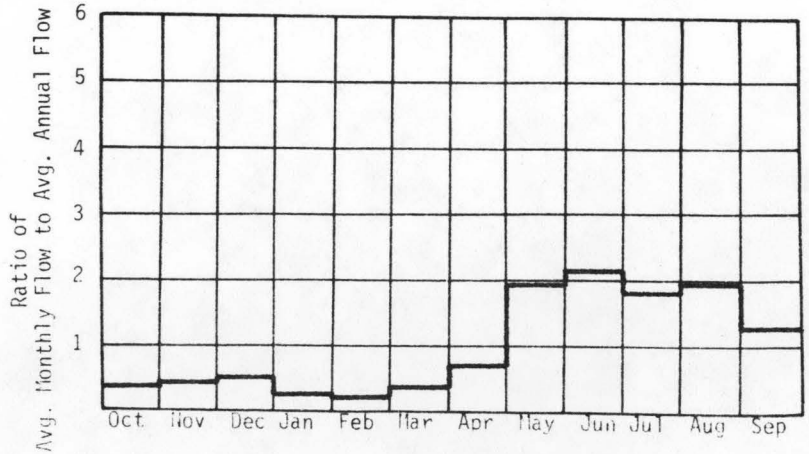
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

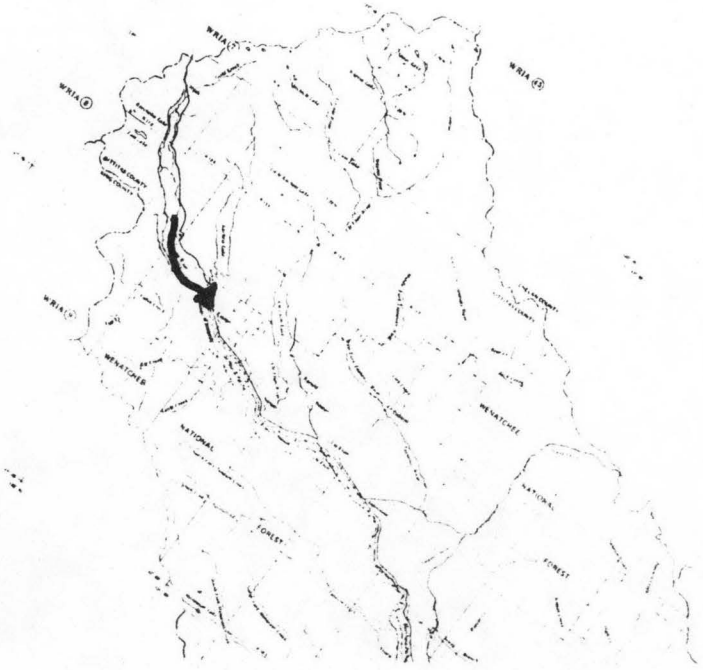
A.	Upstream Elevation of Reach	2440	Ft. MSL
B.	Downstream Elevation of Reach	2240	Ft. MSL
C.	Total Available Head in Reach	66 + 200 + 266	Ft.
D.	Average Slope in Reach	18.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	83.2	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	0.00	0.00	0.00	1.00
80	7.48	0.17	1.31	0.89
50	224	5.05	27.4	0.62
30	656	12.7	54.6	0.49
10	1050	23.8	72.8	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 374 cfs





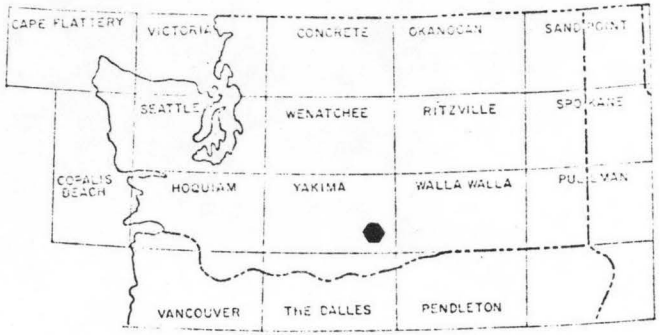
W37-1218

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T9N R20E
D.	Latitude, Longitude	46°17' 121°16'
E.	Stream Name	Satus Creek
F.	Major Basin Name	Yakima
G.	River Mile	0.0/18.6



LOCATIONS FOR USGS 1:250,000 MAP SERIES

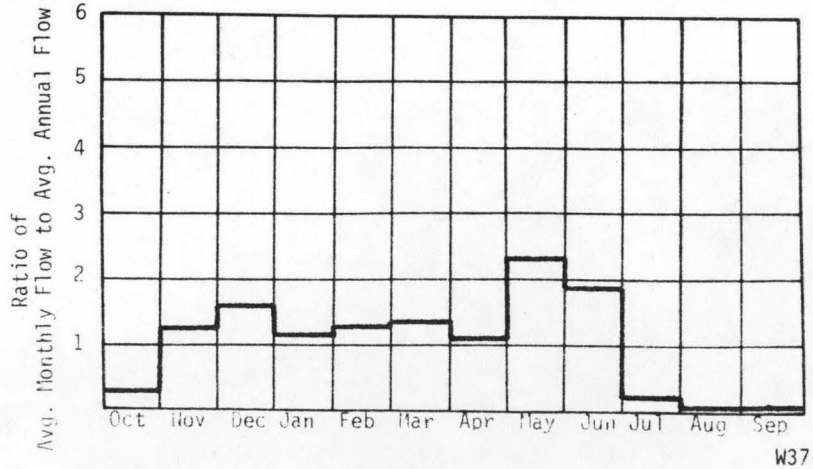
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

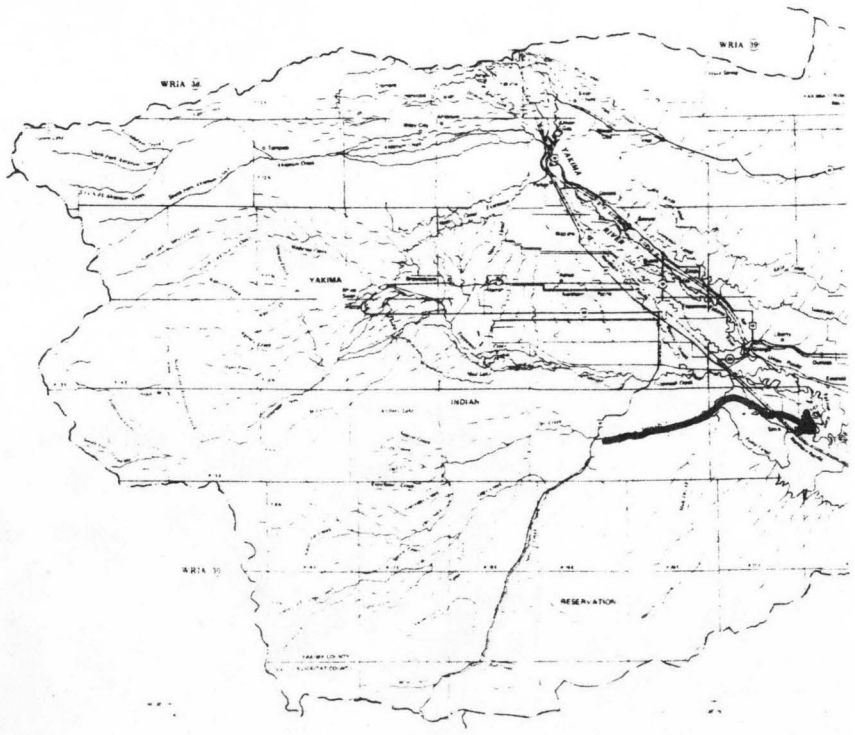
A.	Upstream Elevation of Reach	930	Ft. MSL
B.	Downstream Elevation of Reach	649	Ft. MSL
C.	Total Available Head in Reach	281	Ft.
D.	Average Slope in Reach	15.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	612	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.4	0.34	3.00	1.00
80	27.2	0.65	5.38	0.95
50	59.2	1.41	9.62	0.78
30	150	3.58	17.2	0.55
10	480	11.4	30.0	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 160 cfs





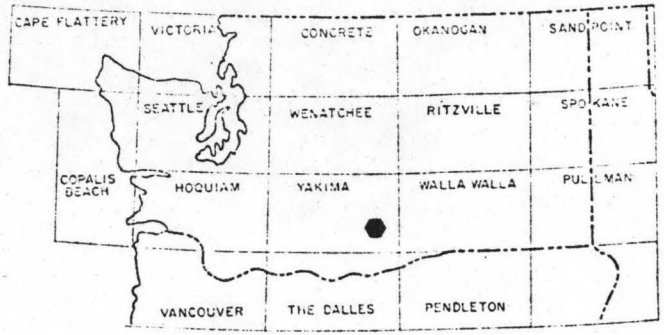
W37-1219

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T9N R19E
D.	Latitude, Longitude	46°15' 120°24'
E.	Stream Name	Satus Creek
F.	Major Basin Name	Yakima
G.	River Mile	18.6/20.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

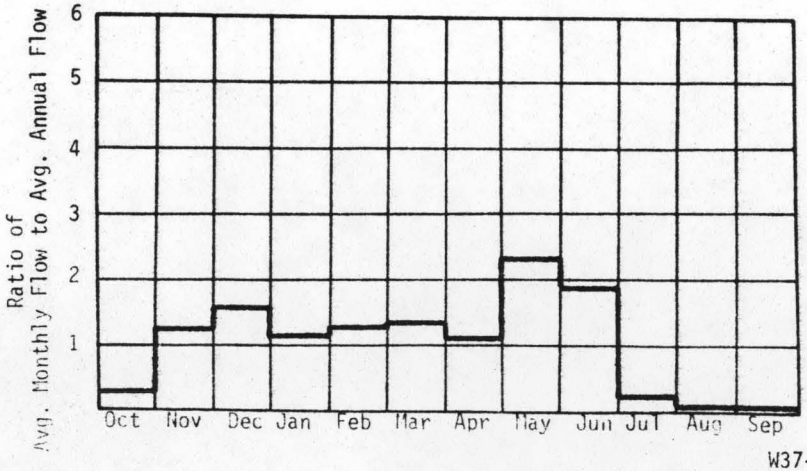
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

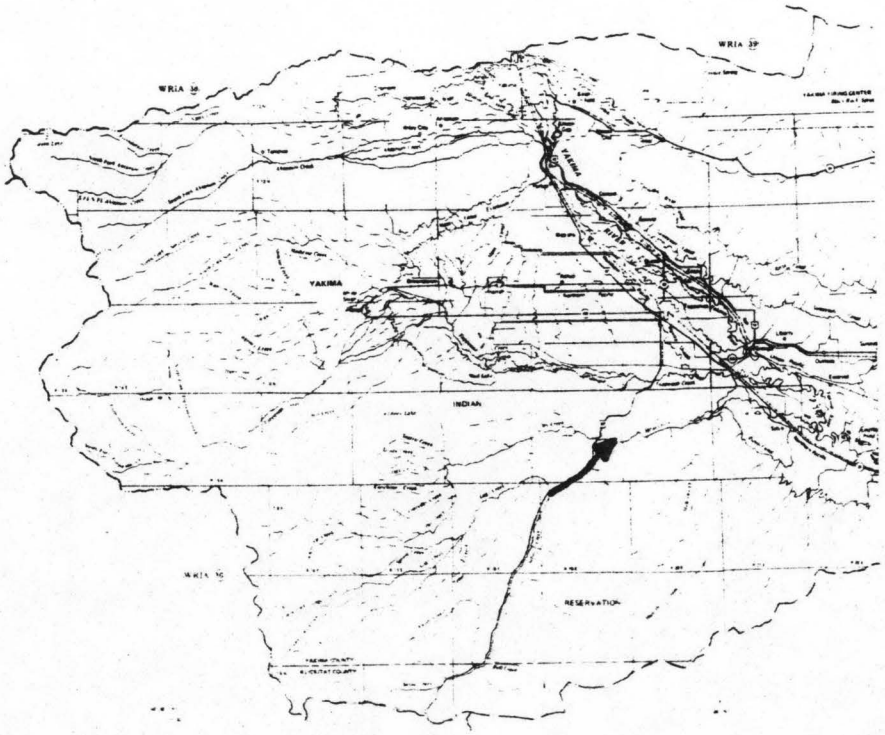
A.	Upstream Elevation of Reach	1110	Ft. MSL
B.	Downstream Elevation of Reach	930	Ft. MSL
C.	Total Available Head in Reach	180 + 66 = 246	Ft.
D.	Average Slope in Reach	78.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	272	Sq.Mi.
F.	Inflow Classification	Natural	

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	0.22	1.89	1.00
80	19.6	0.41	3.39	0.95
50	42.6	0.89	6.05	0.78
30	108	2.25	10.8	0.55
10	345	7.18	18.9	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 115 cfs





W37-1220

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0013

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T10N R20E
D.	Latitude, Longitude	46°18' 120°22'
E.	Stream Name	Toppenish Creek
F.	Major Basin Name	Yakima
G.	River Mile	0.0/48.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

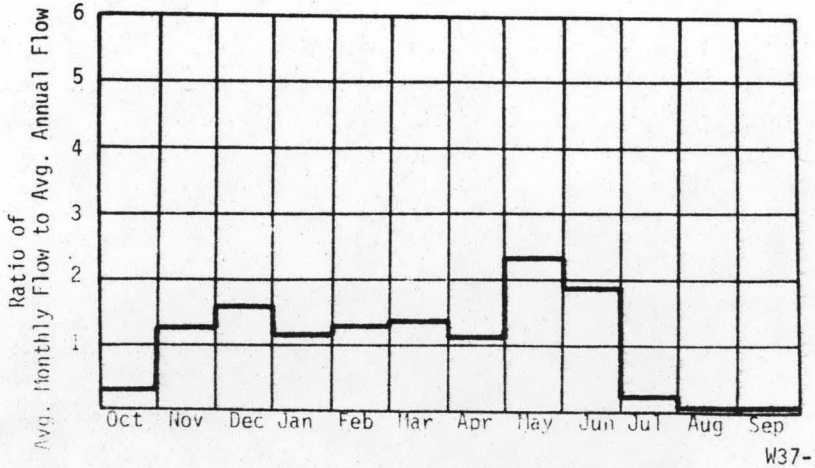
A.	Upstream Elevation of Reach	1300	Ft. MSL
B.	Downstream Elevation of Reach	680	Ft. MSL
C.	Total Available Head in Reach	720	Ft.
D.	Average Slope in Reach	14.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	625	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

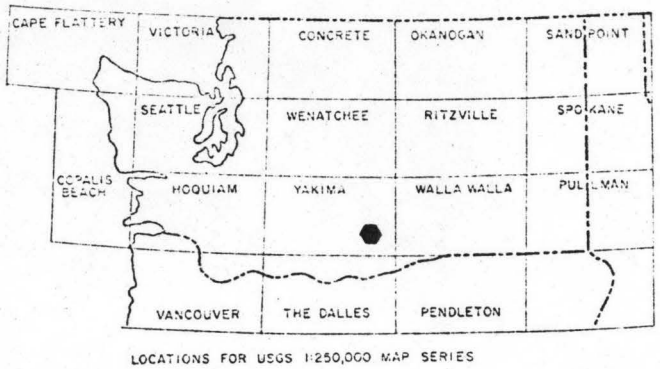
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95				
80				
50				
30				
10				

IV. TYPICAL ANNUAL HYDROGRAPH

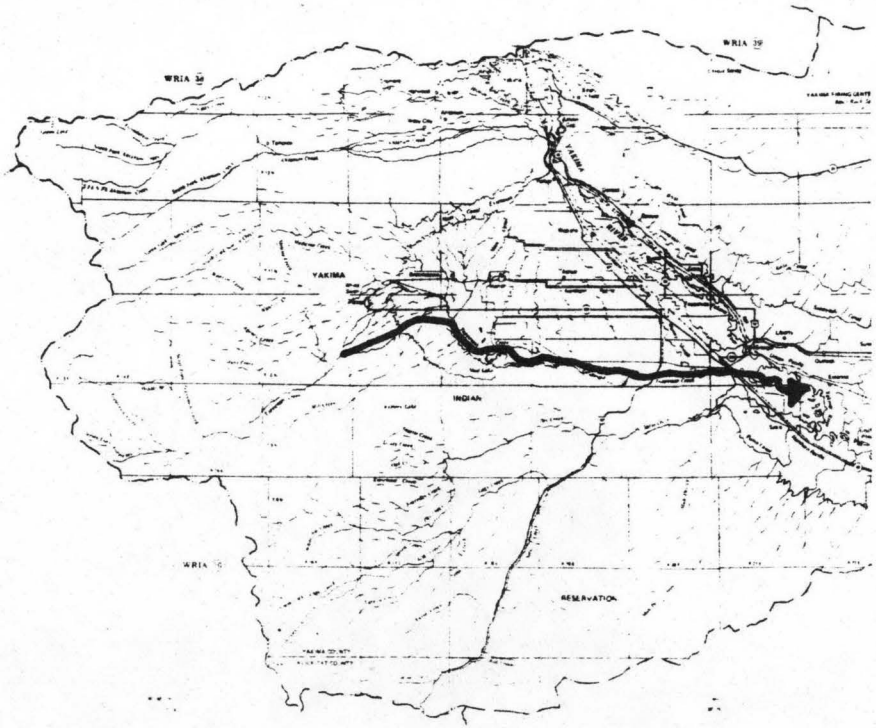
QMR = Unknown



W37-1221



LOCATIONS FOR USGS 1:250,000 MAP SERIES

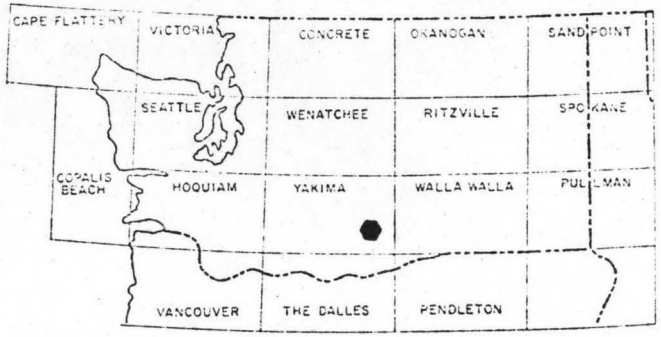


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0014

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T10N R16E
D.	Latitude, Longitude	46°18' 120°48'
E.	Stream Name	Toppenish Creek
F.	Major Basin Name	Yakima
G.	River Mile	48.7/49.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

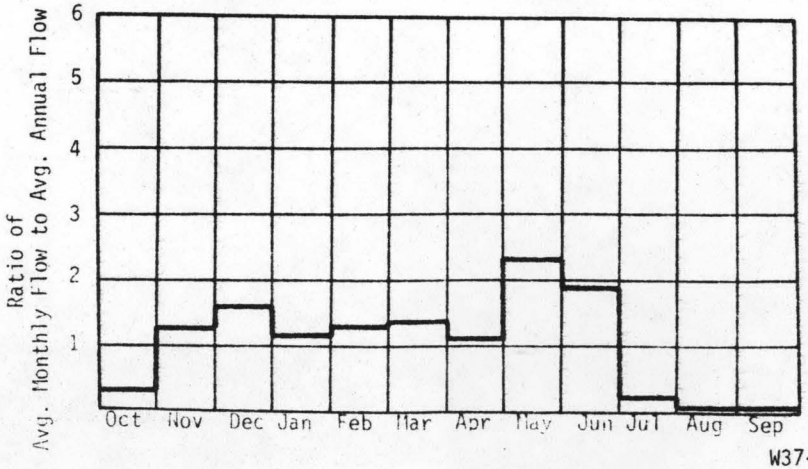
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

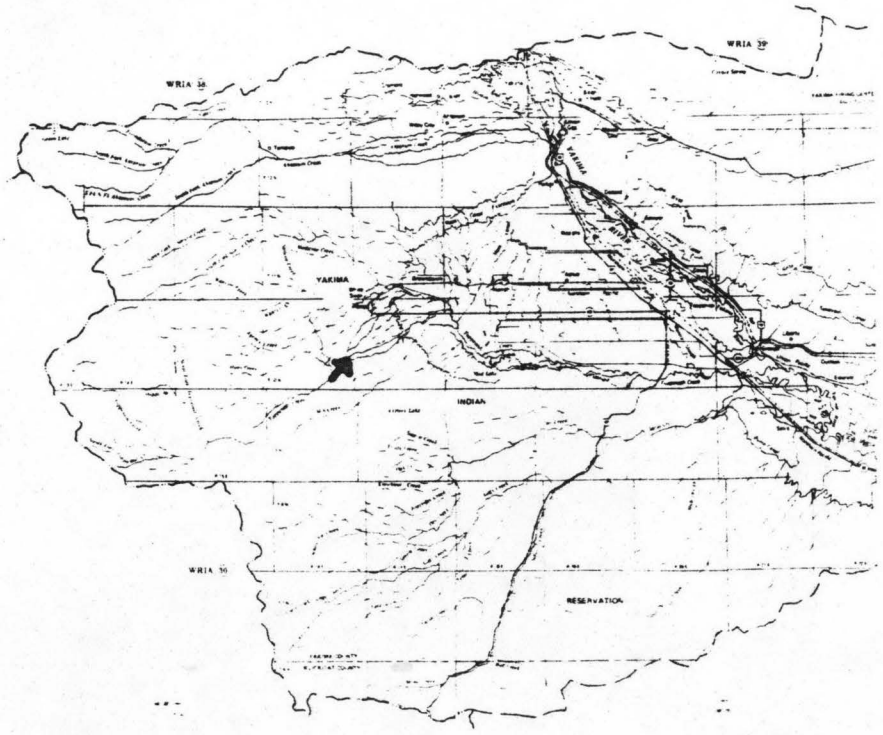
A.	Upstream Elevation of Reach	1400	Ft. MSL
B.	Downstream Elevation of Reach	1300	Ft. MSL
C.	Total Available Head in Reach	100 + 66 = 166	Ft.
D.	Average Slope in Reach	100	Ft./Mi.
E.	Drainage Area above Reach Mouth	120	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.46	0.12	1.04	1.00
80	16.0	0.22	1.87	0.95
50	34.8	0.49	3.34	0.78
30	88.4	1.24	6.00	0.55
10	282	3.96	10.4	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 94 cfs





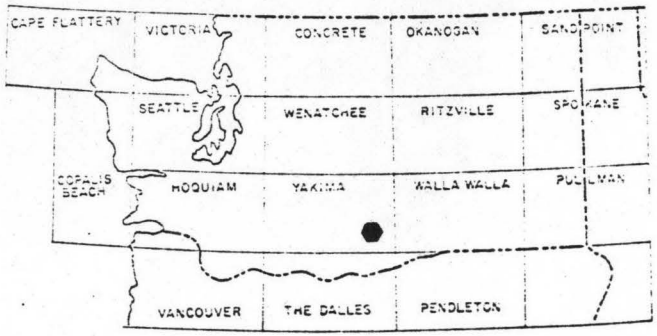
W37-1222

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0015

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T12N R17E
D.	Latitude, Longitude	46°32' 120°37'
E.	Stream Name	Ahtanum
F.	Major Basin Name	Yakima
G.	River Mile	0.0/17.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

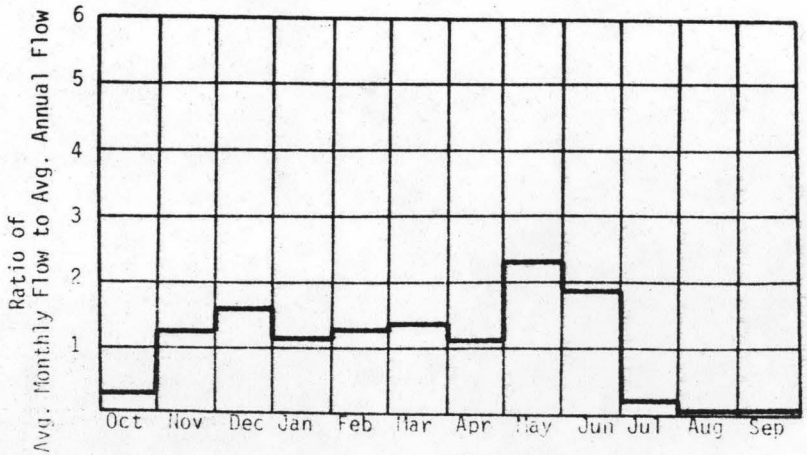
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

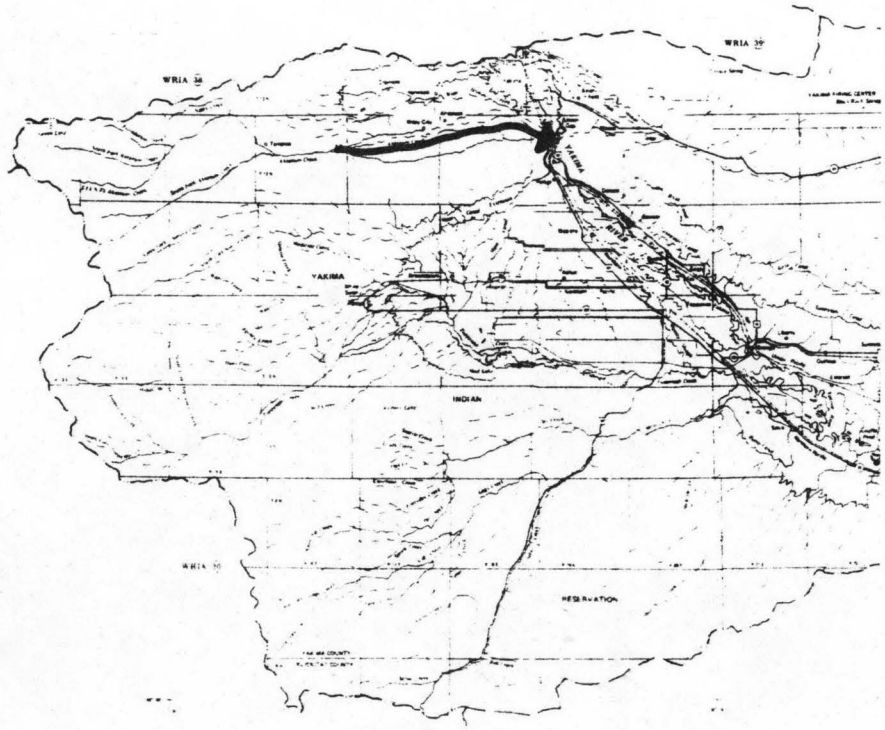
A.	Upstream Elevation of Reach	1710	Ft. MSL
B.	Downstream Elevation of Reach	940	Ft. MSL
C.	Total Available Head in Reach	770	Ft.
D.	Average Slope in Reach	45.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	173	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.8	1.35	11.9	1.00
80	31.5	2.06	17.3	0.96
50	52.3	3.41	24.8	0.83
30	106	6.92	37.0	0.61
10	288	18.8	55.9	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 83 cfs





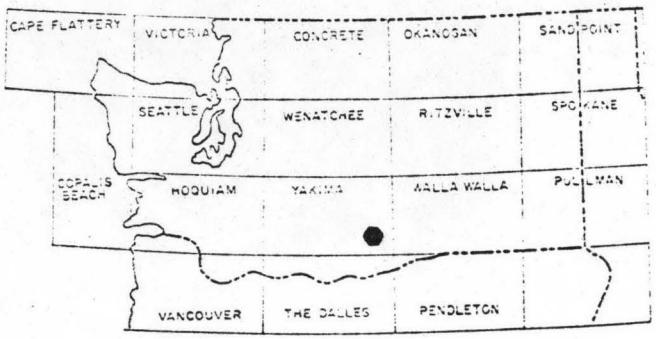
W37-1223

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0016

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T12N R16E
D.	Latitude, Longitude	46°32' 120°47'
E.	Stream Name	Ahtanum
F.	Major Basin Name	Yakima
G.	River Mile	17/21.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

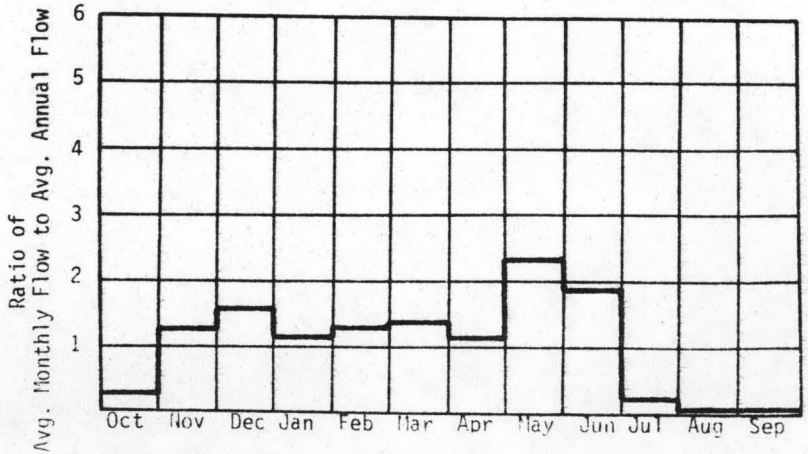
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

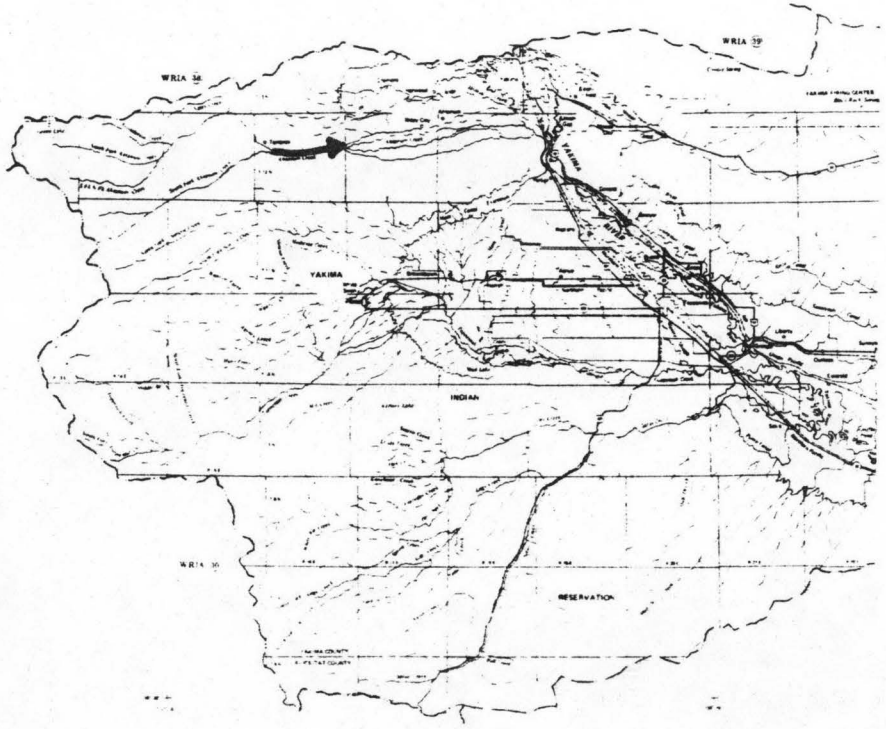
A.	Upstream Elevation of Reach	2080	Ft. MSL
B.	Downstream Elevation of Reach	1710	Ft. MSL
C.	Total Available Head in Reach	66 + 310 = 346	Ft.
D.	Average Slope in Reach	7.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	120	Sq.Mi.
F.	Inflow Classification	Natural	

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	0.05	0.47	1.00
80	31.2	0.08	0.69	0.96
50	51.7	0.14	0.99	0.83
30	105	0.28	1.47	0.61
10	285	0.75	2.22	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 82 cfs



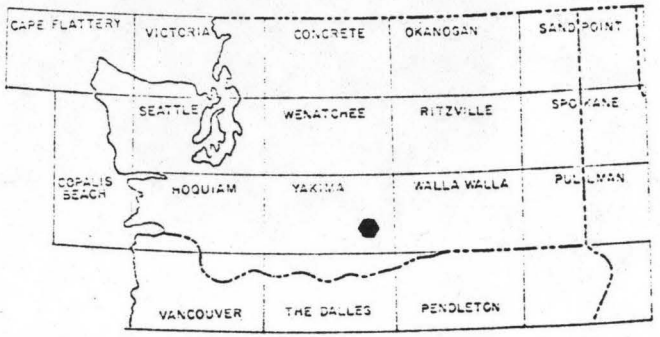


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0017

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T13N R18E
D.	Latitude, Longitude	46°37' 120°32'
E.	Stream Name	Naches River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/2.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

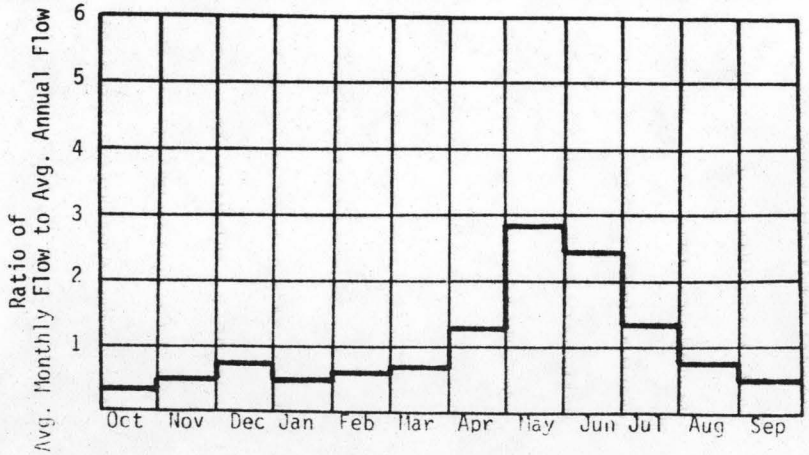
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

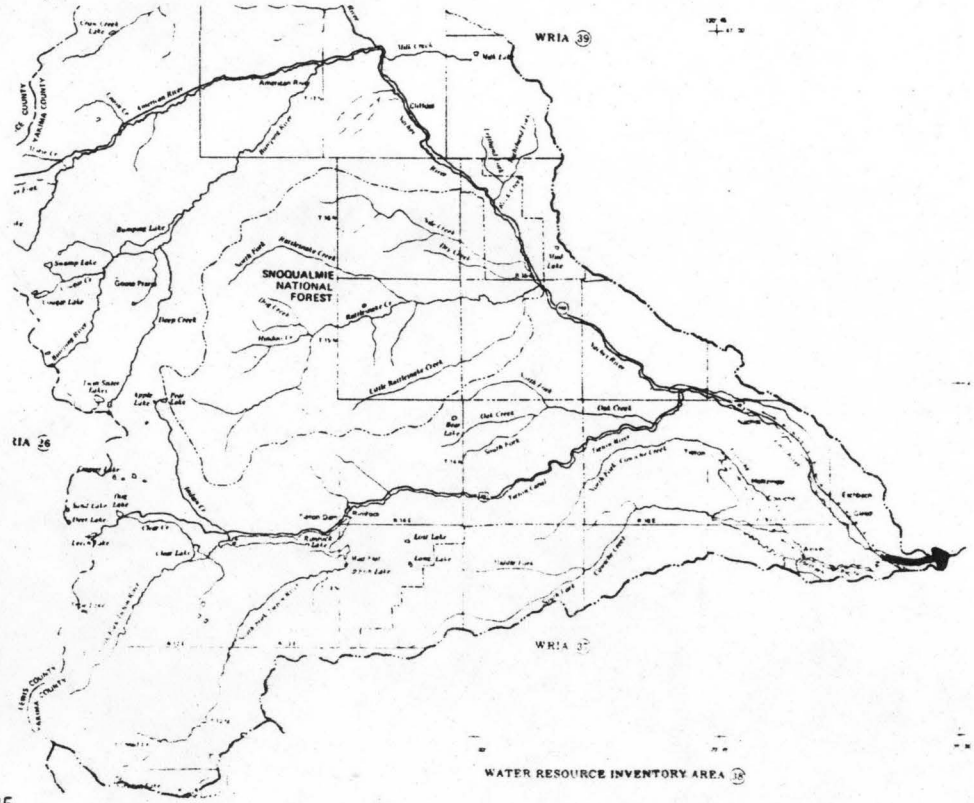
A.	Upstream Elevation of Reach	1130	Ft. MSL
B.	Downstream Elevation of Reach	1080	Ft. MSL
C.	Total Available Head in Reach	50	Ft.
D.	Average Slope in Reach	18.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	1125	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.6	0.09	0.78	1.00
80	141	0.72	5.52	0.88
50	687	3.49	20.8	0.68
30	1340	6.80	32.8	0.55
10	3210	16.3	48.5	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1762 cfs





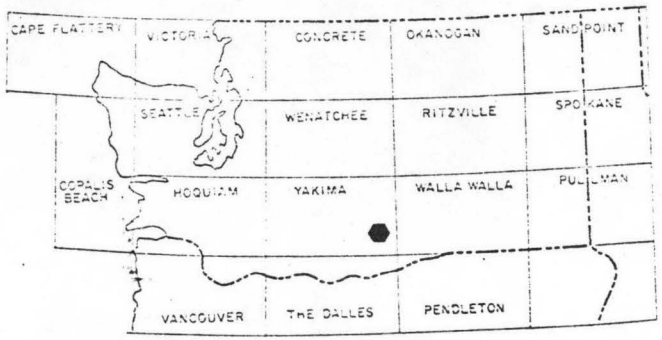
W37-1225

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0018

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T15N R17E	
D. Latitude, Longitude	46°44' 120°45'	
E. Stream Name	Naches River	
F. Major Basin Name	Yakima	
G. River Mile	2.7/17.5	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

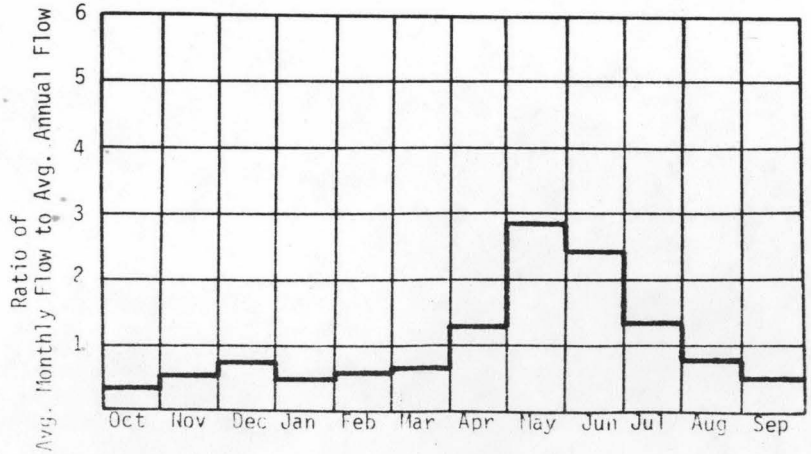
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

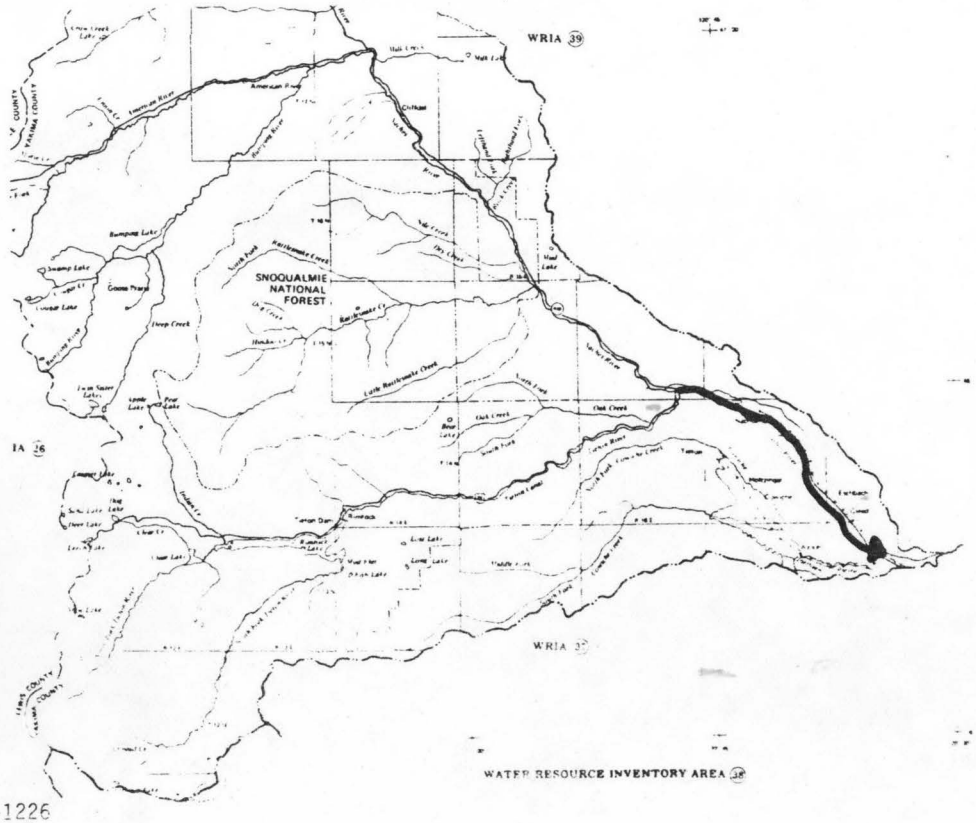
A. Upstream Elevation of Reach	1600	Ft. MSL
B. Downstream Elevation of Reach	1130	Ft. MSL
C. Total Available Head in Reach	470	Ft.
D. Average Slope in Reach	31.7	Ft./Mi.
E. Drainage Area above Reach Mouth	995	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.1	0.67	5.83	1.00
80	137	5.33	41.1	0.88
50	667	26.0	155	0.68
30	1300	50.6	244	0.55
10	3110	121	361	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1710 cfs



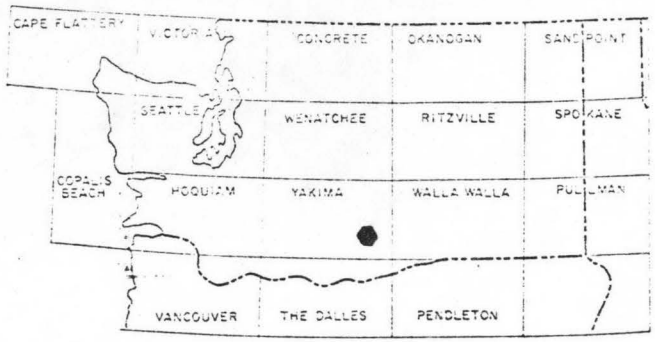


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0019

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T15N R16E
D.	Latitude, Longitude	46°47' 120°53'
E.	Stream Name	Naches River
F.	Major Basin Name	Yakima
G.	River Mile	17.5/28



LOCATIONS FOR USGS 1:250,000 MAP SERIES

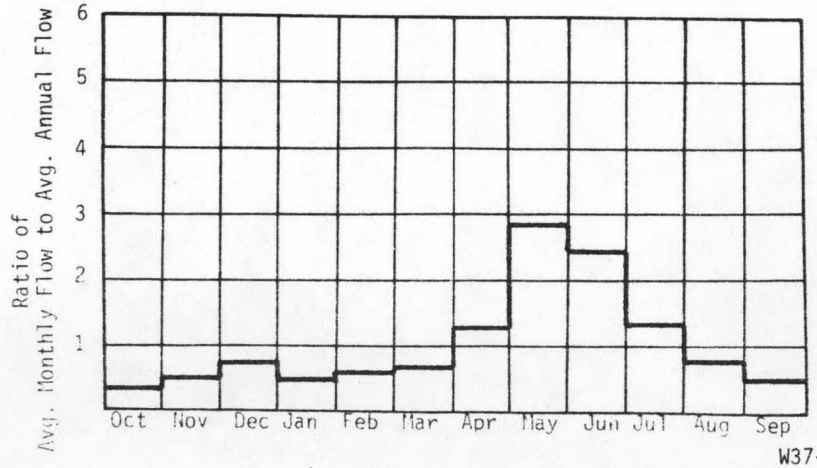
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

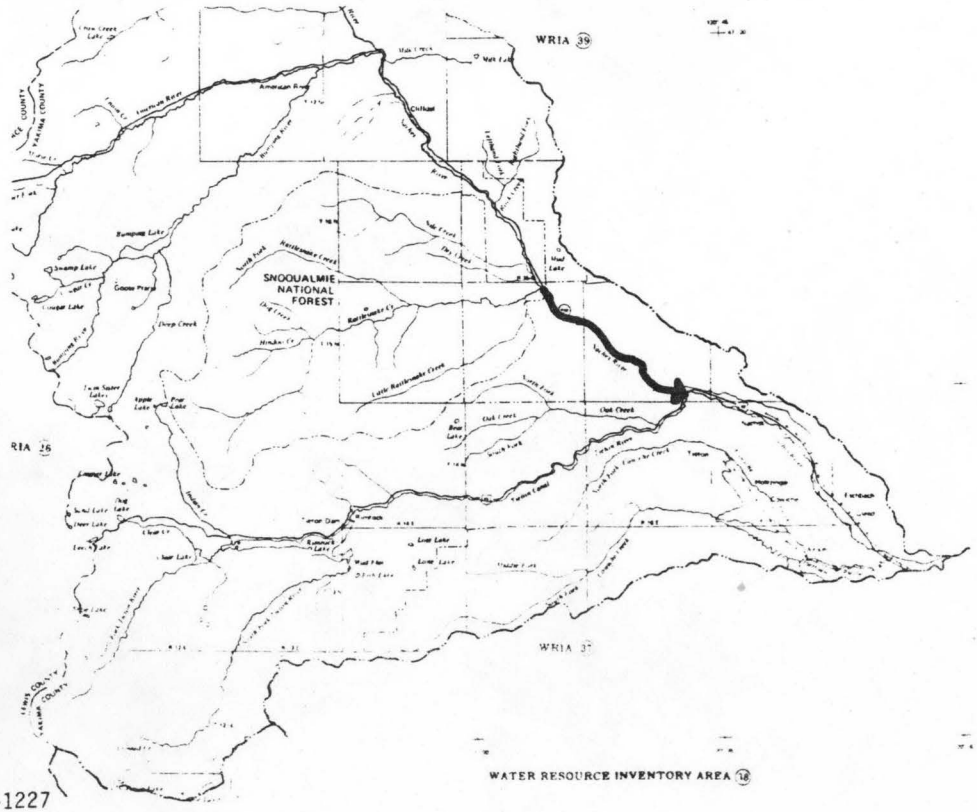
A.	Upstream Elevation of Reach	1960	Ft. MSL
B.	Downstream Elevation of Reach	1600	Ft. MSL
C.	Total Available Head in Reach	360	Ft.
D.	Average Slope in Reach	34.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	656	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.6	0.35	3.11	1.00
80	93.1	2.84	21.9	0.88
50	454	13.8	82.4	0.68
30	885	27.0	137	0.58
10	2120	64.5	192	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1164 cfs





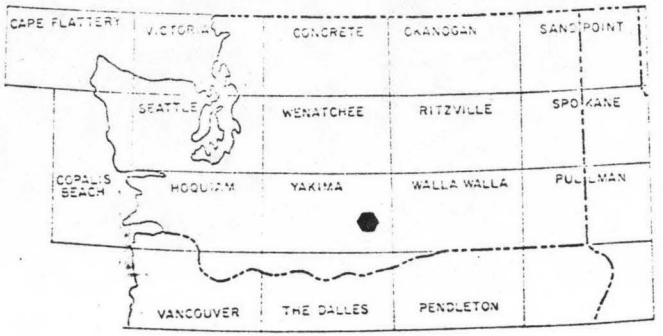
W37-1227

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0020

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T15N R15E
D.	Latitude, Longitude	46°50' 121°56'
E.	Stream Name	Naches River
F.	Major Basin Name	Yakima
G.	River Mile	28/28.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

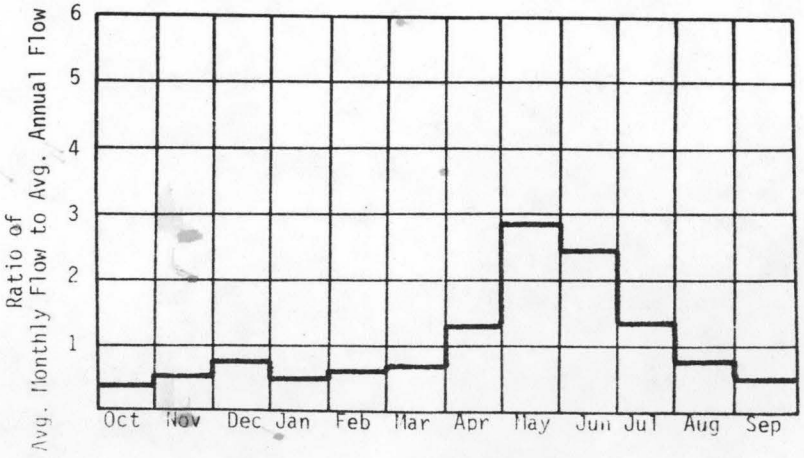
A.	Upstream Elevation of Reach	1980	Ft. MSL
B.	Downstream Elevation of Reach	1960	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	25	Ft./Mi.
E.	Drainage Area above Reach Mouth	485	Sq.Mi.
F.	Inflow Classification	Regulated	

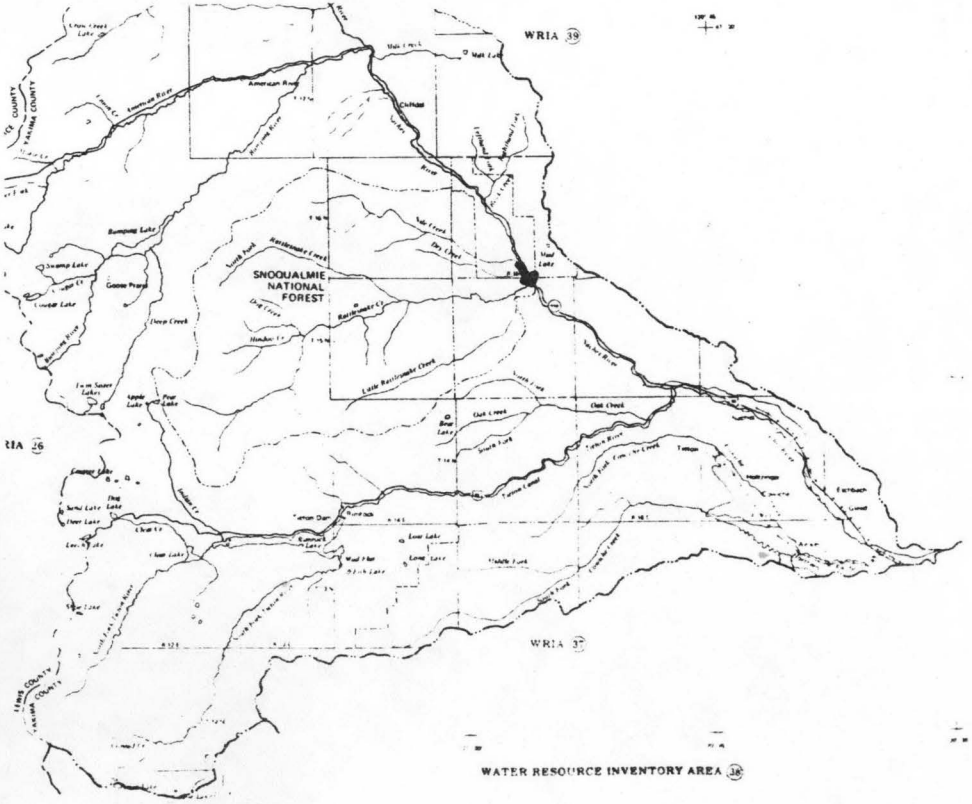
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	202	0.34	3.00	1.00
80	298	0.50	4.25	0.96
50	554	0.94	6.65	0.81
30	1170	1.98	10.3	0.59
10	2680	4.54	14.7	0.37

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1065 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0021

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T16N R15E
D.	Latitude, Longitude	46°54' 121°01'
E.	Stream Name	Naches River
F.	Major Basin Name	Yakima
G.	River Mile	28.8/44.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

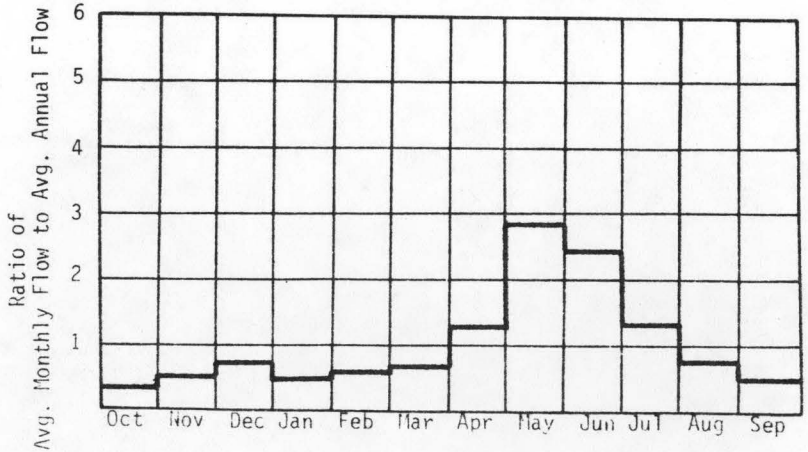
A.	Upstream Elevation of Reach	2560	Ft. MSL
B.	Downstream Elevation of Reach	1980	Ft. MSL
C.	Total Available Head in Reach	580	Ft.
D.	Average Slope in Reach	37	Ft./Mi.
E.	Drainage Area above Reach Mouth	441.8	Sq.Mi.
F.	Inflow Classification	Regulated	

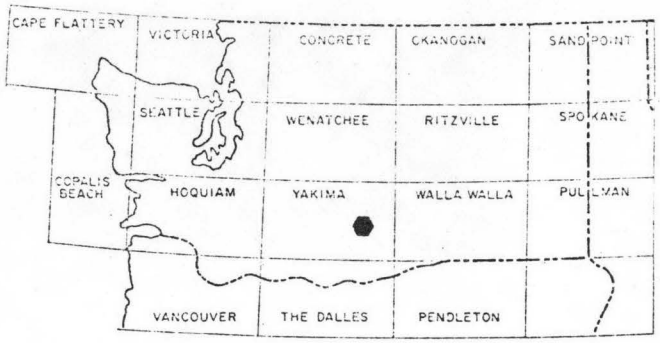
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	194	9.50	83.3	1.00
80	285	14.0	118	0.96
50	530	26.0	185	0.81
30	1120	55.0	284	0.59
10	2570	126	409	0.37

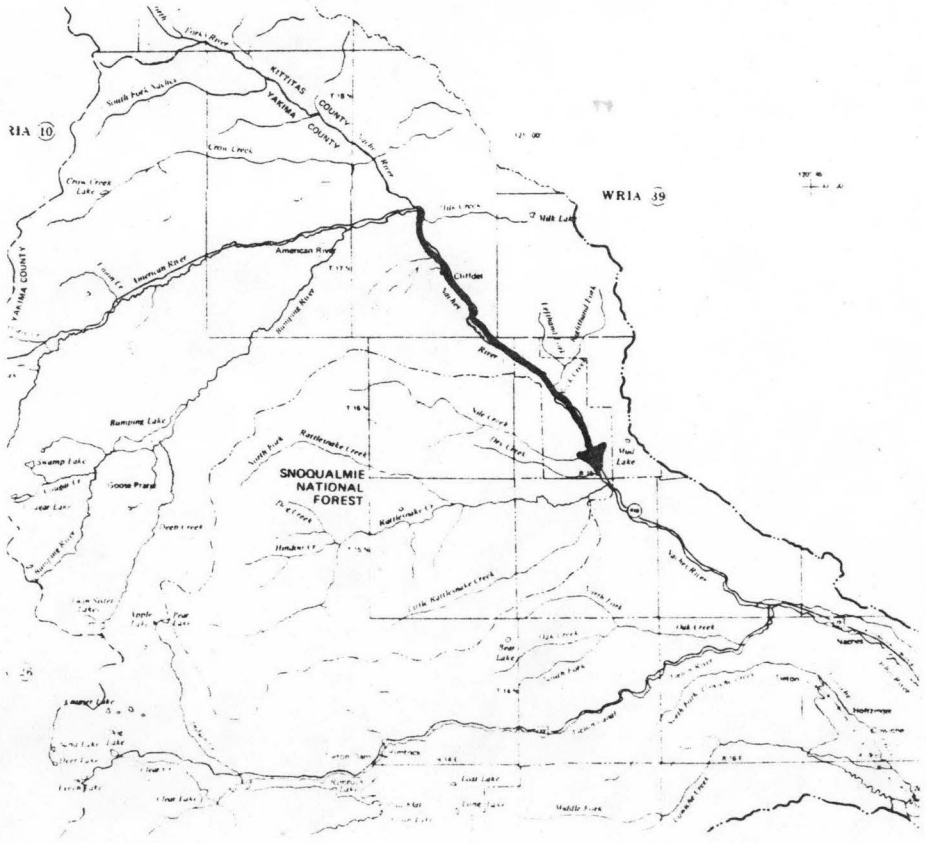
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1019 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1229

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0022

I. LOCATION

A.	State	Washington
B.	County	Yakima/Kittitas
C.	Township, Range	T18N R14E
D.	Latitude, Longitude	47°00' 121°07'
E.	Stream Name	Little Naches River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/3.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

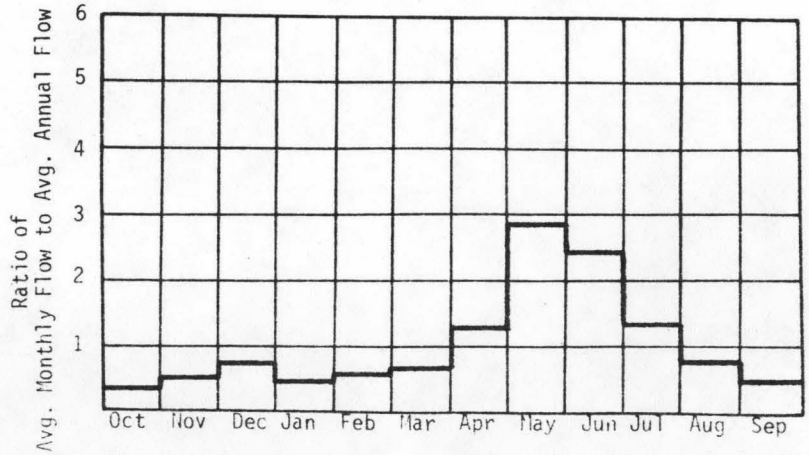
A.	Upstream Elevation of Reach	2720	Ft. MSL
B.	Downstream Elevation of Reach	2560	Ft. MSL
C.	Total Available Head in Reach	160	Ft.
D.	Average Slope in Reach	48.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	153	Sq.Mi.
F.	Inflow Classification	Natural	

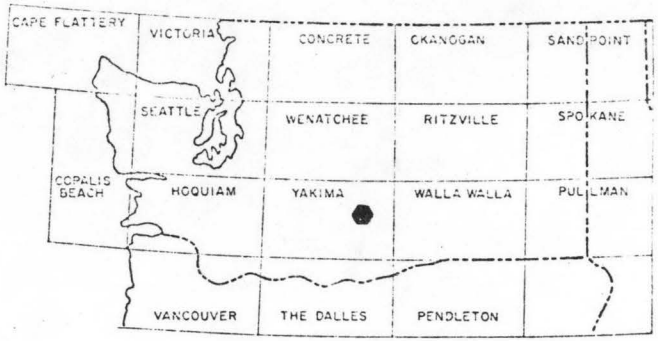
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	70.7	0.96	8.39	1.00
80	108	1.46	12.3	0.97
50	216	2.93	20.5	0.80
30	416	5.63	30.1	0.61
10	1050	14.2	44.8	0.36

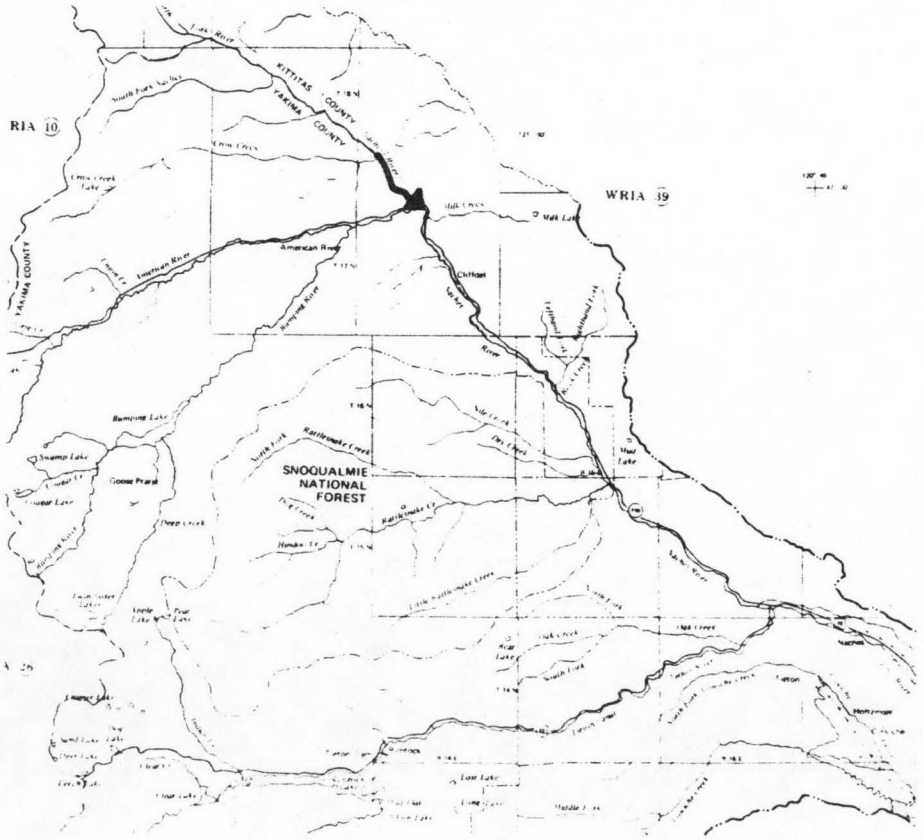
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 416 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0023

I. LOCATION

A.	State	Washington
B.	County	Yakima/Kittitas
C.	Township, Range	T18N R14E
D.	Latitude, Longitude	47°02' 121°10'
E.	Stream Name	Little Naches River
F.	Major Basin Name	Yakima
G.	River Mile	3.3/7.5

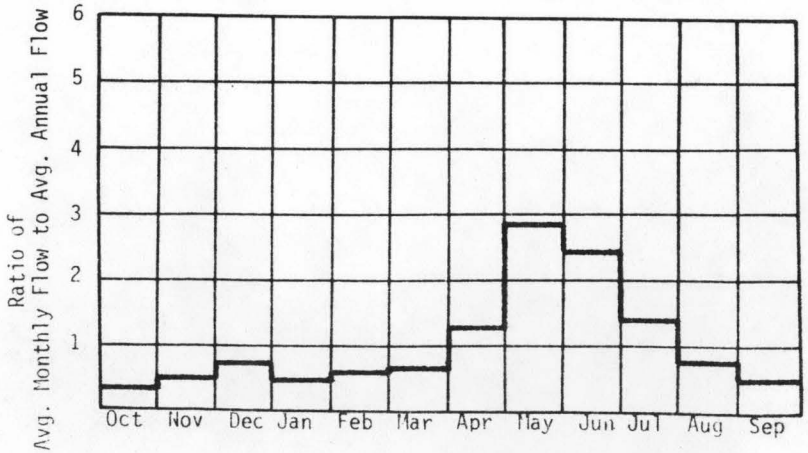
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

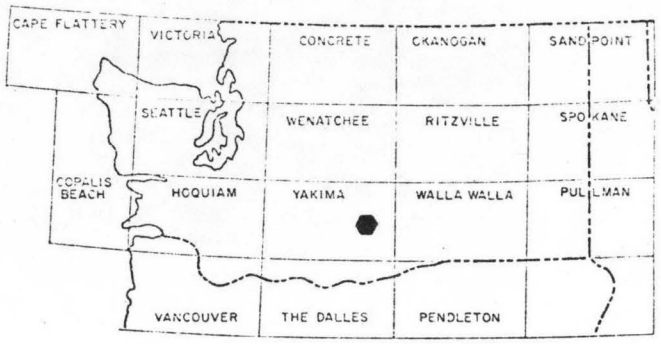
A.	Upstream Elevation of Reach	2880	Ft. MSL
B.	Downstream Elevation of Reach	2560	Ft. MSL
C.	Total Available Head in Reach	320	Ft.
D.	Average Slope in Reach	76.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	88	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

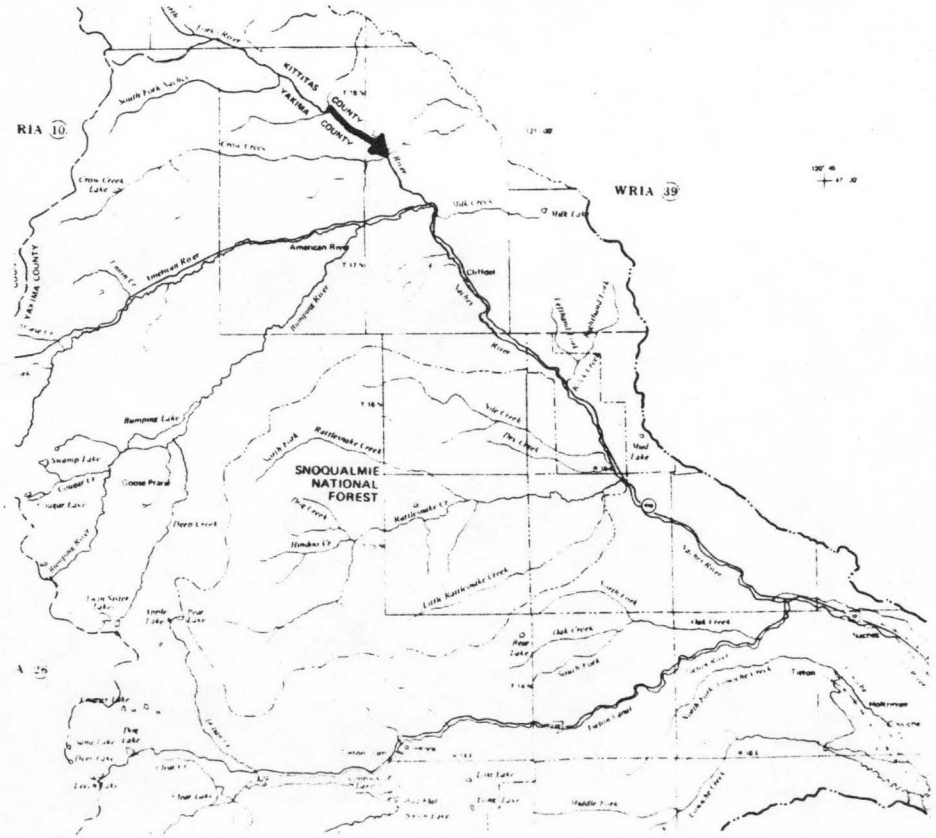
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	47.4	1.28	11.3	1.00
80	72.5	1.96	16.5	0.96
50	145	3.93	27.5	0.80
30	279	7.56	40.4	0.61
10	703	19.0	60.1	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 279 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



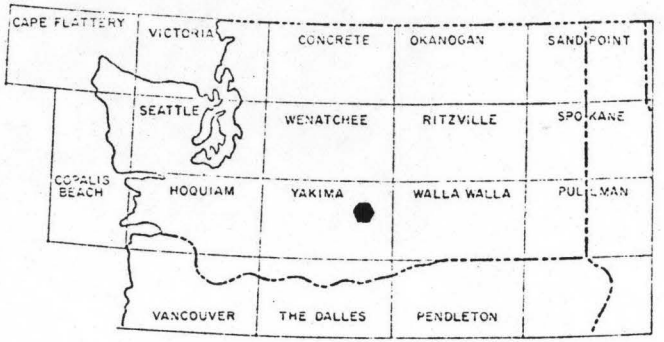
W37-1231

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0024

I. LOCATION

A.	State	Washington
B.	County	Yakima/Kittitas
C.	Township, Range	T18N R13E
D.	Latitude, Longitude	47°04' 121°12'
E.	Stream Name	Little Naches River
F.	Major Basin Name	Yakima
G.	River Mile	7.5/10.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

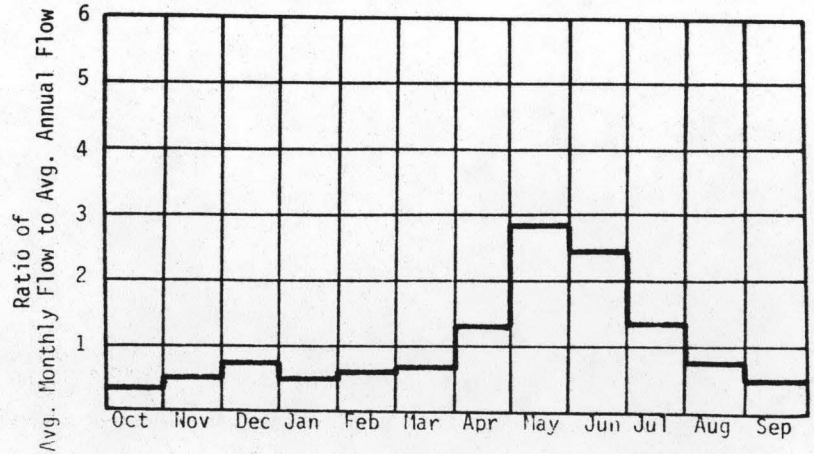
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

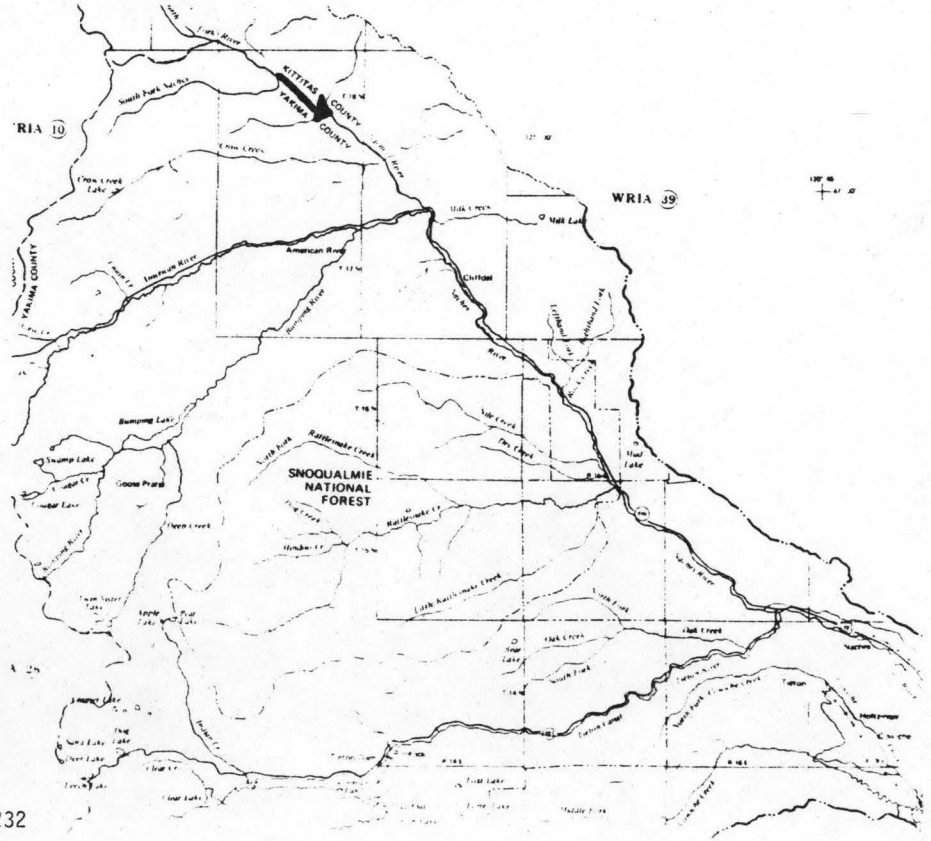
A.	Upstream Elevation of Reach	3080	Ft. MSL
B.	Downstream Elevation of Reach	2880	Ft. MSL
C.	Total Available Head in Reach	200	Ft.
D.	Average Slope in Reach	60.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	72	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	39.8	0.67	5.90	1.00
80	60.8	1.03	8.66	0.96
50	122	2.06	14.4	0.80
30	234	3.96	21.2	0.61
10	590	9.98	31.5	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 234 cfs





W37-1232

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0025

I. LOCATION

A.	State	Washington
B.	County	Yakima/Kittitas
C.	Township, Range	T18N R13E
D.	Latitude, Longitude	47°04' 121°14'
E.	Stream Name	Little Naches River
F.	Major Basin Name	Yakima
G.	River Mile	10.8/11.8

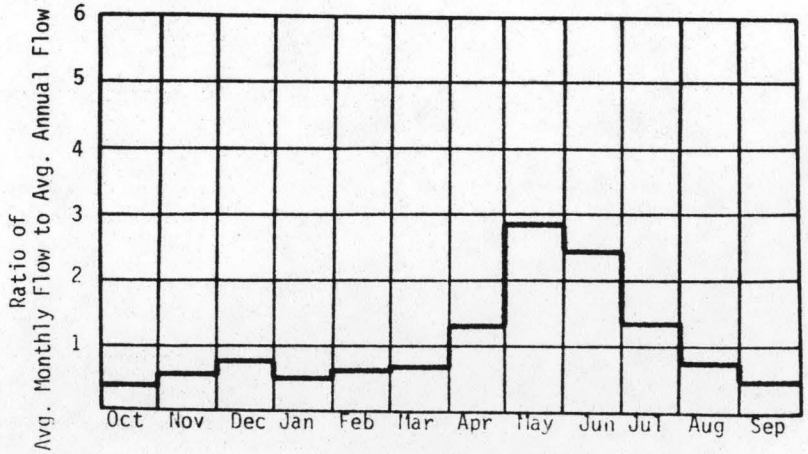
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

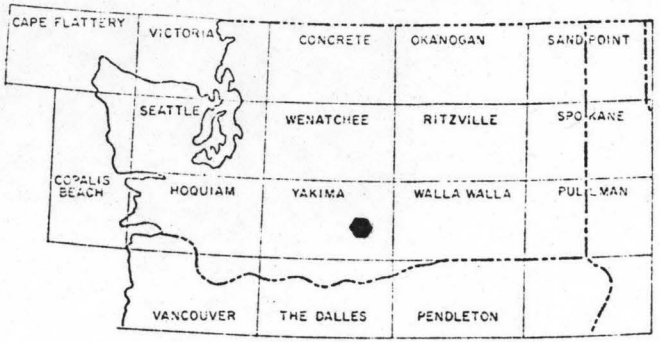
A.	Upstream Elevation of Reach	3120	Ft. MSL
B.	Downstream Elevation of Reach	3080	Ft. MSL
C.	Total Available Head in Reach	40	Ft.
D.	Average Slope in Reach	40	Ft./Mi.
E.	Drainage Area above Reach Mouth	44	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

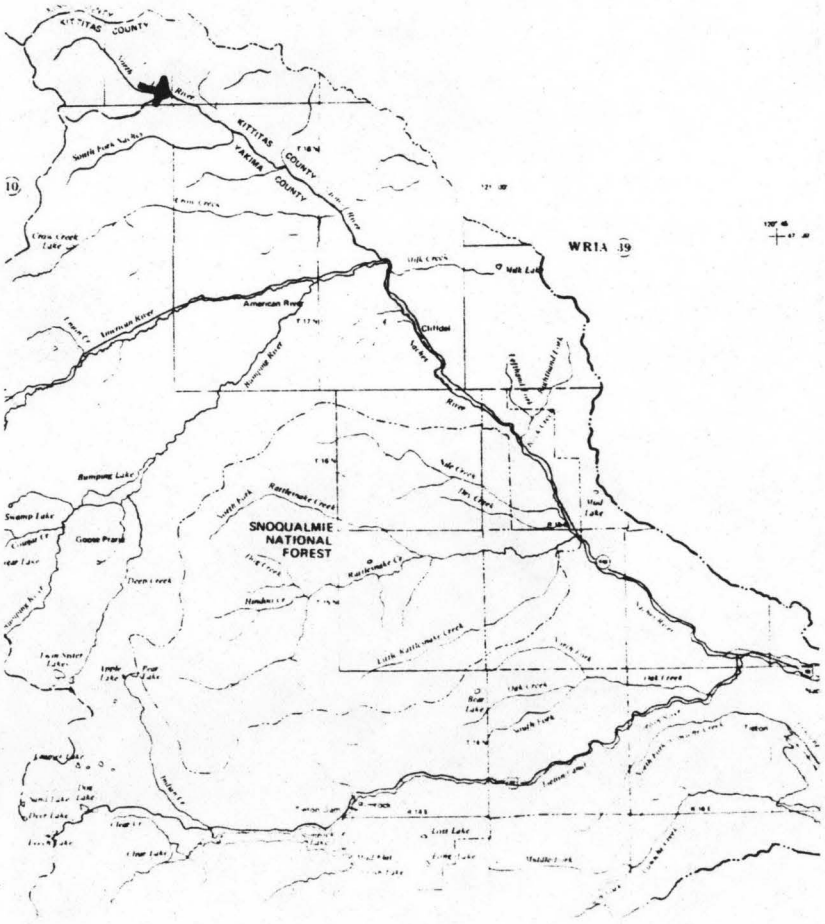
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	27.7	0.09	0.82	1.00
80	42.4	0.14	1.21	0.96
50	84.8	0.29	2.01	0.80
30	163	0.55	2.95	0.61
10	411	1.39	4.39	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 163 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1233

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0026

I. LOCATION

A.	State	Washington
B.	County	Kittitas/Yakima
C.	Township, Range	T18N R13E
D.	Latitude, Longitude	47°05' 121°16'
E.	Stream Name	Little Naches River
F.	Major Basin Name	Yakima
G.	River Mile	11.8/14.1

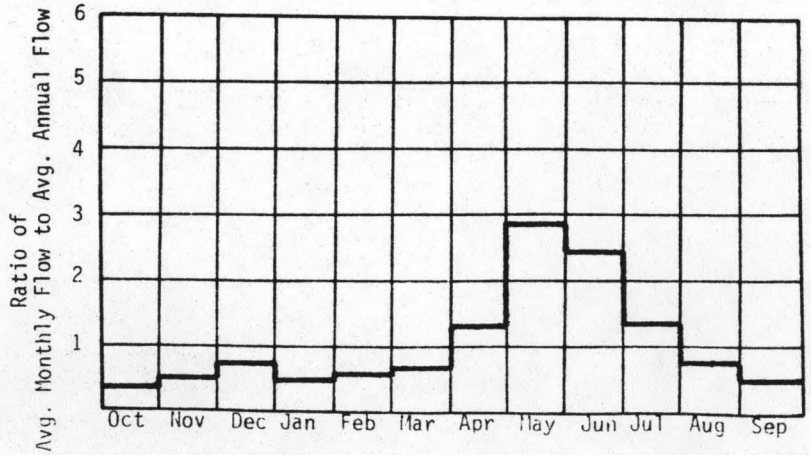
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	3240	Ft. MSL
B.	Downstream Elevation of Reach	3120	Ft. MSL
C.	Total Available Head in Reach	66 + 120 = 186	Ft.
D.	Average Slope in Reach	52.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	30.6	Sq.Mi.
F.	Inflow Classification	Natural	

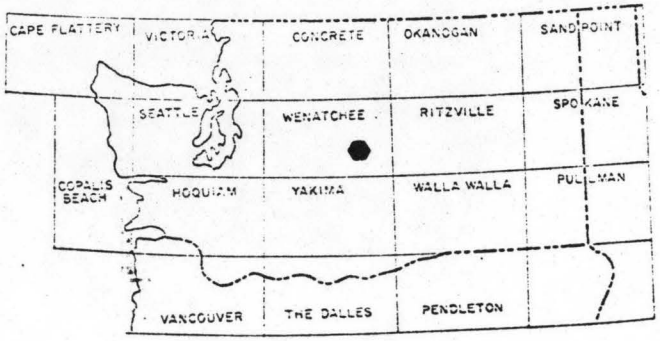
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.7	0.31	2.72	1.00
80	30.2	0.47	3.99	0.96
50	60.3	0.95	6.65	0.80
30	116	1.83	9.75	0.61
10	292	4.60	14.5	0.36

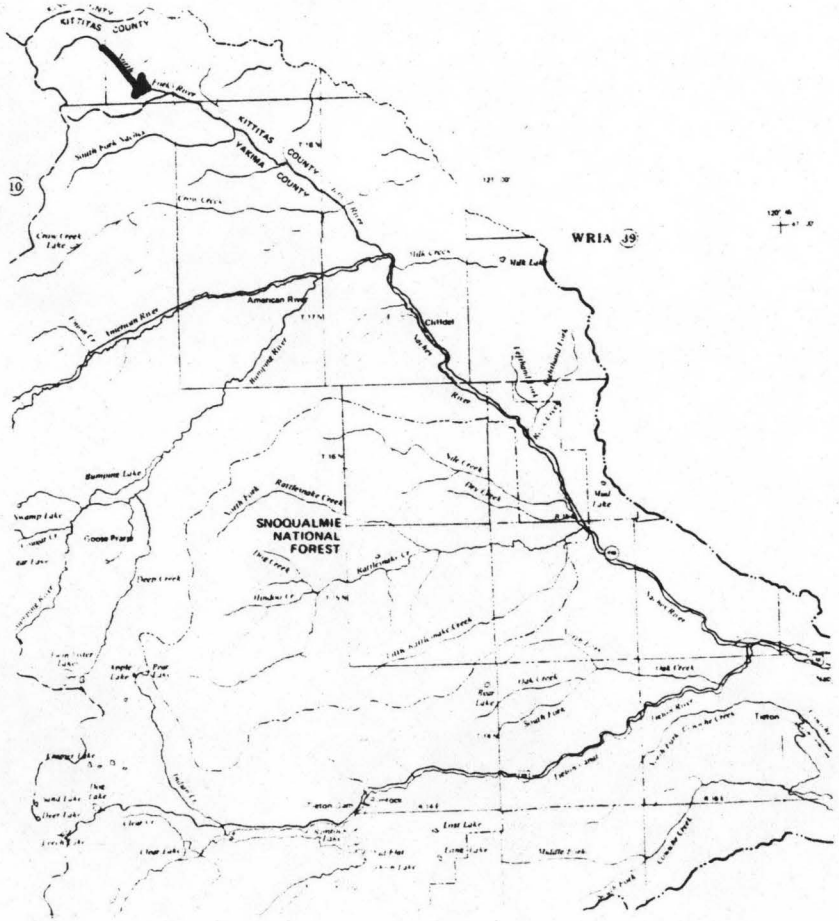
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 116 cfs



W37-1234



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0027

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T14N R16E	
D. Latitude, Longitude	46°45' 120°47'	
E. Stream Name	Tieton River	
F. Major Basin Name	Yakima	
G. River Mile	0.0/2.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

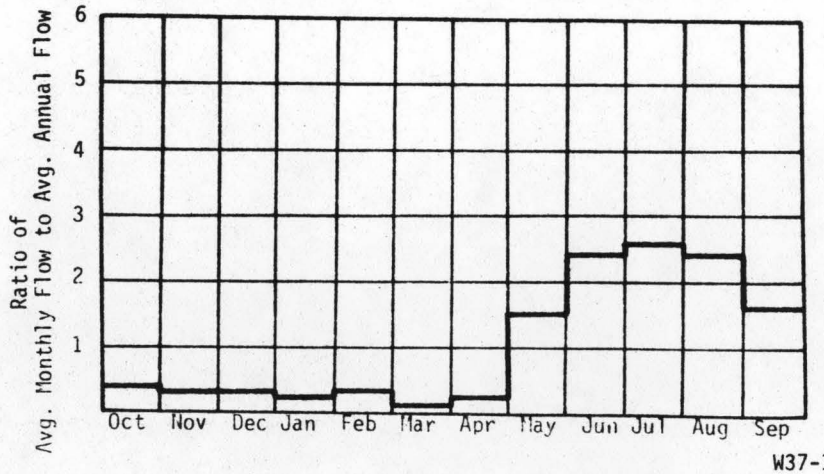
A. Upstream Elevation of Reach	1710	Ft. MSL
B. Downstream Elevation of Reach	1600	Ft. MSL
C. Total Available Head in Reach	110	Ft.
D. Average Slope in Reach	47.8	Ft./Mi.
E. Drainage Area above Reach Mouth	300	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

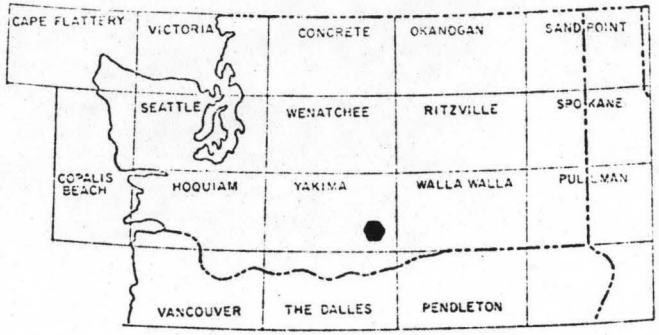
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.32	0.05	0.43	1.00
80	47.9	0.45	3.40	0.87
50	356	3.32	19.5	0.67
30	782	7.28	33.2	0.52
10	1350	12.6	41.9	0.38

IV. TYPICAL ANNUAL HYDROGRAPH

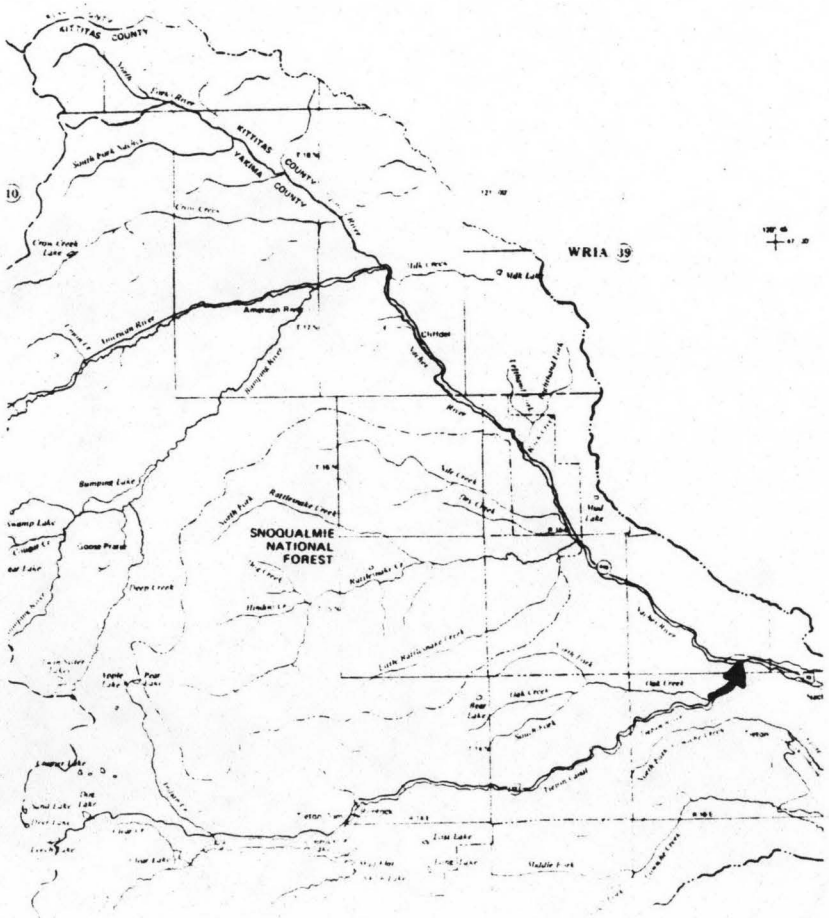
QMR = 532 cfs



W37-1235



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0028

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T14N R16E	
D. Latitude, Longitude	46°41' 121°57'	
E. Stream Name	Tieton River	
F. Major Basin Name	Yakima	
G. River Mile	2.3/22.9	

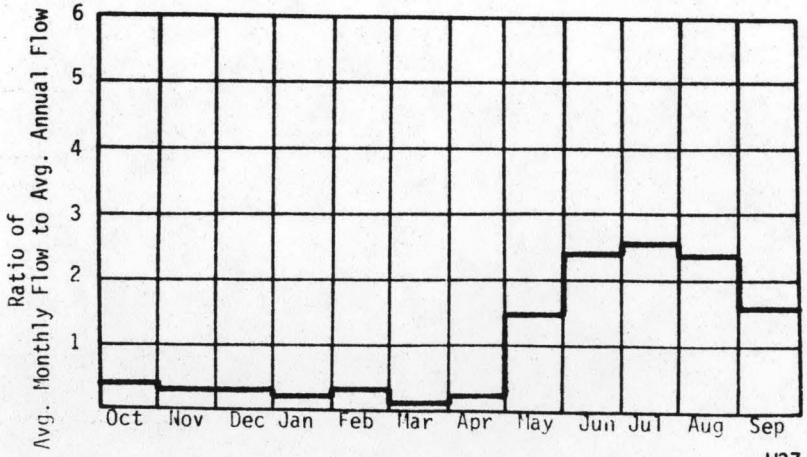
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2930	Ft. MSL
B. Downstream Elevation of Reach	1710	Ft. MSL
C. Total Available Head in Reach	1220	Ft.
D. Average Slope in Reach	59.2	Ft./Mi.
E. Drainage Area above Reach Mouth	266	Sq.Mi.
F. Inflow Classification	Regulated	

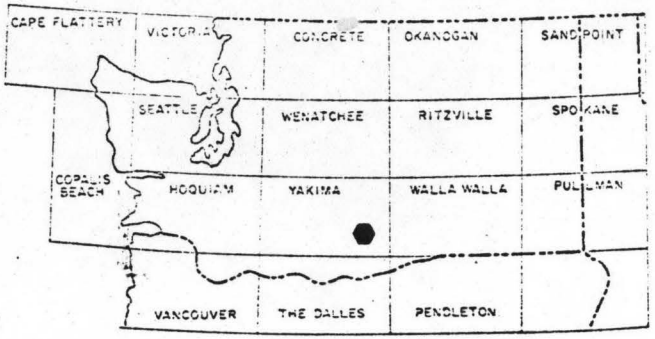
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.14	0.53	4.65	1.00
80	46.3	4.78	36.4	0.87
50	344	35.6	209	0.67
30	756	78.0	355	0.52
10	1310	135	449	0.38

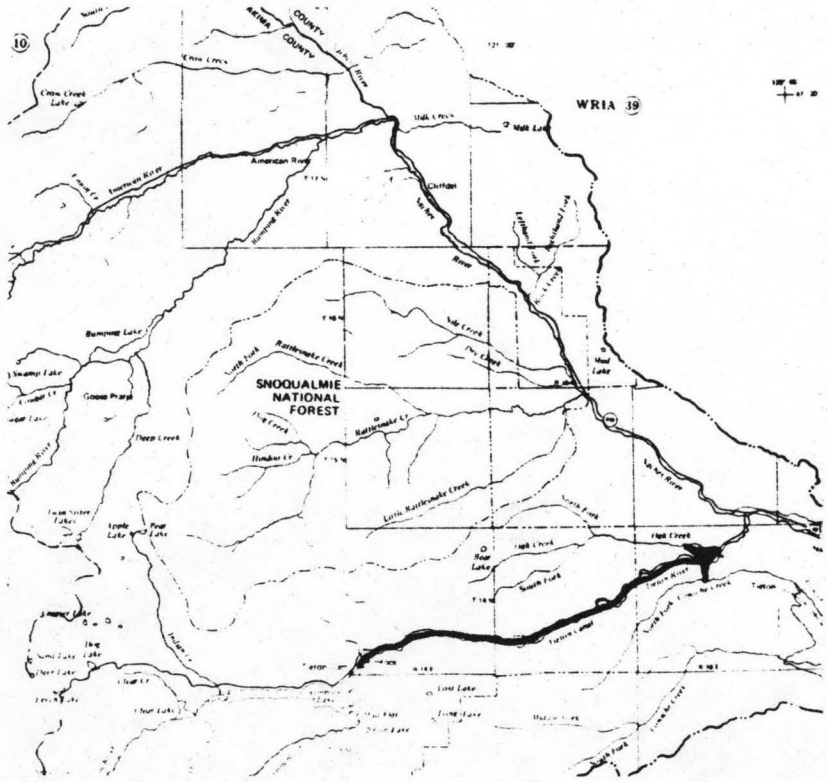
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 514 cfs



W37-1236



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0029

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T12N R14E	
D. Latitude, Longitude	46°36' 121°12'	
E. Stream Name	S.F. Tieton River	
F. Major Basin Name	Yakima	
G. River Mile	1.9/11.8	

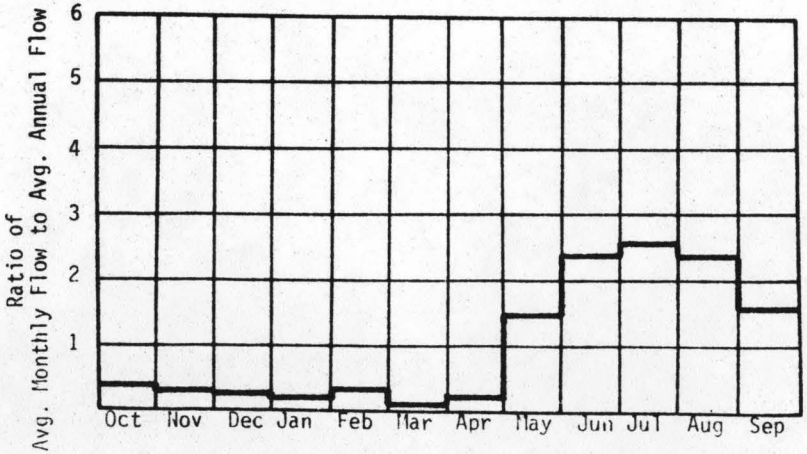
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

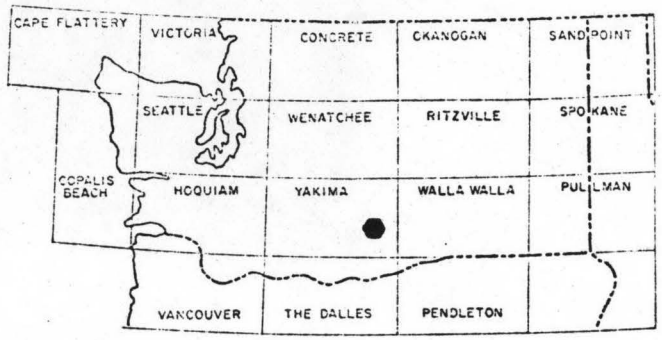
A. Upstream Elevation of Reach	3680	Ft. MSL
B. Downstream Elevation of Reach	2930	Ft. MSL
C. Total Available Head in Reach	750	Ft.
D. Average Slope in Reach	76	Ft./Mi.
E. Drainage Area above Reach Mouth	80	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

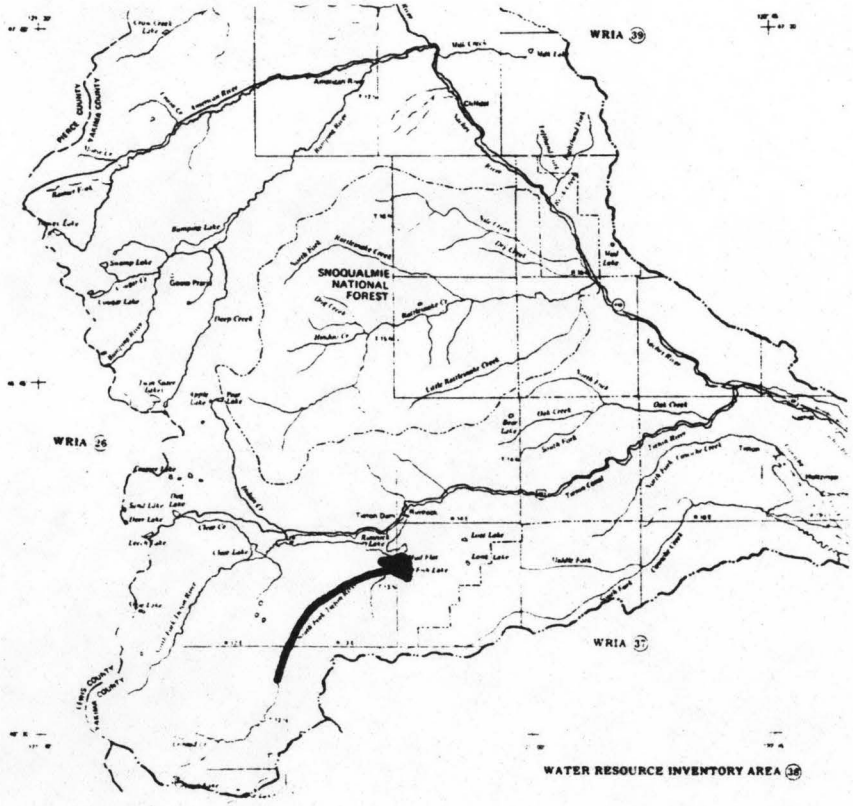
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	28.6	1.81	15.9	1.00
80	43.7	2.77	23.3	0.96
50	87.4	5.55	38.9	0.80
30	168	10.7	57.0	0.61
10	423	26.9	84.8	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 168 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0030

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T12N R12E
D.	Latitude, Longitude	46°30' 121°16'
E.	Stream Name	S.F. Tieton River
F.	Major Basin Name	Yakima
G.	River Mile	11.8/17.6

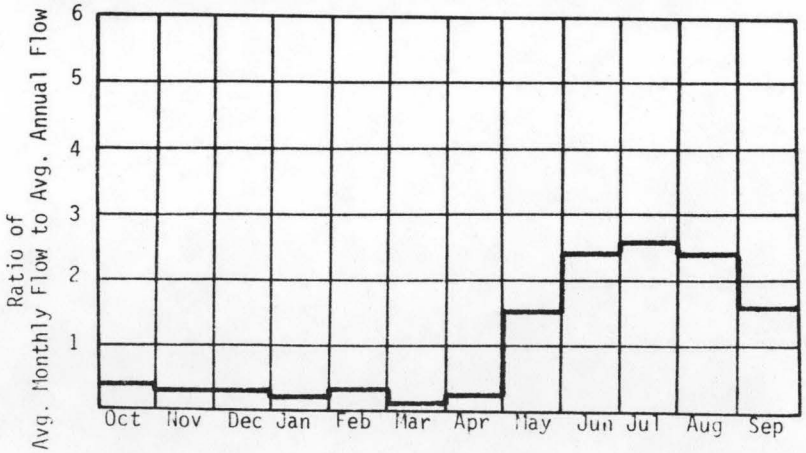
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

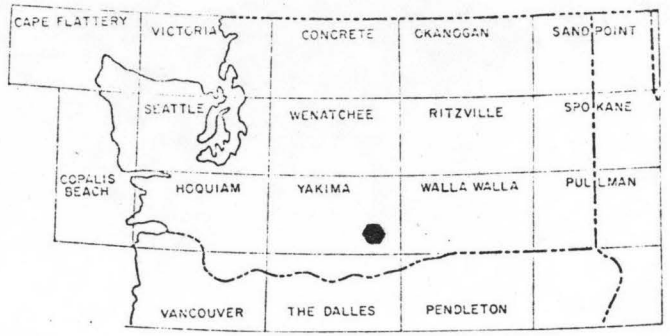
A.	Upstream Elevation of Reach	4120	Ft. MSL
B.	Downstream Elevation of Reach	3680	Ft. MSL
C.	Total Available Head in Reach	66 + 440 = 506	Ft.
D.	Average Slope in Reach	75.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	33.7	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

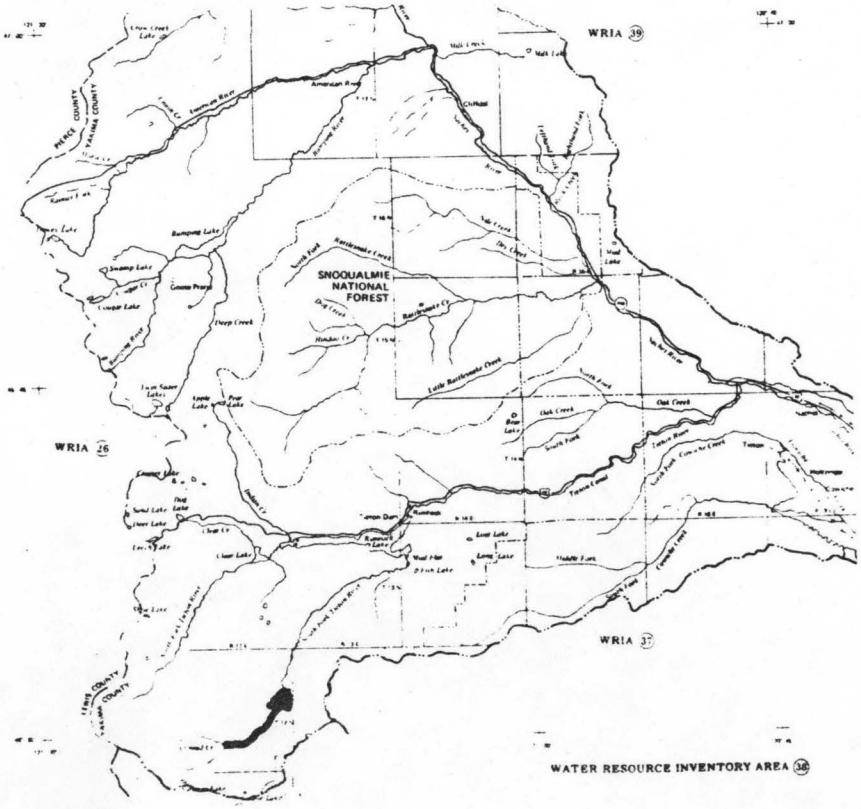
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.3	0.61	5.36	1.00
80	21.8	0.93	7.86	0.96
50	43.7	1.87	13.1	0.80
30	84.0	3.60	19.2	0.61
10	212	9.06	28.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 84 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0031

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T12N R12E
D.	Latitude, Longitude	46°37' 121°16'
E.	Stream Name	N.F. Tieton River
F.	Major Basin Name	Yakima
G.	River Mile	6.5/7.2

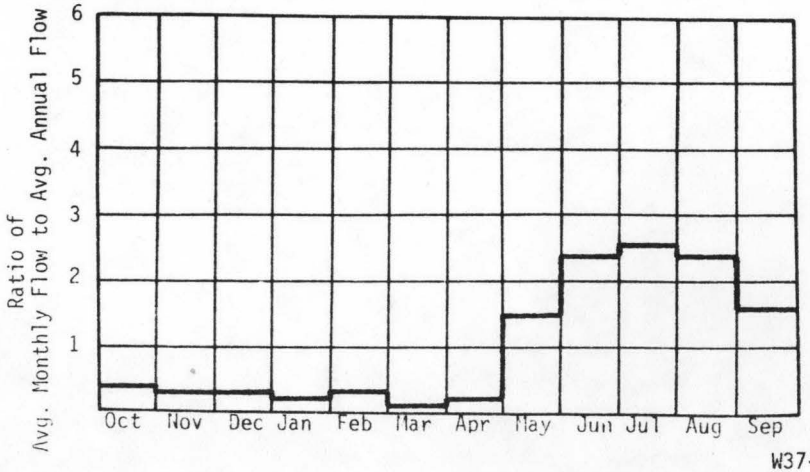
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

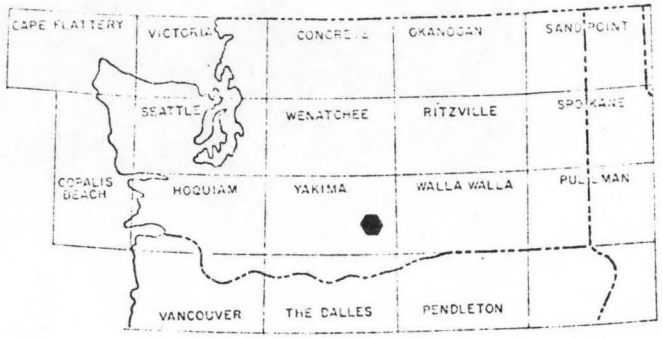
A.	Upstream Elevation of Reach	2960	Ft. MSL
B.	Downstream Elevation of Reach	2926	Ft. MSL
C.	Total Available Head in Reach	34	Ft.
D.	Average Slope in Reach	48.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	69	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

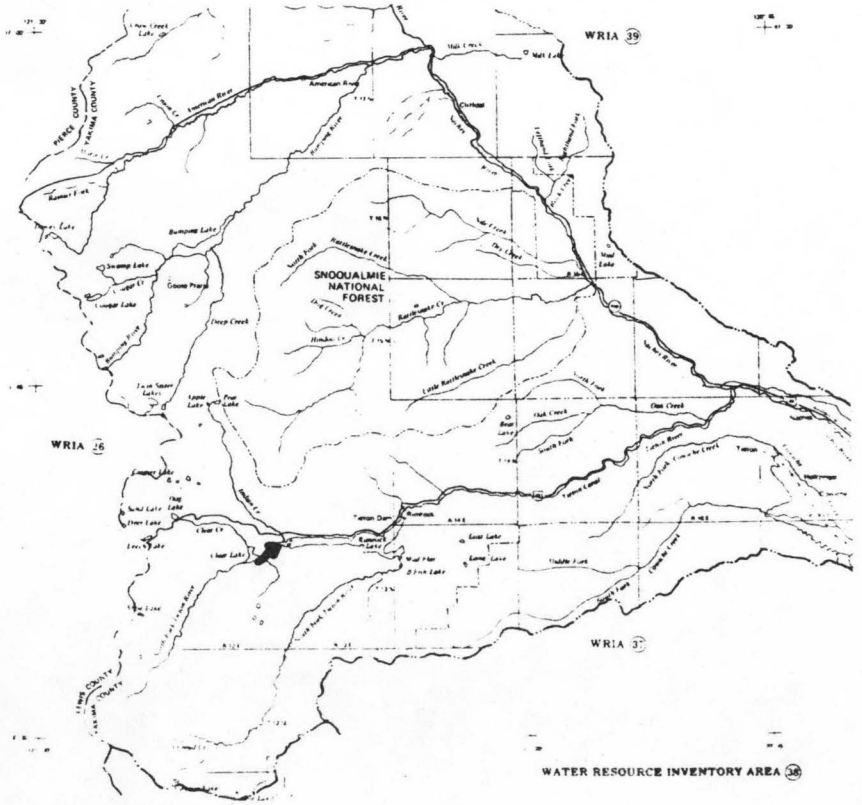
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	34.8	0.10	0.88	1.00
80	53.3	0.15	1.29	0.96
50	106.6	0.31	2.15	0.80
30	205	0.59	3.15	0.61
10	517	1.49	4.69	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 205 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1239

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0032

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T12N R12E	
D. Latitude, Longitude	46°36' 121°20'	
E. Stream Name	N.F. Tieton River	
F. Major Basin Name	Yakima	
G. River Mile	8.7/15.8	

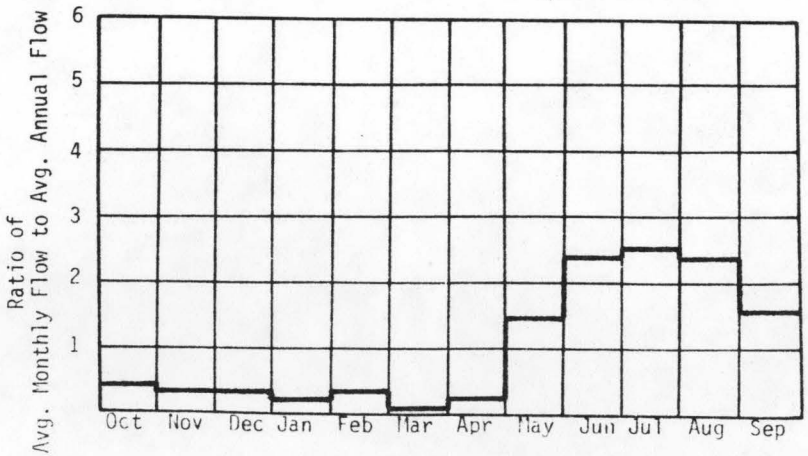
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

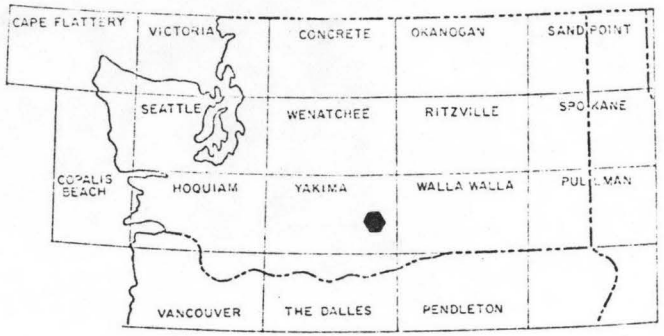
A. Upstream Elevation of Reach	3320	Ft. MSL
B. Downstream Elevation of Reach	2980	Ft. MSL
C. Total Available Head in Reach	340 + 66 = 406	Ft.
D. Average Slope in Reach	47.9	Ft./Mi.
E. Drainage Area above Reach Mouth	41	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

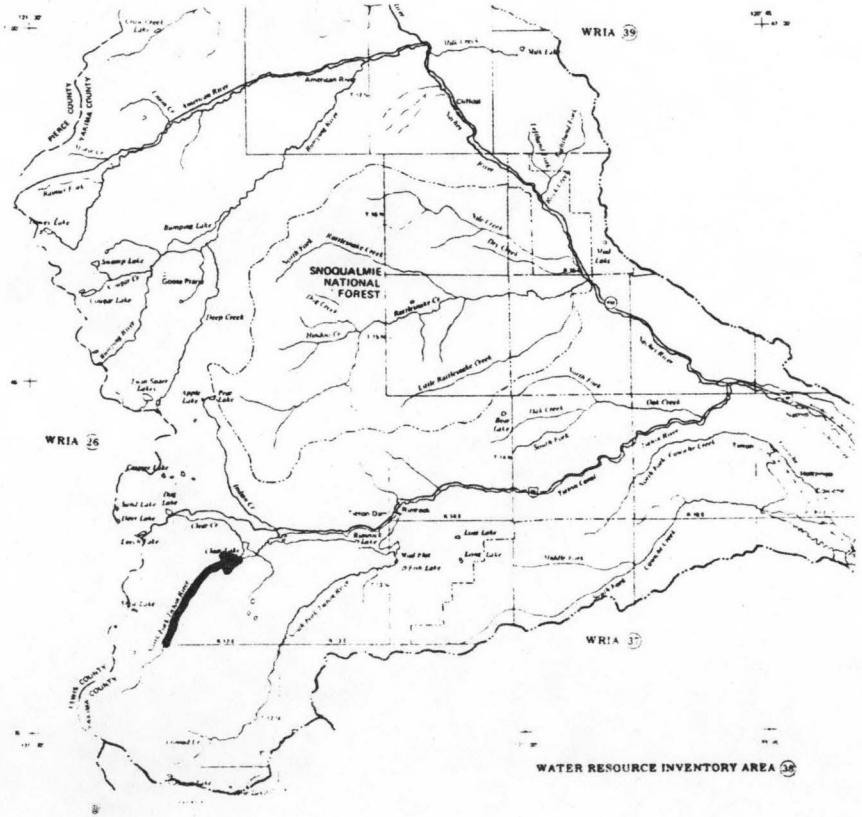
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.2	0.59	5.17	1.00
80	26.3	0.90	7.59	0.96
50	52.5	1.80	12.7	0.80
30	101	3.47	18.6	0.61
10	255	8.75	27.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 101 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0033

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T15N R15E
D.	Latitude, Longitude	46°56' 121°48'
E.	Stream Name	Rattle Snake Creek
F.	Major Basin Name	Yakima
G.	River Mile	0.0/1.1

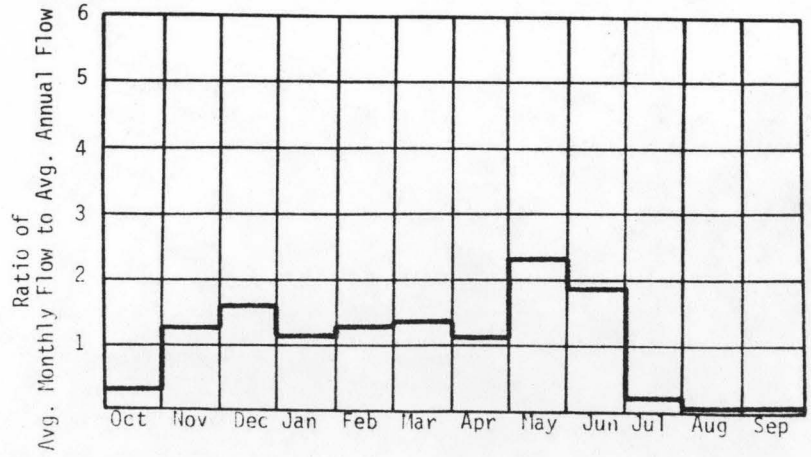
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

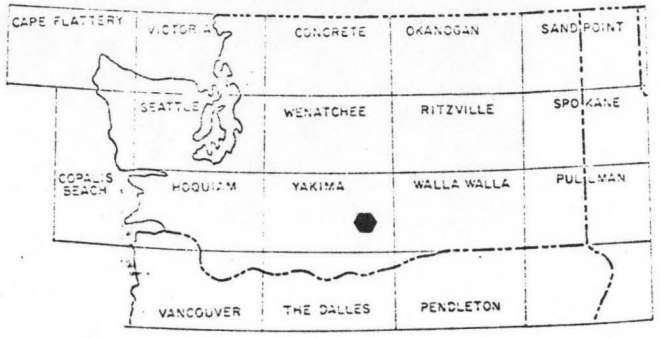
A.	Upstream Elevation of Reach	2040	Ft. MSL
B.	Downstream Elevation of Reach	1960	Ft. MSL
C.	Total Available Head in Reach	80	Ft.
D.	Average Slope in Reach	16.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	137	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

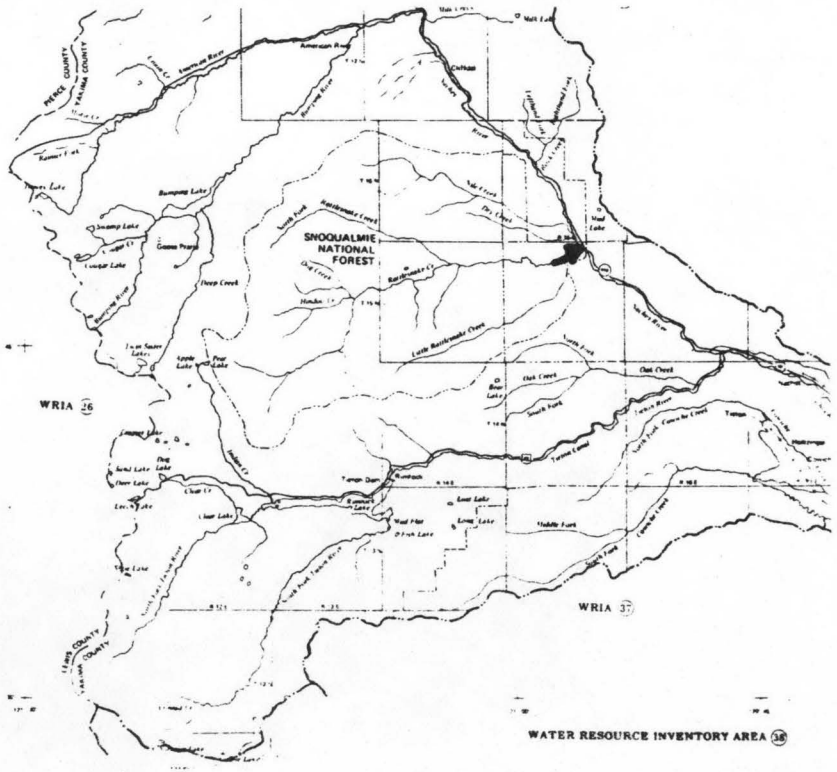
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15.0	0.23	2.00	1.00
80	22.9	0.35	2.93	0.96
50	45.8	0.70	4.89	0.80
30	88.0	1.34	7.16	0.61
10	222	3.38	10.7	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 88 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0034

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T15N R15E
D.	Latitude, Longitude	46°48' 121°01'
E.	Stream Name	Rattlesnake Creek
F.	Major Basin Name	Yakima
G.	River Mile	1.0/7.8

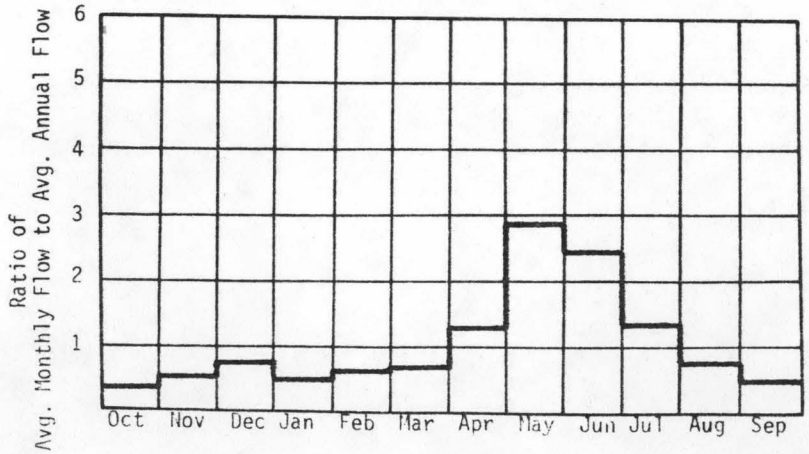
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

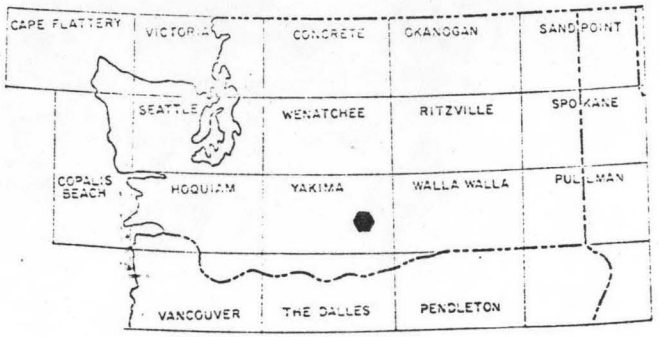
A.	Upstream Elevation of Reach	2660	Ft. MSL
B.	Downstream Elevation of Reach	2040	Ft. MSL
C.	Total Available Head in Reach	62.0	Ft.
D.	Average Slope in Reach	92.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	111	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

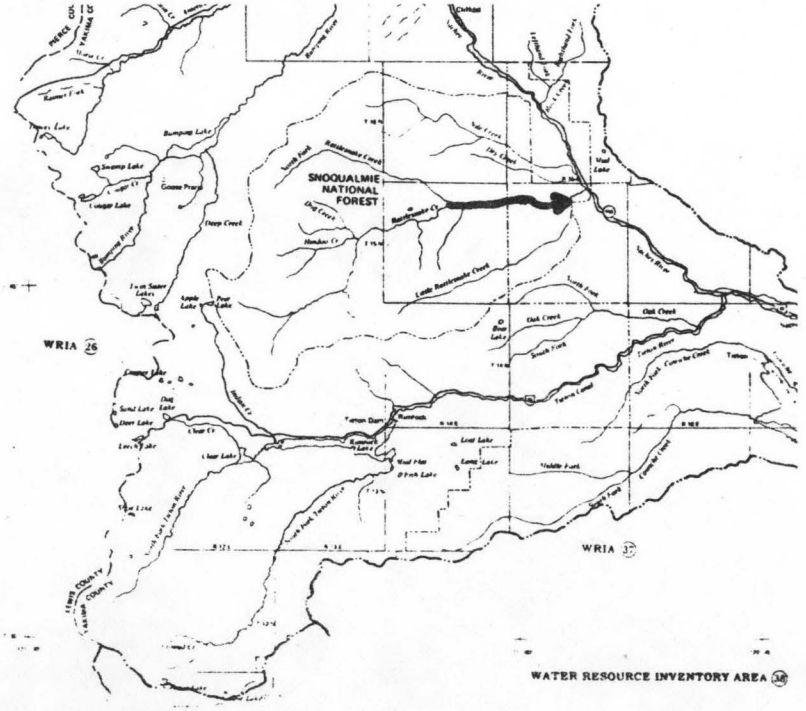
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.1	0.65	5.73	1.00
80	18.5	1.00	8.41	0.96
50	36.9	2.00	14.0	0.80
30	71.0	3.85	20.6	0.61
10	179	9.69	30.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 71 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1242

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0035

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T17N R14E
D.	Latitude, Longitude	46°58' 121°07'
E.	Stream Name	Bumping River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/3.5

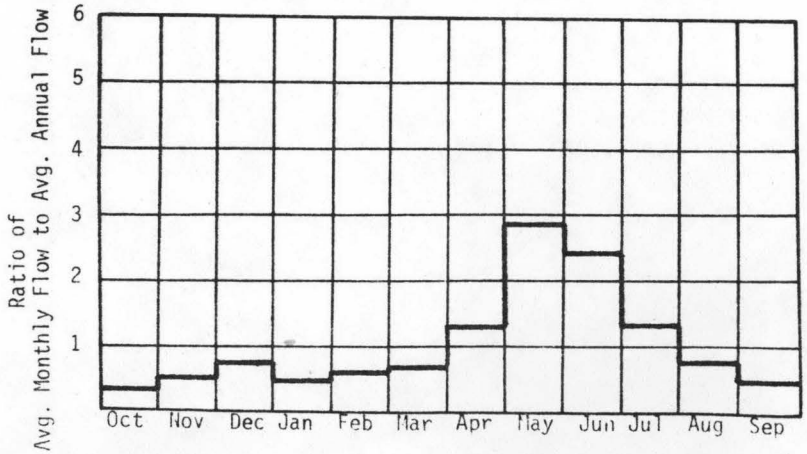
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

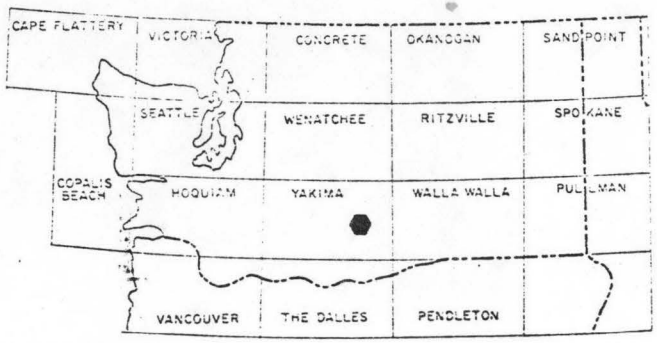
A.	Upstream Elevation of Reach	2760	Ft. MSL
B.	Downstream Elevation of Reach	2560	Ft. MSL
C.	Total Available Head in Reach	200	Ft.
D.	Average Slope in Reach	57.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	80.5	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

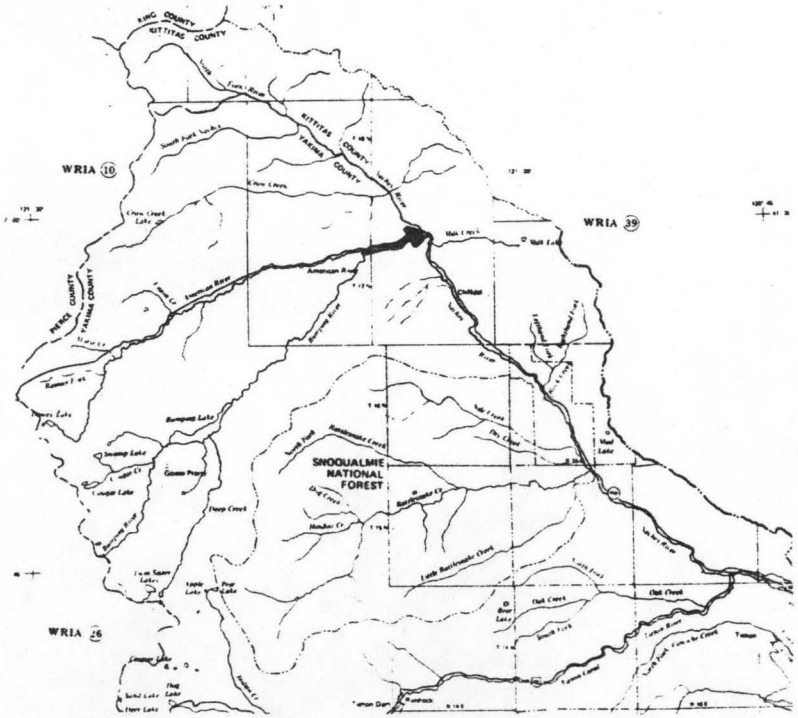
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	97.4	1.65	14.4	1.00
80	149	2.52	21.2	0.96
50	298	5.04	35.4	0.80
30	573	9.60	51.8	0.61
10	1440	24.4	77.1	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 573 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1243

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0036

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T17N R14E
D.	Latitude, Longitude	46°56' 121°13'
E.	Stream Name	Bumping River
F.	Major Basin Name	Yakima
G.	River Mile	3.5/16.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

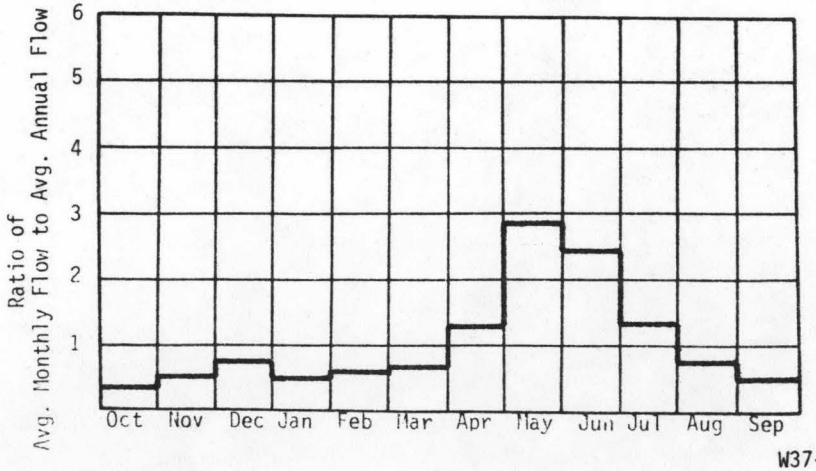
A.	Upstream Elevation of Reach	3160	Ft. MSL
B.	Downstream Elevation of Reach	2760	Ft. MSL
C.	Total Available Head in Reach	400	Ft.
D.	Average Slope in Reach	31.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	113	Sq.Mi.
F.	Inflow Classification	Regulated	

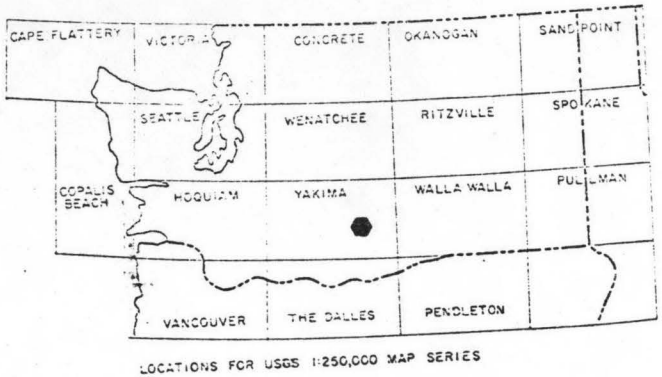
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	51.9	1.76	15.4	1.00
80	79.3	2.68	22.6	0.96
50	157	5.37	37.6	0.80
30	305	10.3	55.2	0.61
10	769	26.0	82.1	0.36

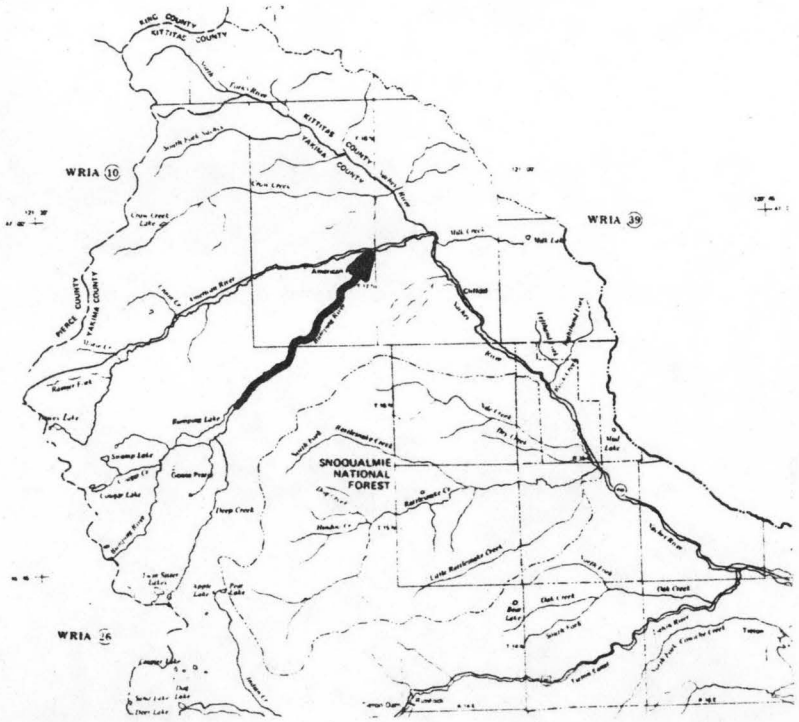
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 305 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1244

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0037

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T15N R11E	
D. Latitude, Longitude	46°50' 121°24'	
E. Stream Name	Bumping River	
F. Major Basin Name	Yakima	
G. River Mile	21.0/22.2	

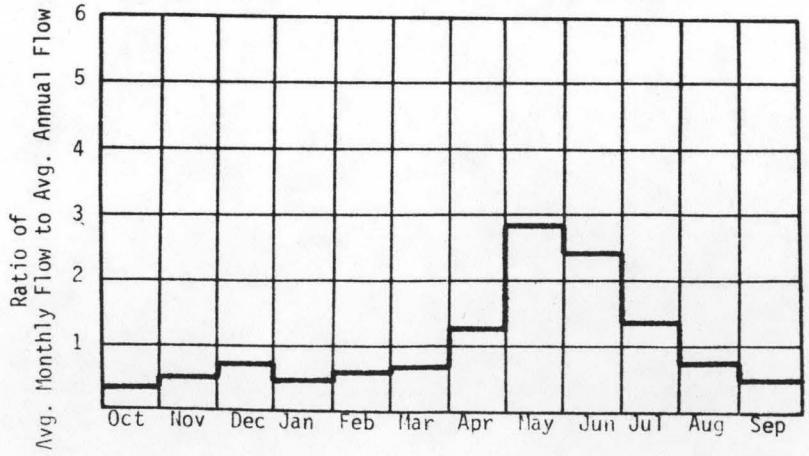
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

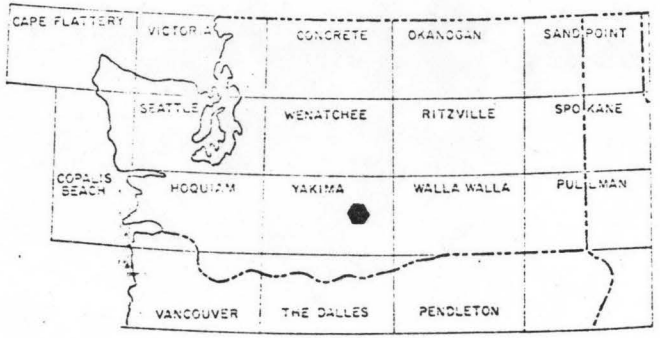
A. Upstream Elevation of Reach	3600	Ft. MSL
B. Downstream Elevation of Reach	3426	Ft. MSL
C. Total Available Head in Reach	174	Ft.
D. Average Slope in Reach	145	Ft./Mi.
E. Drainage Area above Reach Mouth	28	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

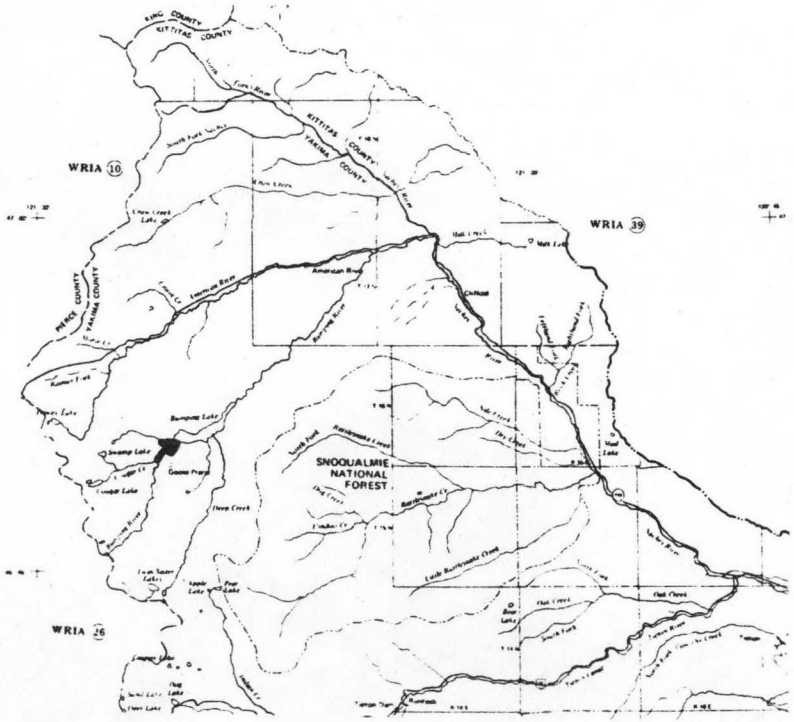
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.9	0.31	2.70	1.00
80	32.0	0.47	3.96	0.96
50	64.0	0.94	6.60	0.80
30	123	1.81	9.68	0.61
10	310	4.56	14.4	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 123 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1245

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0038

I. LOCATION

A. State	Washington	
B. County	Yakima	
C. Township, Range	T15N R11E	
D. Latitude, Longitude	46°49' 121°22'	
E. Stream Name	Bumping River	
F. Major Basin Name	Yakima	
G. River Mile	22.2/24.7	

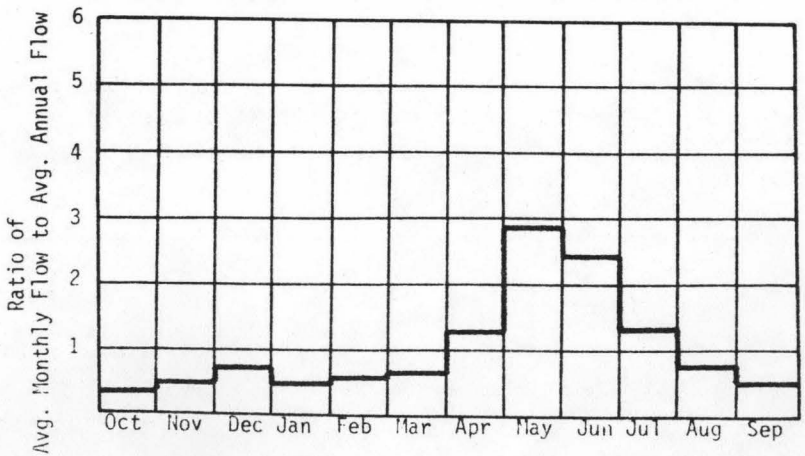
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

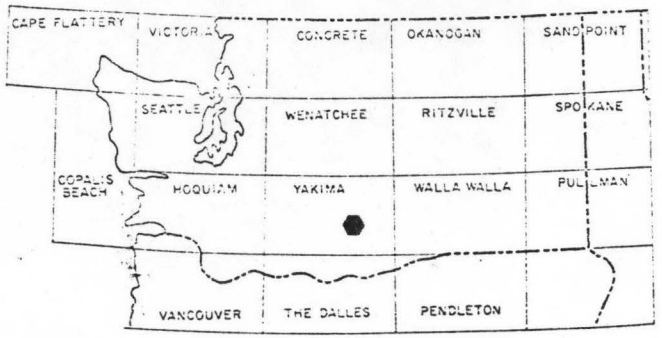
A. Upstream Elevation of Reach	3700	Ft. MSL
B. Downstream Elevation of Reach	3600	Ft. MSL
C. Total Available Head in Reach	66 + 100 = 166	Ft.
D. Average Slope in Reach	40	Ft./Mi.
E. Drainage Area above Reach Mouth	20	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

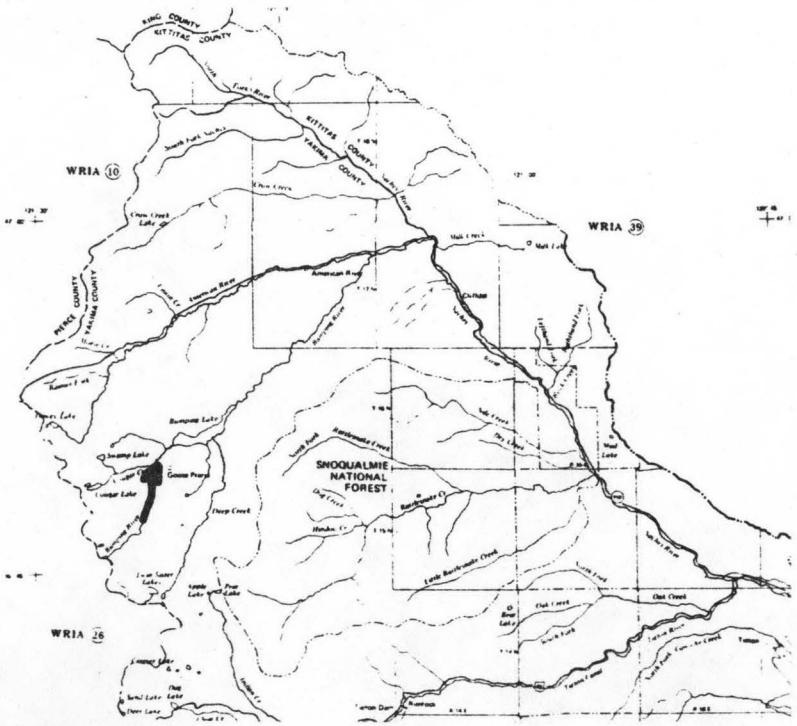
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.3	0.20	1.76	1.00
80	21.8	0.31	2.58	0.96
50	43.7	0.61	4.30	0.80
30	84.0	1.18	6.30	0.61
10	212	2.97	9.37	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 84 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1246

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0039

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T17N R14E
D.	Latitude, Longitude	46°58' 121°14'
E.	Stream Name	American River
F.	Major Basin Name	Yakima
G.	River Mile	3.5/13.3

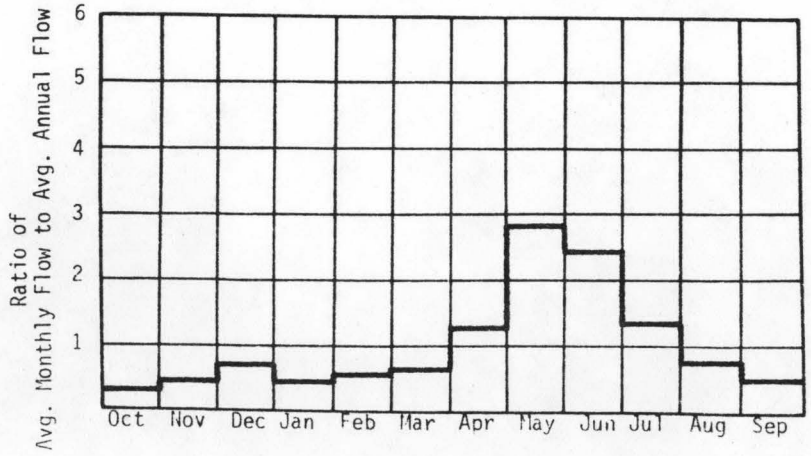
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

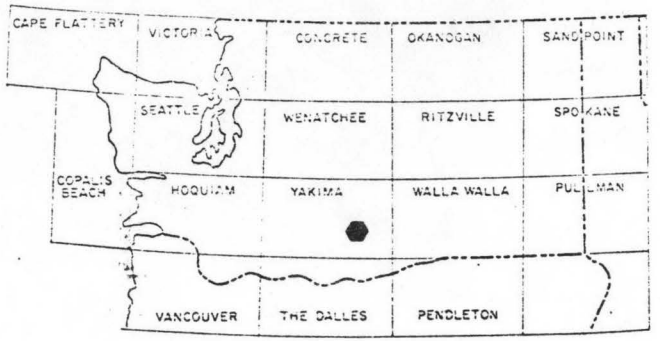
A.	Upstream Elevation of Reach	3340	Ft. MSL
B.	Downstream Elevation of Reach	2760	Ft. MSL
C.	Total Available Head in Reach	580	Ft.
D.	Average Slope in Reach	59.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	81	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

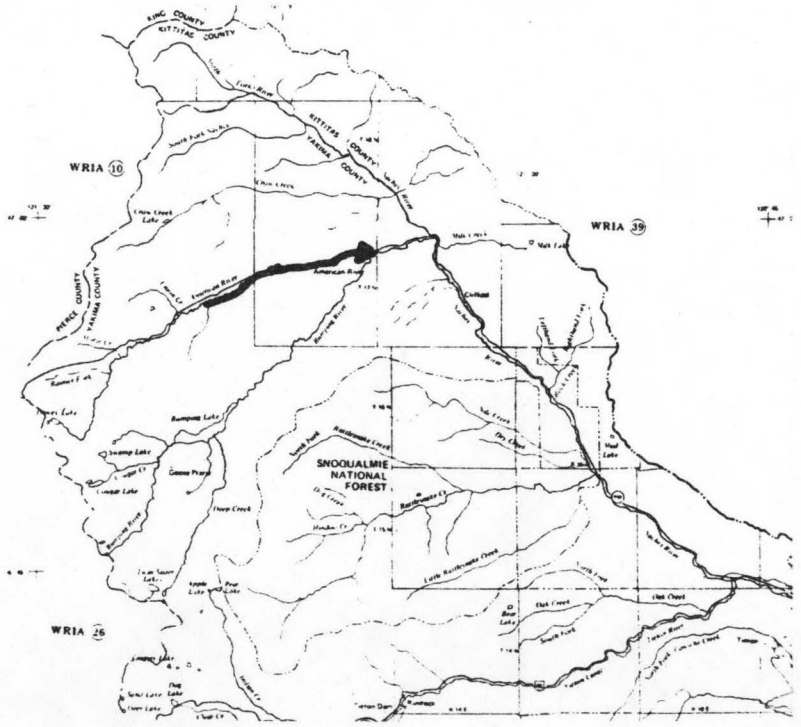
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	39.4	1.94	17.0	1.00
80	60.3	2.96	24.9	0.96
50	121	5.92	41.5	0.80
30	232	11.4	60.9	0.61
10	585	28.7	90.5	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 232 cfs





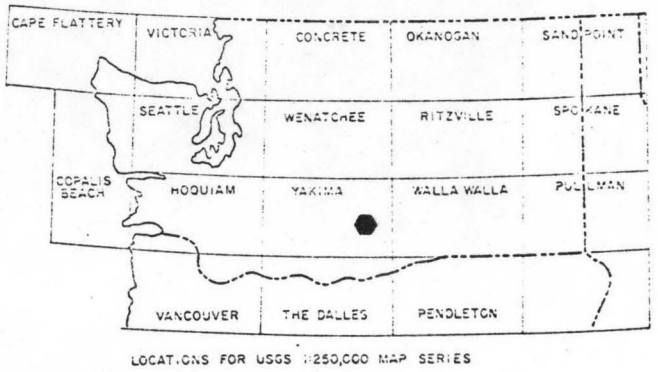
LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1247

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0040



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T15N R11E
D.	Latitude, Longitude	46°56' 121°20'
E.	Stream Name	American River
F.	Major Basin Name	Yakima
G.	River Mile	13.3/15.0

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

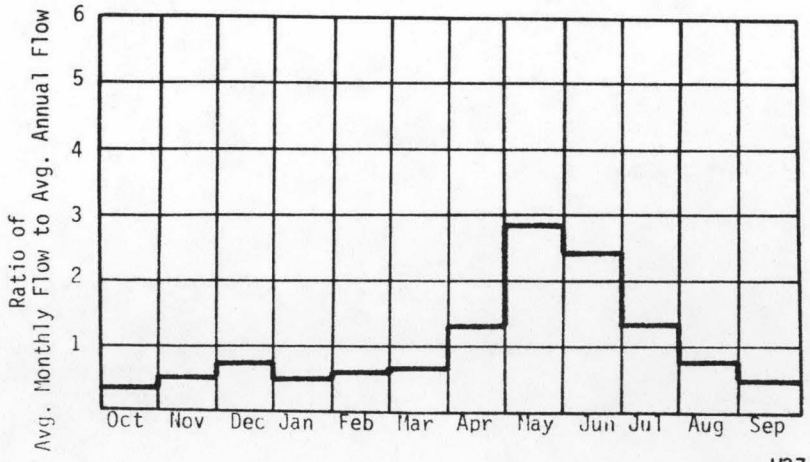
A.	Upstream Elevation of Reach	3430	Ft. MSL
B.	Downstream Elevation of Reach	3340	Ft. MSL
C.	Total Available Head in Reach	90	Ft.
D.	Average Slope in Reach	53	Ft./Mi.
E.	Drainage Area above Reach Mouth	52	Sq.Mi.
F.	Inflow Classification	Natural	

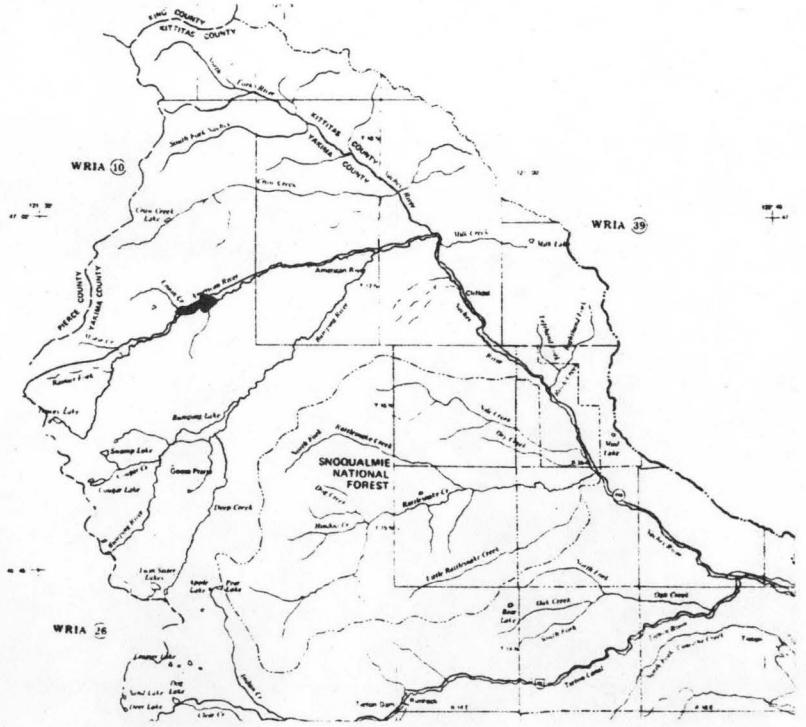
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	31.1	0.16	1.38	1.00
80	47.6	0.24	2.03	0.96
50	95.2	0.48	3.39	0.80
30	183	0.93	4.97	0.61
10	461	2.34	7.39	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 183 cfs





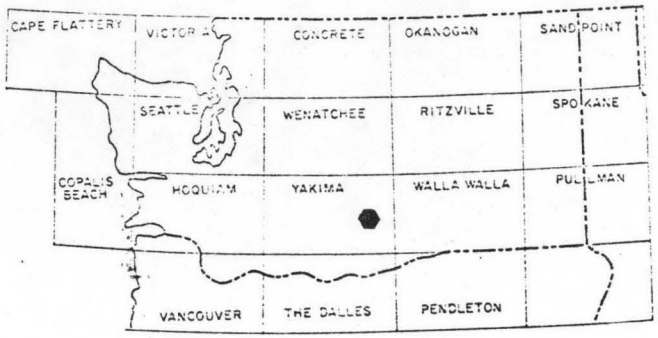
W37-1248

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0041

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T15N R11E
D.	Latitude, Longitude	46°55' 121°22'
E.	Stream Name	American River
F.	Major Basin Name	Yakima
G.	River Mile	15.0/20.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

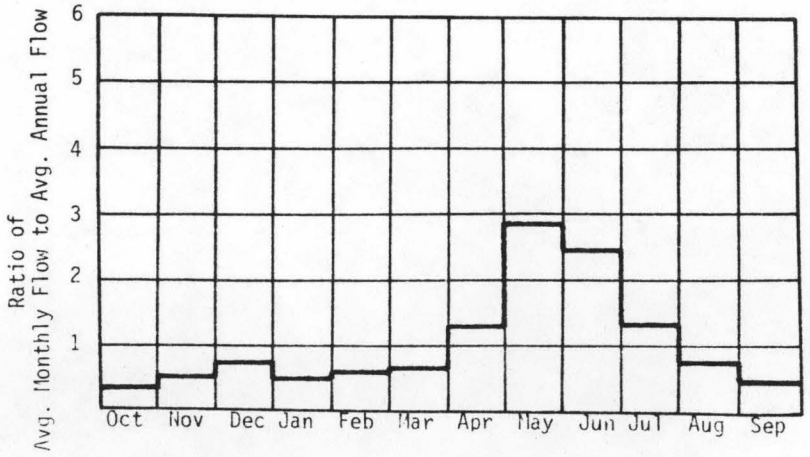
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

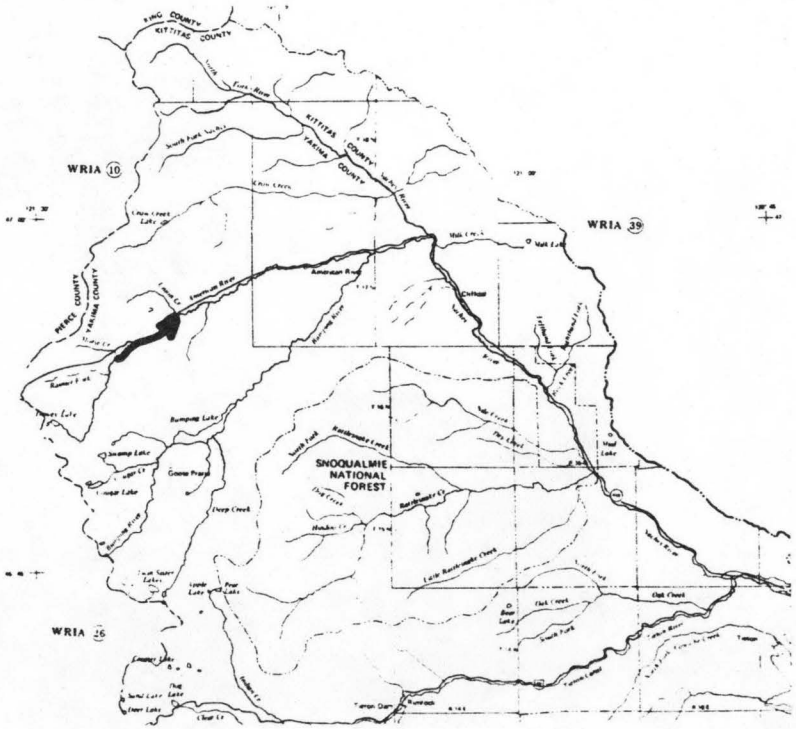
A.	Upstream Elevation of Reach	3620	Ft. MSL
B.	Downstream Elevation of Reach	3430	Ft. MSL
C.	Total Available Head in Reach	190 + 66 = 156	Ft.
D.	Average Slope in Reach	32.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	36	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.7	0.23	2.04	1.00
80	27.0	0.36	3.00	0.96
50	54.1	0.71	5.00	0.80
30	104	1.37	7.33	0.61
10	262	3.46	10.9	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 104 cfs





W37-1249

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0042

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T20N R13E	
D. Latitude, Longitude	47°11' 121°10'	
E. Stream Name	Crow Creek	
F. Major Basin Name	Yakima	
G. River Mile	0.0/4.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

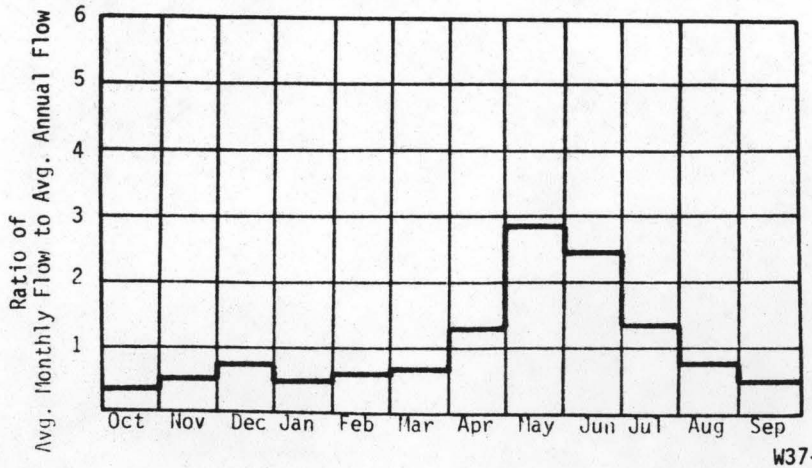
A. Upstream Elevation of Reach	4080	Ft. MSL
B. Downstream Elevation of Reach	2720	Ft. MSL
C. Total Available Head in Reach	360	Ft.
D. Average Slope in Reach	85.7	Ft./Mi.
E. Drainage Area above Reach Mouth	21	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

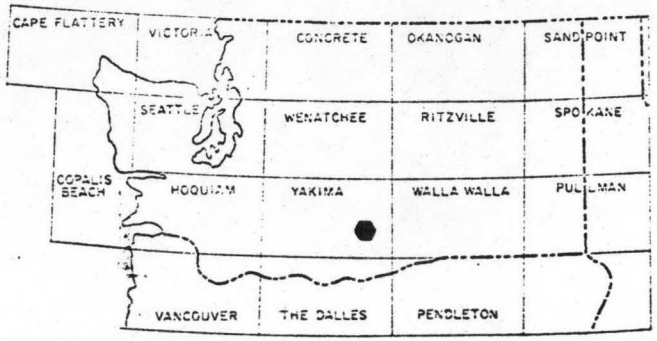
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.7	1.59	13.9	1.00
80	21.1	2.42	20.4	0.96
50	42.1	4.85	34.0	0.80
30	81.0	9.32	49.8	0.61
10	204	23.5	74.1	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

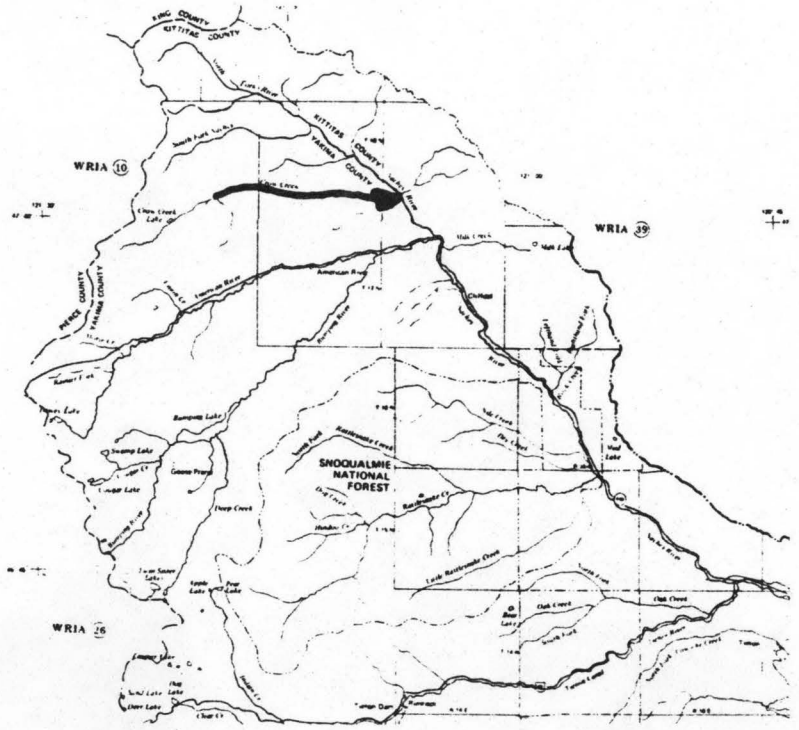
QMR = 81 cfs



W37-1250



LOCATIONS FOR USGS 1:250,000 MAP SERIES

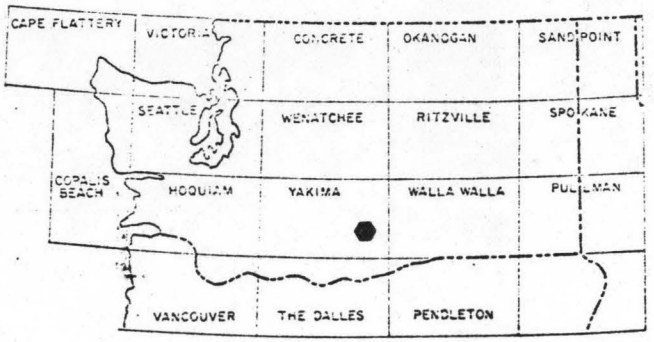


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0043

I. LOCATION

A.	State	Washington
B.	County	Yakima
C.	Township, Range	T18N R12E
D.	Latitude, Longitude	47°02' 121°20'
E.	Stream Name	Crow Creek
F.	Major Basin Name	Yakima
G.	River Mile	4.2/6.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

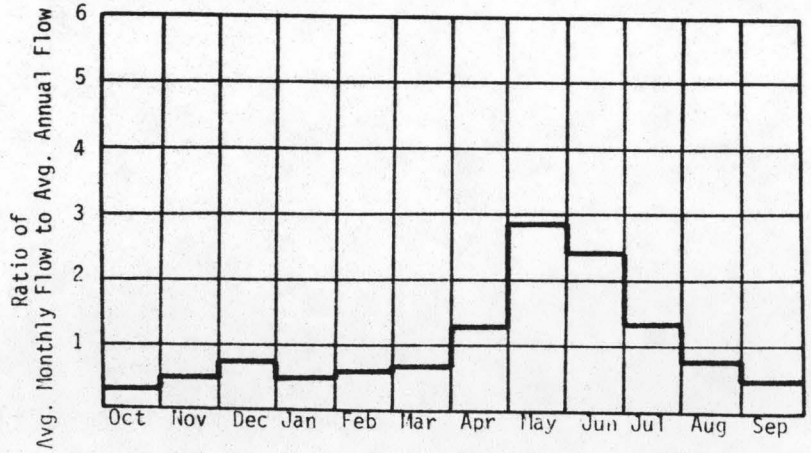
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

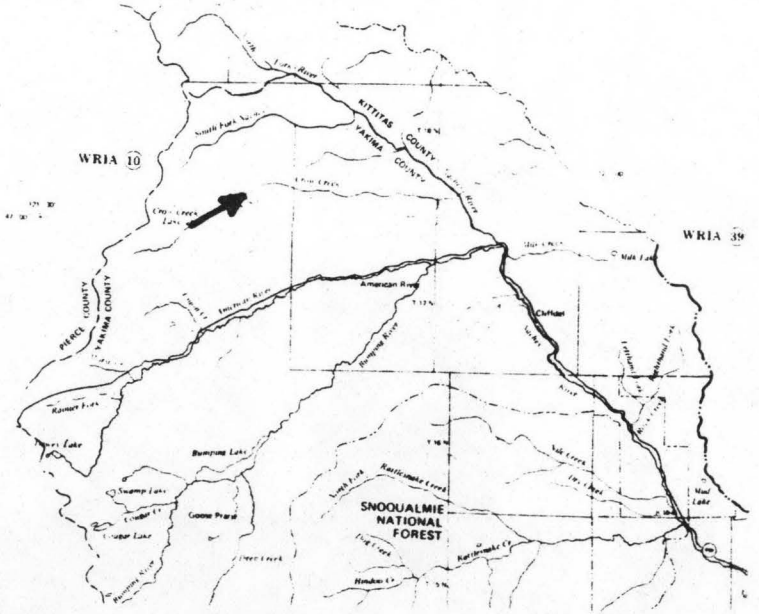
A.	Upstream Elevation of Reach	4560	Ft. MSL
B.	Downstream Elevation of Reach	4880	Ft. MSL
C.	Total Available Head in Reach	66 + 480 = 546	Ft.
D.	Average Slope in Reach	204	Ft./Mi.
E.	Drainage Area above Reach Mouth	17	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.52	0.44	3.85	1.00
80	14.6	0.67	5.66	0.96
50	29.1	1.35	9.43	0.80
30	56.0	2.59	13.8	0.61
10	141	6.52	20.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 56 cfs





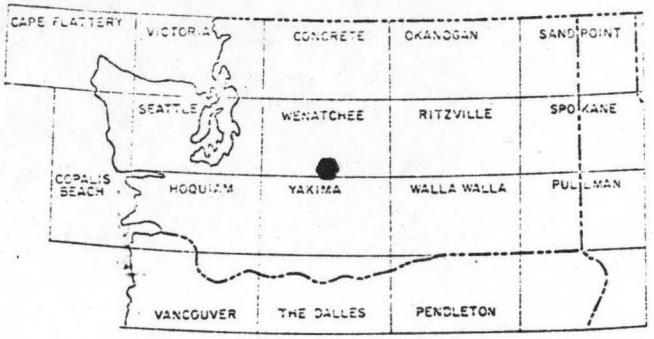
W37-1251

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0044

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R16E
D.	Latitude, Longitude	47°13' 120°50'
E.	Stream Name	Teanaway River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/9.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

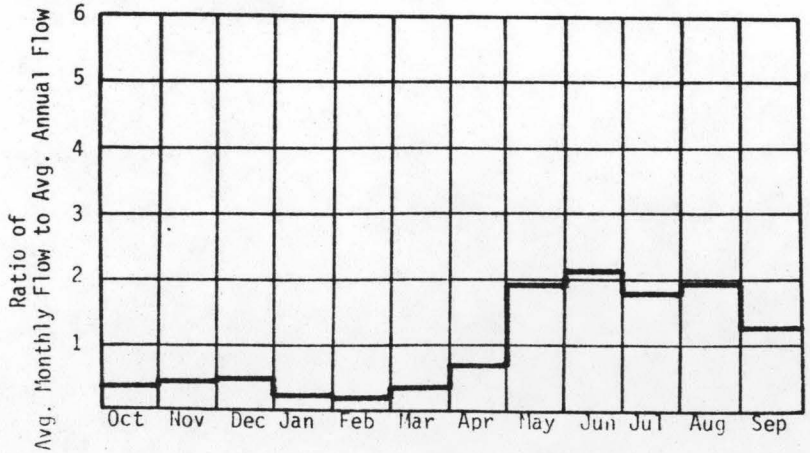
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

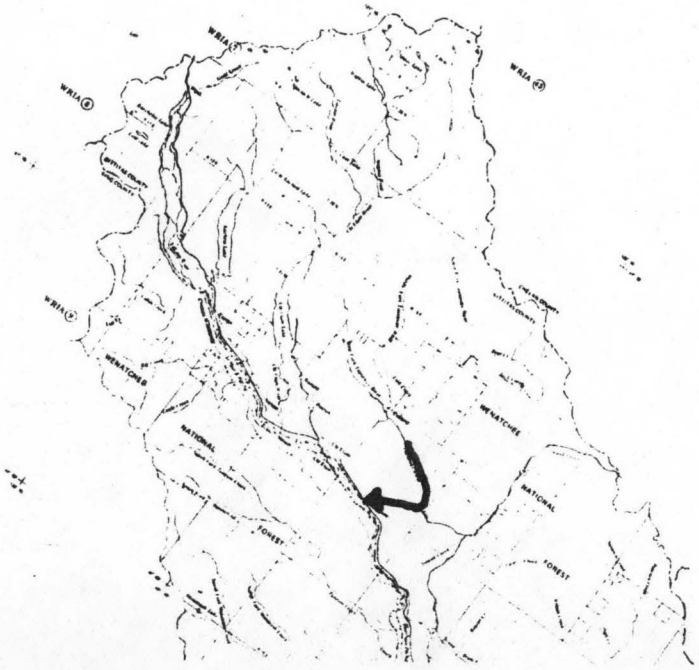
A.	Upstream Elevation of Reach	2160	Ft. MSL
B.	Downstream Elevation of Reach	1840	Ft. MSL
C.	Total Available Head in Reach	320	Ft.
D.	Average Slope in Reach	35.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	208	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.0	0.46	4.03	1.00
80	37.4	1.01	8.25	0.93
50	129	3.50	22.4	0.73
30	337	9.12	42.3	0.53
10	1010	27.3	71.6	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 340 cfs





W37-1252

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0045

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R16E
D.	Latitude, Longitude	47°15' 120°52'
E.	Stream Name	Teanaway River
F.	Major Basin Name	Yakima
G.	River Mile	9.0/10.5

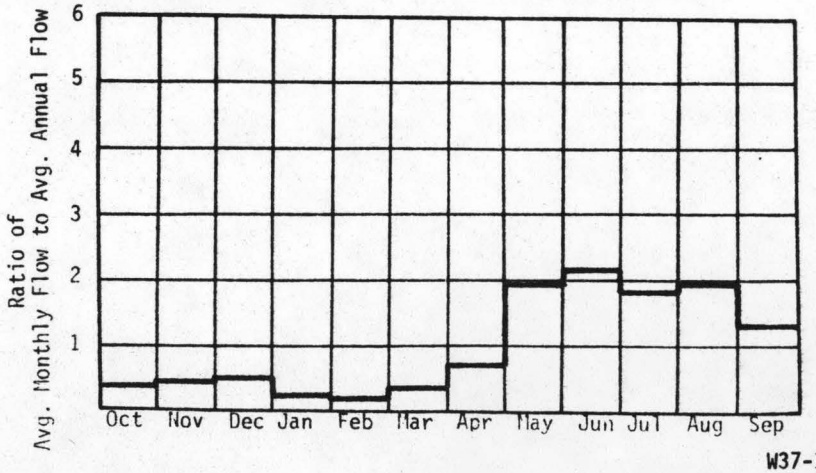
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2220	Ft. MSL
B.	Downstream Elevation of Reach	2160	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	40	Ft./Mi.
E.	Drainage Area above Reach Mouth	174	Sq.Mi.
F.	Inflow Classification	Natural	

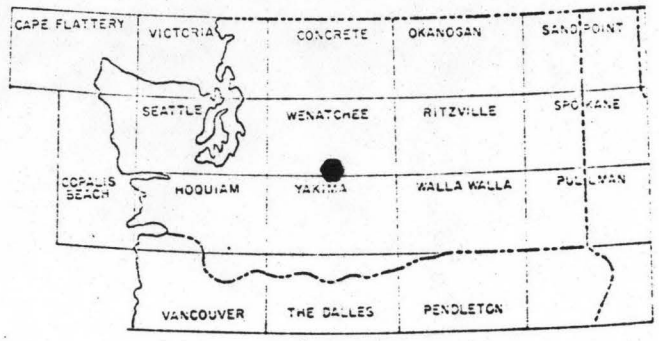
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	16.5	0.09	0.73	1.00
80	36.3	0.18	1.50	0.93
50	125	0.64	4.07	0.73
30	327	1.66	7.70	0.53
10	977	4.96	13.0	0.30

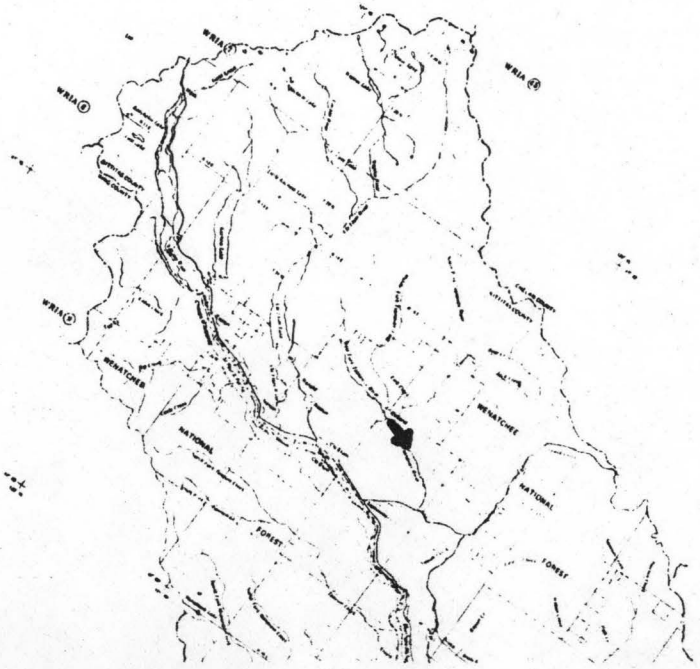
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 330 cfs



W37-1253



LOCATIONS FOR USGS 1:250,000 MAP SERIES

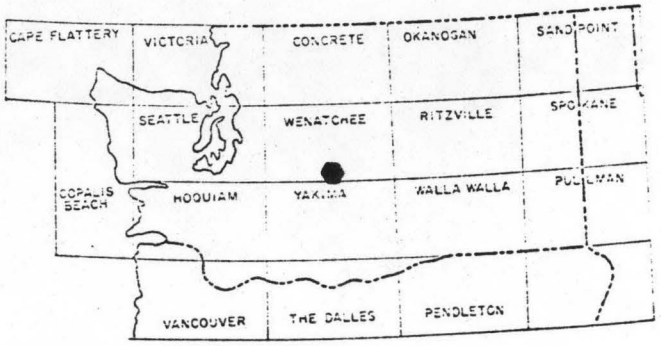


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0046

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R16E
D.	Latitude, Longitude	47°15' 121°54'
E.	Stream Name	Teanaway River
F.	Major Basin Name	Yakima
G.	River Mile	10.5/11.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

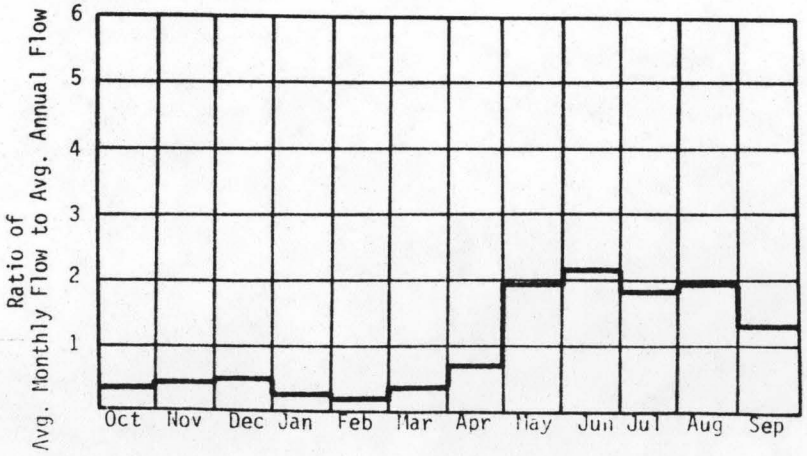
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

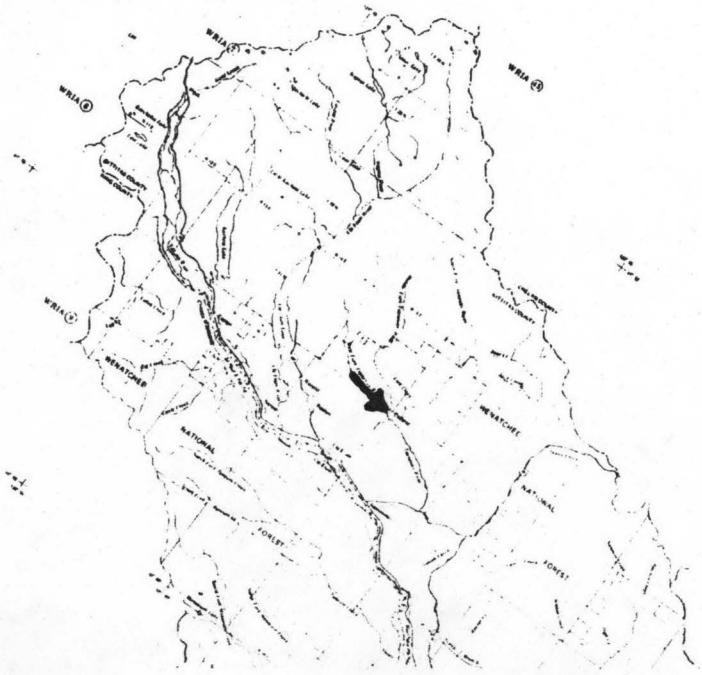
A.	Upstream Elevation of Reach	2300	Ft. MSL
B.	Downstream Elevation of Reach	2220	Ft. MSL
C.	Total Available Head in Reach	80 + 66 = 146	Ft.
D.	Average Slope in Reach	65.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	74	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.85	0.08	0.74	1.00
80	15.1	0.19	1.52	0.93
50	46.3	0.57	3.66	0.73
30	136	1.68	7.78	0.53
10	406	5.01	13.2	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 137 cfs





W37-1254

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0047

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T21N R16E	
D. Latitude, Longitude	47°17' 120°50'	
E. Stream Name	North Fork	
F. Major Basin Name	Yakima	
G. River Mile	0.0/7.7	

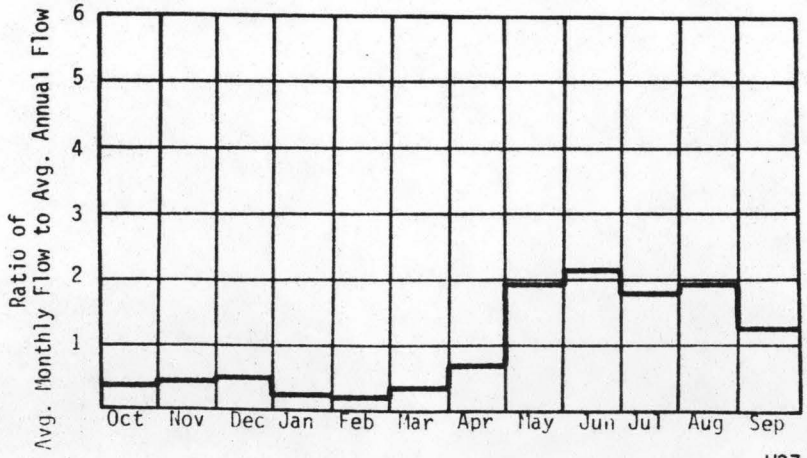
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

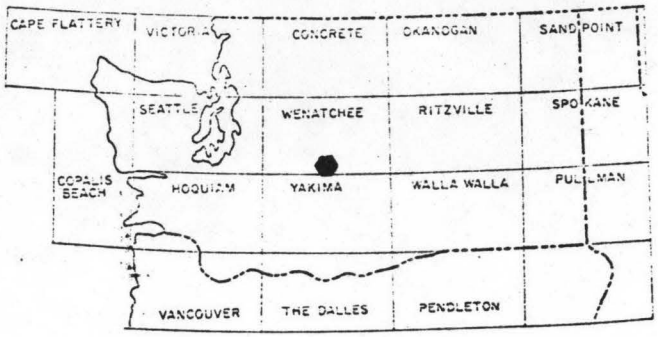
A. Upstream Elevation of Reach	2720	Ft. MSL
B. Downstream Elevation of Reach	2220	Ft. MSL
C. Total Available Head in Reach	500 + 66 = 566	Ft.
D. Average Slope in Reach	65	Ft./Mi.
E. Drainage Area above Reach Mouth	95	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	7.50	0.36	3.15	1.00
80	16.5	0.79	6.44	0.93
50	57.0	2.73	17.5	0.73
30	149	7.11	33.0	0.53
10	444	21.3	55.9	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 150 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W37-1255

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0048

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T20N R14E	
D. Latitude, Longitude	47°13' 121°02'	
E. Stream Name	Cle Elum River	
F. Major Basin Name	Yakima	
G. River Mile	0.0/7.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

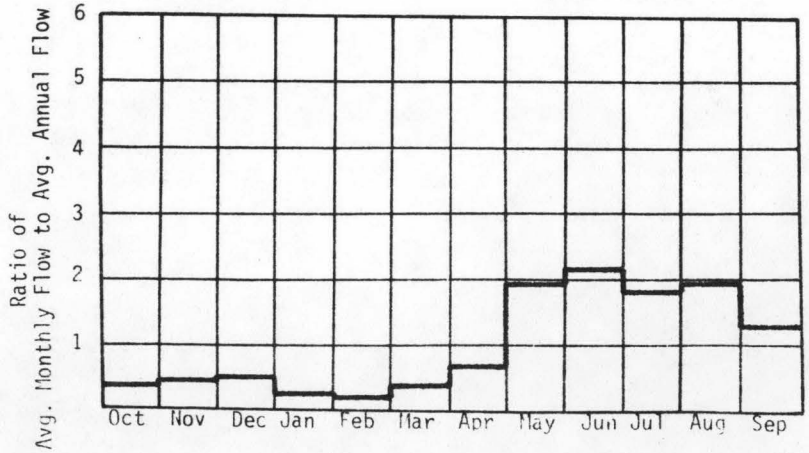
A. Upstream Elevation of Reach	2040	Ft. MSL
B. Downstream Elevation of Reach	1960	Ft. MSL
C. Total Available Head in Reach	80	Ft.
D. Average Slope in Reach	11.0	Ft./Mi.
E. Drainage Area above Reach Mouth	227	Sq.Mi.
F. Inflow Classification	Regulated	

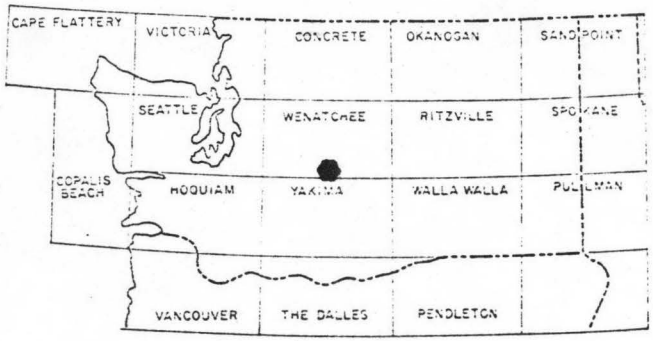
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.48	0.06	0.56	1.00
80	47.4	0.32	2.56	0.91
50	569	3.85	22.3	0.66
30	1320	8.92	39.9	0.51
10	2570	17.4	54.9	0.36

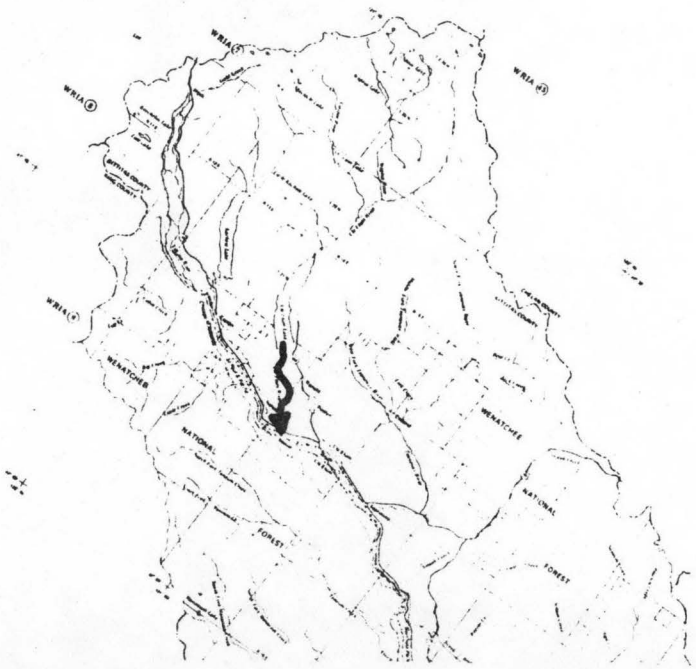
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 948 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



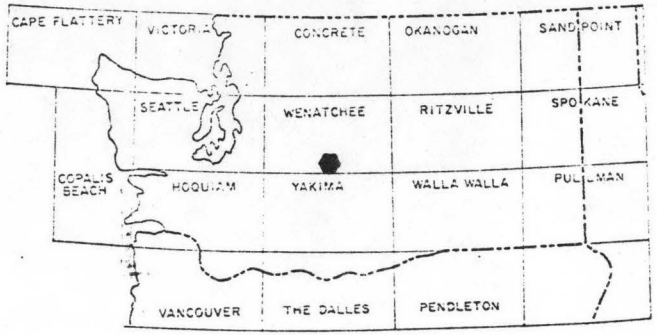
W37-1256

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0049

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T22N R14E
D.	Latitude, Longitude	47°22' 121°07'
E.	Stream Name	Cle Elum River
F.	Major Basin Name	Yakima
G.	River Mile	16.0/17.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

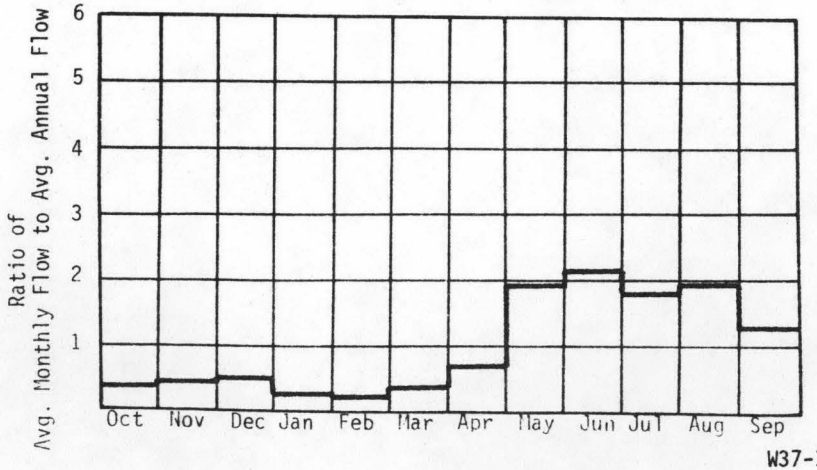
A.	Upstream Elevation of Reach	2280	Ft. MSL
B.	Downstream Elevation of Reach	2220	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	50	Ft./Mi.
E.	Drainage Area above Reach Mouth	170	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.33	0.04	0.37	1.00
80	417	0.21	1.69	0.91
50	500	2.54	14.7	0.66
30	1160	5.88	26.3	0.51
10	2260	11.5	36.2	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 833 cfs



W37-1257

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0050

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T22N R14E	
D. Latitude, Longitude	47°23' 121°07'	
E. Stream Name	Cle Elum River	
F. Major Basin Name	Yakima	
G. River Mile	17.2/19.2	

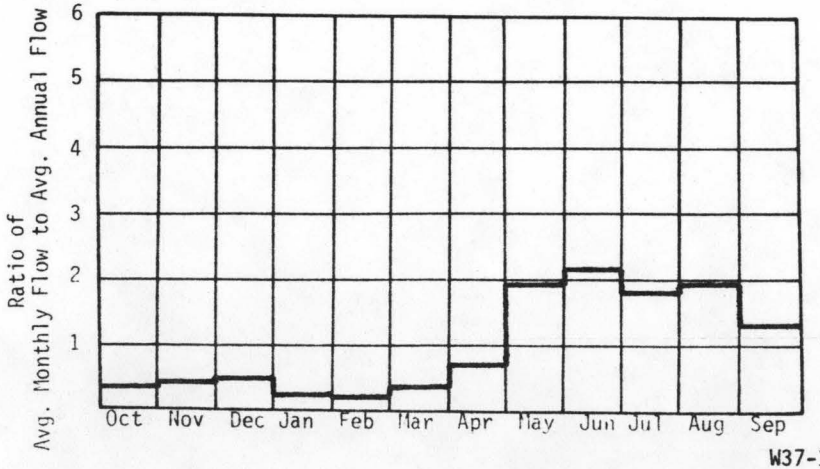
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2360	Ft. MSL
B. Downstream Elevation of Reach	2280	Ft. MSL
C. Total Available Head in Reach	80	Ft.
D. Average Slope in Reach	40	Ft./Mi.
E. Drainage Area above Reach Mouth	161	Sq.Mi.
F. Inflow Classification	Natural	

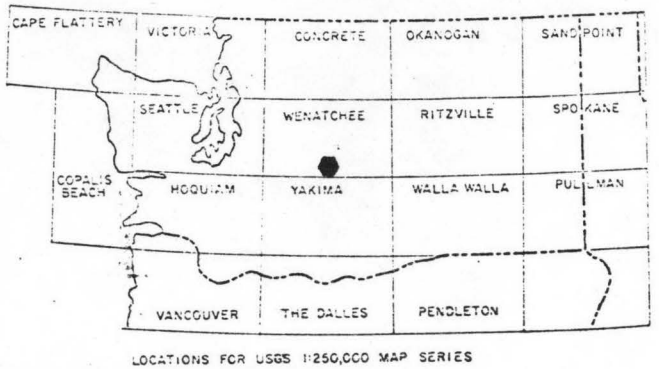
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	8.9	0.05	0.48	1.00
80	40.1	0.27	2.16	0.91
50	481	3.25	18.8	0.66
30	1110	7.54	33.7	0.51
10	2170	14.7	46.4	0.36

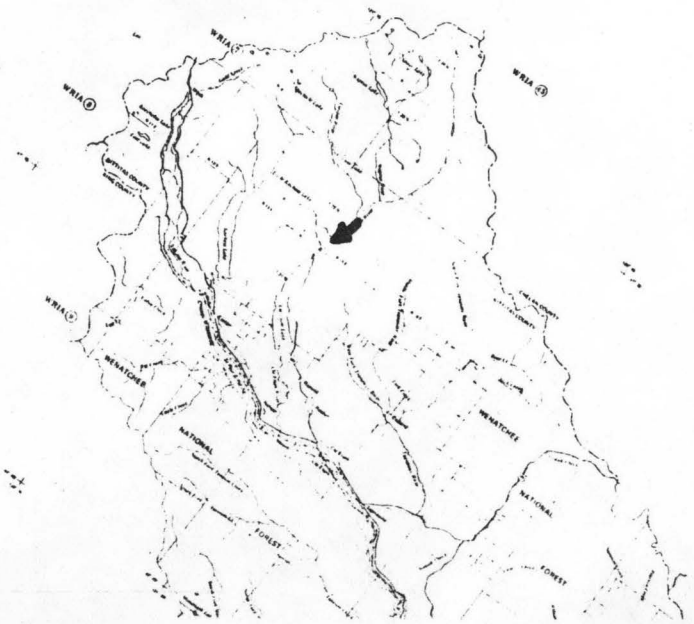
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 801 cfs



W37-1258



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0051

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T22N R14E	
D. Latitude, Longitude	47°24' 121°07'	
E. Stream Name	Cle Elum River	
F. Major Basin Name	Yakima	
G. River Mile	19.2/21.5	

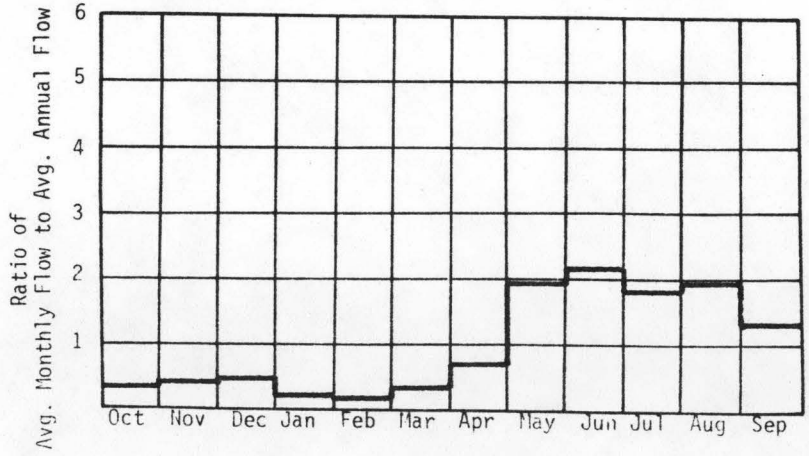
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

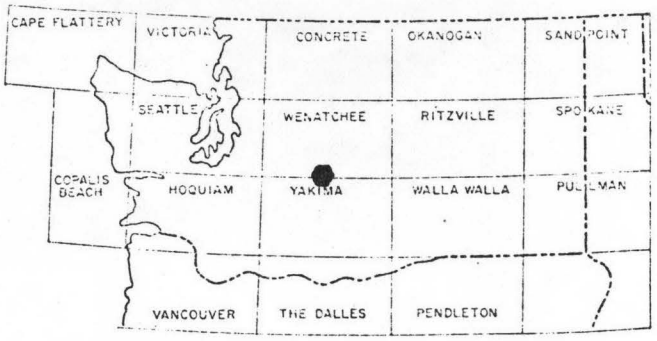
A. Upstream Elevation of Reach	2560	Ft. MSL
B. Downstream Elevation of Reach	2360	Ft. MSL
C. Total Available Head in Reach	200	Ft.
D. Average Slope in Reach	87	Ft./Mi.
E. Drainage Area above Reach Mouth	117	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

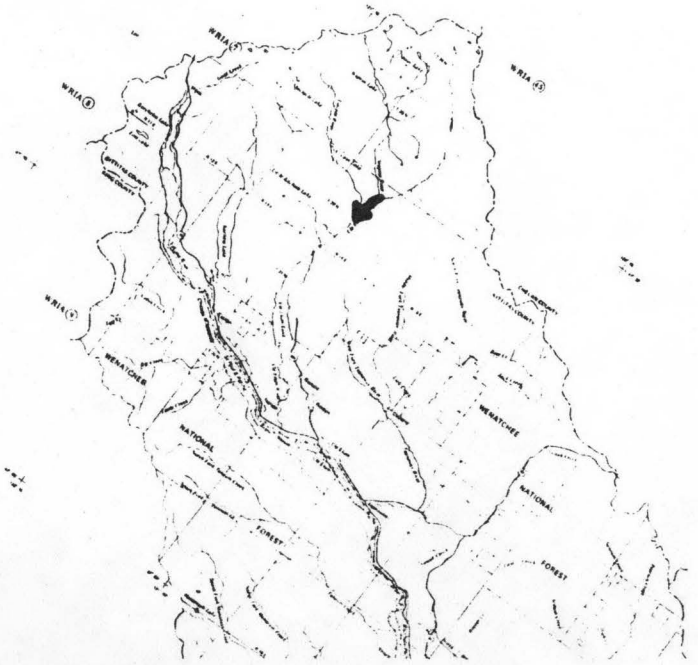
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.03	0.10	0.89	1.00
80	30.2	0.51	4.07	0.91
50	362	6.12	35.4	0.66
30	838	14.2	63.4	0.51
10	1630	27.7	87.2	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 603 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W37-1259

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0052

I. LOCATION

A. State	Washington	
B. County	Kittitas	
C. Township, Range	T23N R14E	
D. Latitude, Longitude	47°27' 121°05'	
E. Stream Name	Cle Elum River	
F. Major Basin Name	Yakima	
G. River Mile	21.5/26.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

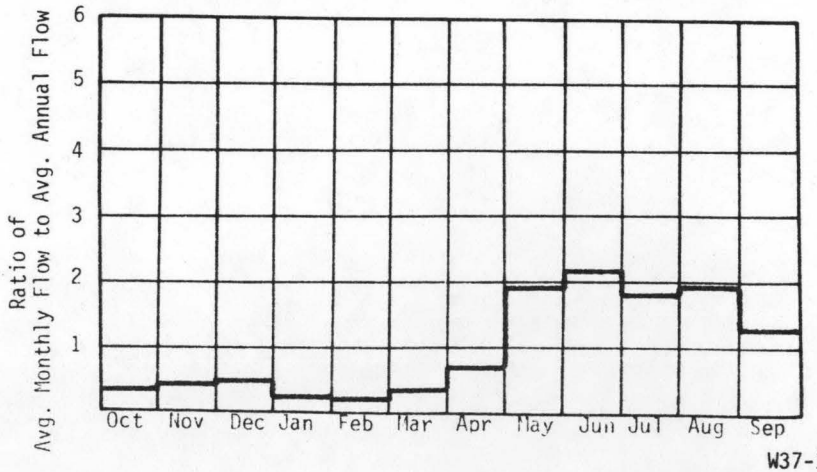
A. Upstream Elevation of Reach	3200	Ft. MSL
B. Downstream Elevation of Reach	2560	Ft. MSL
C. Total Available Head in Reach	640	Ft.
D. Average Slope in Reach	118.5	Ft./Mi.
E. Drainage Area above Reach Mouth	54	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

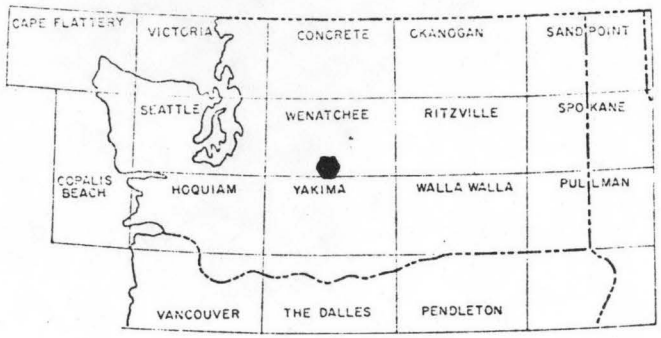
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2.26	0.12	1.07	1.00
80	11.3	0.61	4.88	0.91
50	136	7.35	42.5	0.66
30	314	17.0	76.0	0.51
10	612	33.2	105	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

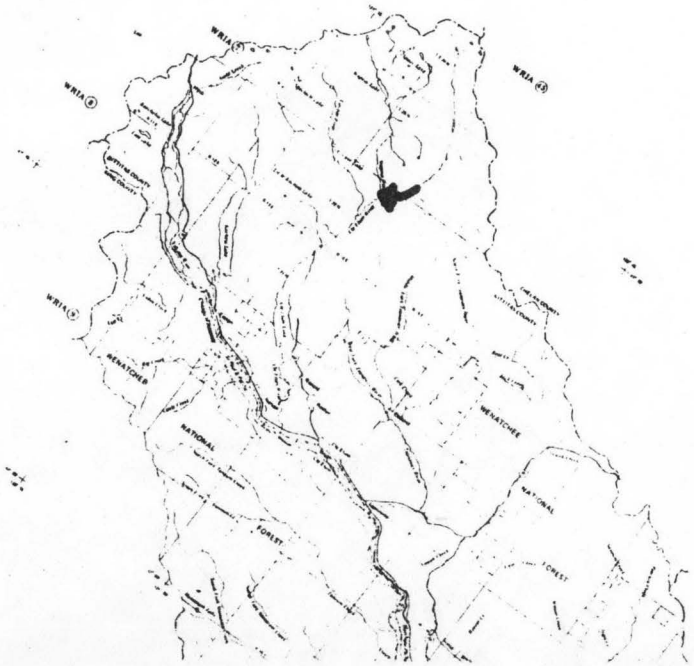
QMR = 226 cfs



W37-1260



LOCATIONS FOR USGS 1:250,000 MAP SERIES

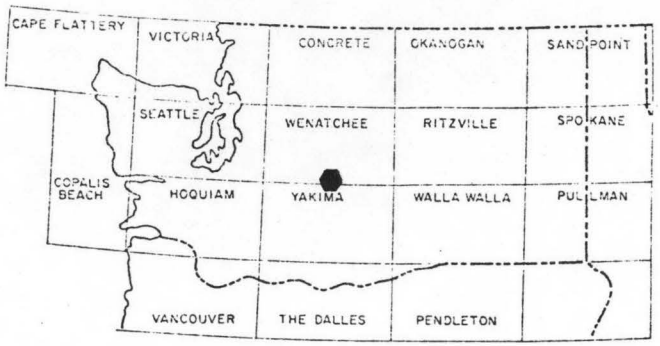


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0053

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T24N R14E
D.	Latitude, Longitude	47°32' 121°05'
E.	Stream Name	Cle Elum River
F.	Major Basin Name	Yakima
G.	River Mile	26.9/34.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

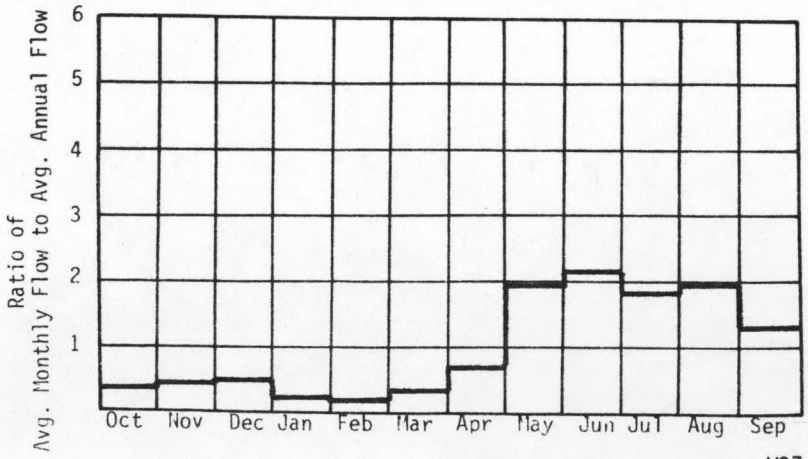
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

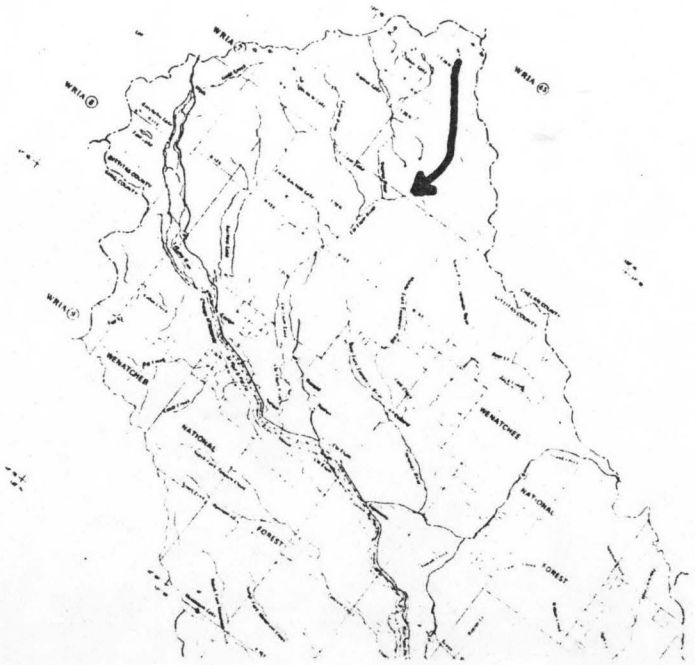
A.	Upstream Elevation of Reach	3460	Ft. MSL
B.	Downstream Elevation of Reach	3200	Ft. MSL
C.	Total Available Head in Reach	260 + 66 = 326	Ft.
D.	Average Slope in Reach	35.6	Ft./Mi.
E.	Drainage Area above Reach Mouth	28	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1.25	0.03	0.31	1.00
80	6.25	0.17	1.37	0.91
50	75.0	2.07	12.0	0.66
30	174	4.79	21.4	0.51
10	339	9.35	29.5	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 125 cfs





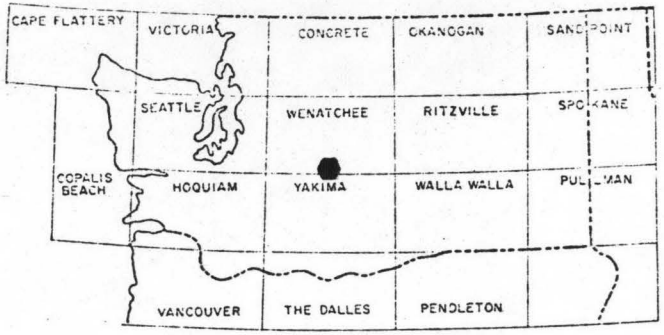
W37-1261

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0054

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T22N R13E
D.	Latitude, Longitude	47°25' 121°10'
E.	Stream Name	Cooper River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/8.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

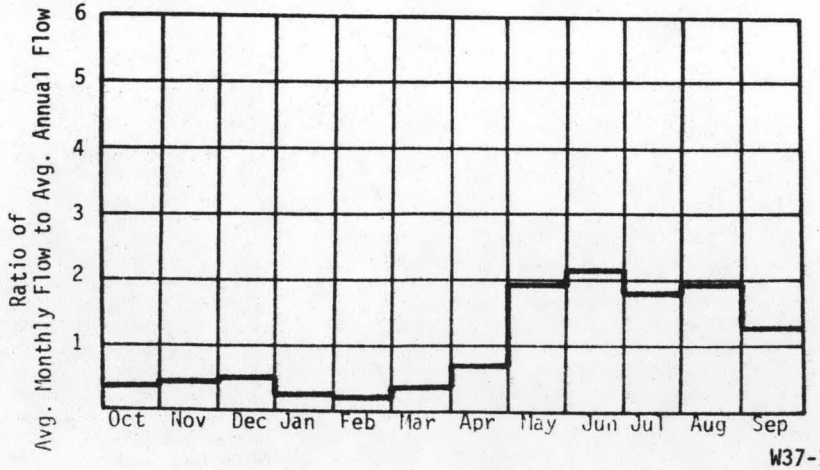
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

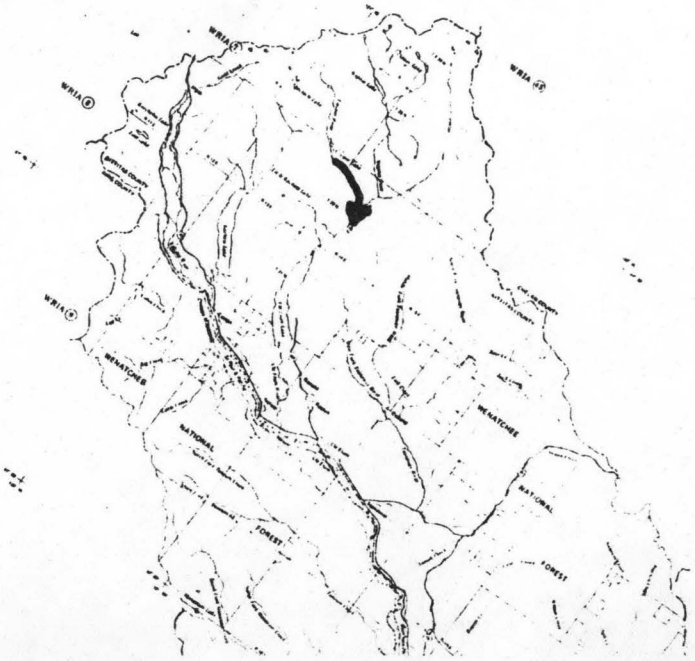
A.	Upstream Elevation of Reach	2840	Ft. MSL
B.	Downstream Elevation of Reach	2360	Ft. MSL
C.	Total Available Head in Reach	480 + 66 = 546	Ft.
D.	Average Slope in Reach	53.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	38	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1.49	0.07	0.60	1.00
80	7.45	0.34	2.74	0.91
50	89.4	4.13	23.9	0.66
30	207	9.57	42.8	0.51
10	404	18.7	58.9	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 149 cfs





W37-1262

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0055

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T23N R14E
D.	Latitude, Longitude	47°28' 121°12'
E.	Stream Name	Waptus River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/9.2

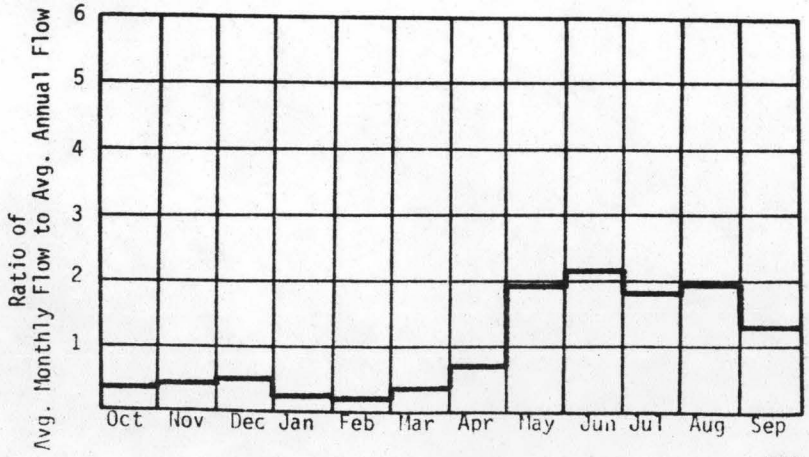
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2960	Ft. MSL
B.	Downstream Elevation of Reach	2560	Ft. MSL
C.	Total Available Head in Reach	400 + 66 = 466	Ft.
D.	Average Slope in Reach	43.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	54	Sq.Mi.
F.	Inflow Classification	Natural	

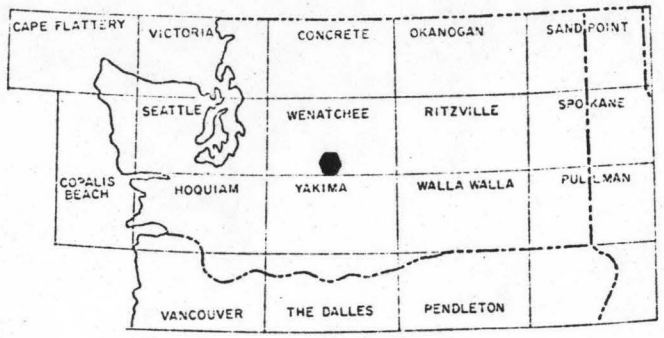
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2.04	0.08	0.70	1.00
80	10.2	0.40	3.21	0.91
50	122	4.83	27.9	0.66
30	284	11.2	50.0	0.51
10	553	21.8	68.8	0.36

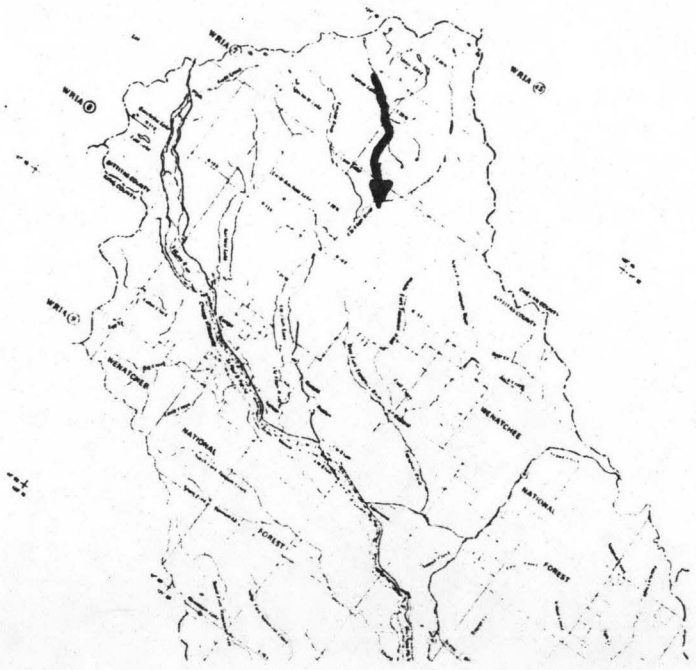
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 204 cfs



W37-1263



LOCATIONS FOR USGS 1:250,000 MAP SERIES

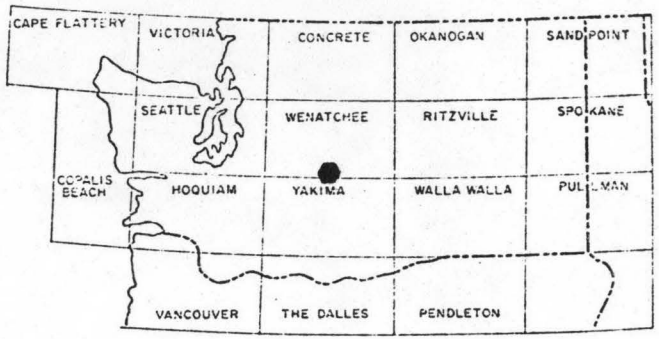


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0056

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R13E
D.	Latitude, Longitude	47°11' 121°10'
E.	Stream Name	Big Creek
F.	Major Basin Name	Yakima
G.	River Mile	0.0/7.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

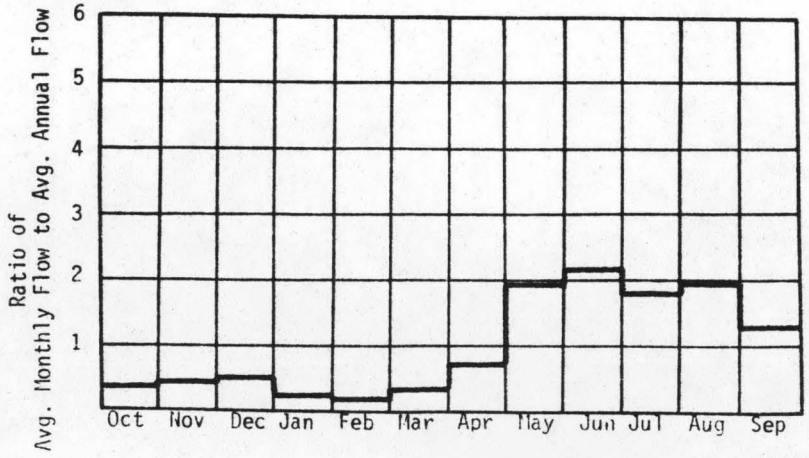
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

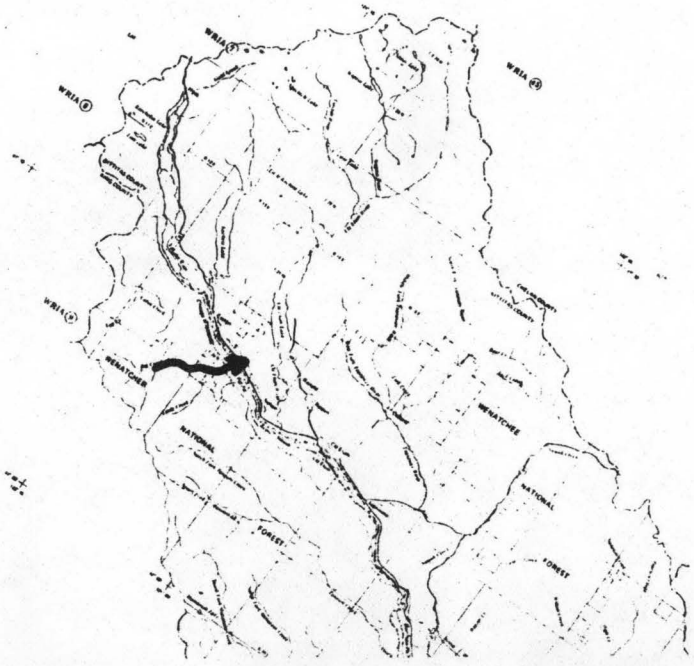
A.	Upstream Elevation of Reach	2880	Ft. MSL
B.	Downstream Elevation of Reach	2080	Ft. MSL
C.	Total Available Head in Reach	800 + 66 = 866	Ft.
D.	Average Slope in Reach	112.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	29	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	7.10	0.52	4.56	1.00
80	18.5	1.35	10.9	0.92
50	49.7	3.64	23.6	0.74
30	82.4	6.04	32.3	0.61
10	127	9.32	37.5	0.46

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 71 cfs





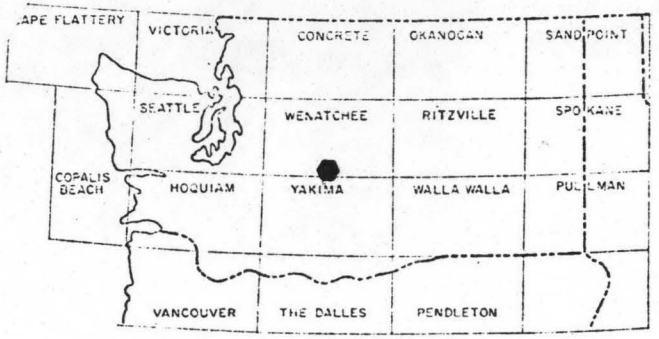
W37-1264

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0057

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R13E
D.	Latitude, Longitude	47°15' 121°12'
E.	Stream Name	Kachess River
F.	Major Basin Name	Yakima
G.	River Mile	0.0/2.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

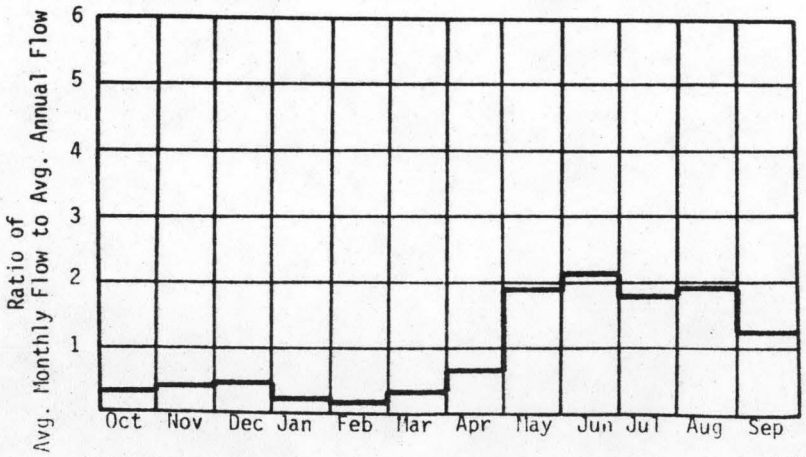
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2250	Ft. MSL
B.	Downstream Elevation of Reach	2170	Ft. MSL
C.	Total Available Head in Reach	80	Ft.
D.	Average Slope in Reach	36.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	75	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	0.00	0.00	0.00	1.00
80	3.04	0.02	0.16	0.88
50	146	0.99	5.28	0.61
30	435	2.94	12.1	0.47
10	885	5.99	17.3	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 304 cfs



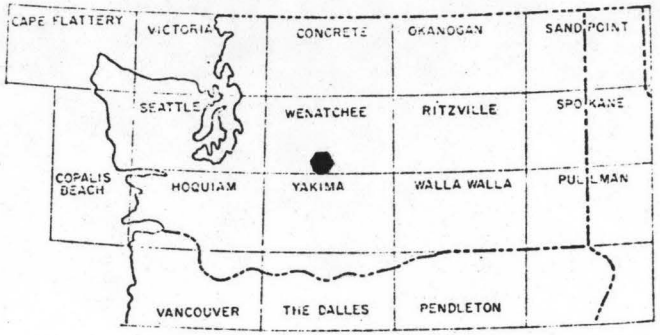
W37-1265

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-260-000-000-R0058

I. LOCATION

A.	State	Washington
B.	County	Kittitas
C.	Township, Range	T20N R13E
D.	Latitude, Longitude	47°14' 121°14'
E.	Stream Name	Cabin Creek
F.	Major Basin Name	Yakima
G.	River Mile	0.0/2.3



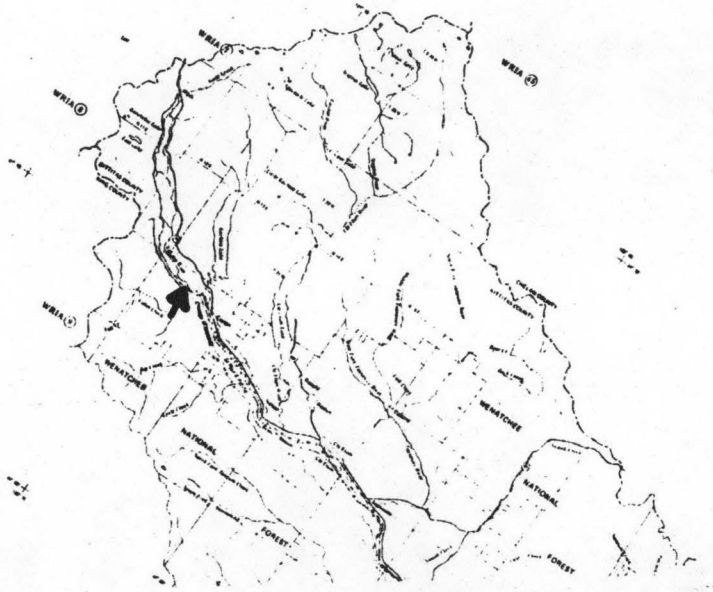
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

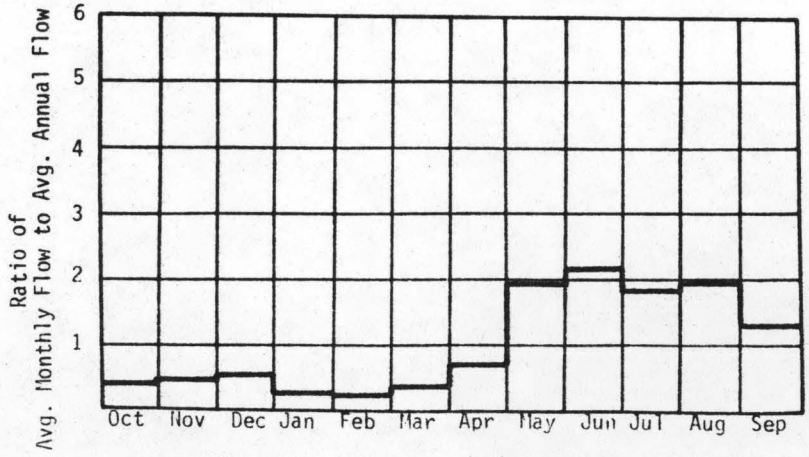
A.	Upstream Elevation of Reach	2400	Ft. MSL
B.	Downstream Elevation of Reach	2280	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	52.2	Ft./Mi.
E.	Drainage Area above Reach Mouth	32	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.2	0.10	0.91	1.00
80	26.5	0.27	2.17	0.92
50	71.4	0.73	4.70	0.74
30	118	1.20	6.42	0.61
10	183	1.85	7.47	0.46



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 102 cfs



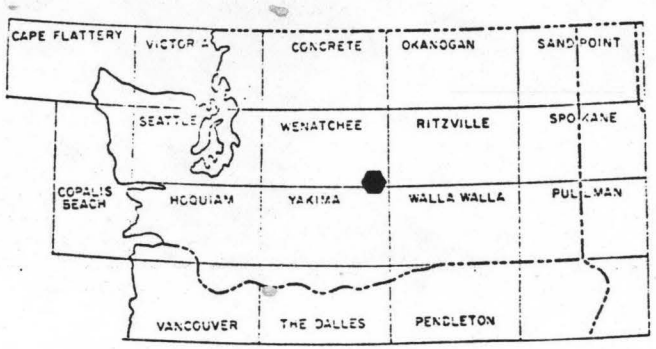
W37-1266

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-000-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Grant & Franklin
C.	Township, Range	T14N R27E
D.	Latitude, Longitude	46°40' 119°25'
E.	Stream Name	Columbia River
F.	Major Basin Name	Columbia
G.	River Mile	330/397



LOCATIONS FOR USGS 1:250,000 MAP SERIES

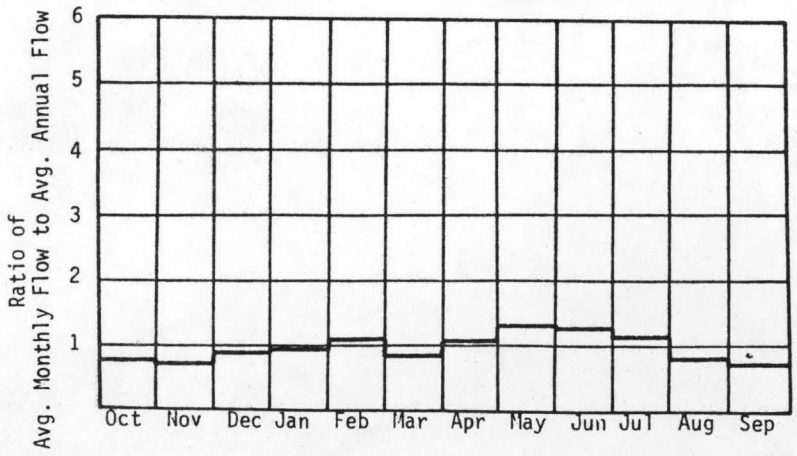
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

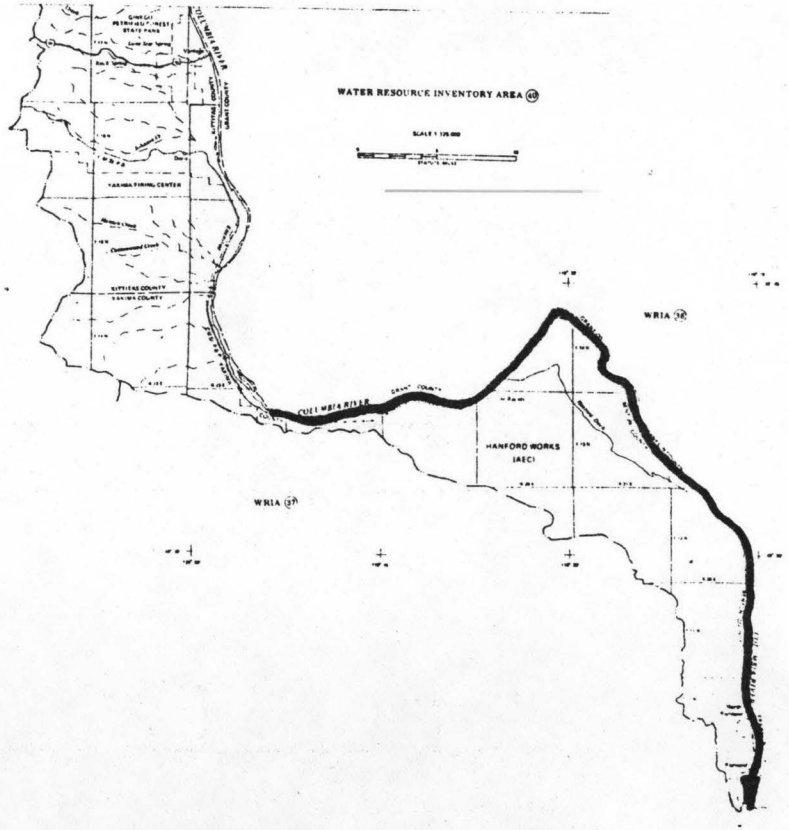
A.	Upstream Elevation of Reach	400	Ft. MSL
B.	Downstream Elevation of Reach	340	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	0.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	104,000	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	67200	341	2990	1.00
80	78000	396	3400	0.98
50	96000	487	3930	0.92
30	113000	573	4220	0.84
10	150000	762	4540	0.68

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 120,000 cfs





W40-1267

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-280-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Grant
C.	Township, Range	T21N R27E
D.	Latitude, Longitude	47°17' 119°21'
E.	Stream Name	Rock Ford Creek
F.	Major Basin Name	Crab Creek
G.	River Mile	0.0/21.6

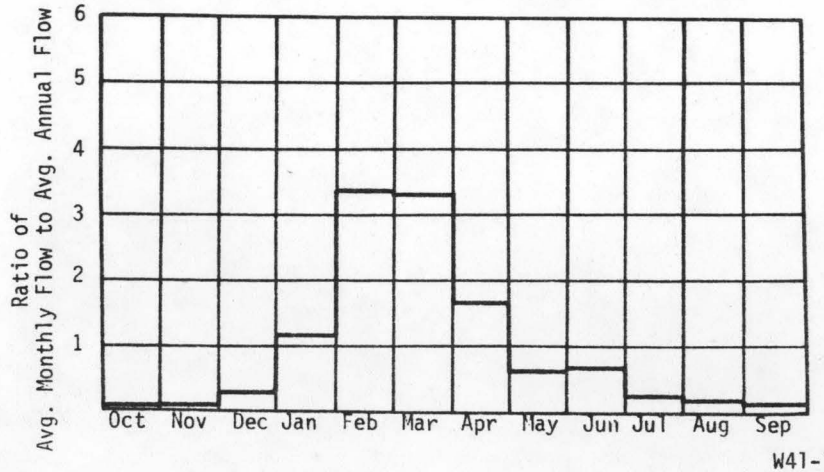
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1070	Ft. MSL
B.	Downstream Elevation of Reach	1050	Ft. MSL
C.	Total Available Head in Reach	20 + 66 = 86	Ft.
D.	Average Slope in Reach	0.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	N.A.	Sq.Mi.
F.	Inflow Classification	Natural	

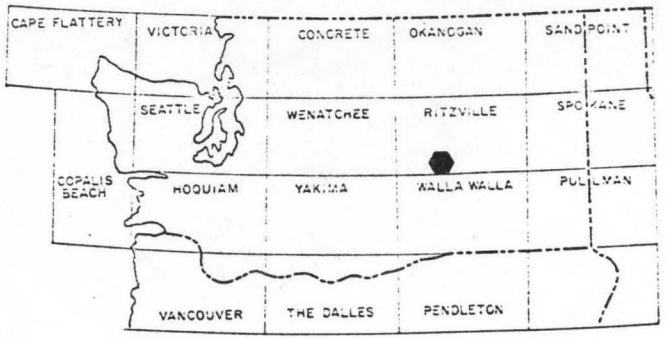
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	40.2	0.29	2.56	1.00
80	54.0	0.39	3.34	0.97
50	72.3	0.53	4.10	0.89
30	83.2	0.61	4.40	0.83
10	101	0.73	4.63	0.72

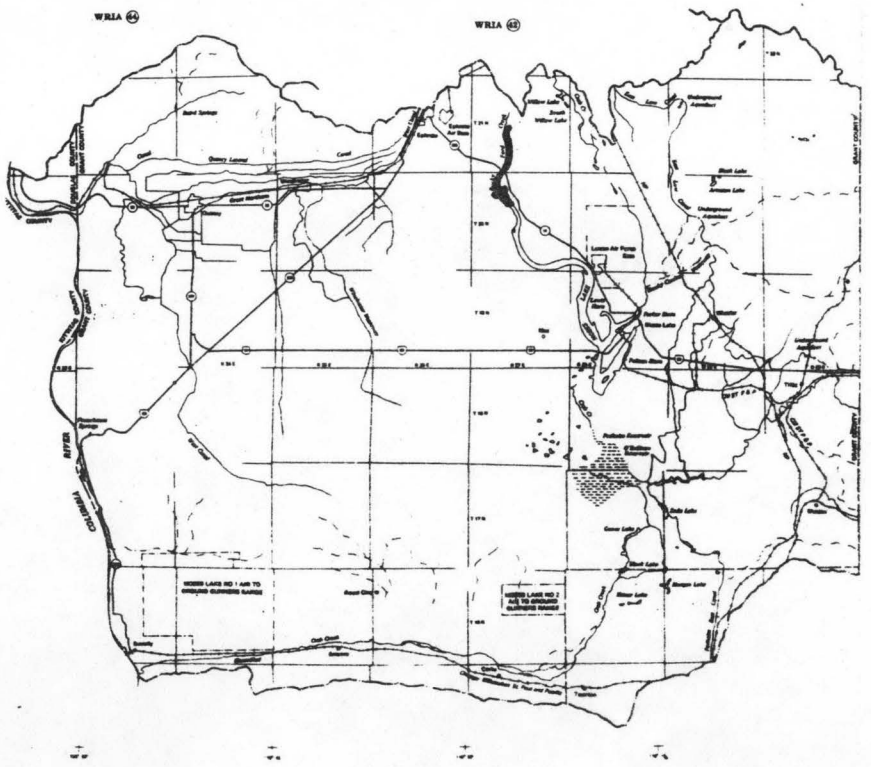
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 73 cfs



W41-1268

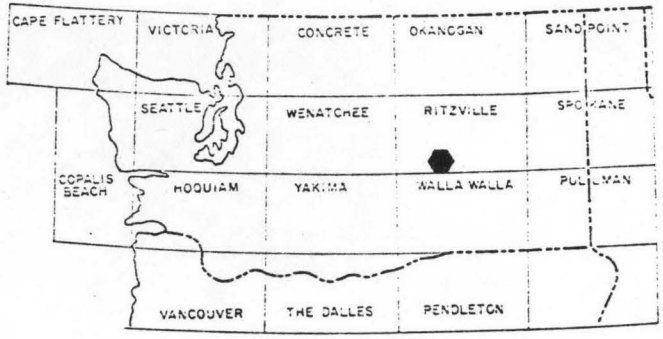


LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-280-000-000-R0002



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Grant
C.	Township, Range	T16N R26E
D.	Latitude, Longitude	46°51' 119°37'
E.	Stream Name	Crab Creek
F.	Major Basin Name	Crab Creek
G.	River Mile	0.0/36.8

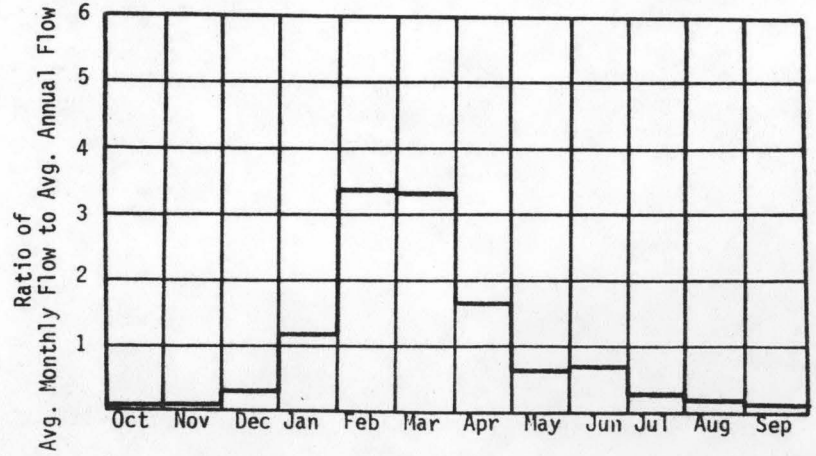
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

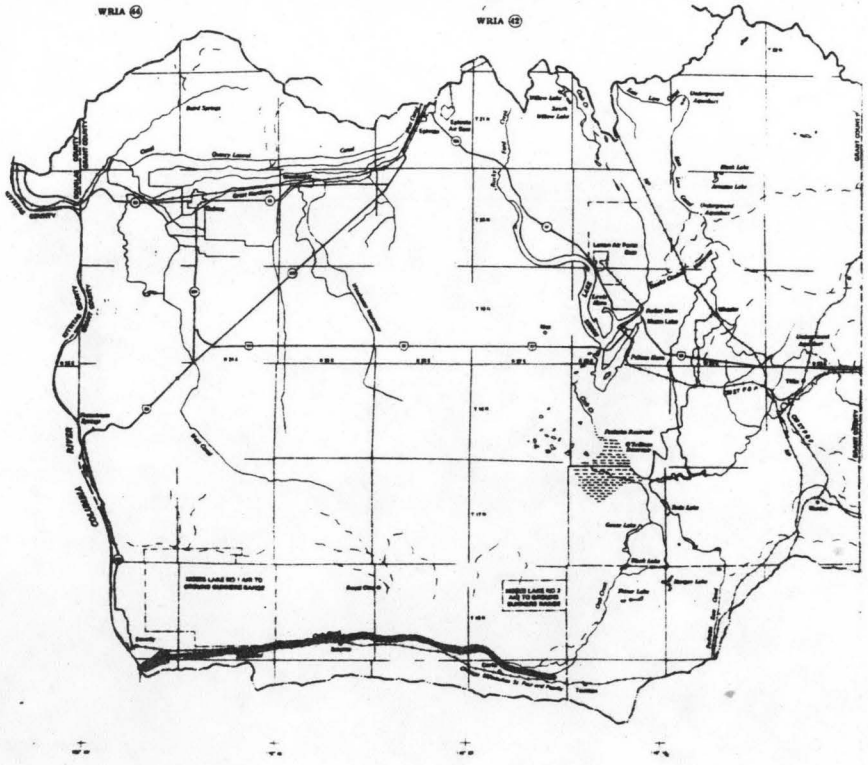
A.	Upstream Elevation of Reach	595	Ft. MSL
B.	Downstream Elevation of Reach	486	Ft. MSL
C.	Total Available Head in Reach	66 + 109 = 175	Ft.
D.	Average Slope in Reach	4864	Ft./Mi.
E.	Drainage Area above Reach Mouth	Regulated	Sq.Mi.
F.	Inflow Classification		

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	60.5	0.90	7.85	1.00
80	69.1	1.02	8.88	0.99
50	149	2.21	15.7	0.81
30	175	2.59	17.0	0.75
10	259	3.84	19.5	0.58

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 216 cfs





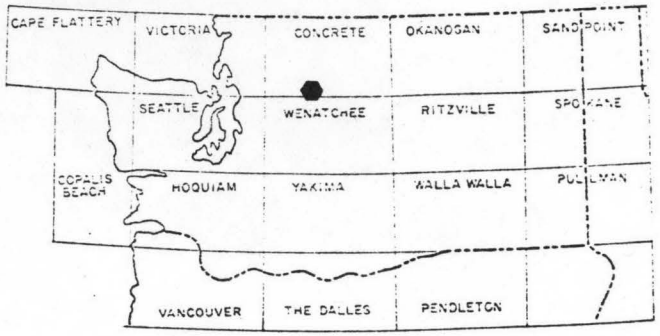
W41-1269

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T23N R19E
D.	Latitude, Longitude	47°29' 120°23'
E.	Stream Name	Wenatchee River
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/9.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

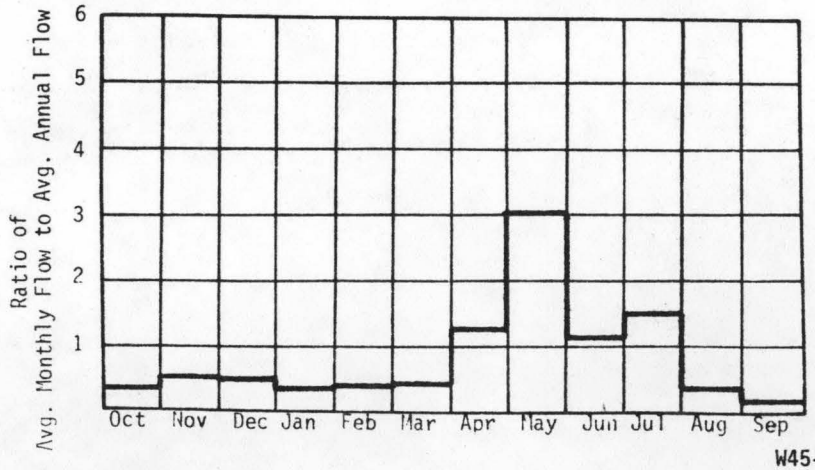
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

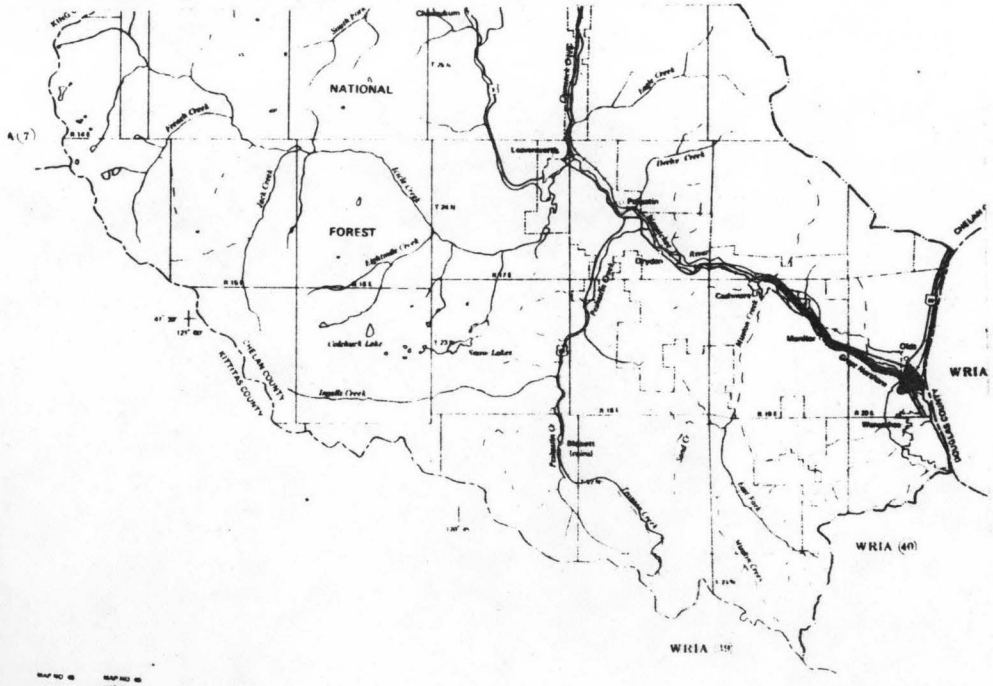
A.	Upstream Elevation of Reach	730	Ft. MSL
B.	Downstream Elevation of Reach	606	Ft. MSL
C.	Total Available Head in Reach	174	Ft.
D.	Average Slope in Reach	19	Ft./Mi.
E.	Drainage Area above Reach Mouth	1351	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	582	3.65	32.0	1.00
80	906	5.68	47.8	0.96
50	1749	11.0	76.8	0.80
30	3110	19.5	107	0.63
10	8610	54.0	165	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3238 cfs





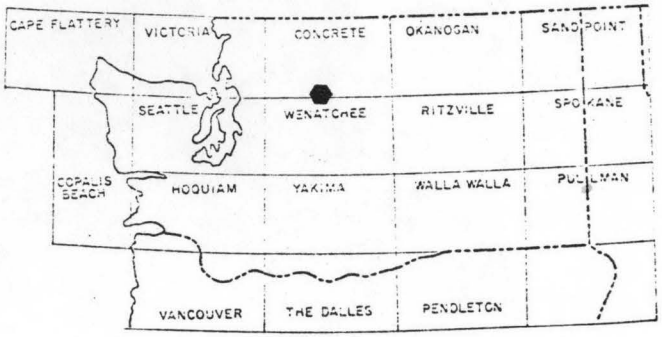
W45-1270

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R18E
D.	Latitude, Longitude	47°32' 120°31'
E.	Stream Name	Wenatchee River
F.	Major Basin Name	Wenatchee
G.	River Mile	9.3/17.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

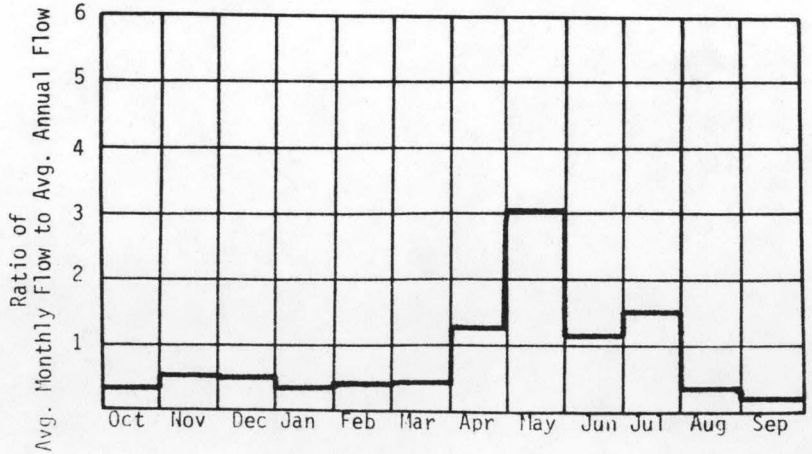
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

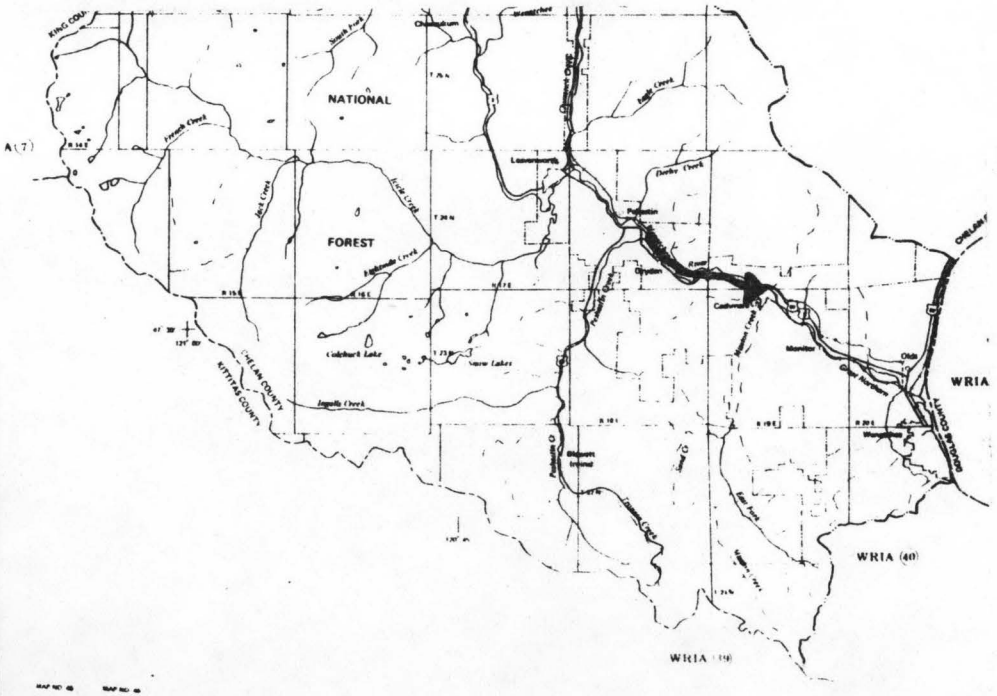
A.	Upstream Elevation of Reach	960	Ft. MSL
B.	Downstream Elevation of Reach	780	Ft. MSL
C.	Total Available Head in Reach	180	Ft.
D.	Average Slope in Reach	21.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	1220	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	642	9.77	85.6	1.00
80	802	12.2	105	0.98
50	1320	20.0	149	0.85
30	2820	43.0	230	0.61
10	7670	117	348	0.34

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3208 cfs

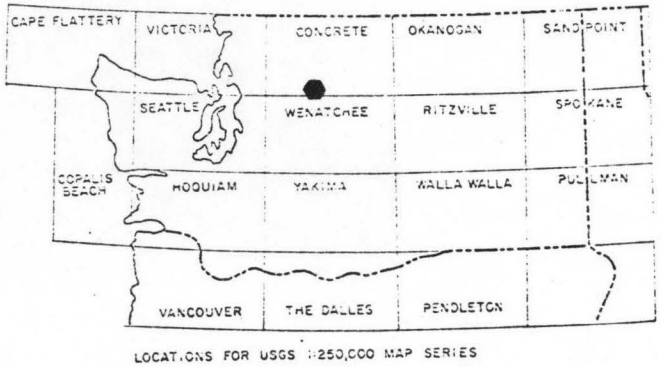




W45-1271

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0003



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R18E
D.	Latitude, Longitude	47°35' 120°35'
E.	Stream Name	Wenatchee River
F.	Major Basin Name	Wenatchee
G.	River Mile	17.7/23.6

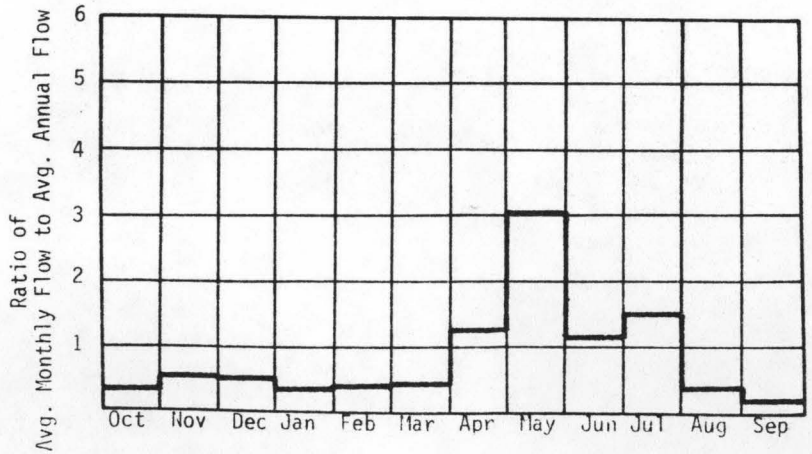
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

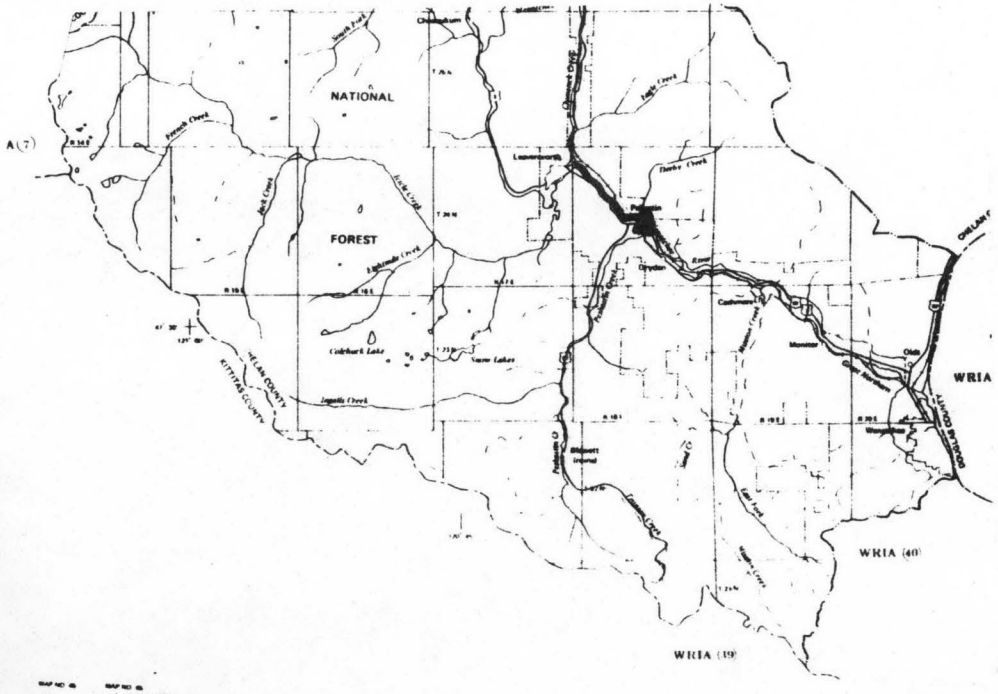
A.	Upstream Elevation of Reach	1080	Ft. MSL
B.	Downstream Elevation of Reach	960	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	20.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	1037	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	526	5.35	46.8	1.00
80	805	8.18	68.8	0.96
50	1670	17.0	118	0.79
30	3190	32.4	170	0.60
10	8360	84.9	260	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3097 cfs





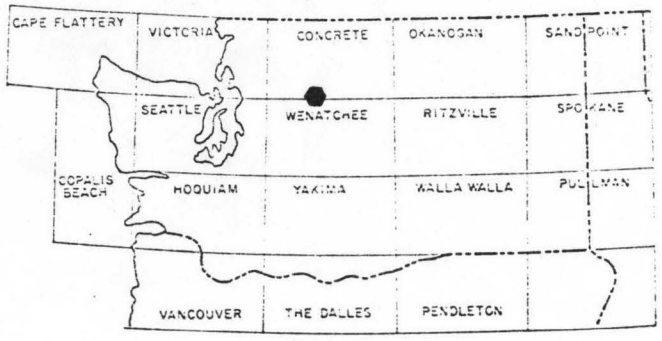
W45-1272

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R18E
D.	Latitude, Longitude	47°35' 120°40'
E.	Stream Name	Wenatchee River
F.	Major Basin Name	Wenatchee
G.	River Mile	23.6/25.6



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

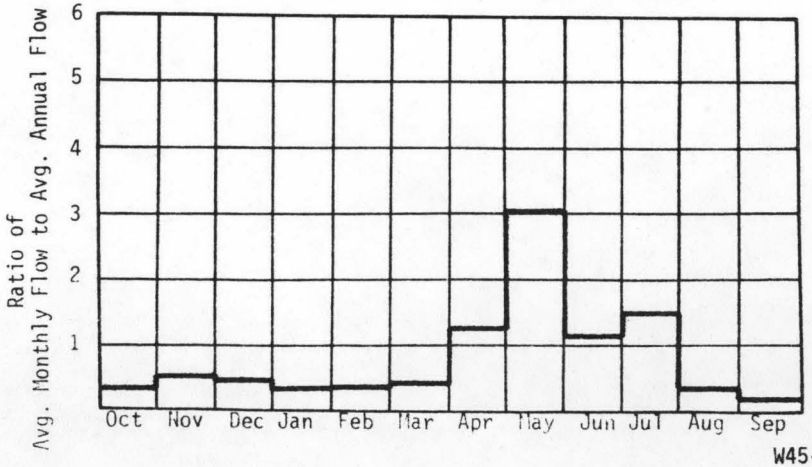
A.	Upstream Elevation of Reach	1100	Ft. MSL
B.	Downstream Elevation of Reach	1080	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	10	Ft./Mi.
E.	Drainage Area above Reach Mouth	933	Sq.Mi.
F.	Inflow Classification	Regulated	

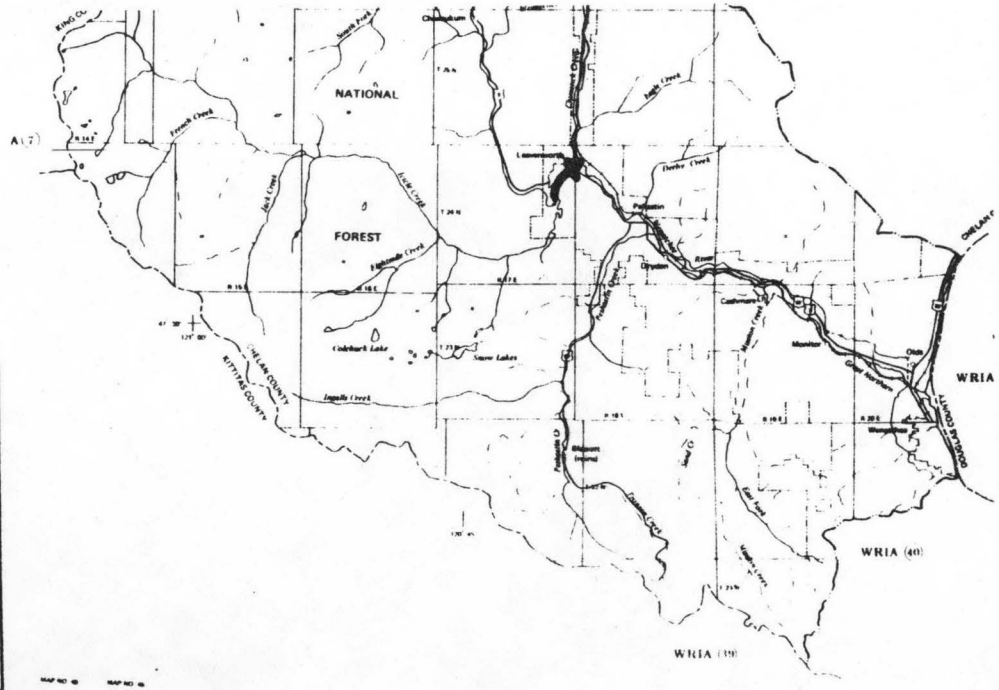
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	519	0.88	7.70	1.00
80	794	1.34	11.3	0.96
50	1650	2.79	19.3	0.79
30	3140	5.32	28.0	0.60
10	8240	14.0	42.8	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 3053 cfs





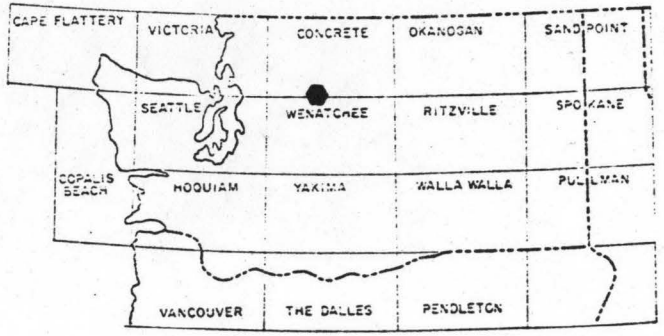
W45-1273

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T25N R18E
D.	Latitude, Longitude	47°38' 120°44'
E.	Stream Name	Wenatchee River
F.	Major Basin Name	Wenatchee
G.	River Mile	25.6/37.1



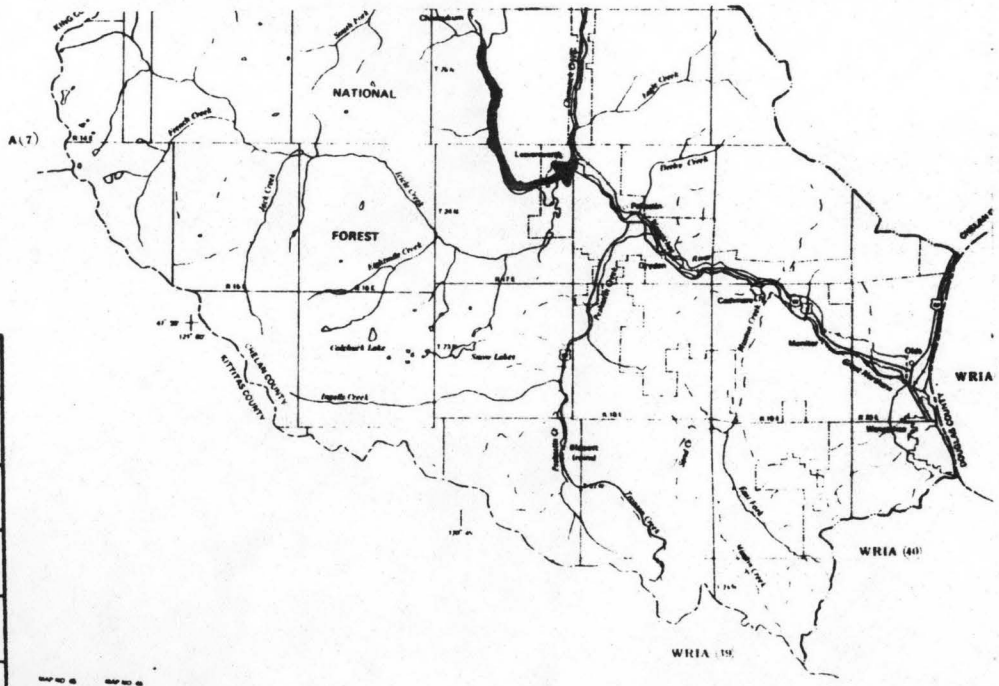
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

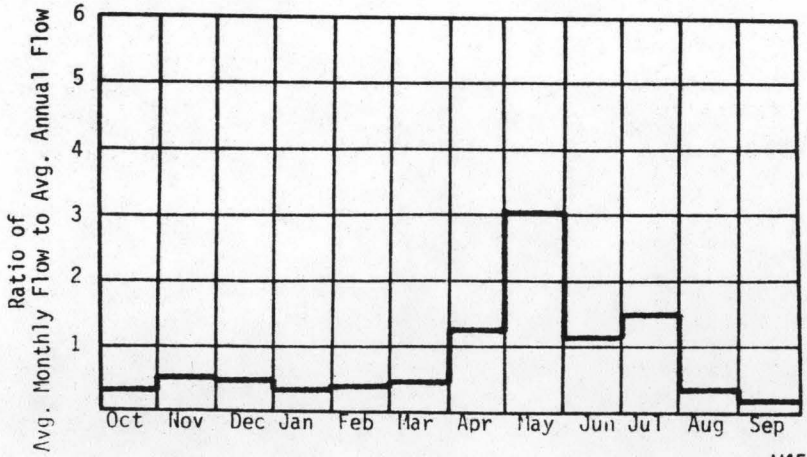
A.	Upstream Elevation of Reach	1680	Ft. MSL
B.	Downstream Elevation of Reach	1100	Ft. MSL
C.	Total Available Head in Reach	580	Ft.
D.	Average Slope in Reach	50.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	709	Sq.Mi.
F.	Inflow Classification	Regulated	

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	22.2	194	1.00
80	642	31.5	265	0.96
50	1260	61.9	434	0.80
30	2470	121	649	0.61
10	6300	309	949	0.35



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2379 cfs



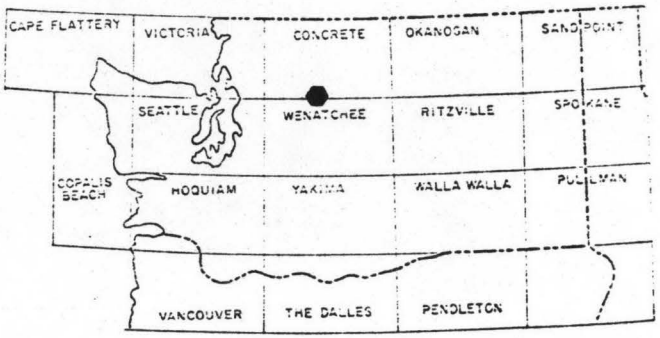
W45-1274

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R18E
D.	Latitude, Longitude	47°44' 120°40'
E.	Stream Name	Wenatchee River
F.	Major Basin Name	Wenatchee
G.	River Mile	37.1/48.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

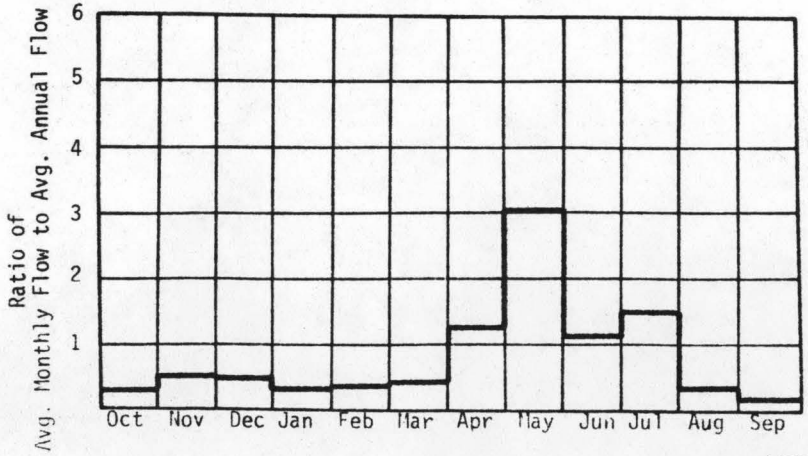
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

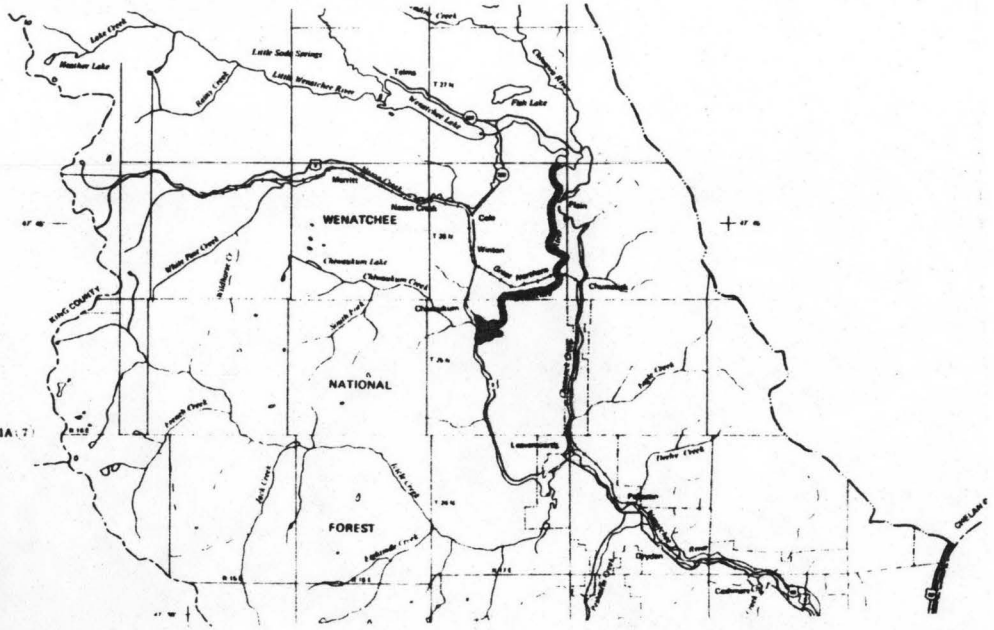
A.	Upstream Elevation of Reach	1830	Ft. MSL
B.	Downstream Elevation of Reach	1680	Ft. MSL
C.	Total Available Head in Reach	150	Ft.
D.	Average Slope in Reach	13.3	Ft./Mi.
E.	Drainage Area above Reach Mouth	626	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	415	5.26	46.1	1.00
80	589	7.48	62.9	0.96
50	1160	14.7	103	0.80
30	2270	28.8	154	0.61
10	5780	73.4	225	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2182 cfs

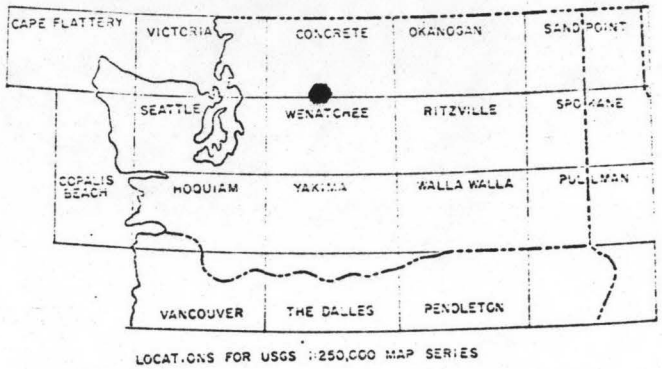




W45-1275

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0007



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T27N R17E
D.	Latitude, Longitude	47°48' 120°40'
E.	Stream Name	Wenatchee River
F.	Major Basin Name	Wenatchee
G.	River Mile	48.4/53.6

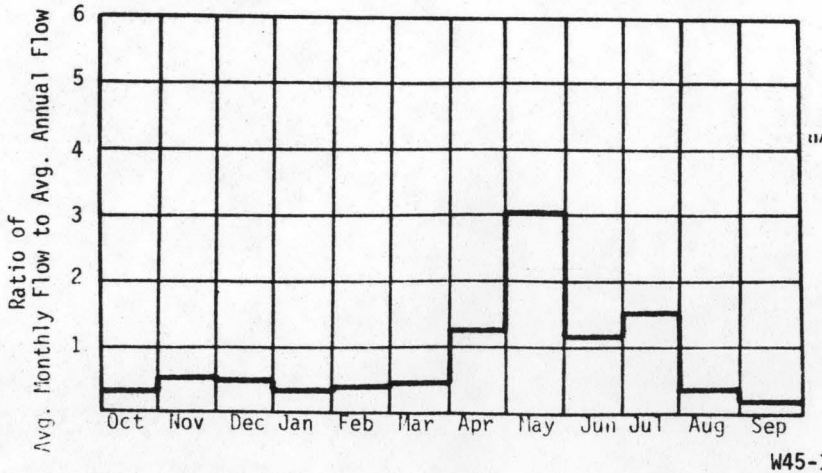
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

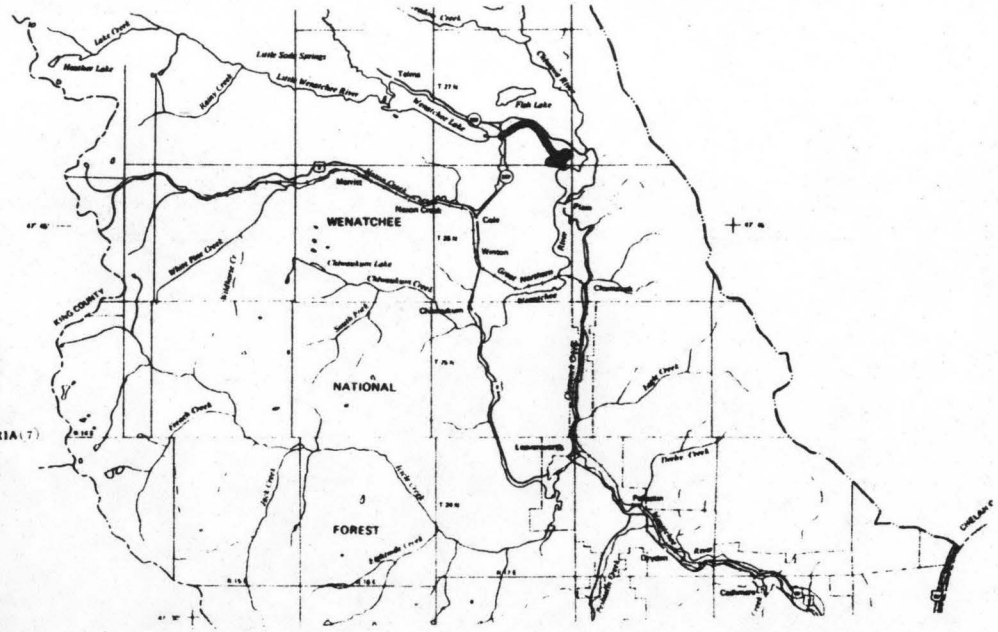
A.	Upstream Elevation of Reach	1863	Ft. MSL
B.	Downstream Elevation of Reach	1830	Ft. MSL
C.	Total Available Head in Reach	33	Ft.
D.	Average Slope in Reach	6.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	402	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	311	0.87	7.60	1.00
80	441	1.23	10.4	0.96
50	667	2.42	17.0	0.80
30	1700	4.75	25.4	0.61
10	4330	12.1	37.1	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1635 cfs





W45-1276

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0008

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T24N R18E	
D. Latitude, Longitude	47°32' 120°39'	
E. Stream Name	Peshastin Creek	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/4.7	

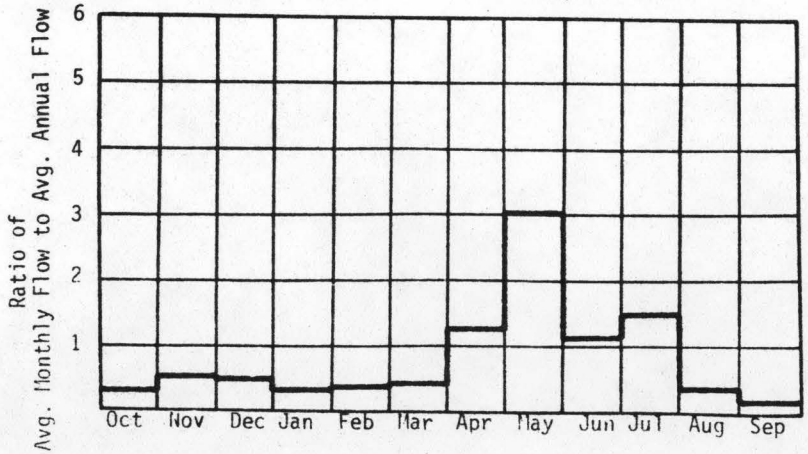
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

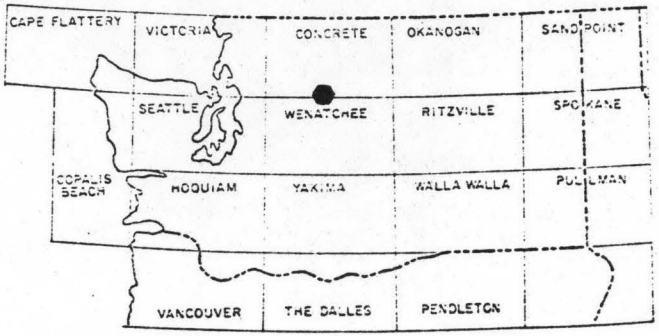
A. Upstream Elevation of Reach	1440	Ft. MSL
B. Downstream Elevation of Reach	960	Ft. MSL
C. Total Available Head in Reach	480	Ft.
D. Average Slope in Reach	102	Ft./Mi.
E. Drainage Area above Reach Mouth	137	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

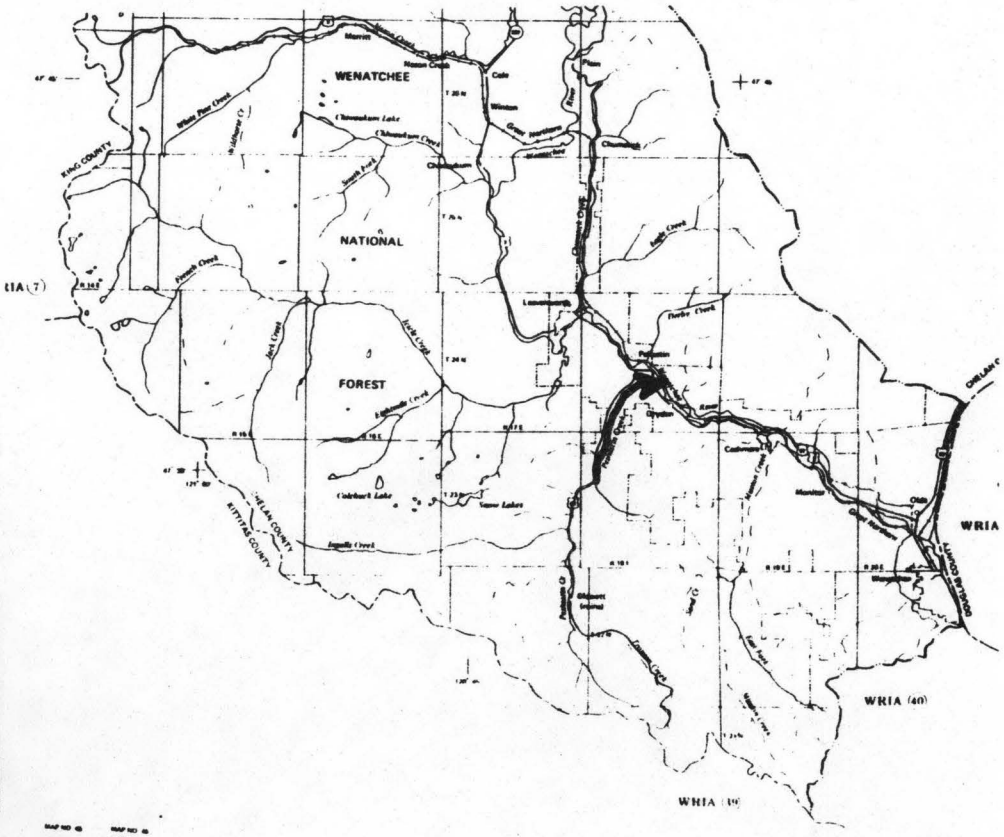
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.85	0.24	2.08	1.00
80	12.9	0.52	4.26	0.93
50	44.5	1.81	11.6	0.73
30	116	4.71	21.9	0.53
10	346	14.1	37.0	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 117 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



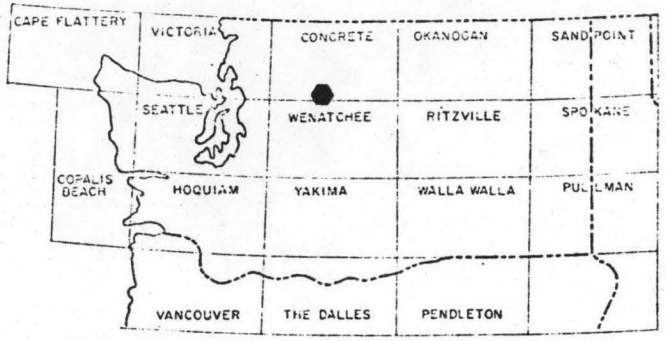
W45-1277

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T23N R18E
D.	Latitude, Longitude	47°29' 120°40'
E.	Stream Name	Peshastin Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	4.7/7.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

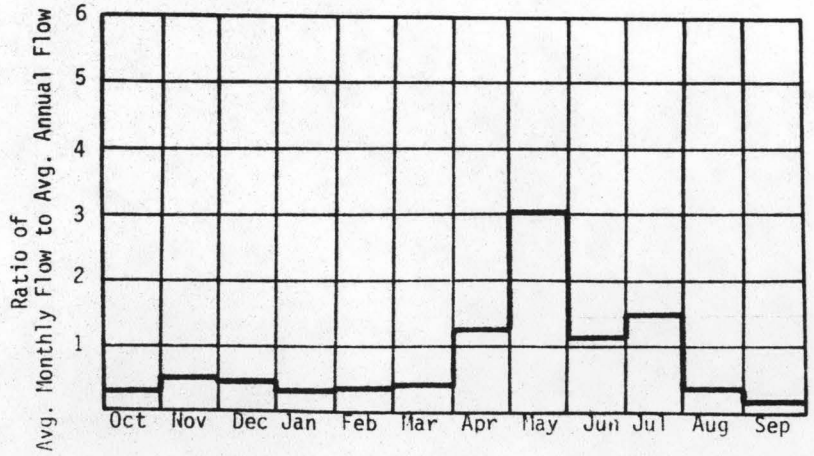
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

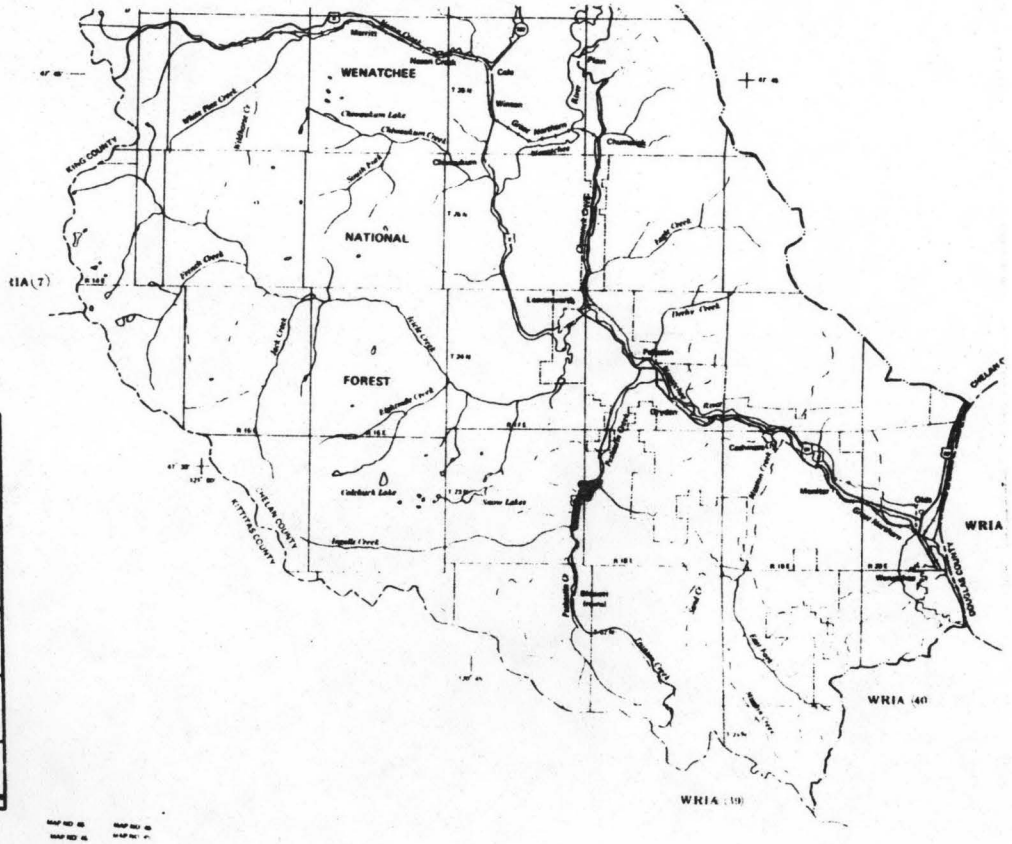
A.	Upstream Elevation of Reach	1820	Ft. MSL
B.	Downstream Elevation of Reach	1440	Ft. MSL
C.	Total Available Head in Reach	380 + 66 = 446	Ft.
D.	Average Slope in Reach	123	Ft./Mi.
E.	Drainage Area above Reach Mouth	108	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	5.10	0.19	1.69	1.00
80	11.2	0.42	3.45	0.93
50	38.8	1.46	9.36	0.73
30	101	3.81	17.7	0.53
10	302	11.4	30.0	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 102 cfs





W45-1278

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R18E
D.	Latitude, Longitude	47°37' 120°40'
E.	Stream Name	Chumstick Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/1.7

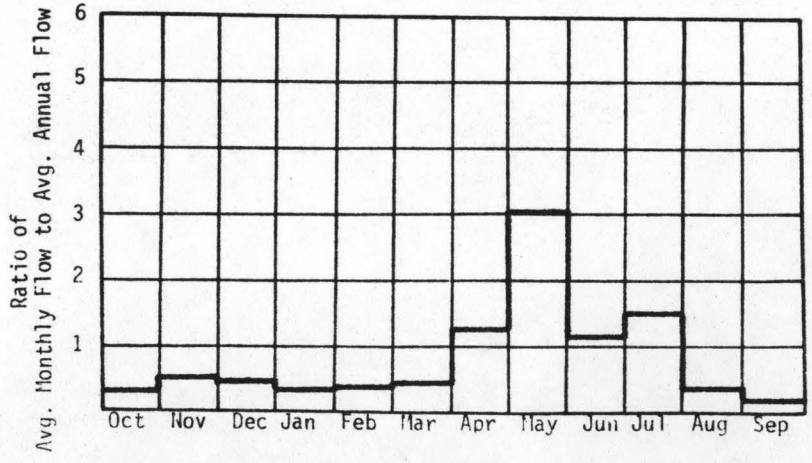
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

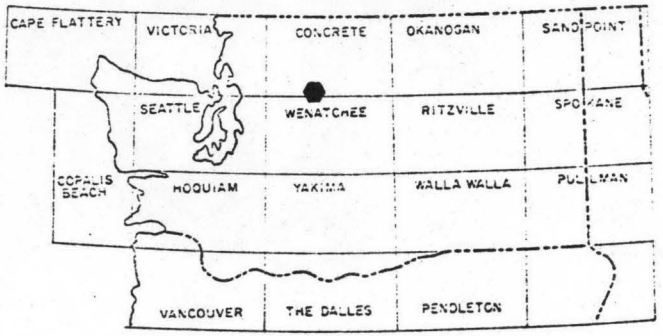
A.	Upstream Elevation of Reach	1220	Ft. MSL
B.	Downstream Elevation of Reach	1040	Ft. MSL
C.	Total Available Head in Reach	180	Ft.
D.	Average Slope in Reach	106	Ft./Mi.
E.	Drainage Area above Reach Mouth	80	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

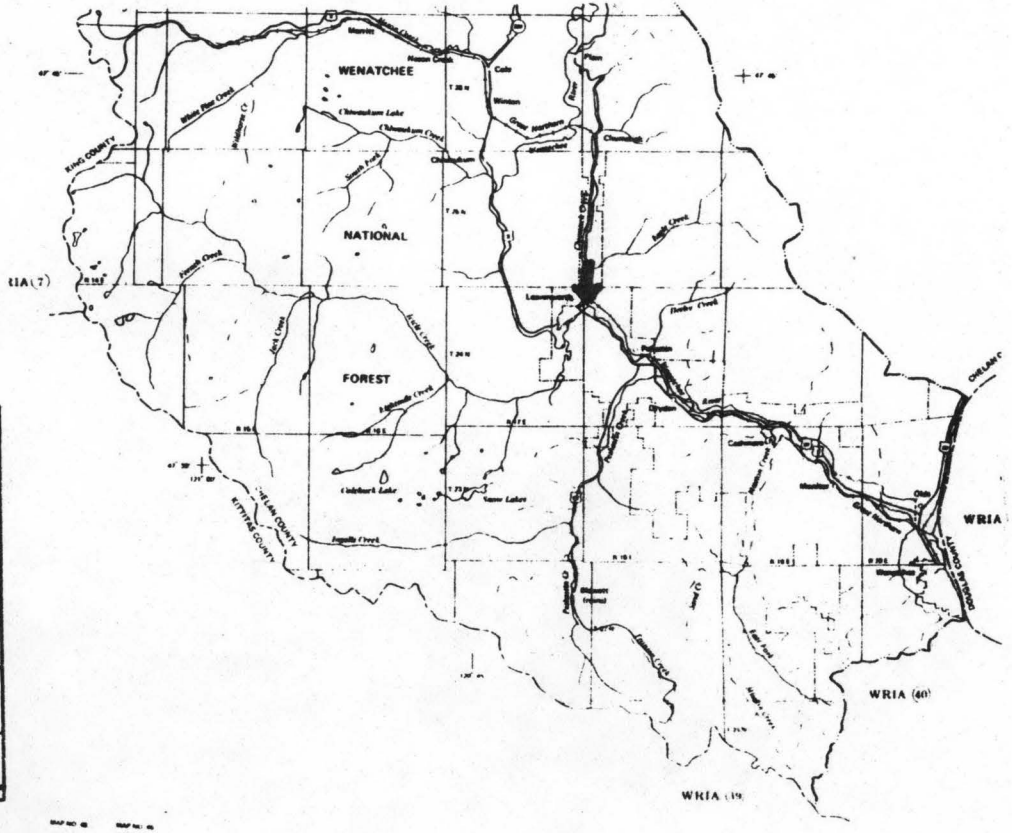
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	9.44	0.14	1.26	1.00
80	14.2	0.22	1.81	0.96
50	28.3	0.43	3.02	0.80
30	55.5	0.84	4.44	0.60
10	160	2.44	7.07	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 59 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1279

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R18E
D.	Latitude, Longitude	47°33' 120°40'
E.	Stream Name	Icicle Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/4.6

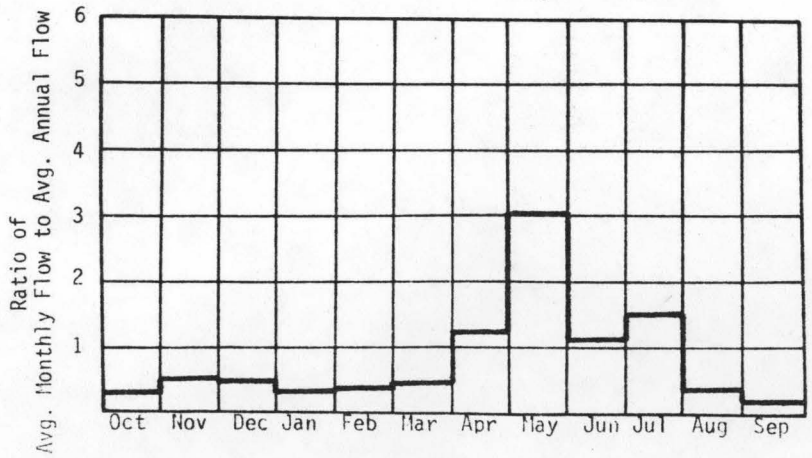
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

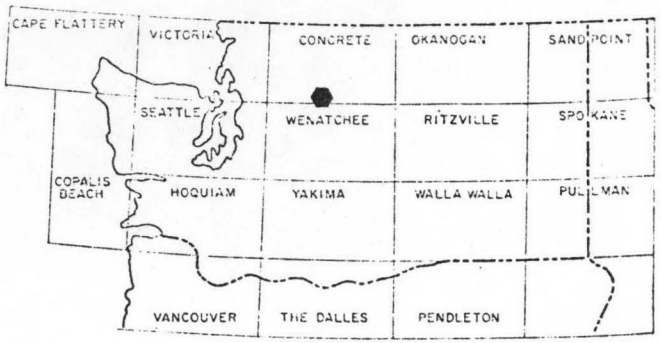
A.	Upstream Elevation of Reach	1300	Ft. MSL
B.	Downstream Elevation of Reach	1100	Ft. MSL
C.	Total Available Head in Reach	200	Ft.
D.	Average Slope in Reach	43.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	219	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

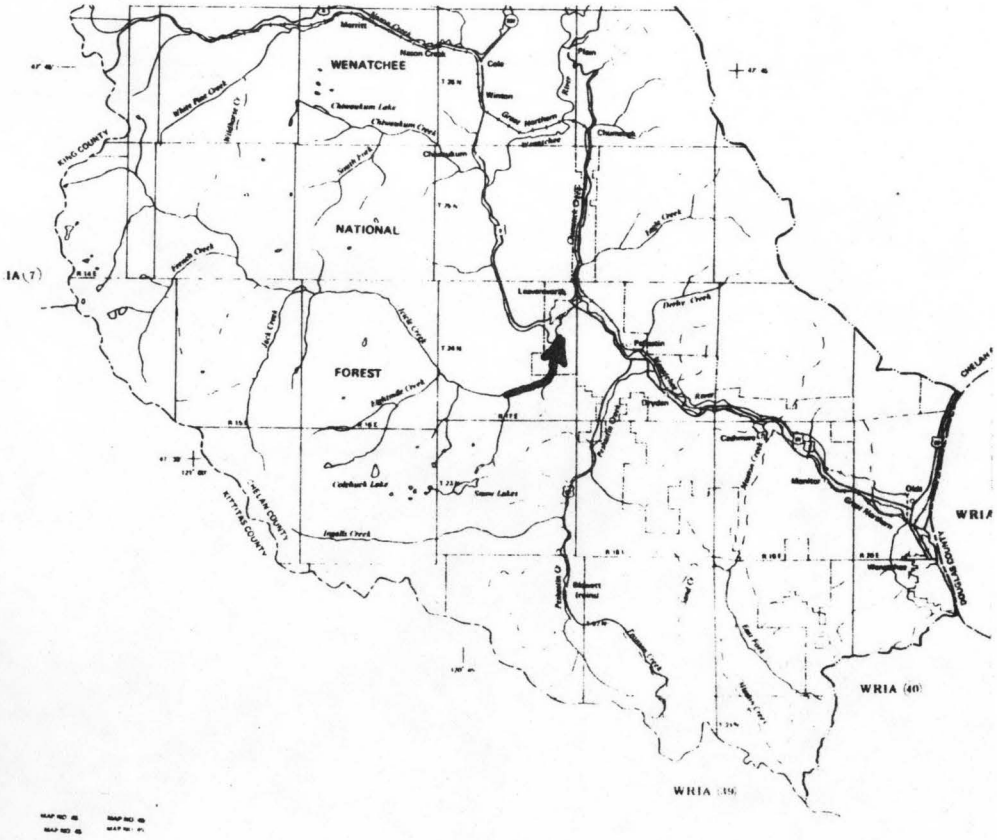
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	102	1.73	15.1	1.00
80	153	2.59	21.8	0.96
50	306	5.18	36.3	0.80
30	600	10.2	53.4	0.60
10	1740	29.4	84.9	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 638 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R18E
D.	Latitude, Longitude	47°32' 120°44'
E.	Stream Name	Icicle Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	4.6/8.0

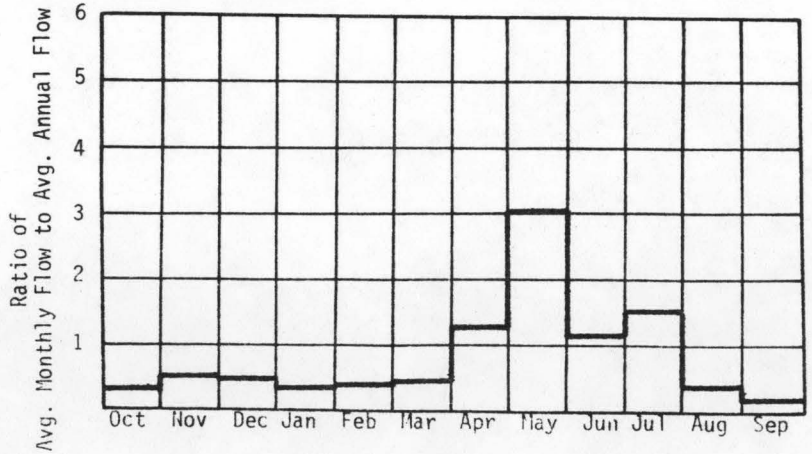
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

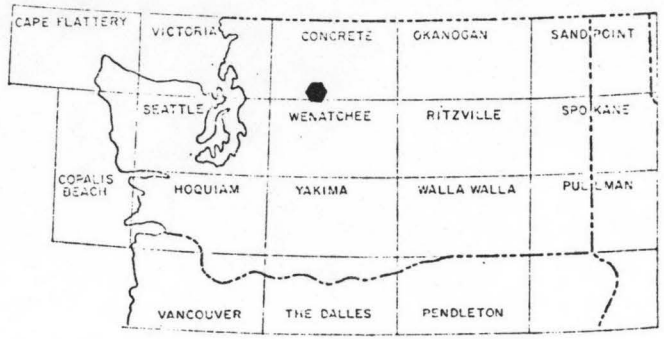
A.	Upstream Elevation of Reach	1920	Ft. MSL
B.	Downstream Elevation of Reach	1300	Ft. MSL
C.	Total Available Head in Reach	620	Ft.
D.	Average Slope in Reach	182	Ft./Mi.
E.	Drainage Area above Reach Mouth	197	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

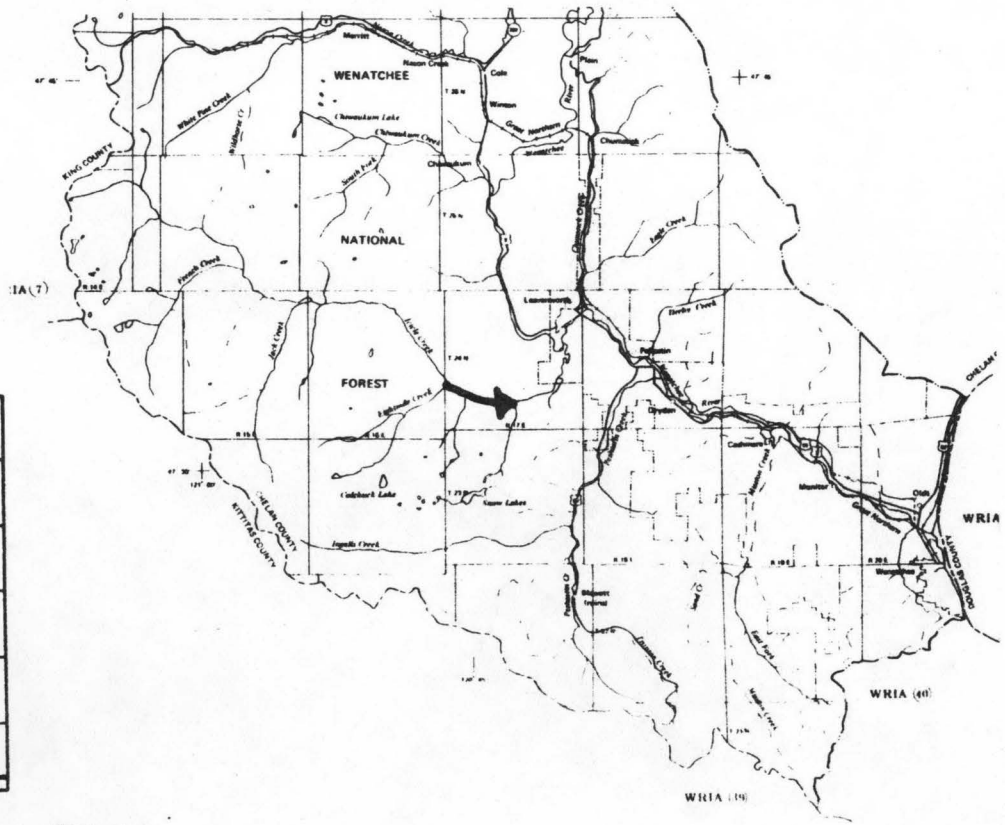
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	97.0	5.09	44.6	1.00
80	145	7.63	64.2	0.96
50	291	15.3	107	0.80
30	570	29.9	157	0.60
10	1650	86.5	250	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 606 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



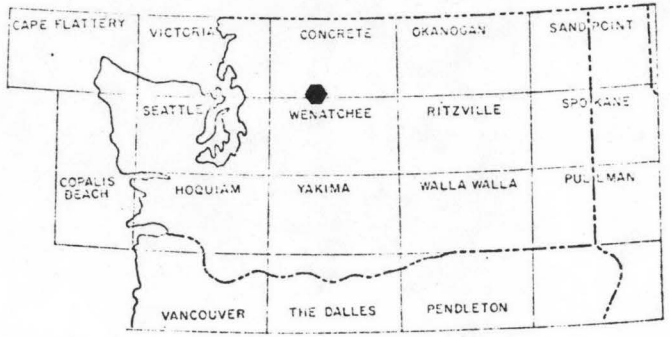
W45-1281

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0013

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R16E
D.	Latitude, Longitude	47°35' 120°50'
E.	Stream Name	Icicle Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	8.0/16.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

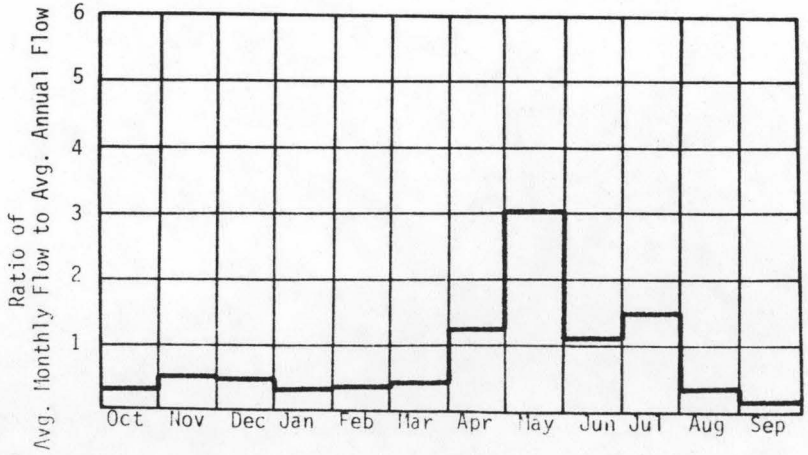
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

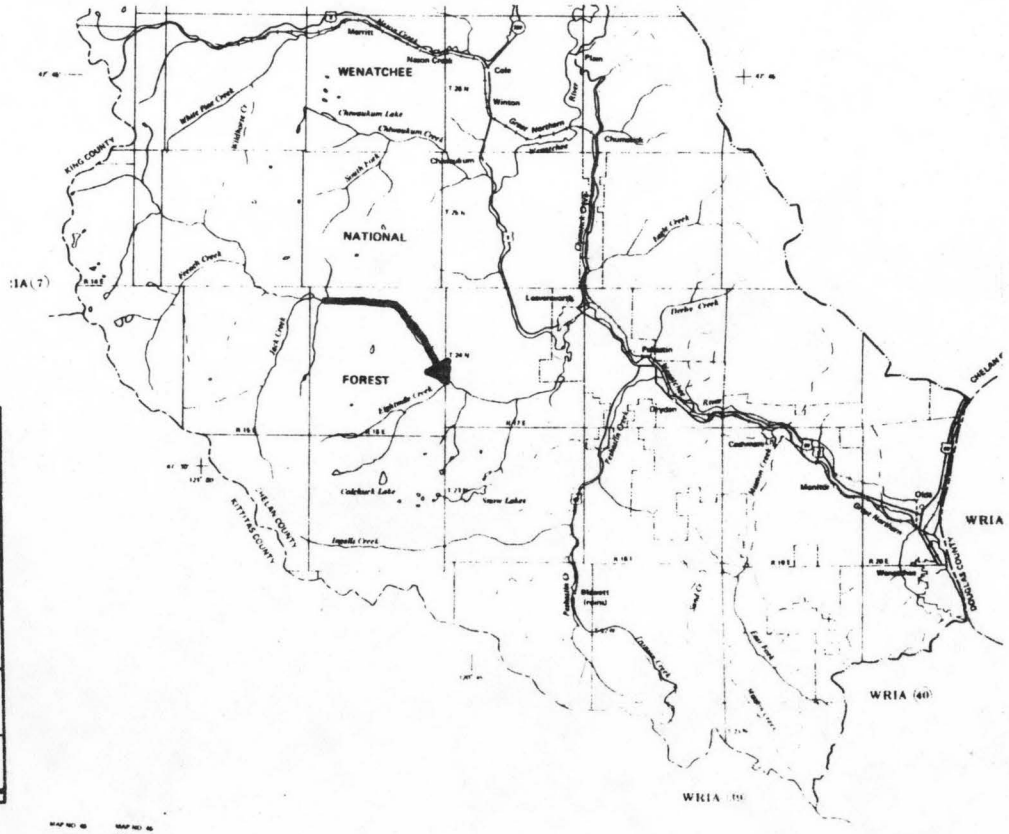
A.	Upstream Elevation of Reach	2650	Ft. MSL
B.	Downstream Elevation of Reach	1920	Ft. MSL
C.	Total Available Head in Reach	730	Ft.
D.	Average Slope in Reach	89	Ft./Mi.
E.	Drainage Area above Reach Mouth	153	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	77.6	4.79	42.0	1.00
80	116	7.19	60.5	0.96
50	233	14.4	101	0.80
30	456	28.2	148	0.60
10	1320	81.5	236	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 485 cfs





W45-1282

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0014

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T24N R16E	
D. Latitude, Longitude	47°37' 120°55'	
E. Stream Name	Icicle Creek	
F. Major Basin Name	Wenatchee	
G. River Mile	16.2/16.4	

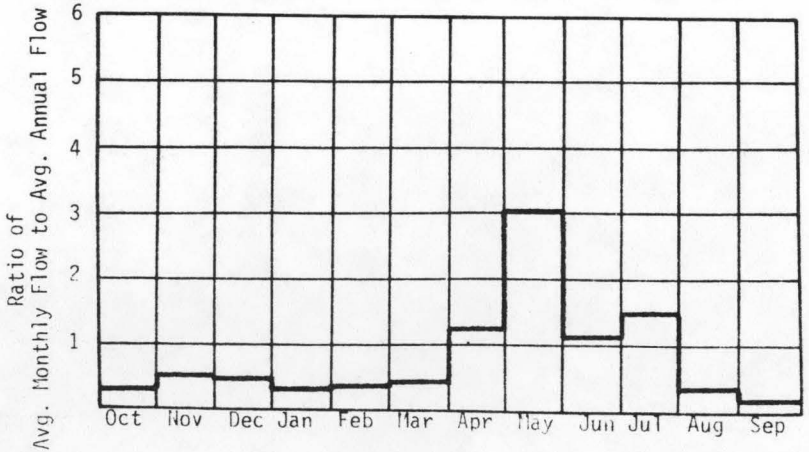
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

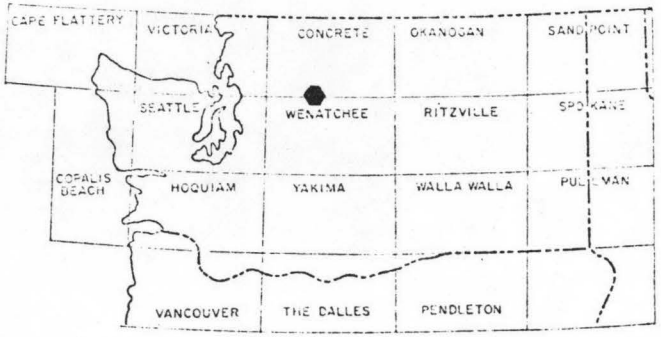
A. Upstream Elevation of Reach	2660	Ft. MSL
B. Downstream Elevation of Reach	2650	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	50	Ft./Mi.
E. Drainage Area above Reach Mouth	115	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

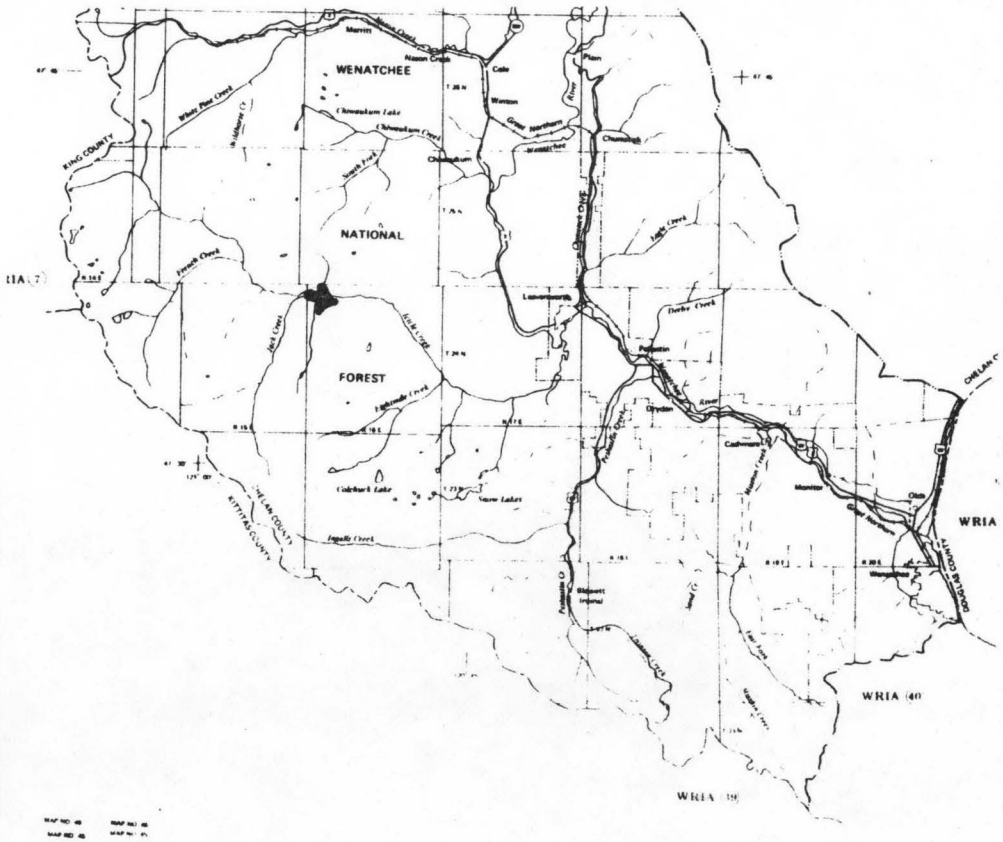
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	68.2	0.06	0.51	1.00
80	102	0.09	0.73	0.96
50	204	0.17	1.21	0.80
30	400	0.34	1.78	0.60
10	1160	0.98	2.84	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 426 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0015

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T24N R15E	
D. Latitude, Longitude	47°37' 120°56'	
E. Stream Name	Icicle Creek	
F. Major Basin Name	Wenatchee	
G. River Mile	16.4/20.4	

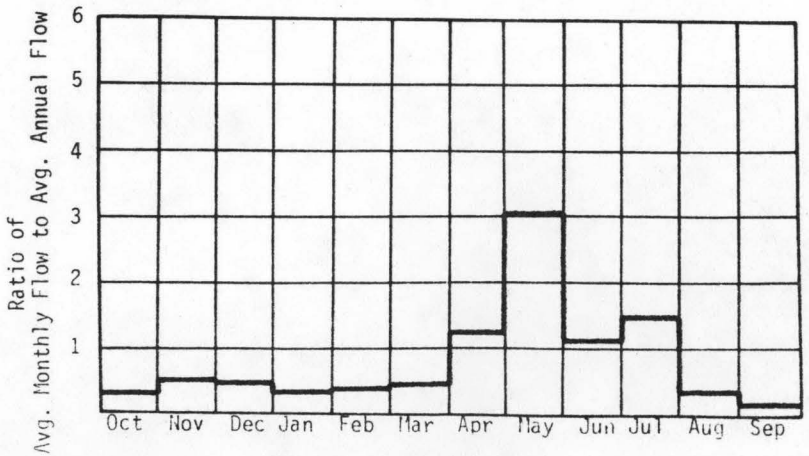
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

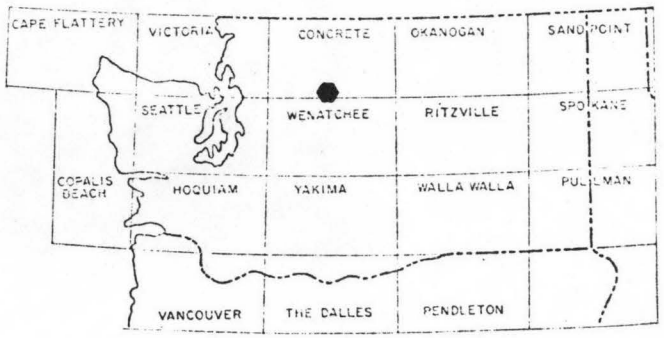
A. Upstream Elevation of Reach	2880	Ft. MSL
B. Downstream Elevation of Reach	2660	Ft. MSL
C. Total Available Head in Reach	220	Ft.
D. Average Slope in Reach	55	Ft./Mi.
E. Drainage Area above Reach Mouth	84	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

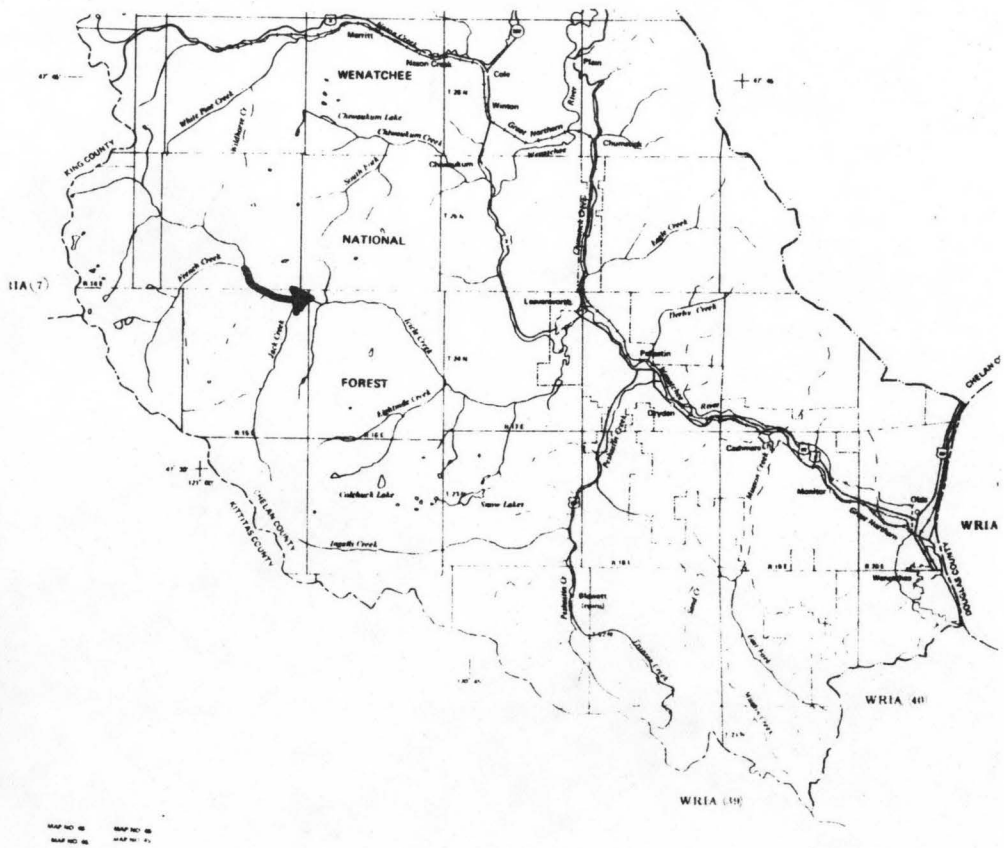
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	49.3	0.92	8.04	1.00
80	73.9	1.38	11.6	0.96
50	148	2.75	19.3	0.80
30	290	5.39	28.3	0.60
10	838	15.6	45.1	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 308 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

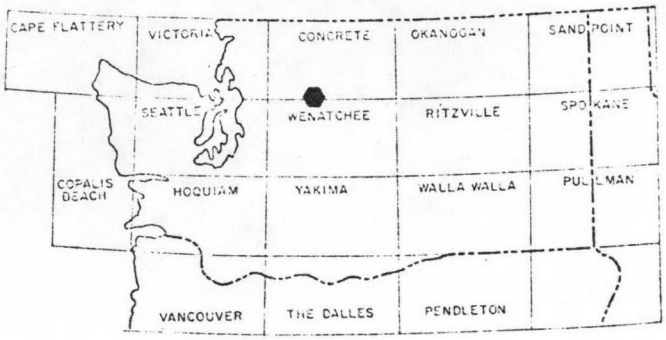


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0016

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T25N R15E
D.	Latitude, Longitude	47°39' 121°00'
E.	Stream Name	Icicle Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	20.4/26.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

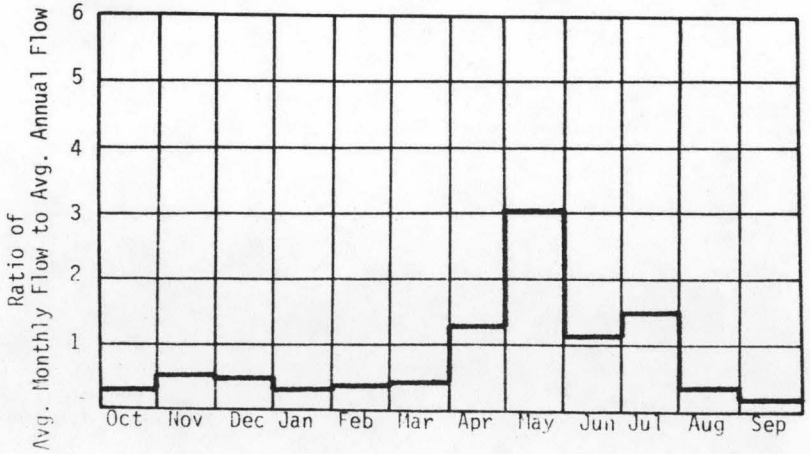
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

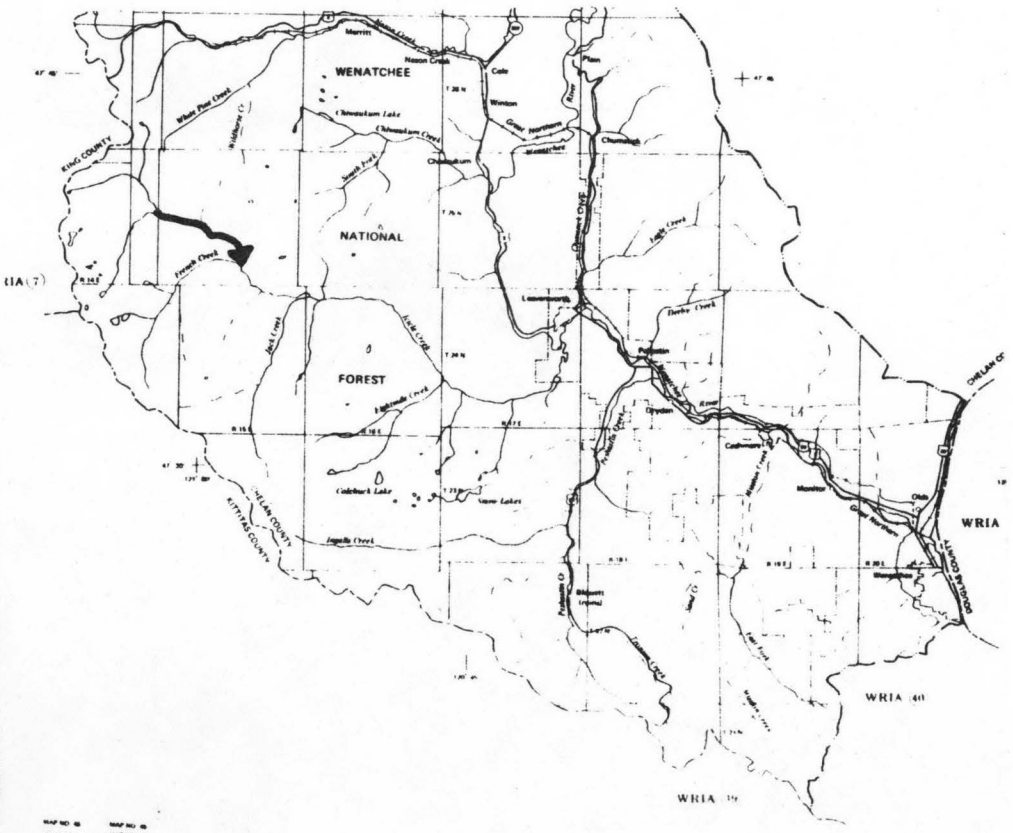
A.	Upstream Elevation of Reach	3210	Ft. MSL
B.	Downstream Elevation of Reach	2880	Ft. MSL
C.	Total Available Head in Reach	330 + 66 = 396	Ft.
D.	Average Slope in Reach	58.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	46	Sq.Mi.
F.	Inflow Classification	Natural	

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	0.78	6.81	1.00
80	34.8	1.17	9.81	0.96
50	69.6	2.33	16.4	0.80
30	136	4.57	24.0	0.60
10	394	13.2	38.2	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 145 cfs



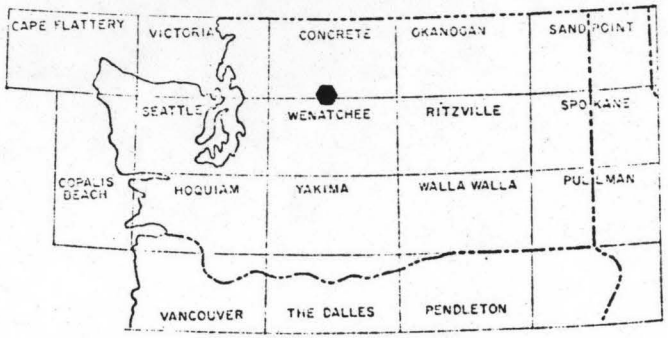


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0017

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R16E
D.	Latitude, Longitude	47°32' 120°47'
E.	Stream Name	Eightmile Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/2.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

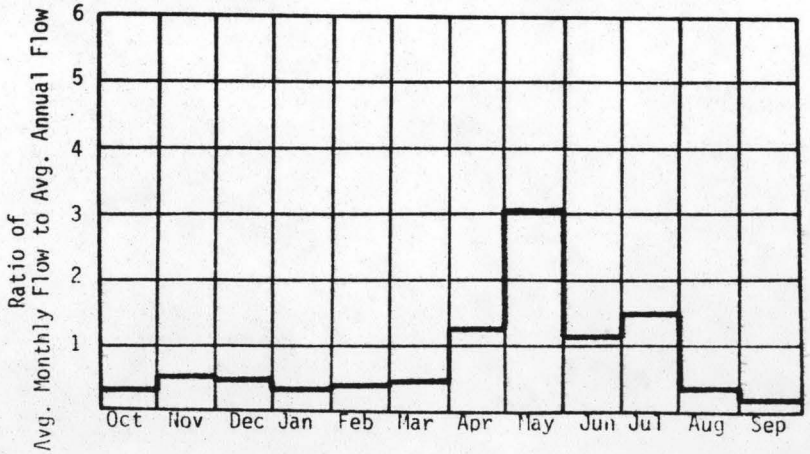
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

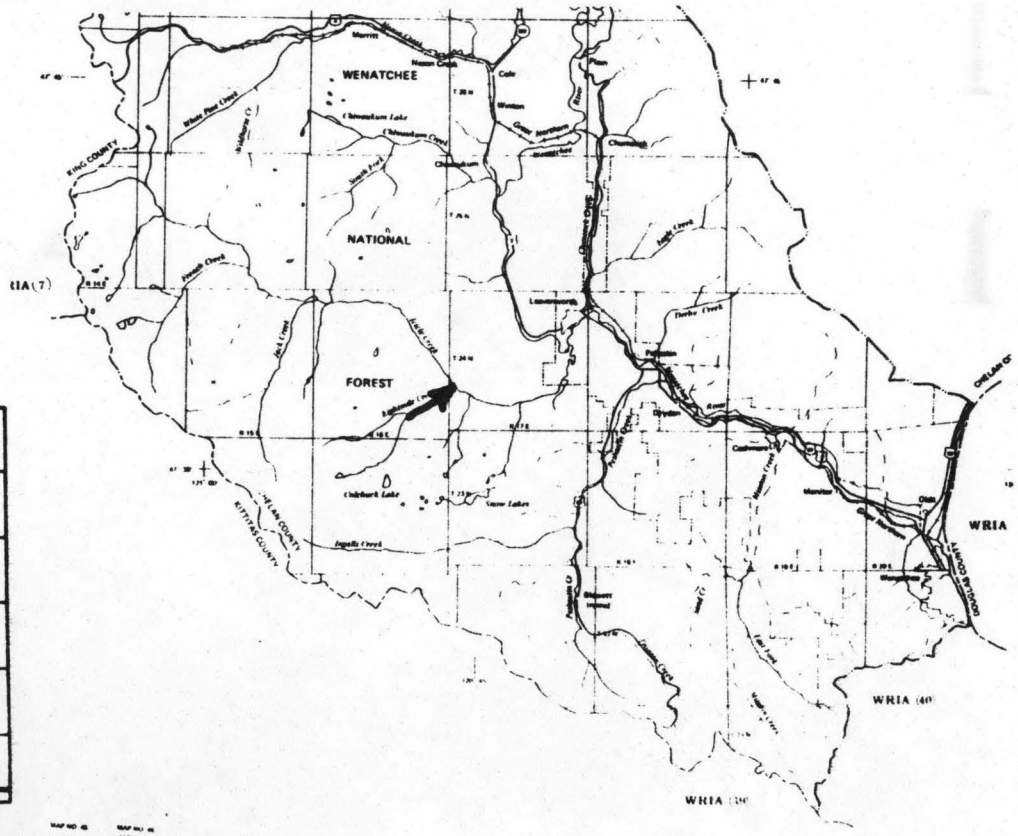
A.	Upstream Elevation of Reach	3240	Ft. MSL
B.	Downstream Elevation of Reach	1920	Ft. MSL
C.	Total Available Head in Reach	1320 + 66 = 1386	Ft.
D.	Average Slope in Reach	528	Ft./Mi.
E.	Drainage Area above Reach Mouth	32	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.7	1.37	12.0	1.00
80	17.5	2.06	17.3	0.96
50	35.0	4.11	28.8	0.80
30	68.6	8.05	42.3	0.60
10	199	23.3	67.3	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 73 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0018

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T24N R15E
D.	Latitude, Longitude	47°35' 120°55'
E.	Stream Name	Jack Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/5.3

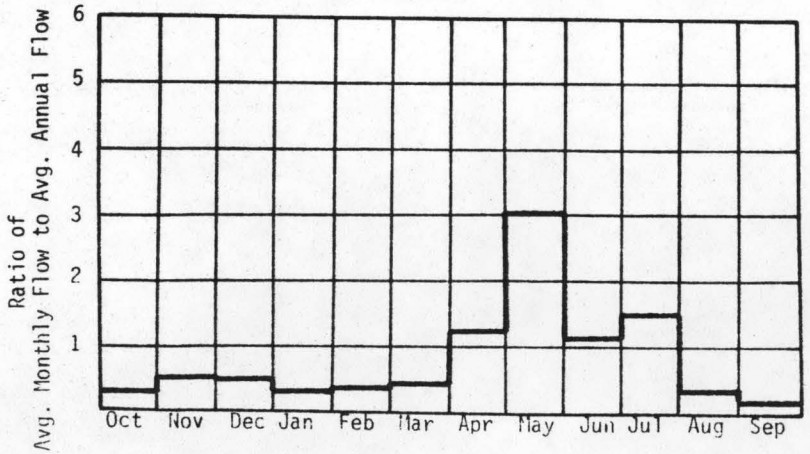
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

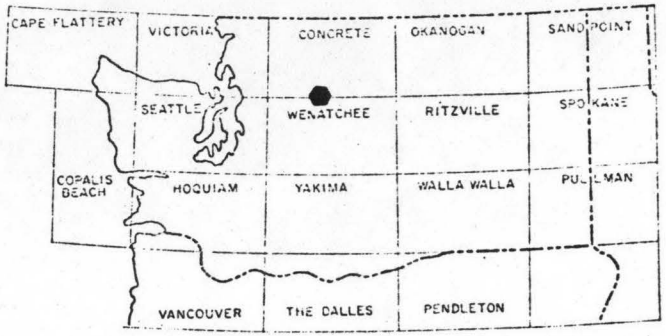
A.	Upstream Elevation of Reach	3700	Ft. MSL
B.	Downstream Elevation of Reach	2660	Ft. MSL
C.	Total Available Head in Reach	1040 + 66 = 1106	Ft.
D.	Average Slope in Reach	196	Ft./Mi.
E.	Drainage Area above Reach Mouth	30	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

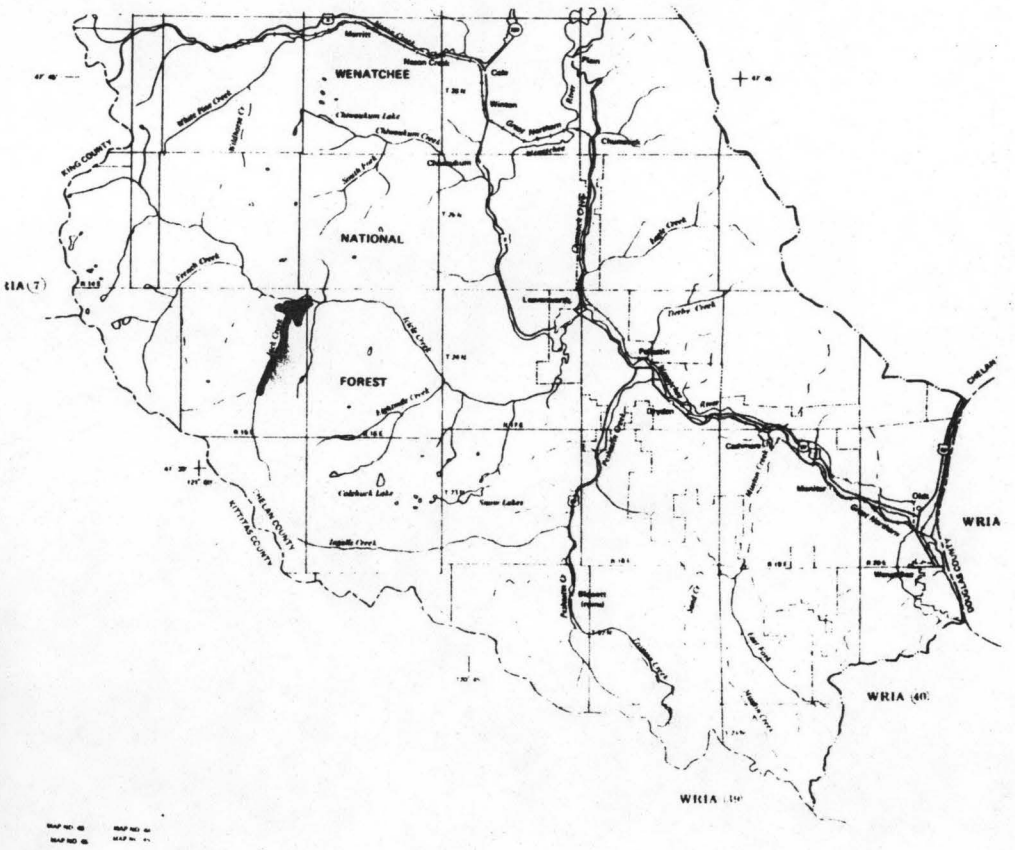
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13.1	1.23	10.8	1.00
80	19.7	1.84	15.5	0.96
50	39.4	3.68	25.8	0.80
30	77.1	7.22	37.9	0.60
10	223	20.9	60.4	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 82 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0019

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T24N R15E	
D. Latitude, Longitude	47°37' 121°01'	
E. Stream Name	French Creek	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/4.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

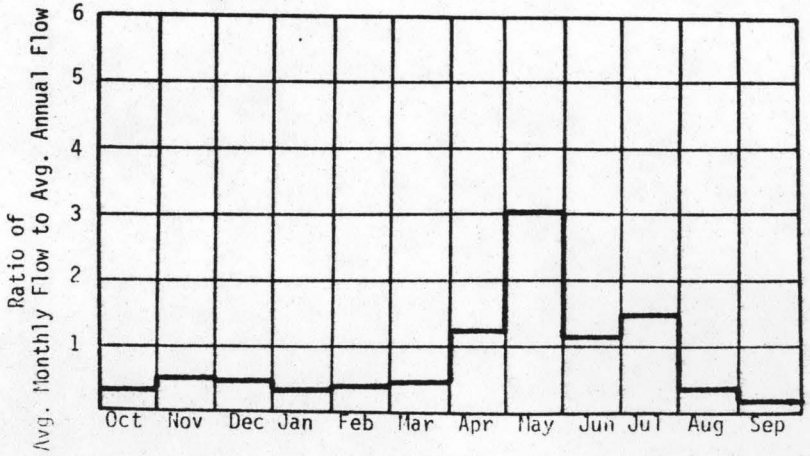
A. Upstream Elevation of Reach	3320	Ft. MSL
B. Downstream Elevation of Reach	2880	Ft. MSL
C. Total Available Head in Reach	440 + 66 = 506	Ft.
D. Average Slope in Reach	97.8	Ft./Mi.
E. Drainage Area above Reach Mouth	25	Sq.Mi.
F. Inflow Classification	Natural	

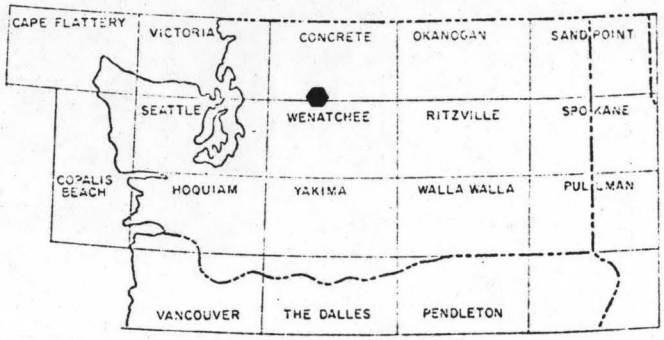
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.4	0.62	5.40	1.00
80	21.6	0.93	7.78	0.96
50	43.2	1.85	13.0	0.80
30	84.6	3.62	19.0	0.60
10	245	10.5	30.3	0.33

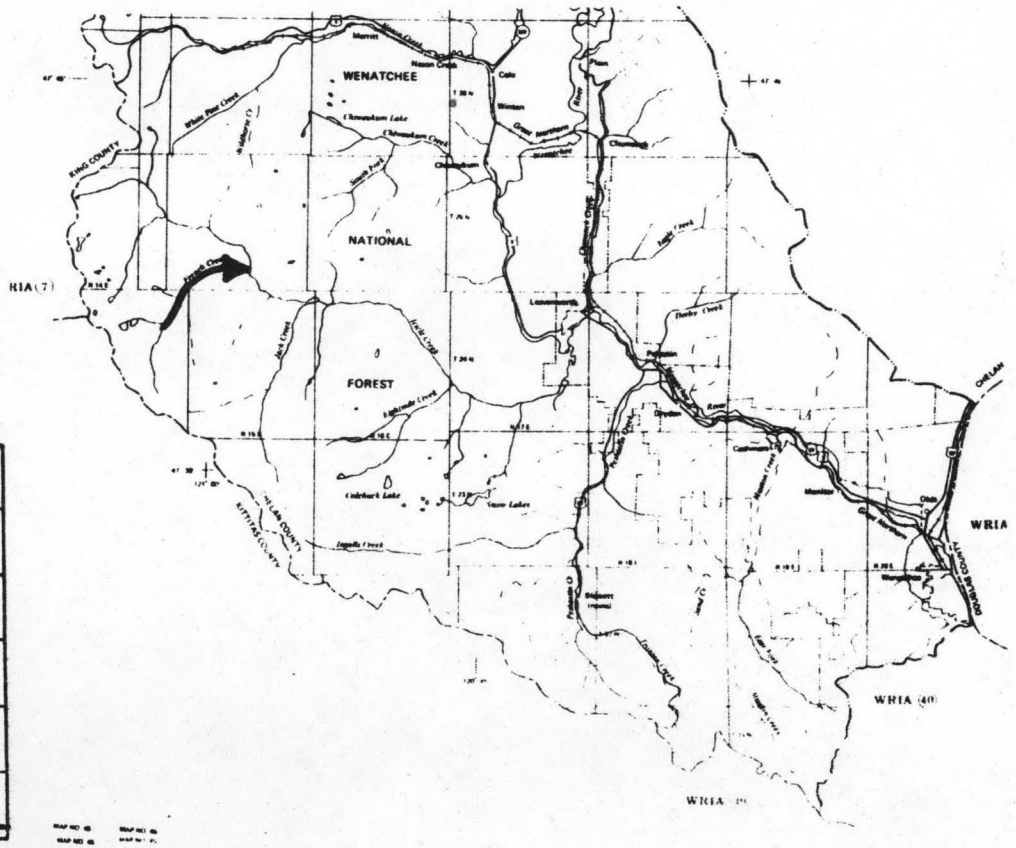
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 90 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1288

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0020

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T25N R17E	
D. Latitude, Longitude	47°41' 120°45'	
E. Stream Name	Chiwaukum Creek	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/0.6	

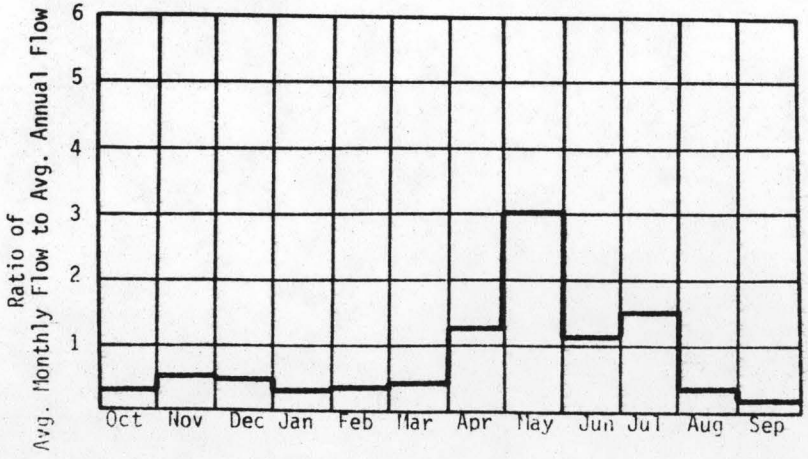
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

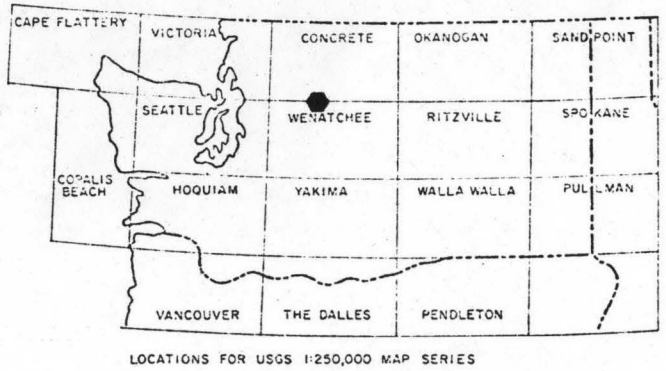
A. Upstream Elevation of Reach	1760	Ft. MSL
B. Downstream Elevation of Reach	1660	Ft. MSL
C. Total Available Head in Reach	100	Ft.
D. Average Slope in Reach	167	Ft./Mi.
E. Drainage Area above Reach Mouth	49	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

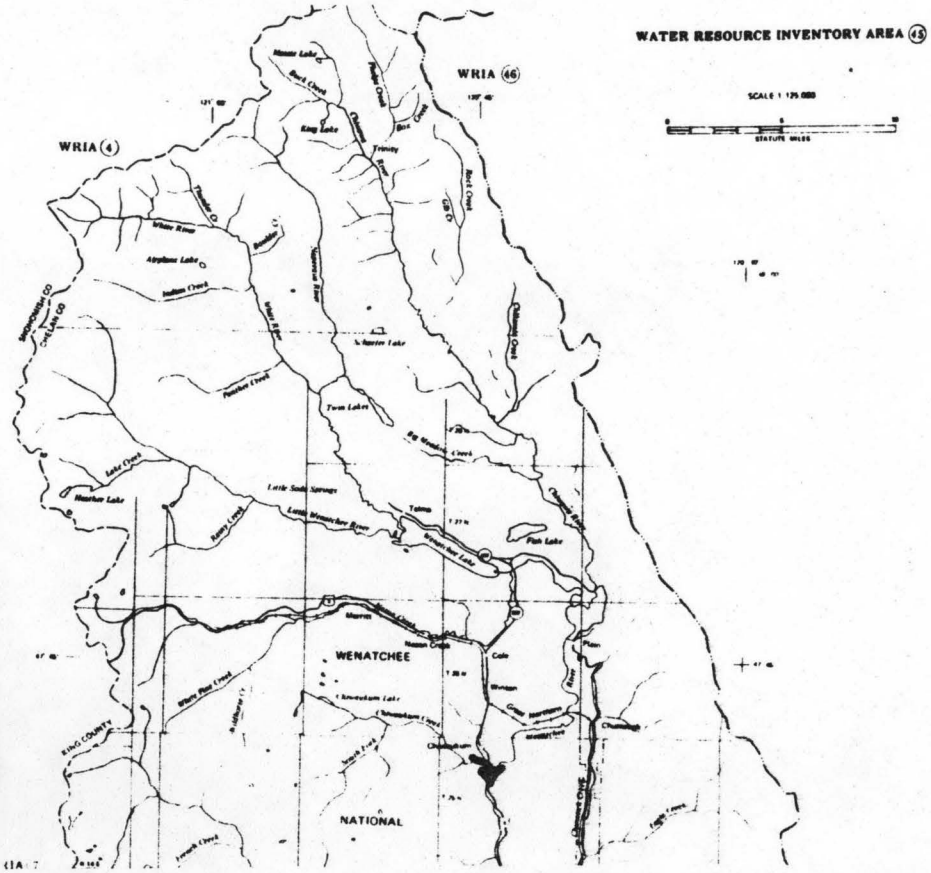
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22.7	0.19	1.68	1.00
80	34.1	0.29	2.43	0.96
50	68.2	0.58	4.04	0.80
30	133	1.13	5.94	0.60
10	386	3.27	9.45	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 142 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0021

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R16E
D.	Latitude, Longitude	47°42' 120°47'
E.	Stream Name	Chiwaukum Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.6/6.0

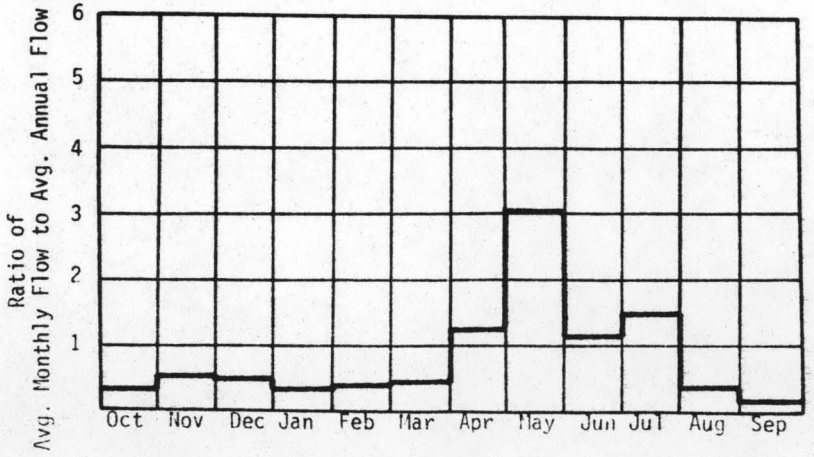
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

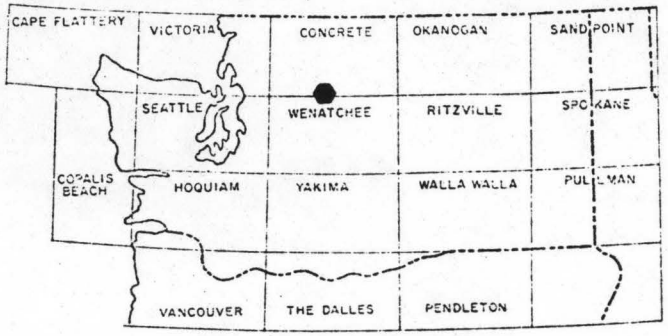
A.	Upstream Elevation of Reach	3280	Ft. MSL
B.	Downstream Elevation of Reach	1760	Ft. MSL
C.	Total Available Head in Reach	1520 + 66 = 1586	Ft.
D.	Average Slope in Reach	281	Ft./Mi.
E.	Drainage Area above Reach Mouth	41	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

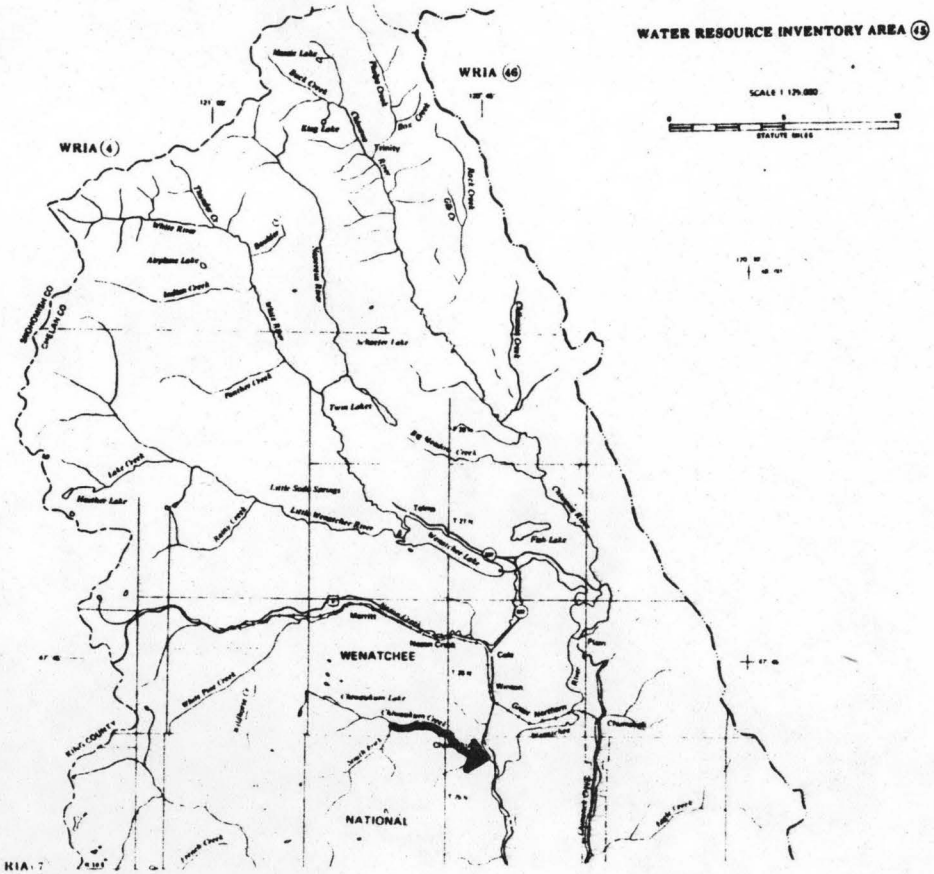
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.1	2.43	21.3	1.00
80	27.1	3.64	30.6	0.96
50	54.2	7.28	51.0	0.80
30	106	14.3	74.9	0.60
10	307	41.3	119	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 113 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0022

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T27N R17E	
D. Latitude, Longitude	47°51' 120°40'	
E. Stream Name	Chiwawa River	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/13.3	

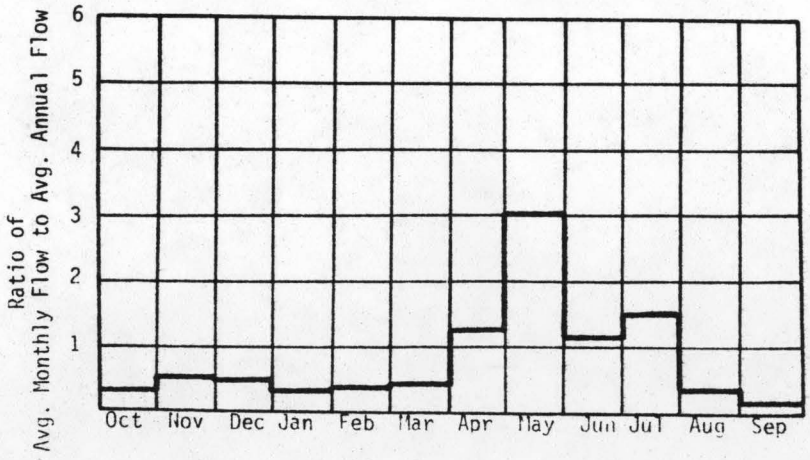
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

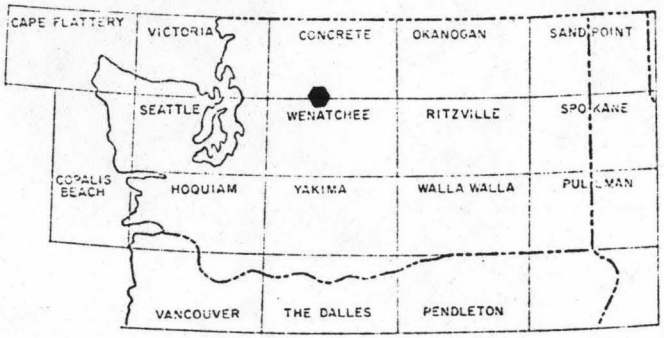
A. Upstream Elevation of Reach	2375	Ft. MSL
B. Downstream Elevation of Reach	1830	Ft. MSL
C. Total Available Head in Reach	545	Ft.
D. Average Slope in Reach	41	Ft./Mi.
E. Drainage Area above Reach Mouth	191	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

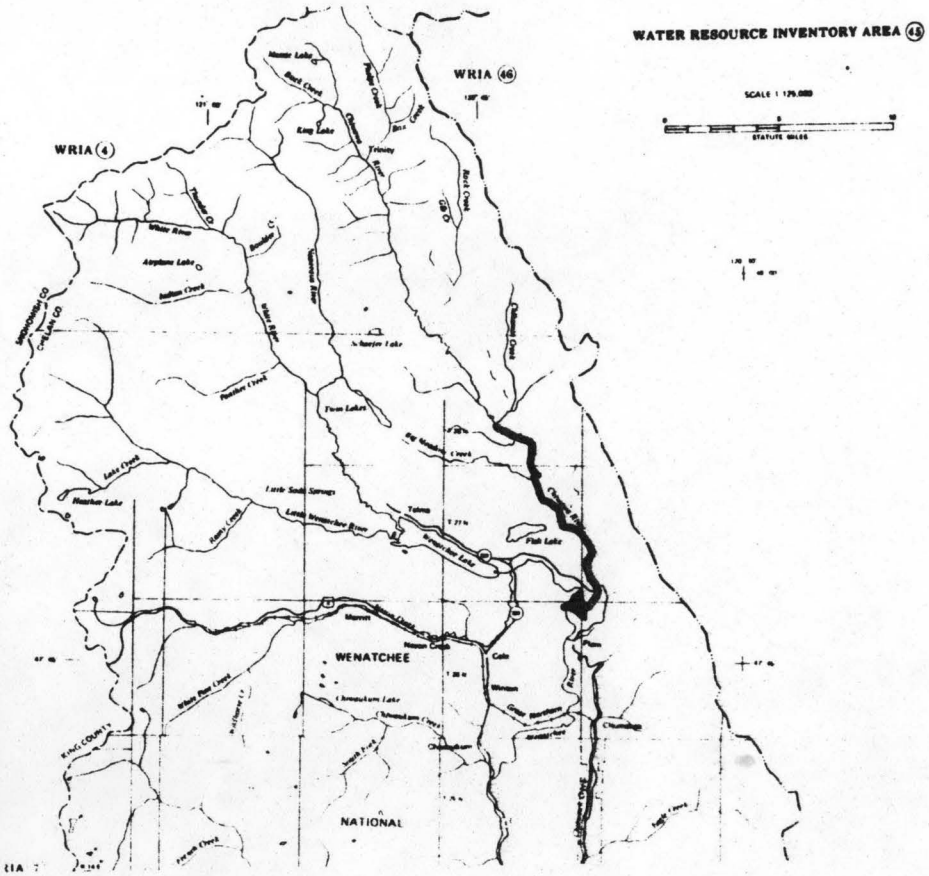
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	73.9	3.41	29.9	1.00
80	102	4.69	39.8	0.97
50	185	8.52	61.2	0.82
30	397	18.3	94.7	0.59
10	1289	59.5	167	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 462 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

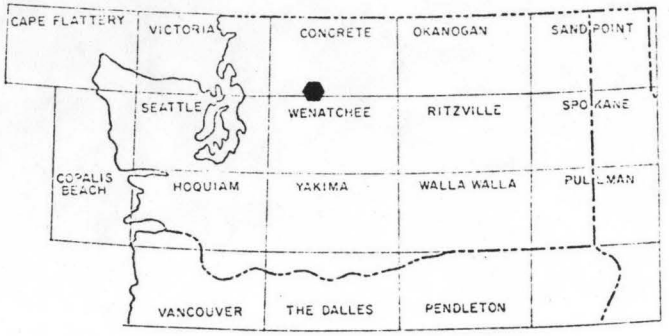


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0023

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T28N R17E
D.	Latitude, Longitude	47°56' 120°45'
E.	Stream Name	Chiwawa River
F.	Major Basin Name	Wenatchee
G.	River Mile	13.3/20.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

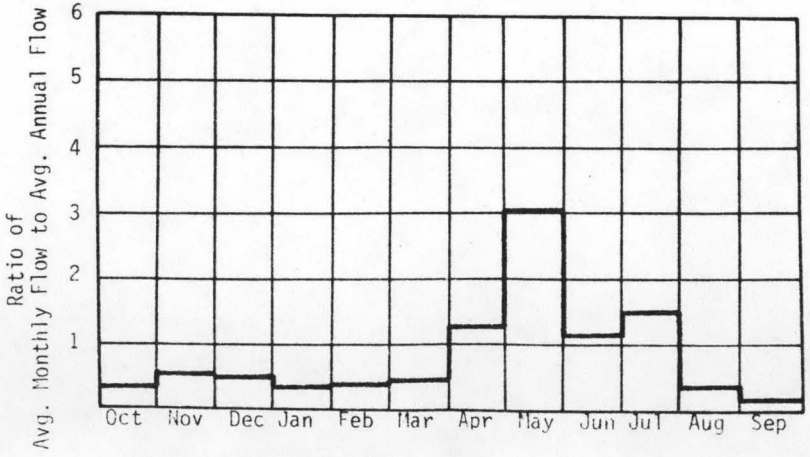
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

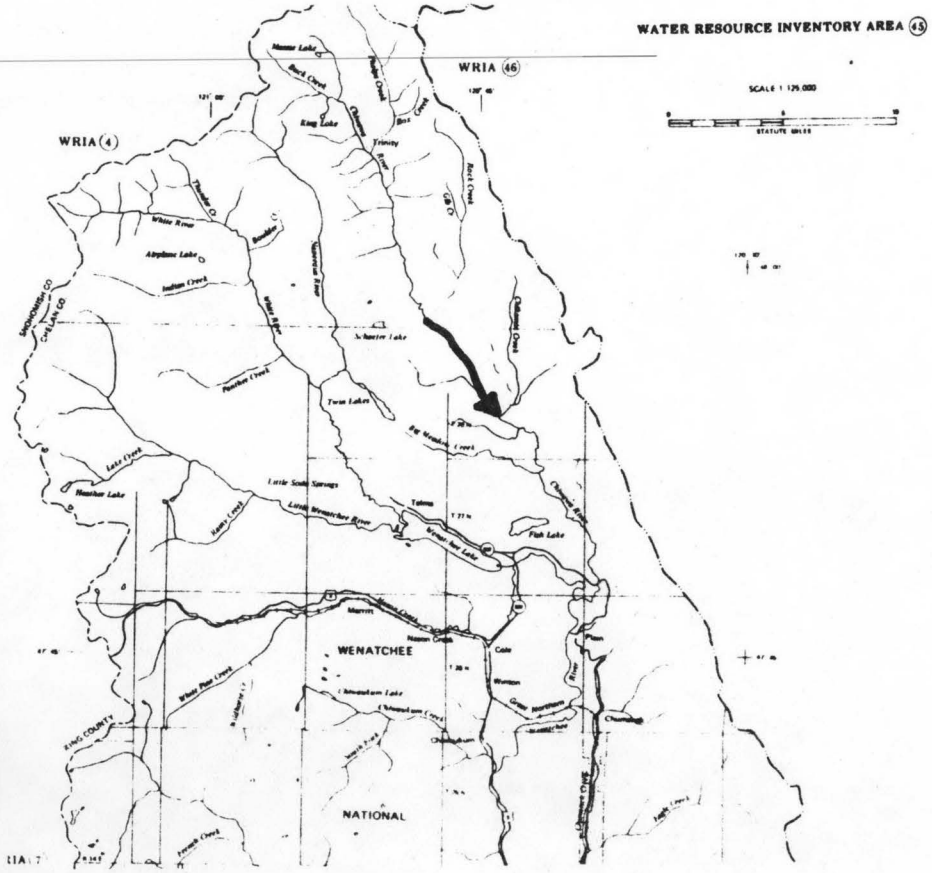
A.	Upstream Elevation of Reach	2440	Ft. MSL
B.	Downstream Elevation of Reach	2375	Ft. MSL
C.	Total Available Head in Reach	65	Ft.
D.	Average Slope in Reach	9.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	117	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	56.0	0.31	2.70	1.00
80	77.0	0.42	3.60	0.97
50	140	0.77	5.53	0.82
30	301	1.66	8.56	0.59
10	977	5.37	15.1	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 350 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0024

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T29N R16E	
D. Latitude, Longitude	48°01' 120°50'	
E. Stream Name	Chiwawa River	
F. Major Basin Name	Wenatchee	
G. River Mile	20.5/30.2	

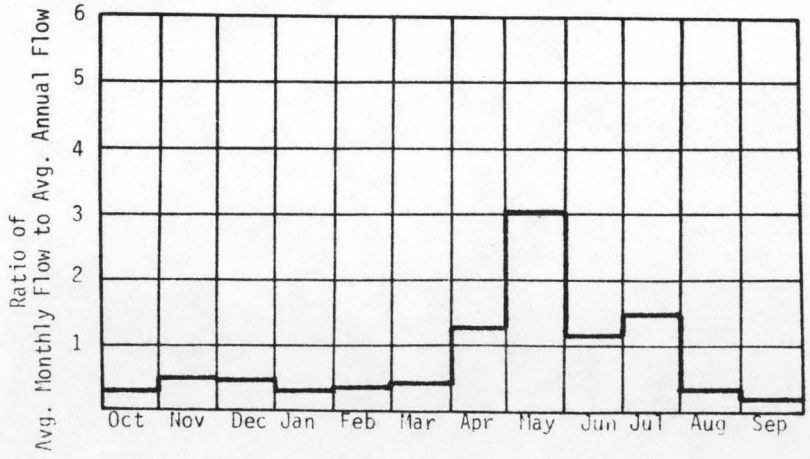
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

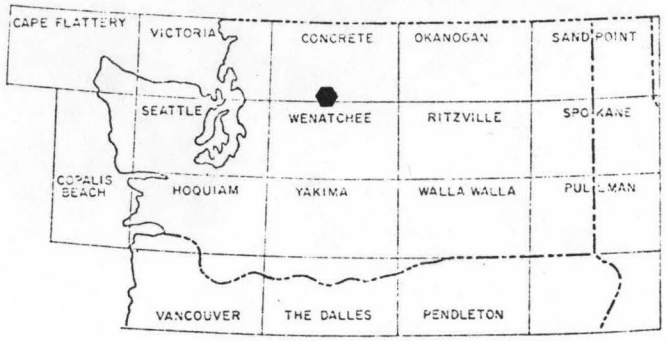
A. Upstream Elevation of Reach	2700	Ft. MSL
B. Downstream Elevation of Reach	2440	Ft. MSL
C. Total Available Head in Reach	260	Ft.
D. Average Slope in Reach	26.8	Ft./Mi.
E. Drainage Area above Reach Mouth	75	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

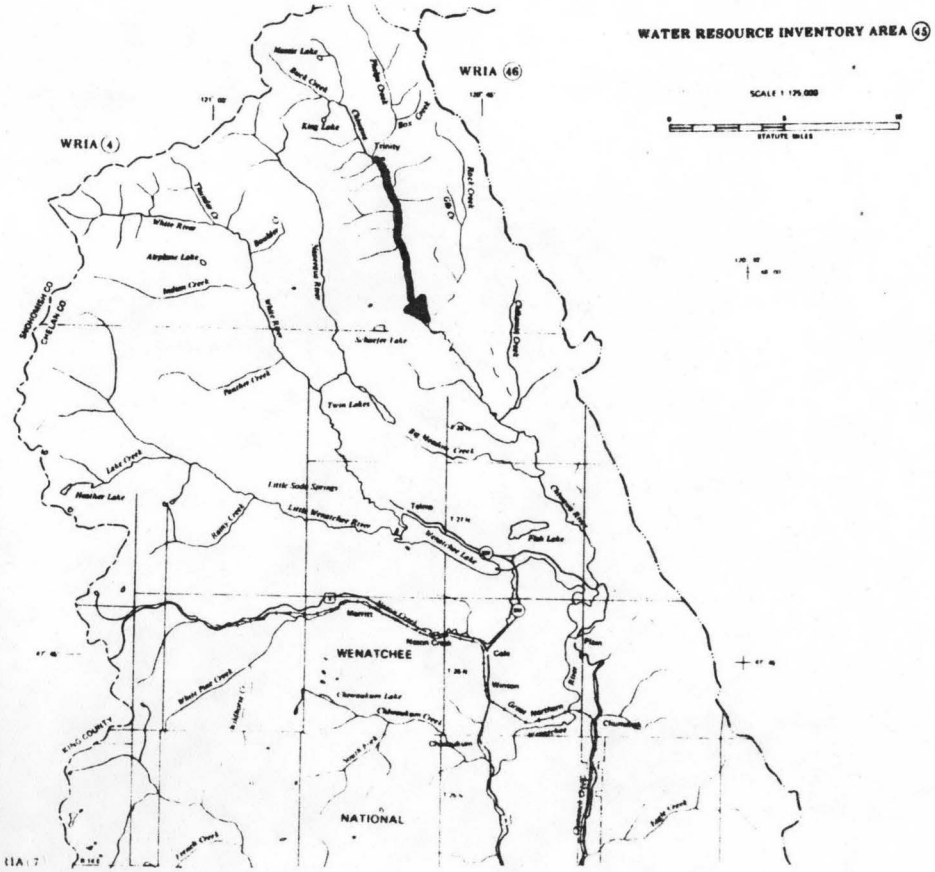
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	35.5	0.78	6.85	1.00
80	48.8	1.07	9.13	0.97
50	88.8	1.95	14.0	0.82
30	191	4.20	21.7	0.59
10	619	13.6	38.2	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 222 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0025

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T29N R16E	
D. Latitude, Longitude	48°05' 120°52'	
E. Stream Name	Chiwawa River	
F. Major Basin Name	Wenatchee	
G. River Mile	30.2/32.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

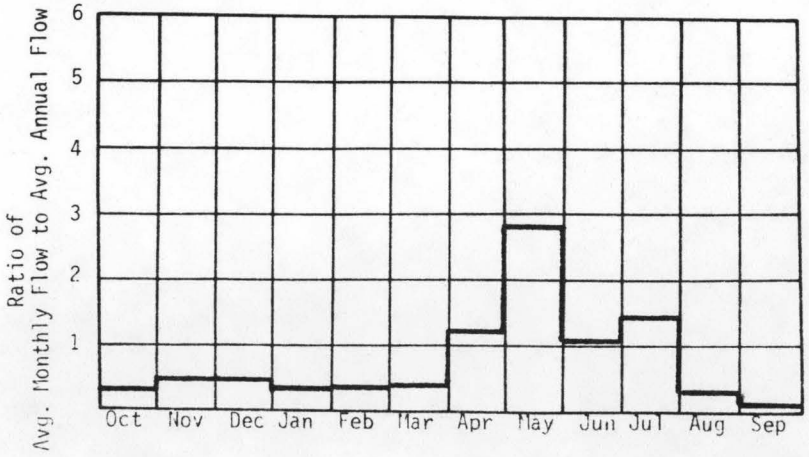
A. Upstream Elevation of Reach	3300	Ft. MSL
B. Downstream Elevation of Reach	2700	Ft. MSL
C. Total Available Head in Reach	600 + 66 = 666	Ft.
D. Average Slope in Reach	222	Ft./Mi.
E. Drainage Area above Reach Mouth	27	Sq.Mi.
F. Inflow Classification	Natural	

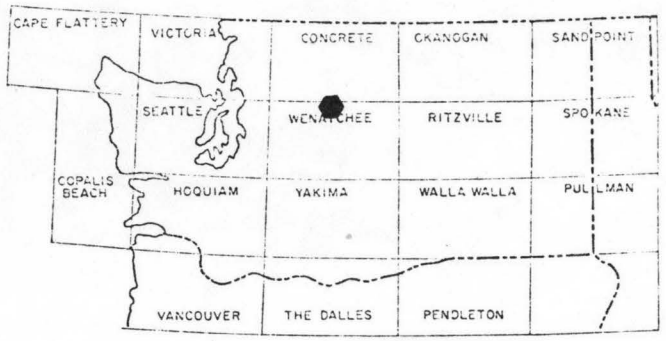
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3.92	0.22	1.94	1.00
80	7.84	0.44	3.60	0.93
50	32.3	1.82	11.2	0.70
30	80.4	4.53	20.6	0.52
10	250	14.1	37.0	0.30

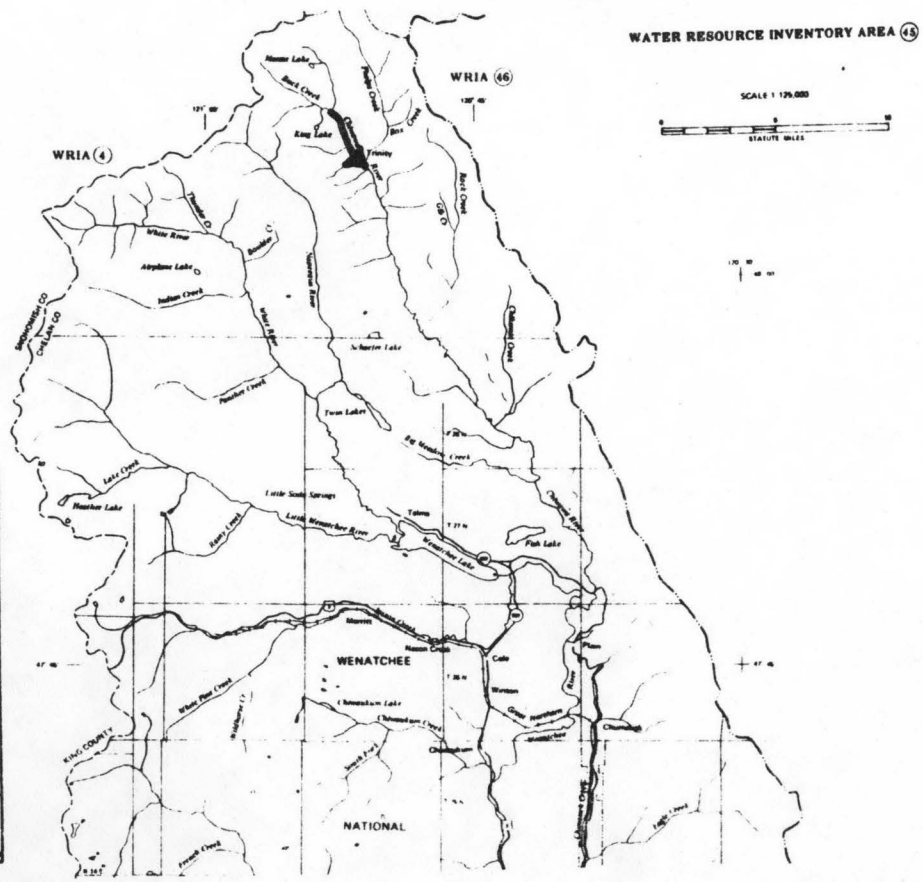
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 98 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1294

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0026

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T28N R17E
D.	Latitude, Longitude	47°54' 120°43'
E.	Stream Name	Chikamin Marble Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/0.8

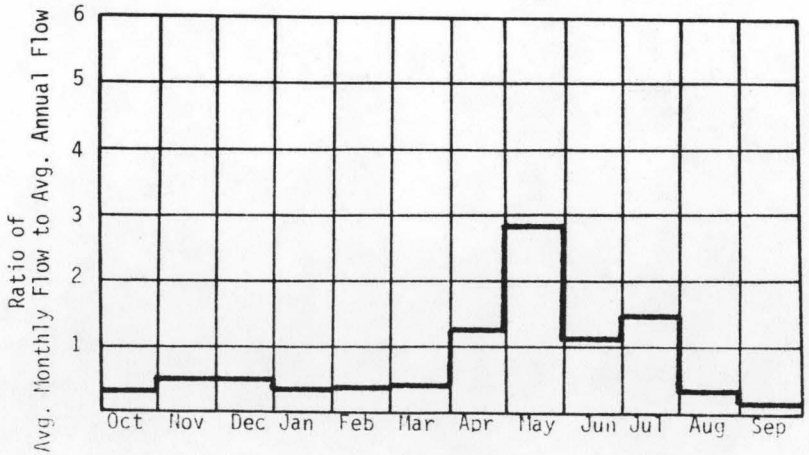
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

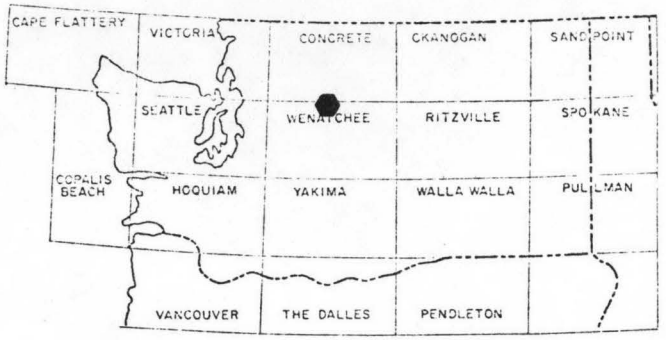
A.	Upstream Elevation of Reach	2430	Ft. MSL
B.	Downstream Elevation of Reach	1830	Ft. MSL
C.	Total Available Head in Reach	600 + 66 = 666	Ft.
D.	Average Slope in Reach	750	Ft./Mi.
E.	Drainage Area above Reach Mouth	136	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

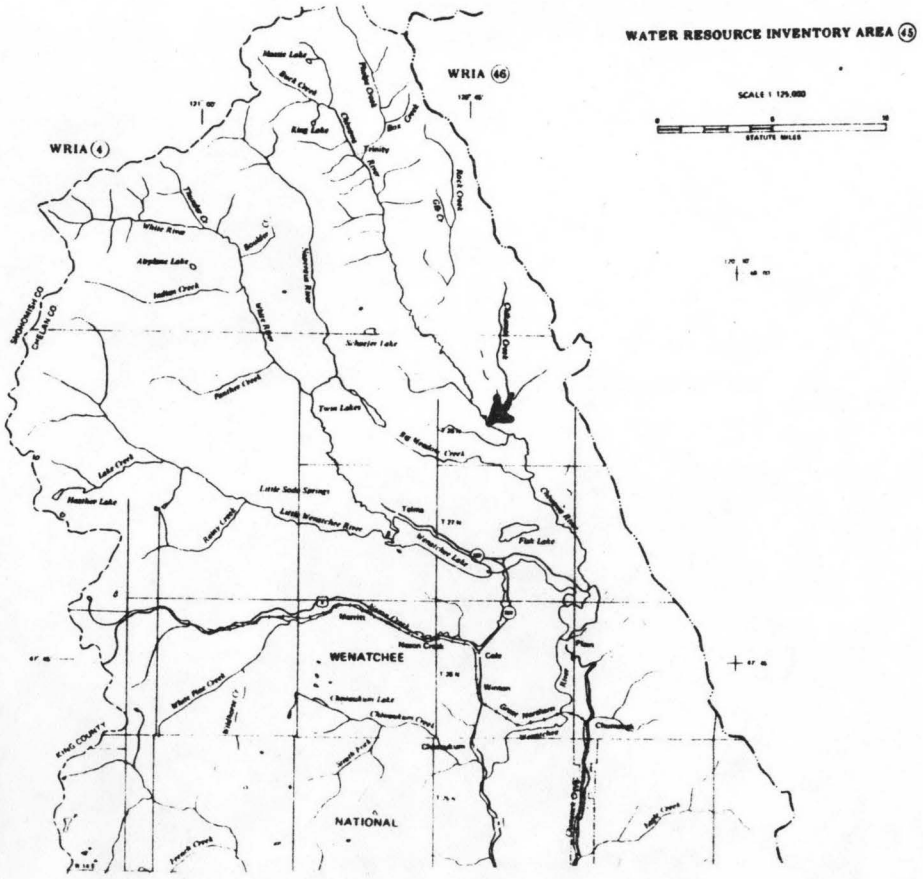
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6.88	0.39	3.40	1.00
80	9.46	0.53	4.53	0.97
50	17.2	0.97	6.96	0.82
30	37.0	2.08	10.8	0.59
10	120	6.76	19.0	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 43 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0027

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R17E
D.	Latitude, Longitude	47°46' 120°42'
E.	Stream Name	Nason Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/8.1

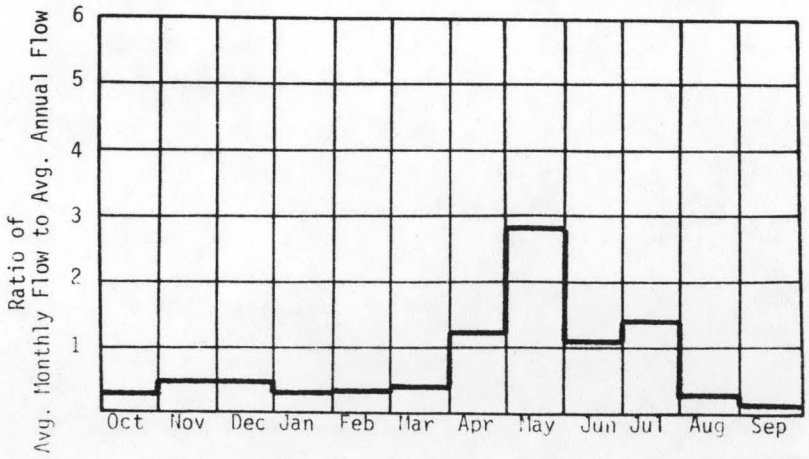
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

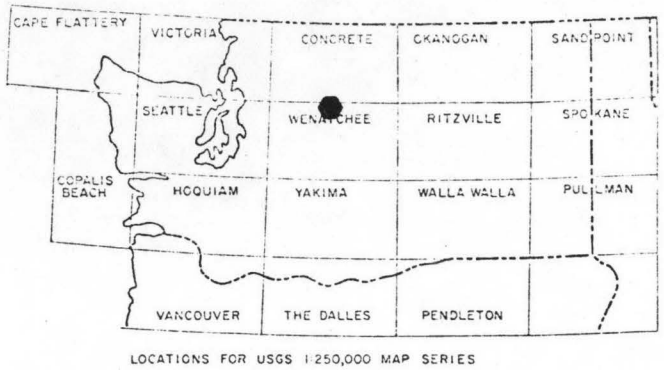
A.	Upstream Elevation of Reach	2120	Ft. MSL
B.	Downstream Elevation of Reach	1868	Ft. MSL
C.	Total Available Head in Reach	252	Ft.
D.	Average Slope in Reach	31.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	111	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	56.5	1.21	10.6	1.00
80	81.6	1.74	14.8	0.97
50	170	3.62	25.0	0.79
30	327	6.97	36.6	0.60
10	870	18.6	56.9	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 314 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W45-1296

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0028

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R16E
D.	Latitude, Longitude	47°47' 120°52'
E.	Stream Name	Nason Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	8.1/14.4

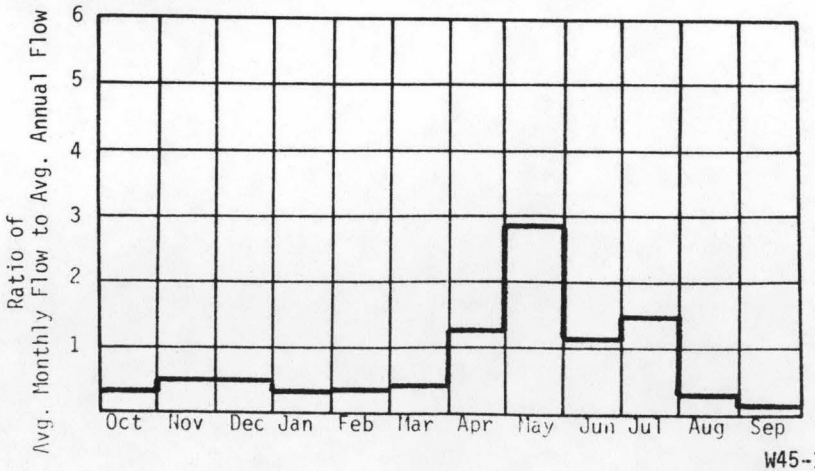
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

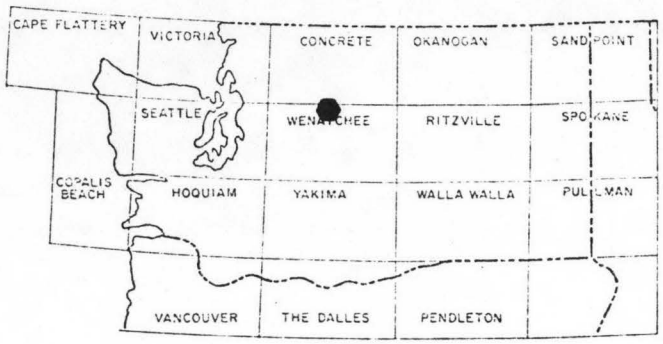
A.	Upstream Elevation of Reach	2320	Ft. MSL
B.	Downstream Elevation of Reach	2120	Ft. MSL
C.	Total Available Head in Reach	200	Ft.
D.	Average Slope in Reach	31.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	80	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	43.4	0.73	6.45	1.00
80	62.7	1.06	9.01	0.97
50	130	2.20	15.3	0.79
30	251	4.24	22.3	0.60
10	668	11.3	34.7	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 241 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W45-1297

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0029

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T26N R15E	
D. Latitude, Longitude	47°46' 120°52'	
E. Stream Name	Nason Creek	
F. Major Basin Name	Wenatchee	
G. River Mile	14.4/19.8	

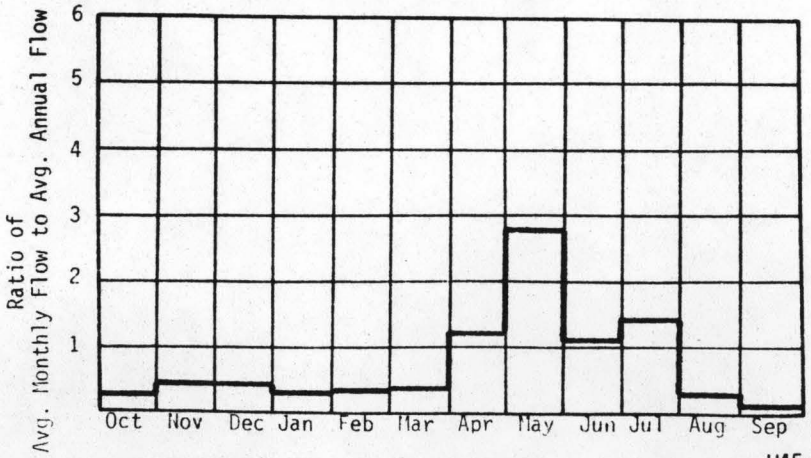
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

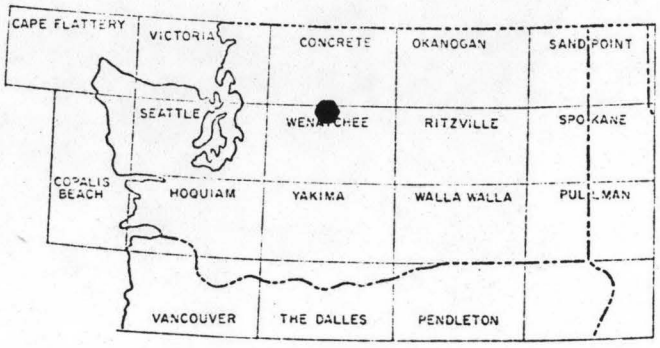
A. Upstream Elevation of Reach	2900	Ft. MSL
B. Downstream Elevation of Reach	2320	Ft. MSL
C. Total Available Head in Reach	580 + 66 = 646	Ft.
D. Average Slope in Reach	107	Ft./Mi.
E. Drainage Area above Reach Mouth	36	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

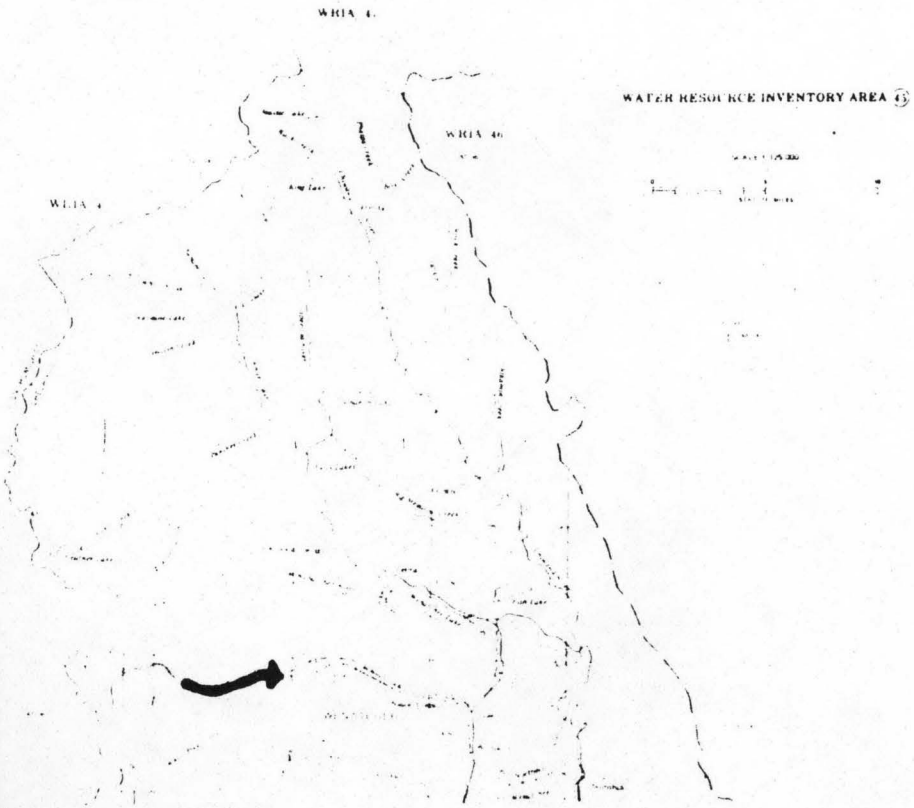
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.4	1.00	8.79	1.00
80	26.5	1.45	12.3	0.97
50	55.1	3.01	20.8	0.79
30	106	5.80	30.5	0.60
10	283	15.5	47.4	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 102 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1298

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0030

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T26N R15E	
D. Latitude, Longitude	47°45' 120°59'	
E. Stream Name	White Pine Creek	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/3.1	

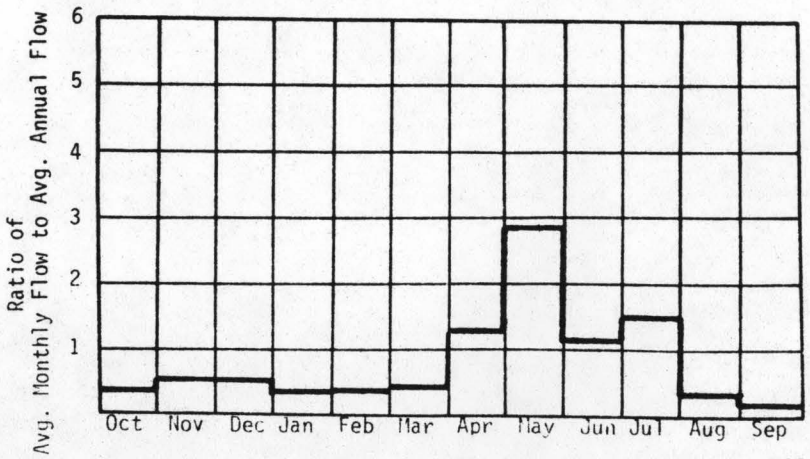
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

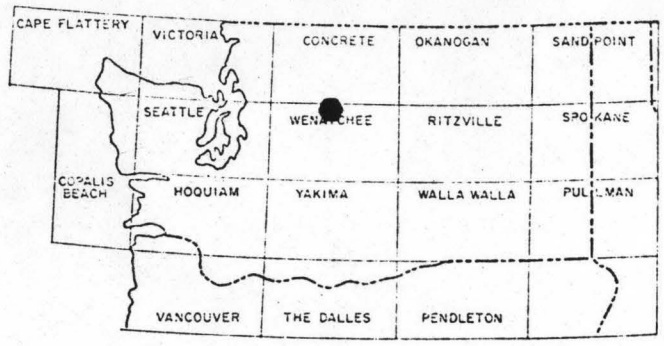
A. Upstream Elevation of Reach	3340	Ft. MSL
B. Downstream Elevation of Reach	2320	Ft. MSL
C. Total Available Head in Reach	1040 + 66 = 1106	Ft.
D. Average Slope in Reach	335	Ft./Mi.
E. Drainage Area above Reach Mouth	25	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15.7	1.47	12.8	1.00
80	22.6	2.12	18.0	0.97
50	47.0	4.40	30.4	0.79
30	90.5	8.47	44.5	0.60
10	241	22.6	69.2	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 87 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W45-1299

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0031

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T27N R16E	
D. Latitude, Longitude	47°53' 120°52'	
E. Stream Name	White River	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/11.8	

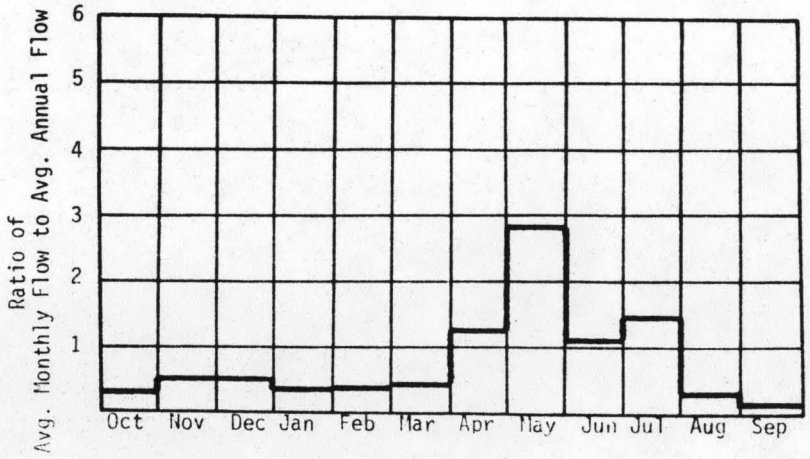
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

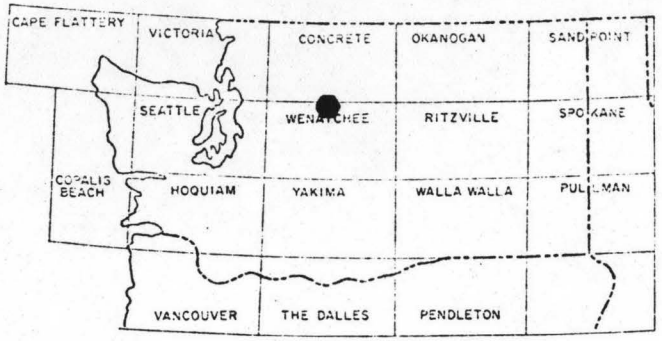
A. Upstream Elevation of Reach	1940	Ft. MSL
B. Downstream Elevation of Reach	1868	Ft. MSL
C. Total Available Head in Reach	72	Ft.
D. Average Slope in Reach	6.1	Ft./Mi.
E. Drainage Area above Reach Mouth	162	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	129	0.79	6.91	1.00
80	187	1.14	9.68	0.97
50	338	2.36	16.4	0.79
30	748	4.55	27.5	0.60
10	1990	12.1	37.2	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 719 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W45-1300

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0032

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T28N R15E	
D. Latitude, Longitude	47°55' 120°55'	
E. Stream Name	White River	
F. Major Basin Name	Wenatchee	
G. River Mile	11.8/13.8	

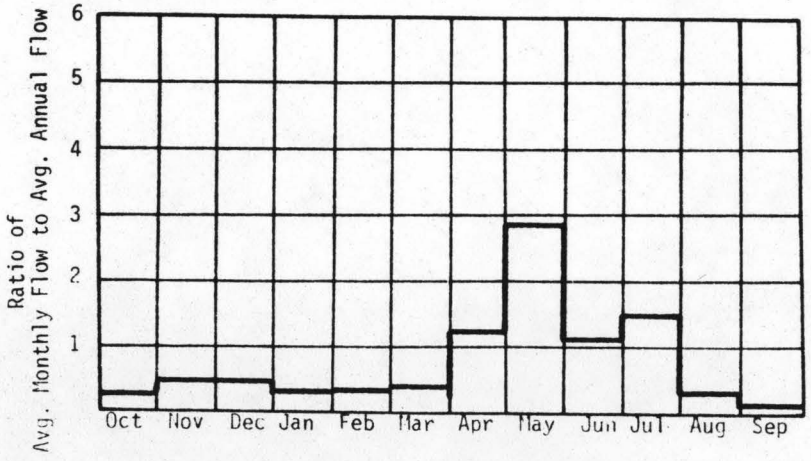
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

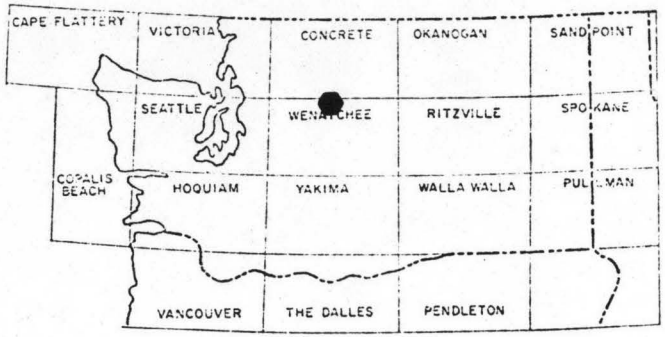
A. Upstream Elevation of Reach	2000	Ft. MSL
B. Downstream Elevation of Reach	1940	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	30	Ft./Mi.
E. Drainage Area above Reach Mouth	95	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

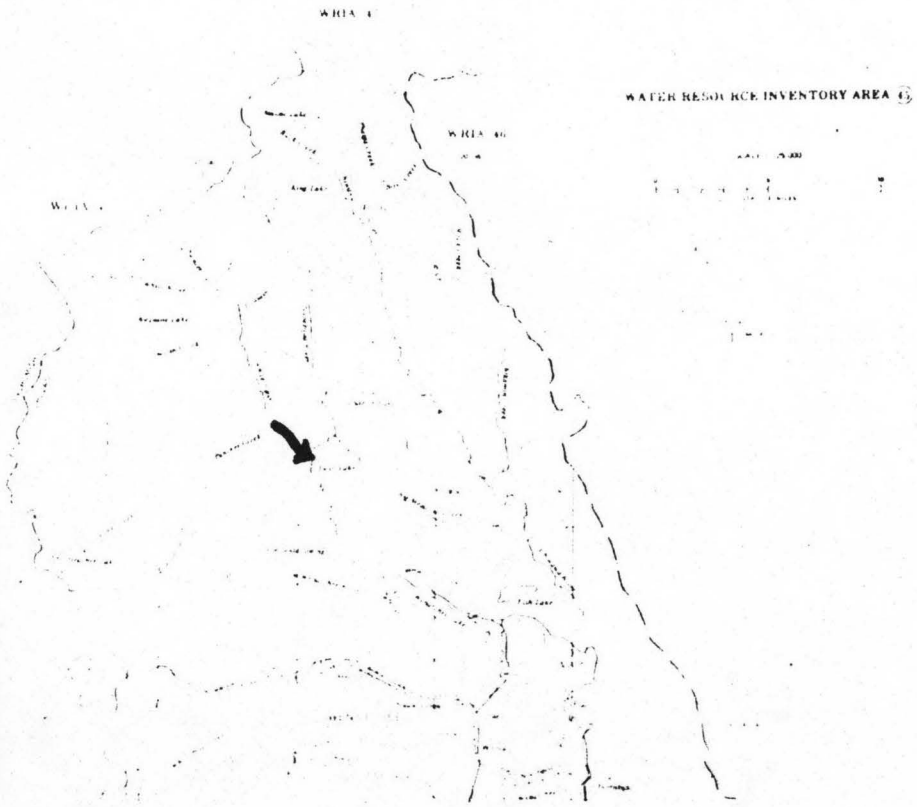
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	86.4	0.44	3.84	1.00
80	125	0.63	5.38	0.97
50	259	1.32	9.11	0.79
30	499	2.53	15.3	0.60
10	1330	6.75	20.7	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 480 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0033

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T29N R15E	
D. Latitude, Longitude	47°50' 120°56'	
E. Stream Name	White River	
F. Major Basin Name	Wenatchee	
G. River Mile	13.8/18.0	

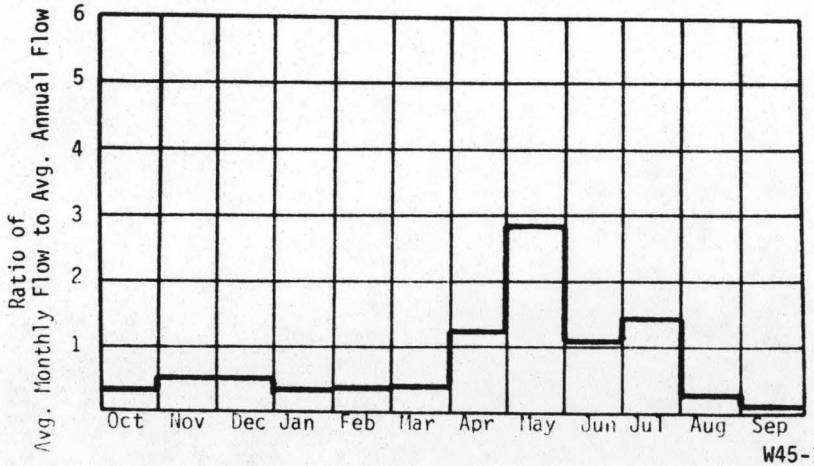
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2370	Ft. MSL
B. Downstream Elevation of Reach	2000	Ft. MSL
C. Total Available Head in Reach	370	Ft.
D. Average Slope in Reach	88	Ft./Mi.
E. Drainage Area above Reach Mouth	92	Sq.Mi.
F. Inflow Classification	Natural	

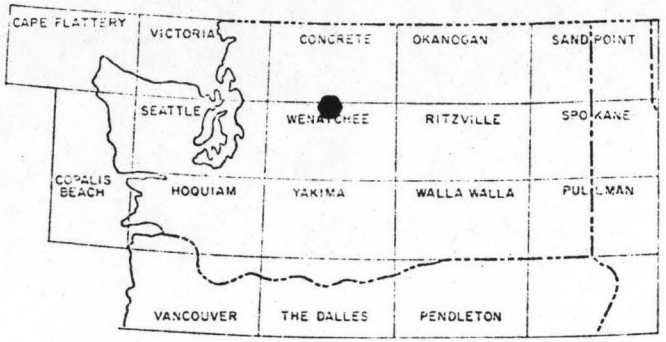
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	73.4	2.30	20.1	1.00
80	106	3.32	28.2	0.97
50	220	6.90	47.7	0.79
30	424	13.3	80.3	0.60
10	1130	35.4	108	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 408 cfs



W45-1302



LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0034

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T29N R15E
D.	Latitude, Longitude	48°01' 120°59'
E.	Stream Name	White River
F.	Major Basin Name	Wenatchee
G.	River Mile	18.0/22.2

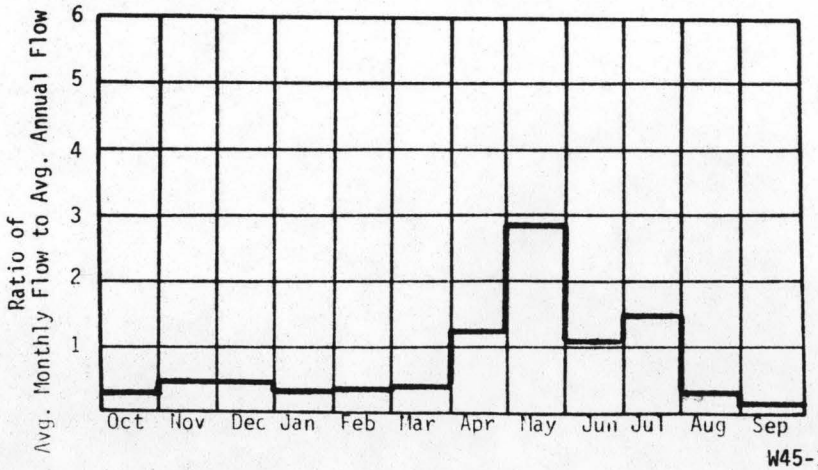
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2800	Ft. MSL
B.	Downstream Elevation of Reach	2370	Ft. MSL
C.	Total Available Head in Reach	430	Ft.
D.	Average Slope in Reach	198	Ft./Mi.
E.	Drainage Area above Reach Mouth	42	Sq.Mi.
F.	Inflow Classification	Natural	

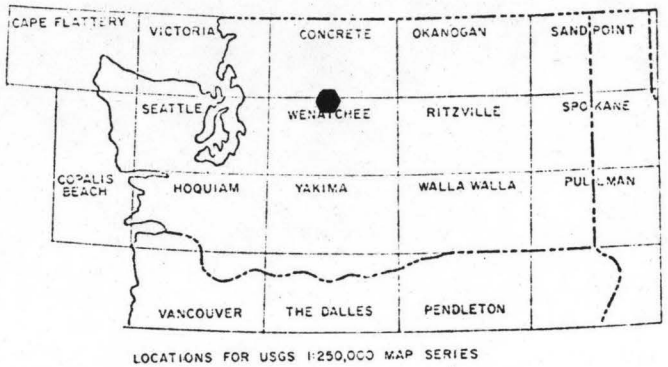
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	36.2	1.32	11.5	1.00
80	52.3	1.90	16.2	0.97
50	109	3.95	27.3	0.79
30	209	7.61	40.0	0.60
10	557	20.3	62.1	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 201 cfs



W45-1303



LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0035

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T30N R12E	
D. Latitude, Longitude	48°01' 121°02'	
E. Stream Name	White River	
F. Major Basin Name	Wenatchee	
G. River Mile	22.2/26.3	

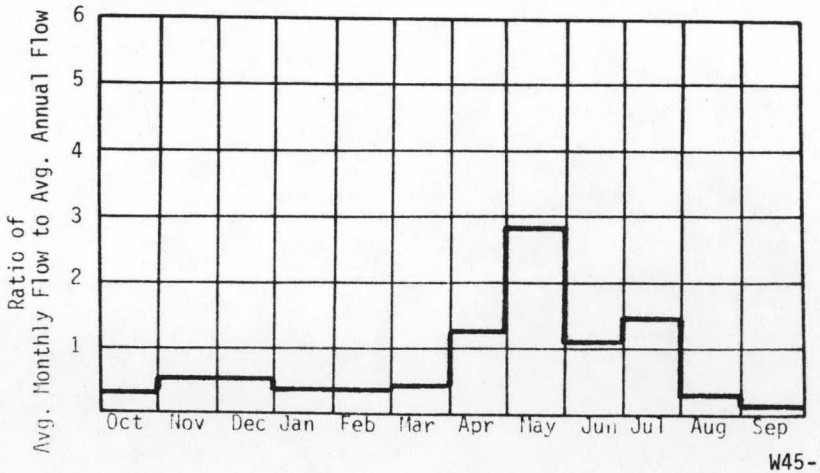
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

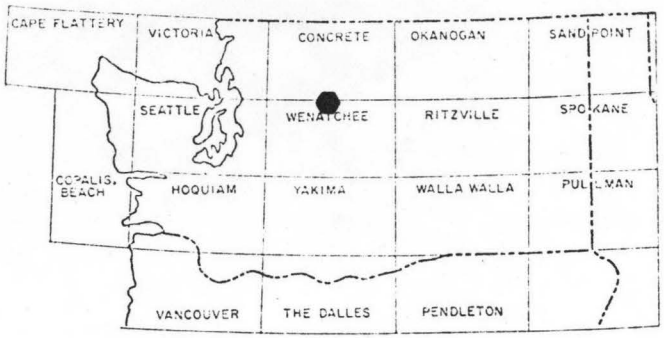
A. Upstream Elevation of Reach	3200	Ft. MSL
B. Downstream Elevation of Reach	2800	Ft. MSL
C. Total Available Head in Reach	400 + 66 = 466	Ft.
D. Average Slope in Reach	97.6	Ft./Mi.
E. Drainage Area above Reach Mouth	22	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	16.9	0.67	5.85	1.00
80	24.4	0.96	8.19	0.97
50	50.8	2.00	13.9	0.79
30	97.8	3.86	20.3	0.60
10	260	10.3	31.5	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 94 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W45-1304

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0036

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T27N R16E	
D. Latitude, Longitude	47°55' 120°52'	
E. Stream Name	Napeequa River	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/1.1	

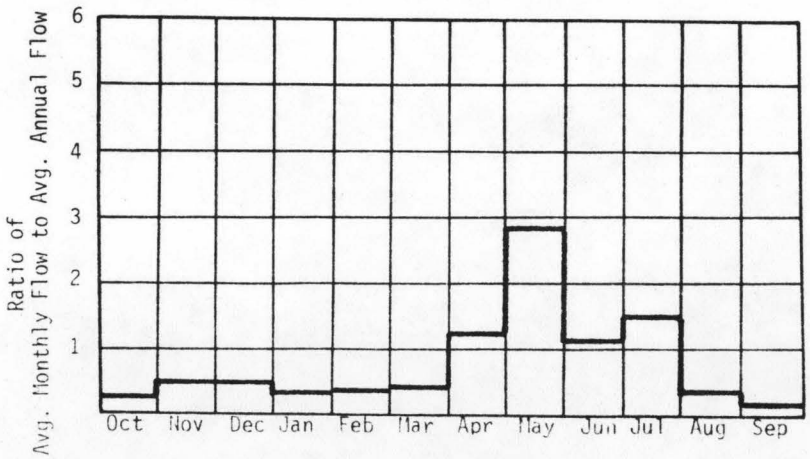
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

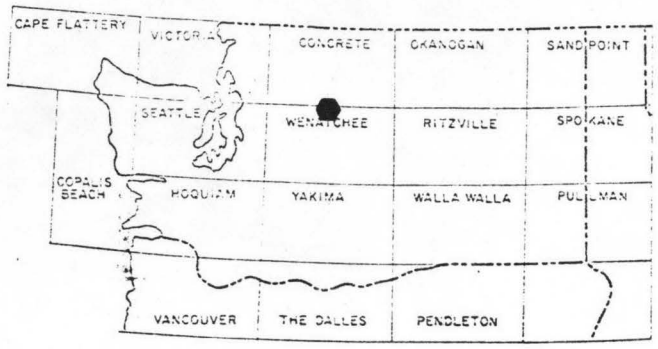
A. Upstream Elevation of Reach	2000	Ft. MSL
B. Downstream Elevation of Reach	1940	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	54.6	Ft./Mi.
E. Drainage Area above Reach Mouth	42	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	34.4	0.17	1.53	1.00
80	49.7	0.24	2.14	0.97
50	103	0.52	3.62	0.79
30	197	1.01	5.30	0.60
10	529	2.69	8.24	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 191 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W45-1305

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0037

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T29N R16E
D.	Latitude, Longitude	48°01' 120°56'
E.	Stream Name	Napeequa River
F.	Major Basin Name	Wenatchee
G.	River Mile	1.1/13.1

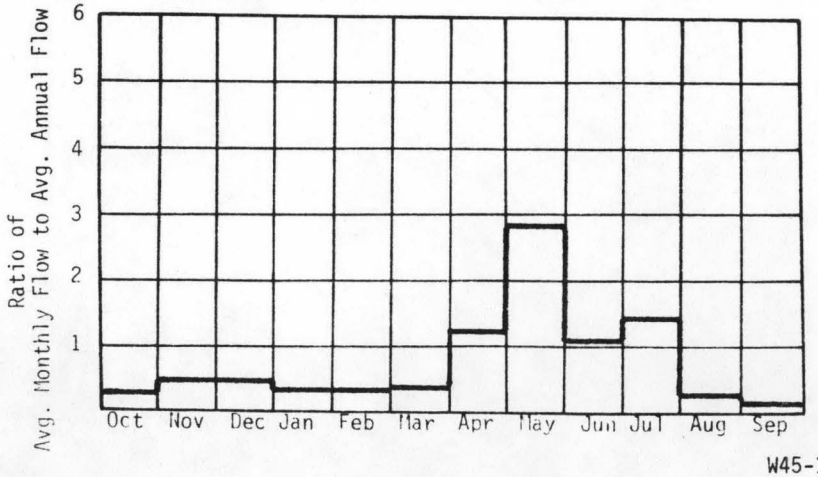
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

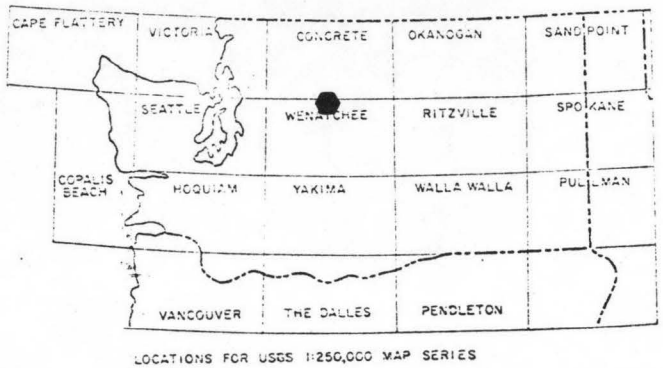
A.	Upstream Elevation of Reach	4375	Ft. MSL
B.	Downstream Elevation of Reach	2000	Ft. MSL
C.	Total Available Head in Reach	2375 + 66 = 2441	Ft.
D.	Average Slope in Reach	198	Ft./Mi.
E.	Drainage Area above Reach Mouth	34	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

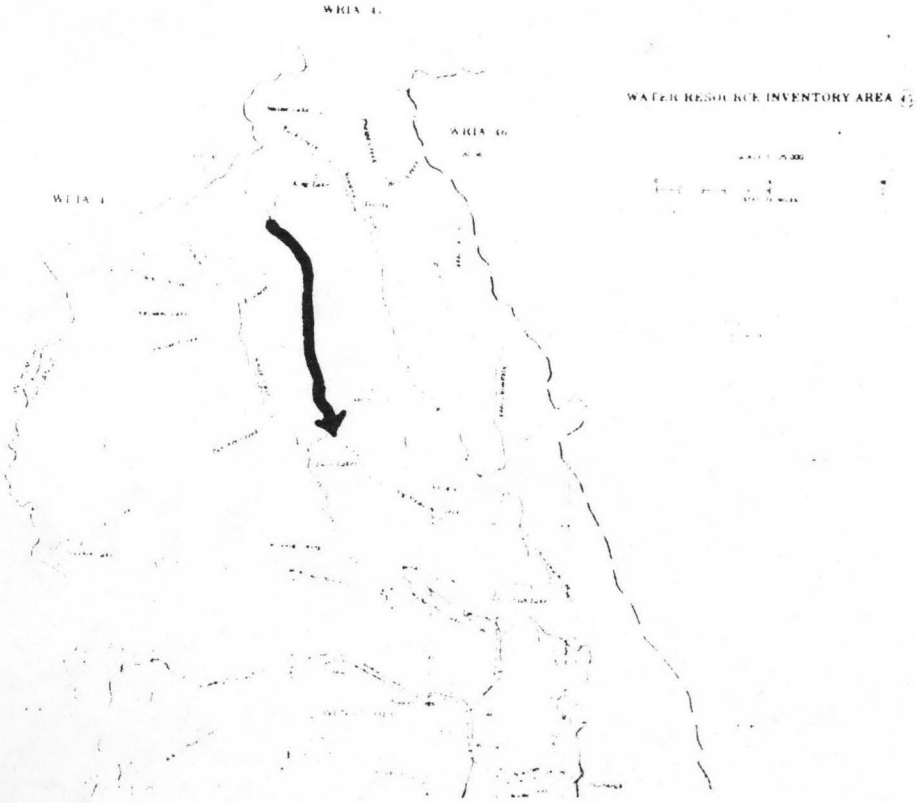
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22.0	4.54	39.7	1.00
80	31.7	6.55	55.7	0.97
50	65.9	13.6	94.2	0.79
30	127	26.2	138	0.60
10	338	69.8	214	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 122 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1306

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0038

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T28N R15E
D.	Latitude, Longitude	47°56' 120°57'
E.	Stream Name	Panther Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/1.4

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

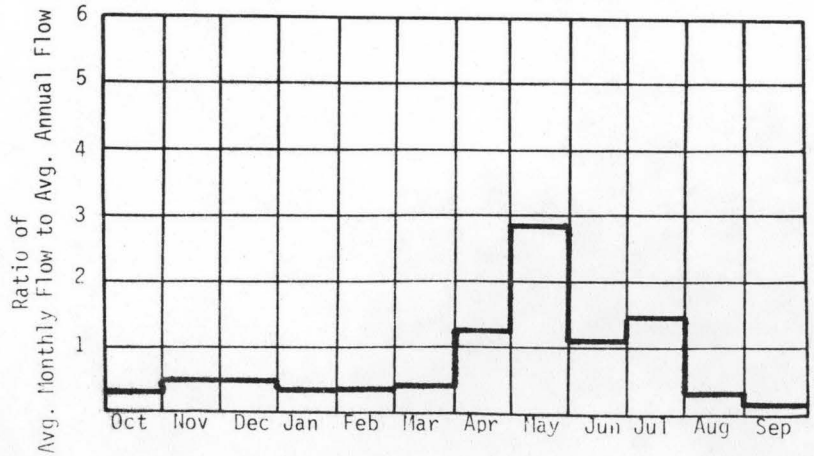
A.	Upstream Elevation of Reach	2720	Ft. MSL
B.	Downstream Elevation of Reach	2000	Ft. MSL
C.	Total Available Head in Reach	720 + 66 = 786	Ft.
D.	Average Slope in Reach	514	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

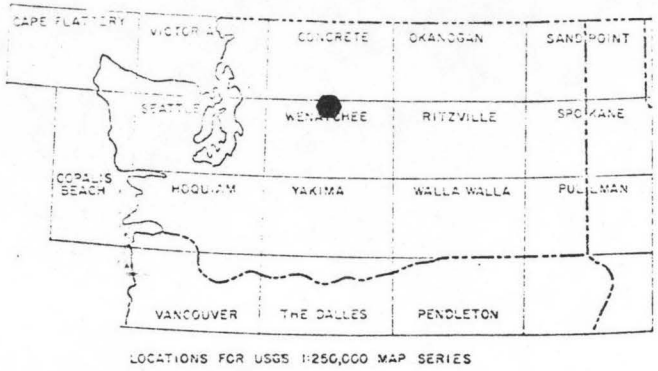
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15.7	1.04	9.12	1.00
80	22.6	1.50	12.8	0.97
50	47.0	3.12	21.6	0.79
30	90.5	6.02	36.4	0.69
10	241	16.0	49.1	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 87 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0039

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T29N R15E
D.	Latitude, Longitude	47°59' 121°00'
E.	Stream Name	Indian Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/4.1

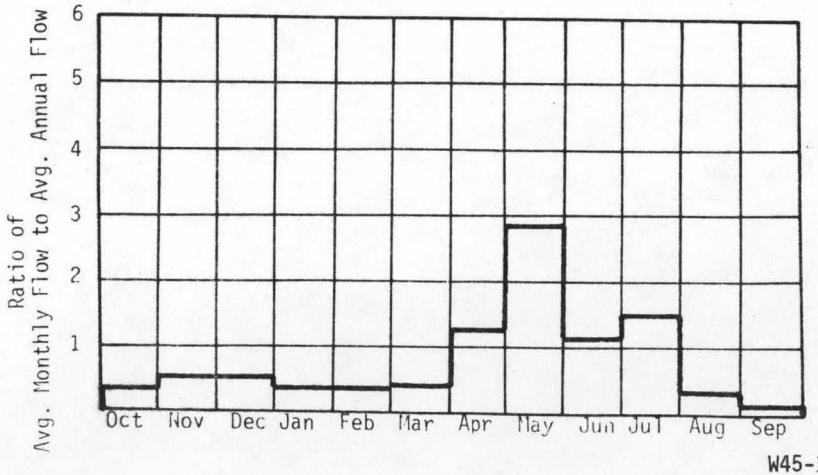
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

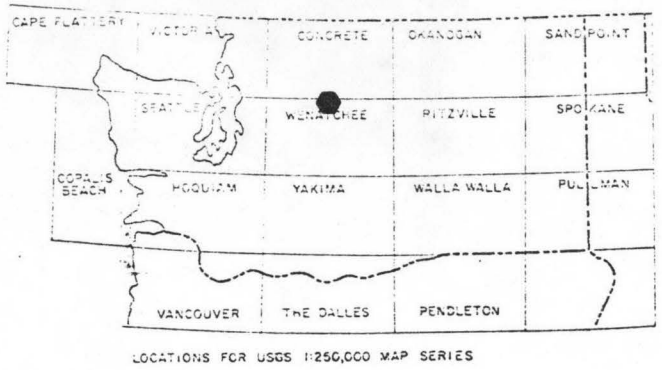
A.	Upstream Elevation of Reach	3280	Ft. MSL
B.	Downstream Elevation of Reach	2370	Ft. MSL
C.	Total Available Head in Reach	910 + 66 = 976	Ft.
D.	Average Slope in Reach	222	Ft./Mi.
E.	Drainage Area above Reach Mouth	21	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	14.0	1.16	10.2	1.00
80	20.3	1.68	14.2	0.97
50	42.1	3.48	24.1	0.79
30	81.1	6.70	40.5	0.69
10	216	17.9	54.7	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 78 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W45-1308

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0040

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T27N R16E	
D. Latitude, Longitude	47°50' 120°55'	
E. Stream Name	Little Wenatchee River	
F. Major Basin Name	Wenatchee	
G. River Mile	0.0/8.3	

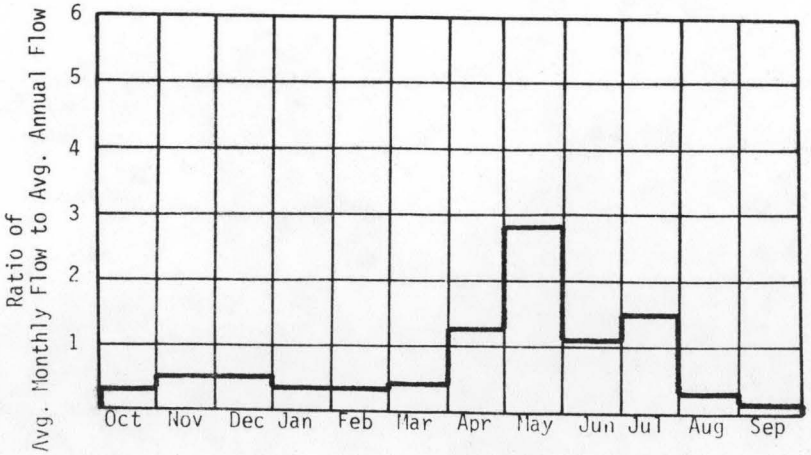
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

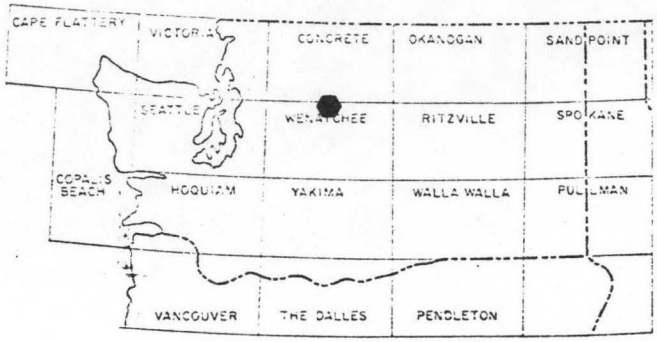
A. Upstream Elevation of Reach	2070	Ft. MSL
B. Downstream Elevation of Reach	1868	Ft. MSL
C. Total Available Head in Reach	202	Ft.
D. Average Slope in Reach	24.3	Ft./Mi.
E. Drainage Area above Reach Mouth	102	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

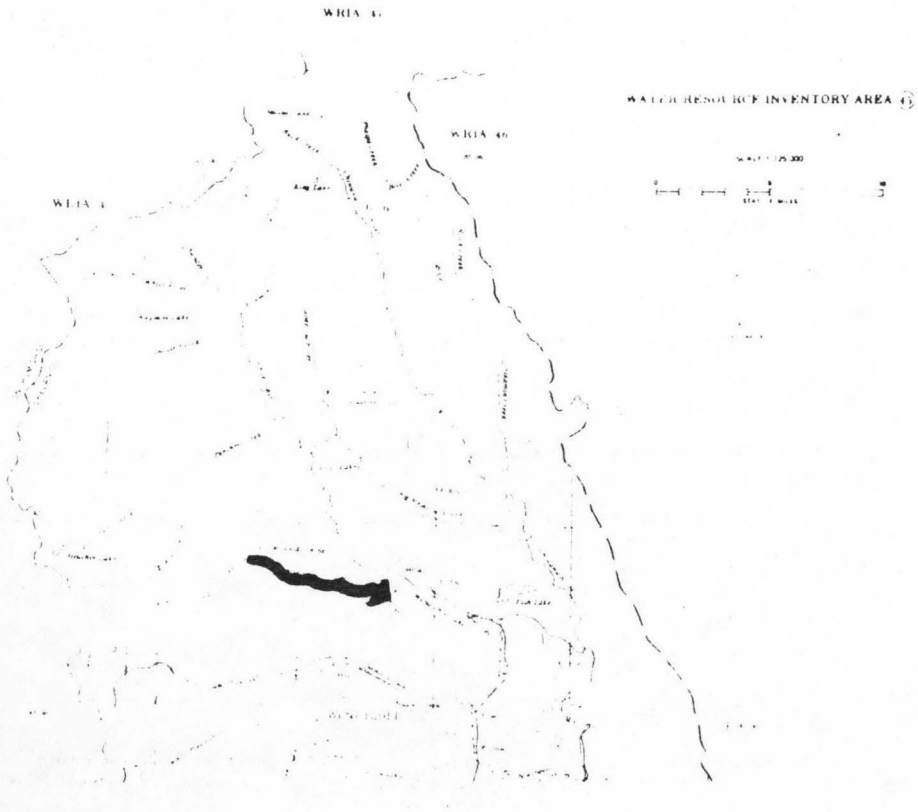
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	81.5	1.39	12.2	1.00
80	118	2.01	17.1	0.97
50	245	4.18	28.9	0.79
30	471	8.05	48.7	0.69
10	1250	21.5	65.8	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 453 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1309

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0041

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T27N R15E	
D. Latitude, Longitude	47°52' 121°00'	
E. Stream Name	Little Wenatchee River	
F. Major Basin Name	Wenatchee	
G. River Mile	8.3/12.5	

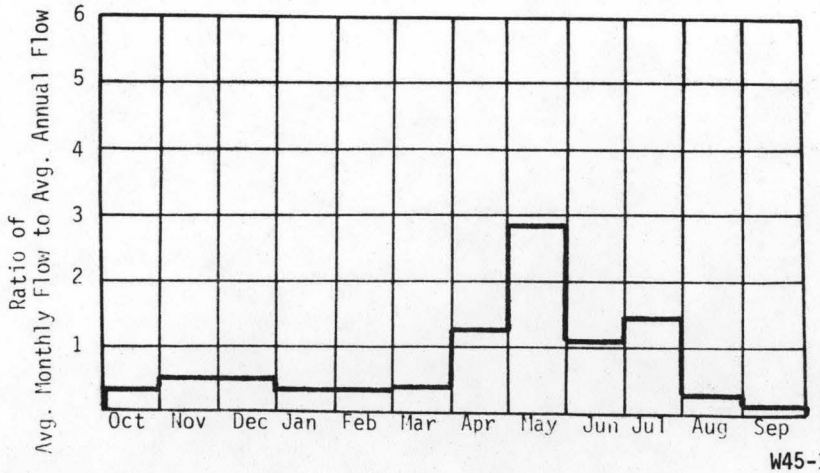
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

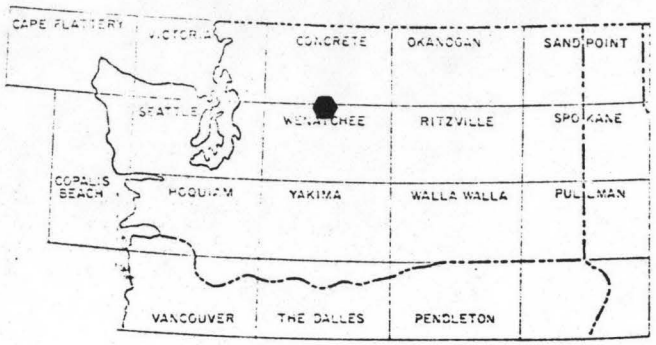
A. Upstream Elevation of Reach	2340	Ft. MSL
B. Downstream Elevation of Reach	2070	Ft. MSL
C. Total Available Head in Reach	270	Ft.
D. Average Slope in Reach	64.3	Ft./Mi.
E. Drainage Area above Reach Mouth	65	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

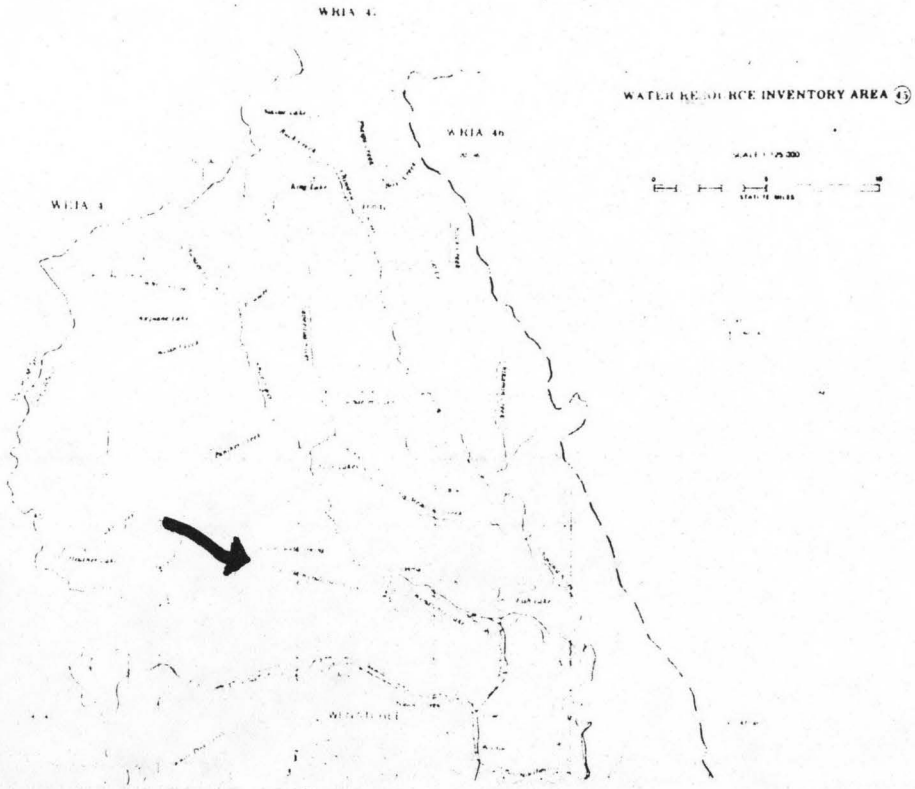
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	56.0	1.28	11.2	1.00
80	80.9	1.85	15.7	0.97
50	168	3.84	26.6	0.79
30	323	7.39	44.7	0.69
10	861	19.7	60.4	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 311 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1310

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0042

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T28N R15E	
D. Latitude, Longitude	47°53' 121°05'	
E. Stream Name	Little Wenatchee River	
F. Major Basin Name	Wenatchee	
G. River Mile	12.5/15.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

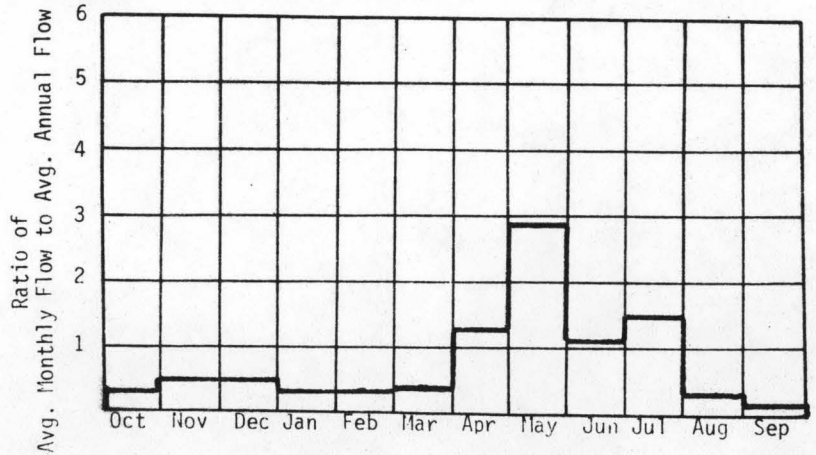
A. Upstream Elevation of Reach	2620	Ft. MSL
B. Downstream Elevation of Reach	2340	Ft. MSL
C. Total Available Head in Reach	280	Ft.
D. Average Slope in Reach	87.5	Ft./Mi.
E. Drainage Area above Reach Mouth	34	Sq.Mi.
F. Inflow Classification	Natural	

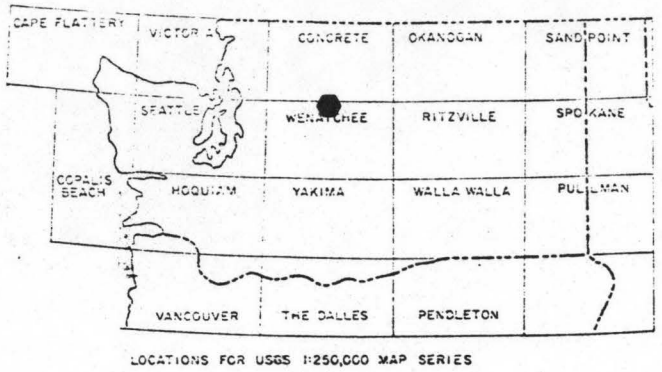
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29.2	0.69	6.05	1.00
80	42.1	1.00	8.48	0.97
50	87.5	2.07	14.4	0.79
30	168	3.99	24.1	0.69
10	449	10.6	32.6	0.35

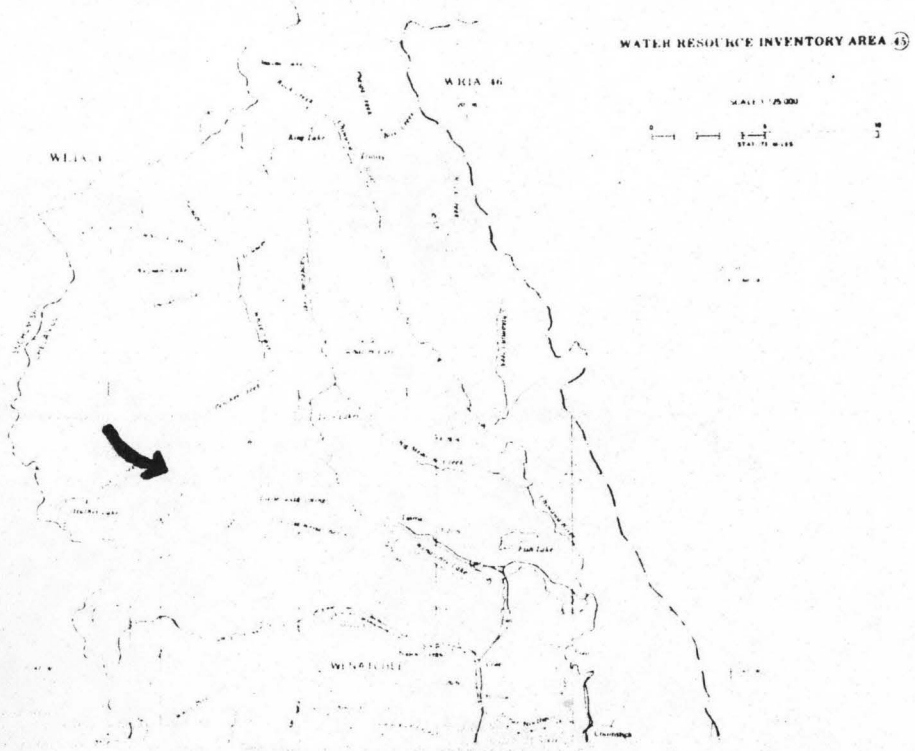
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 162 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W45-1311

REACH HYDRO POTENTIAL CHARACTERISTICS

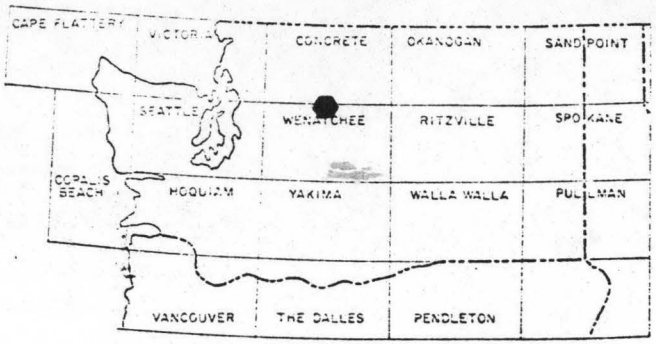
REACH # 01-500-300-000-000-R0043

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T28N R15E	
D. Latitude, Longitude	47°54' 121°06'	
E. Stream Name	Little Wenatchee River	
F. Major Basin Name	Wenatchee	
G. River Mile	15.7/16.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2700	Ft. MSL
B. Downstream Elevation of Reach	2620	Ft. MSL
C. Total Available Head in Reach	80 + 66 = 146	Ft.
D. Average Slope in Reach	114	Ft./Mi.
E. Drainage Area above Reach Mouth	19	Sq.Mi.
F. Inflow Classification	Natural	

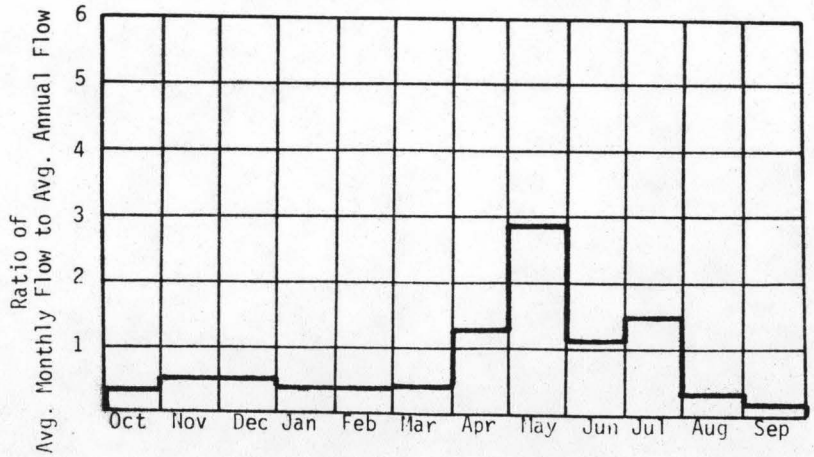


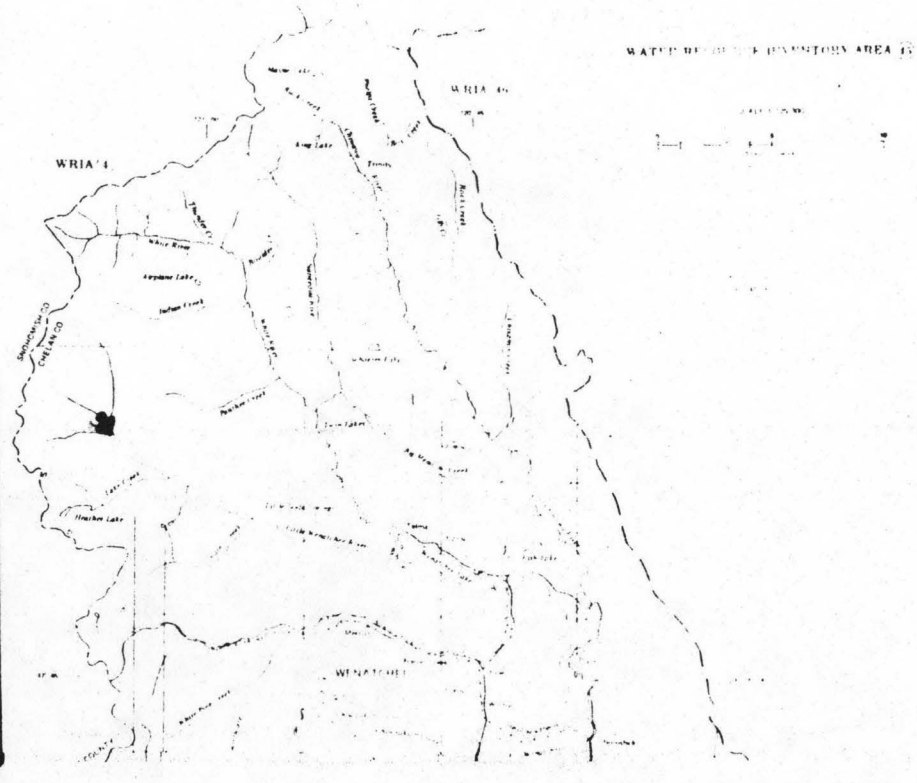
LOCATIONS FOR USGS 1:250,000 MAP SERIES

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	0.25	2.22	1.00
80	29.6	0.37	3.11	0.97
50	61.6	0.76	5.26	0.79
30	119	1.47	8.86	0.69
10	316	3.90	12.0	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 114 cfs



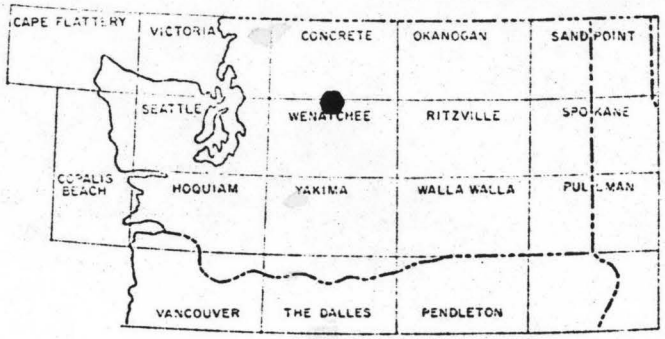


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-300-000-000-R0044

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T27N R15E
D.	Latitude, Longitude	47°50' 120°59'
E.	Stream Name	Rainy Creek
F.	Major Basin Name	Wenatchee
G.	River Mile	0.0/2.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

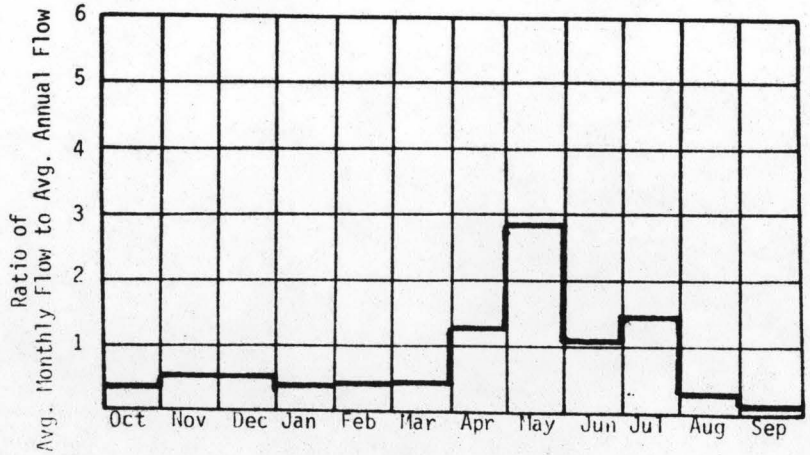
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

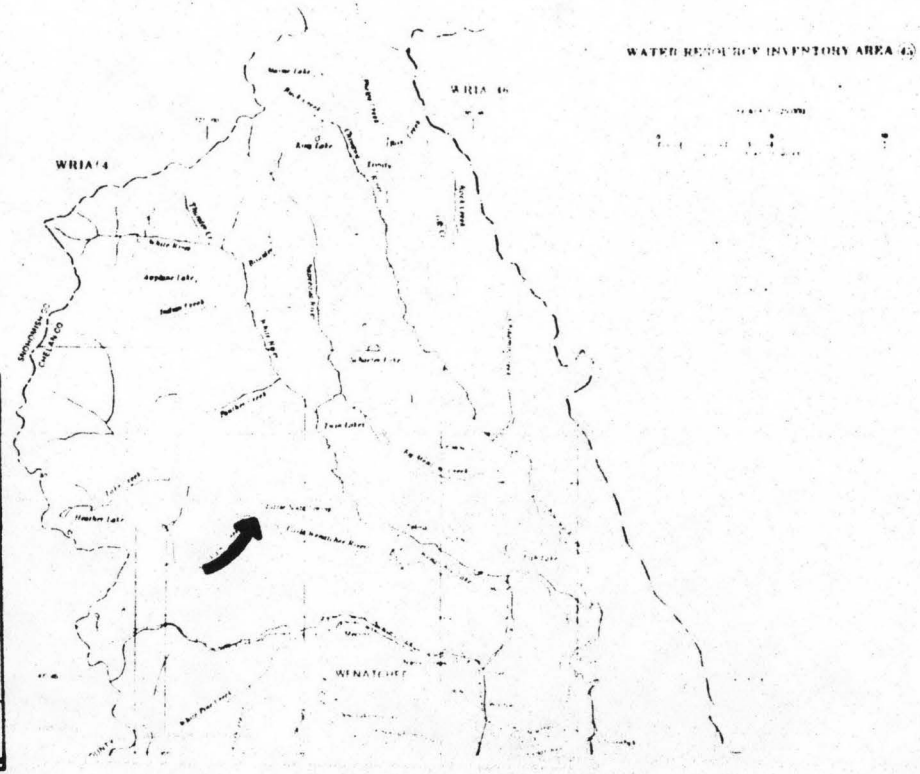
A.	Upstream Elevation of Reach	2160	Ft. MSL
B.	Downstream Elevation of Reach	2080	Ft. MSL
C.	Total Available Head in Reach	80 + 66 = 146	Ft.
D.	Average Slope in Reach	38	Ft./Mi.
E.	Drainage Area above Reach Mouth	17.4	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.7	0.14	1.27	1.00
80	16.9	0.21	1.77	0.97
50	35.1	0.43	3.00	0.79
30	67.5	0.83	5.05	0.69
10	180	2.22	6.82	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 65 cfs





W45-1313

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T25N R20E	
D. Latitude, Longitude	47°40' 120°17'	
E. Stream Name	Entiat River	
F. Major Basin Name	Entiat	
G. River Mile	0.0/6.5	

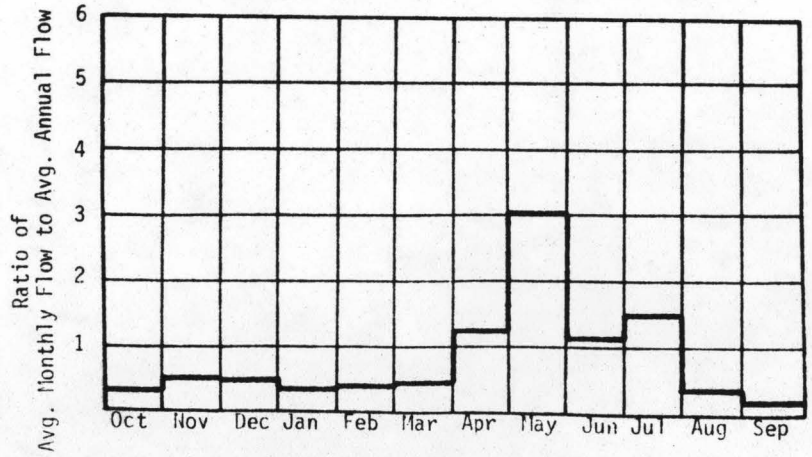
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

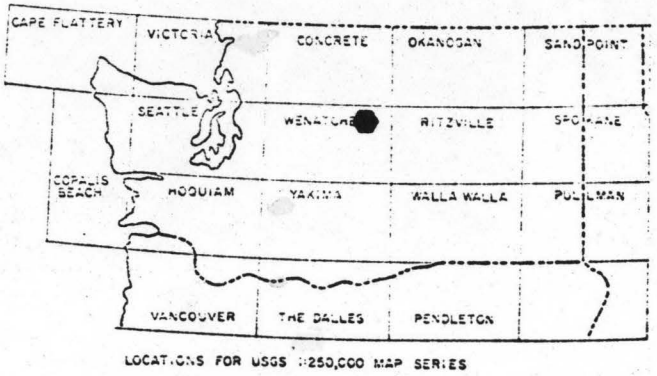
A. Upstream Elevation of Reach	975	Ft. MSL
B. Downstream Elevation of Reach	707	Ft. MSL
C. Total Available Head in Reach	268	Ft.
D. Average Slope in Reach	41.2	Ft./Mi.
E. Drainage Area above Reach Mouth	423	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

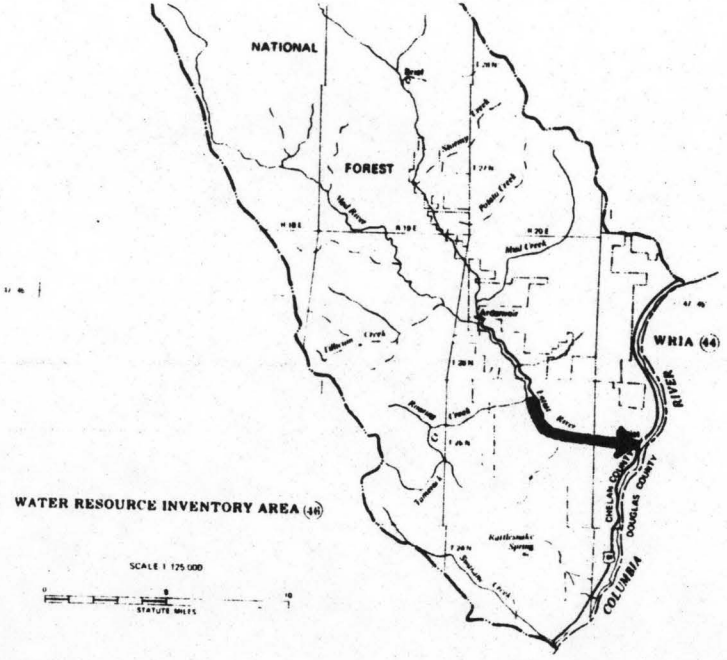
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	88.4	2.00	17.6	1.00
80	118	2.67	22.7	0.97
50	182	4.12	31.1	0.86
30	363	8.24	45.5	0.63
10	1550	35.2	89.4	0.29

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 491 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



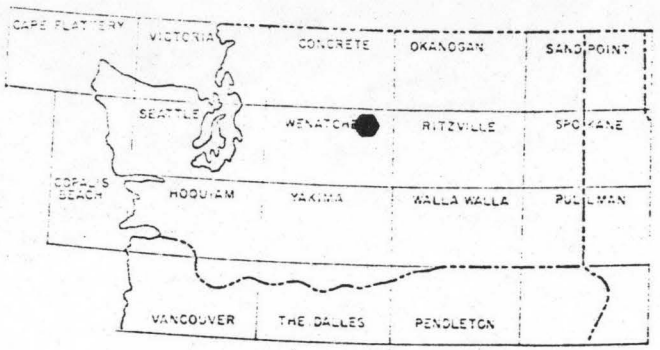
W46-1314

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R20E
D.	Latitude, Longitude	47°42' 121°20'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	6.5/11.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

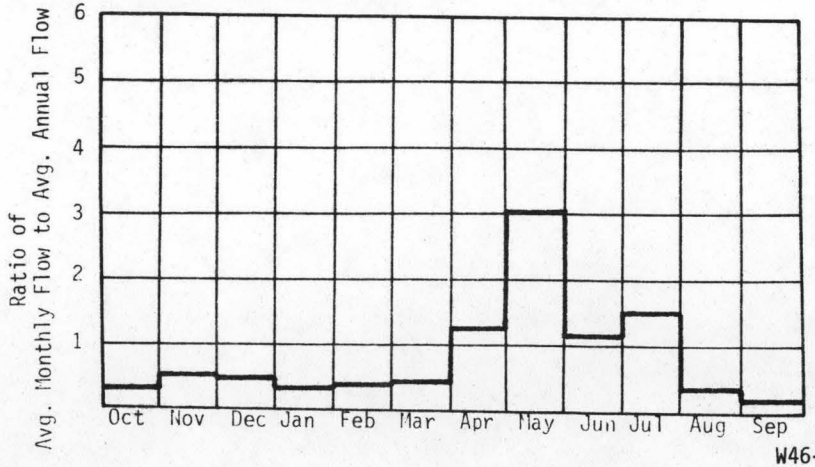
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

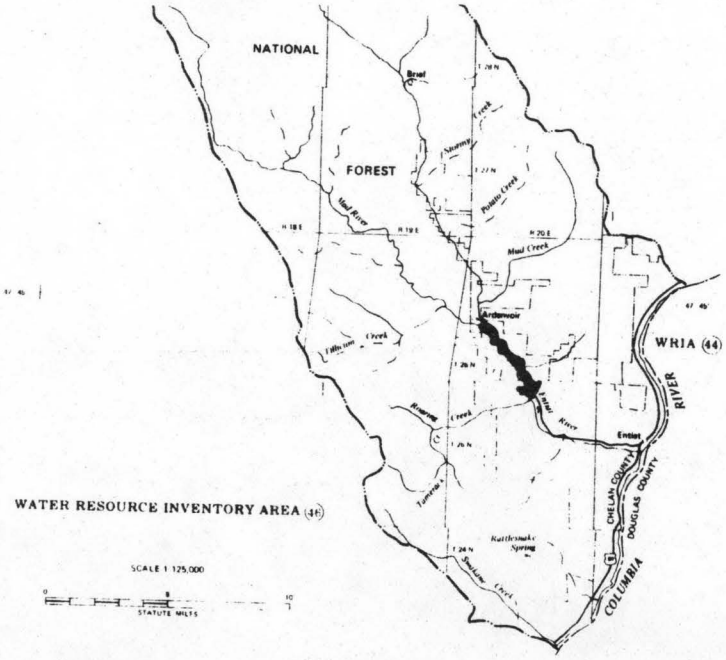
A.	Upstream Elevation of Reach	1245	Ft. MSL
B.	Downstream Elevation of Reach	975	Ft. MSL
C.	Total Available Head in Reach	270	Ft.
D.	Average Slope in Reach	55.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	369	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	84.1	1.92	16.8	1.00
80	112	2.56	21.8	0.97
50	173	3.95	29.8	0.86
30	346	7.90	43.6	0.63
10	1480	33.7	85.7	0.29

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 467 cfs





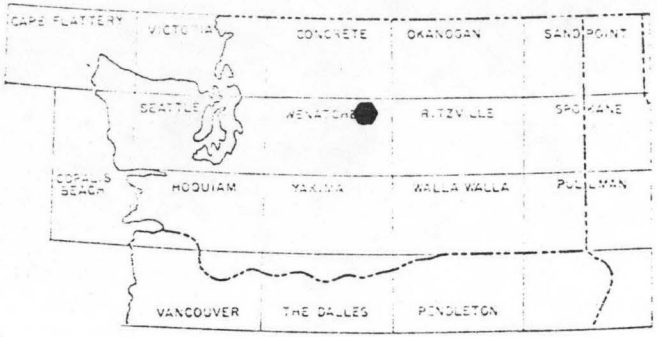
W46-1315

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R20E
D.	Latitude, Longitude	47°44' 120°22'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	11.4/12.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

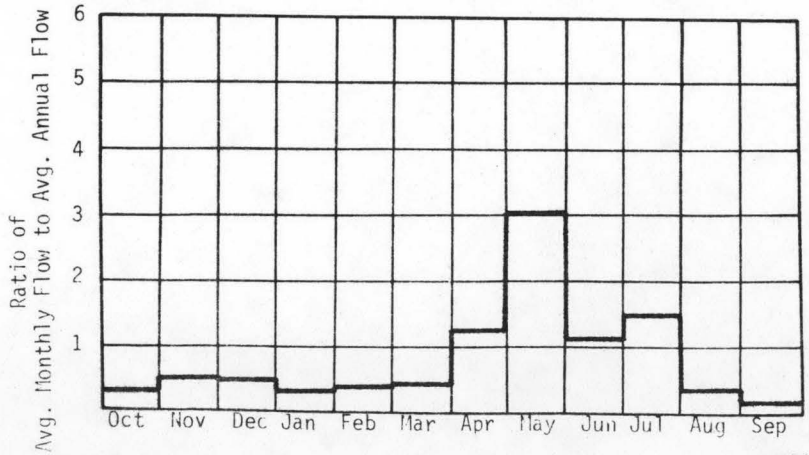
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

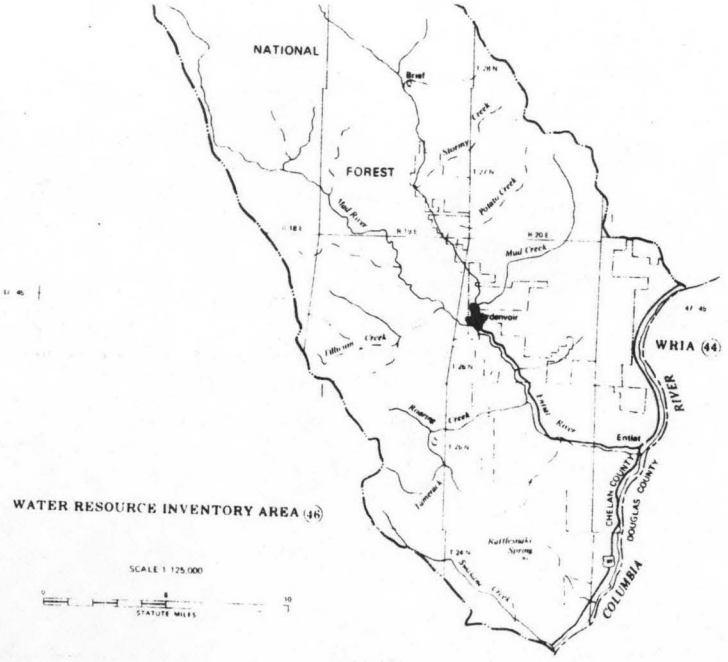
A.	Upstream Elevation of Reach	1300	Ft. MSL
B.	Downstream Elevation of Reach	1245	Ft. MSL
C.	Total Available Head in Reach	55	Ft.
D.	Average Slope in Reach	50	Ft./Mi.
E.	Drainage Area above Reach Mouth	255	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	70.9	0.33	2.89	1.00
80	94.6	0.44	3.74	0.97
50	146	0.68	5.11	0.86
30	292	1.36	7.49	0.63
10	1250	5.80	14.7	0.29

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 394 cfs





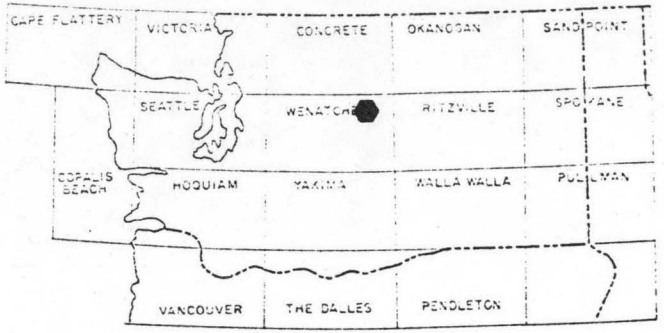
W46-1316

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R19E
D.	Latitude, Longitude	47°46' 120°23'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	10.5/15.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

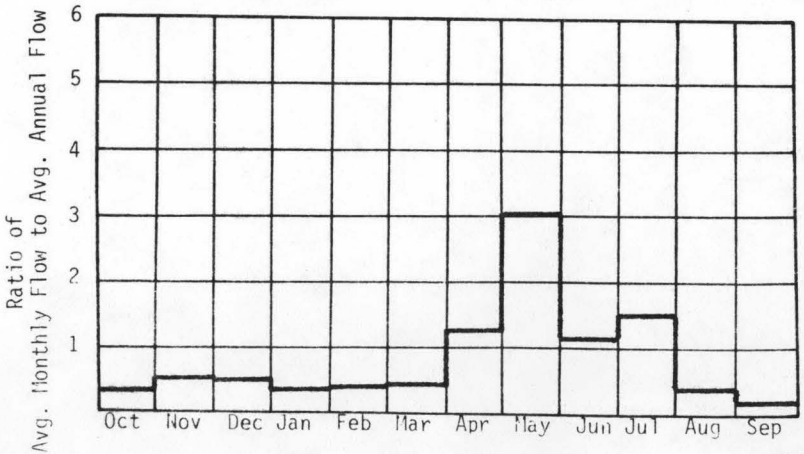
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

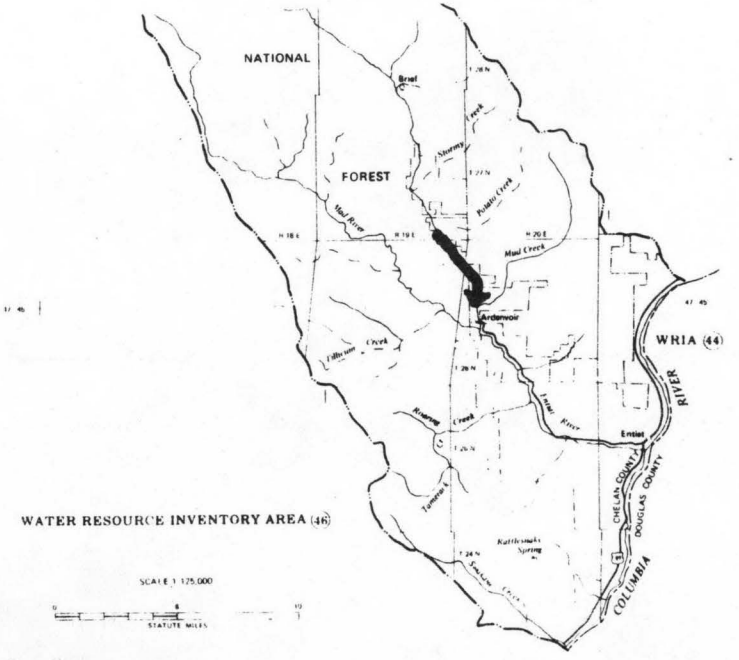
A.	Upstream Elevation of Reach	1485	Ft. MSL
B.	Downstream Elevation of Reach	1300	Ft. MSL
C.	Total Available Head in Reach	185	Ft.
D.	Average Slope in Reach	56.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	230	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	57.3	0.90	7.86	1.00
80	74.4	1.20	10.2	0.97
50	145	2.27	16.1	0.81
30	287	4.49	24.0	0.61
10	1150	17.9	45.6	0.29

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 382 cfs





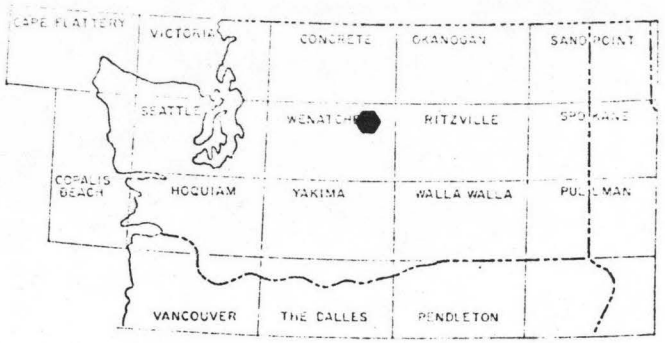
W46-1317

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T27N R19E
D.	Latitude, Longitude	47°49' 120°25'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	15.8/19.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

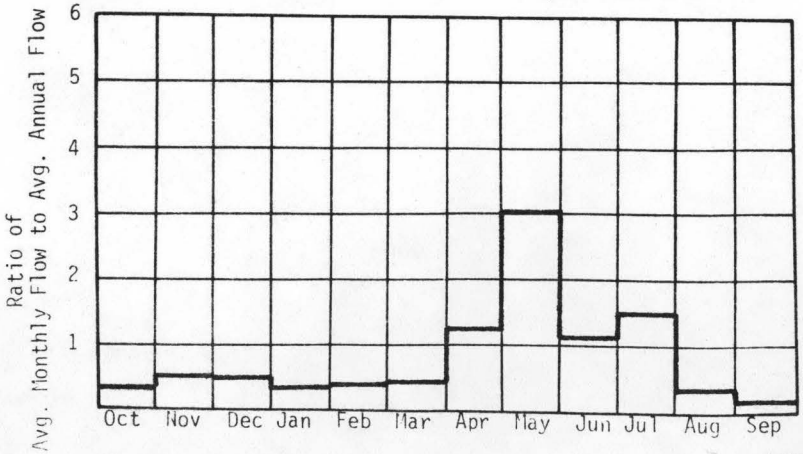
A.	Upstream Elevation of Reach	1575	Ft. MSL
B.	Downstream Elevation of Reach	1485	Ft. MSL
C.	Total Available Head in Reach	88	Ft.
D.	Average Slope in Reach	24.4	Ft./Mi.
E.	Drainage Area above Reach Mouth	212	Sq.Mi.
F.	Inflow Classification	Natural	

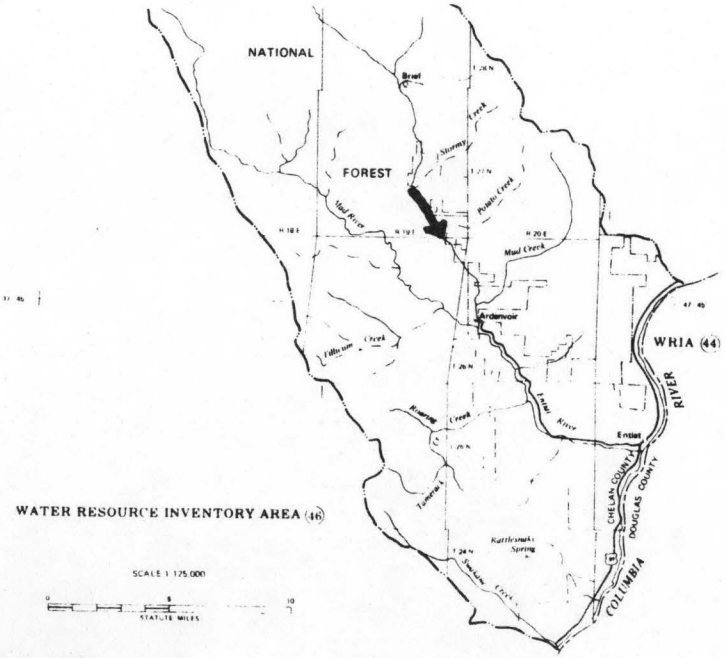
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	55.7	0.41	3.63	1.00
80	74.2	0.55	4.70	0.97
50	141	1.05	7.45	0.81
30	278	2.07	11.1	0.61
10	1110	8.29	21.1	0.29

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 371 cfs





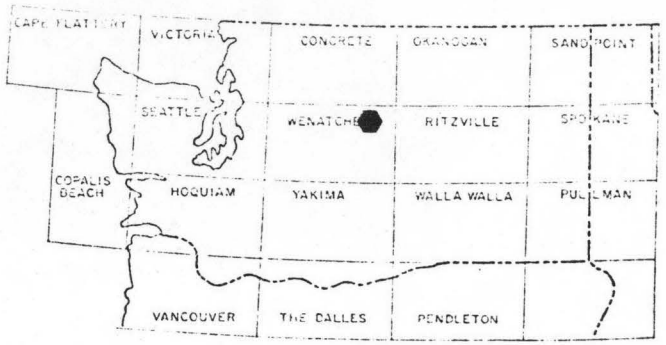
W46-1318

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-320-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T28N R19E
D.	Latitude, Longitude	47°54' 121°29'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	19.4/30.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

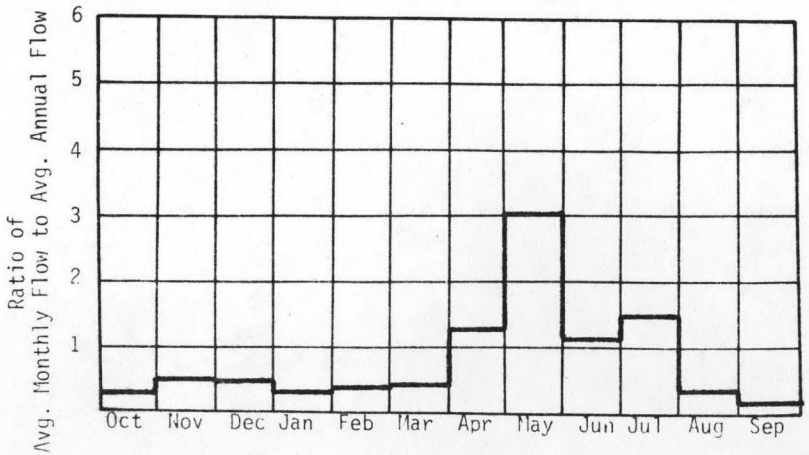
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2065	Ft. MSL
B.	Downstream Elevation of Reach	1575	Ft. MSL
C.	Total Available Head in Reach	490	Ft.
D.	Average Slope in Reach	45.8	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	48.2	2.00	17.5	1.00
80	64.2	2.66	22.6	0.97
50	122	5.06	35.9	0.81
30	241	9.98	53.4	0.61
10	963	39.9	101	0.29

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 321 cfs



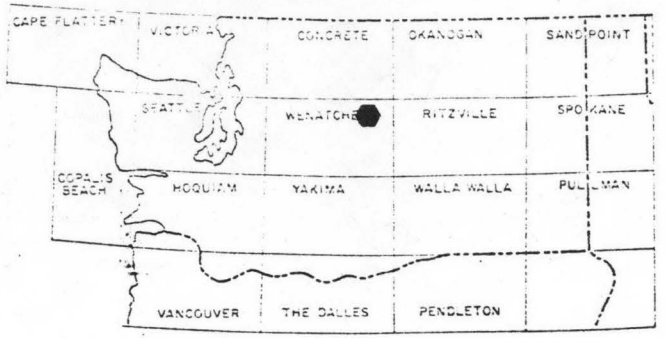
W46-1319

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T28N R18E
D.	Latitude, Longitude	47°56' 120°31'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	30.1/30.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

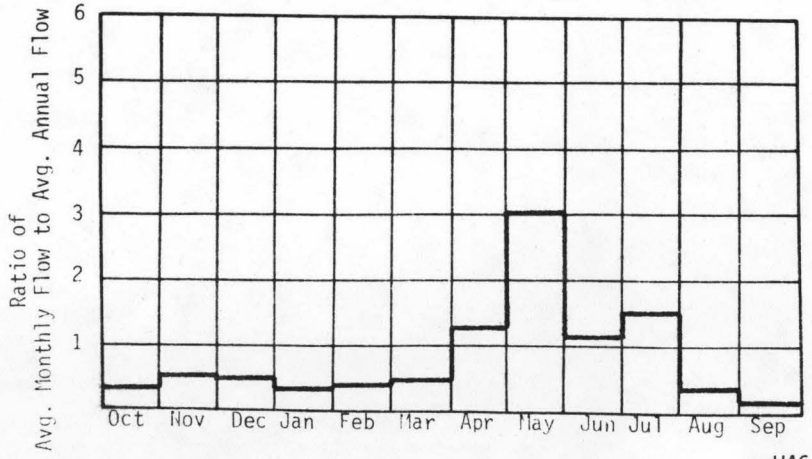
A.	Upstream Elevation of Reach	2150	Ft. MSL
B.	Downstream Elevation of Reach	2065	Ft. MSL
C.	Total Available Head in Reach	85	Ft.
D.	Average Slope in Reach	213	Ft./Mi.
E.	Drainage Area above Reach Mouth	137	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	39.3	0.28	2.48	1.00
80	52.4	0.28	3.20	0.97
50	99.6	0.72	5.08	0.81
30	197	1.41	7.55	0.61
10	786	5.65	14.4	0.29

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 262 cfs



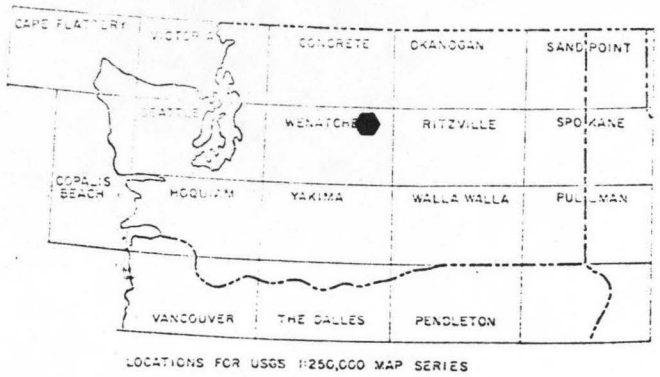
W46-1320

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T28N R18E
D.	Latitude, Longitude	47°57' 120°34'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	30.5/35.5



LOCATIONS FOR USGS 1:250,000 MAP SERIES

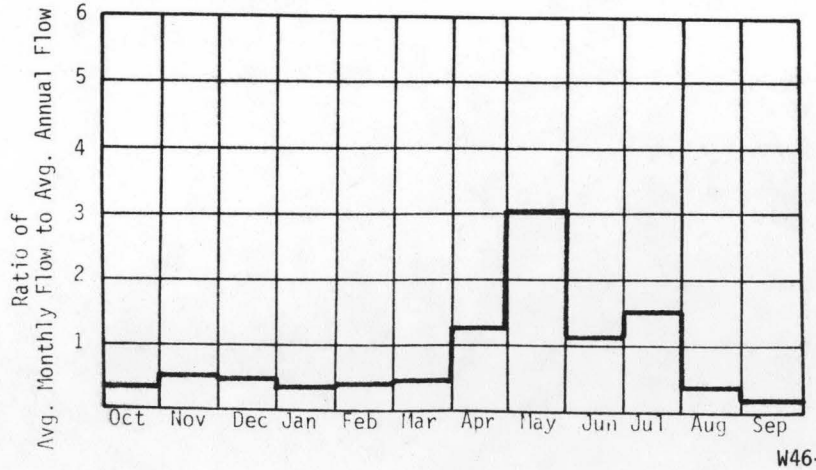
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2655	Ft. MSL
B.	Downstream Elevation of Reach	2150	Ft. MSL
C.	Total Available Head in Reach	505	Ft.
D.	Average Slope in Reach	101	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	32.7	1.40	12.2	1.00
80	43.6	1.86	15.8	0.97
50	82.8	3.54	25.1	0.81
30	164	6.99	37.3	0.61
10	654	28.0	71.0	0.29

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 218 cfs



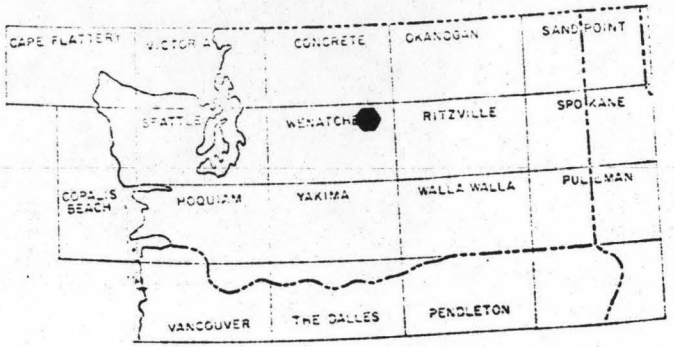
W46-1321

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T29N R18N
D.	Latitude, Longitude	47°59' 120°35'
E.	Stream Name	Entiat River
F.	Major Basin Name	Entiat
G.	River Mile	35.5/42.3



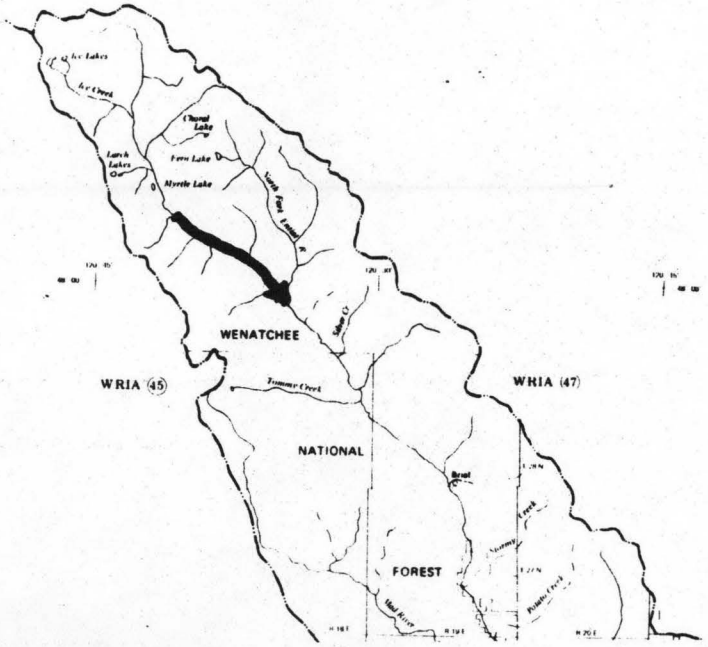
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

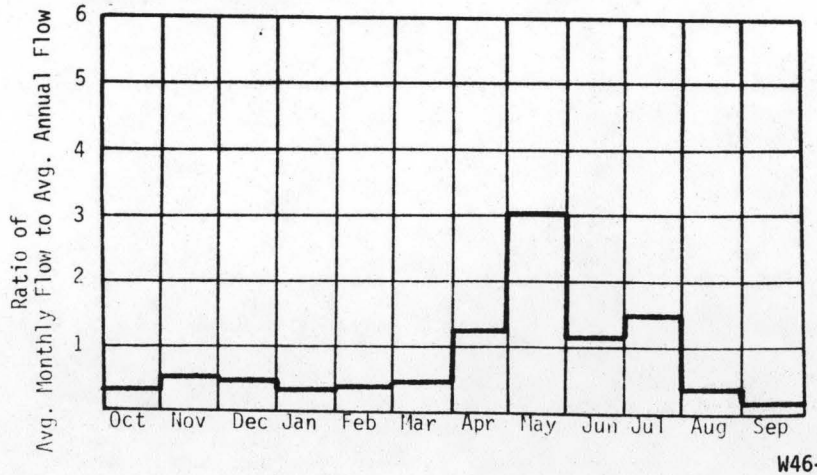
A.	Upstream Elevation of Reach	3350	Ft. MSL
B.	Downstream Elevation of Reach	2655	Ft. MSL
C.	Total Available Head in Reach	695 + 66 = 761	Ft.
D.	Average Slope in Reach	96.9	Ft./Mi.
E.	Drainage Area above Reach Mouth	76	Sq.Mi.
F.	Inflow Classification	Natural	

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	1.17	10.2	1.00
80	24.2	1.56	13.2	0.97
50	46.0	2.96	21.0	0.81
30	90.8	5.85	31.2	0.61
10	363	23.4	59.4	0.29



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 121 cfs



W46-1322

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-320-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T26N R20E
D.	Latitude, Longitude	47°44' 120°22'
E.	Stream Name	Mad River
F.	Major Basin Name	Entiat
G.	River Mile	0.0/5.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

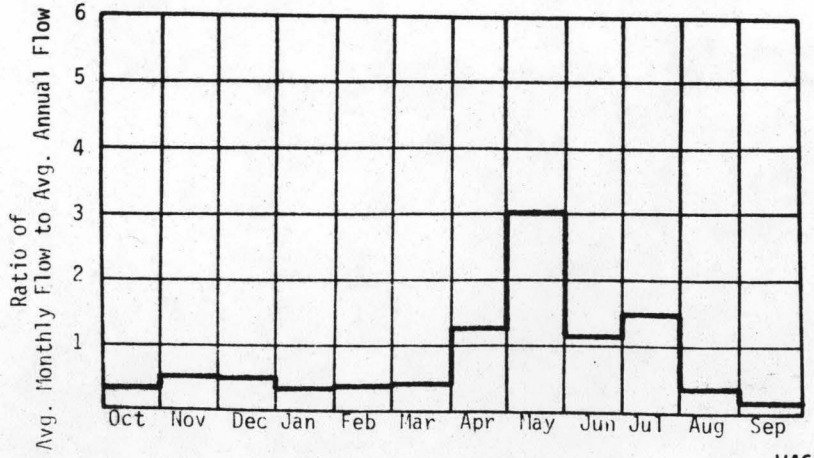
A.	Upstream Elevation of Reach	1400	Ft. MSL
B.	Downstream Elevation of Reach	1245	Ft. MSL
C.	Total Available Head in Reach	155 + 66 = 221	Ft.
D.	Average Slope in Reach	27.7	Ft./Mi.
E.	Drainage Area above Reach Mouth	92	Sq.Mi.
F.	Inflow Classification	Natural	

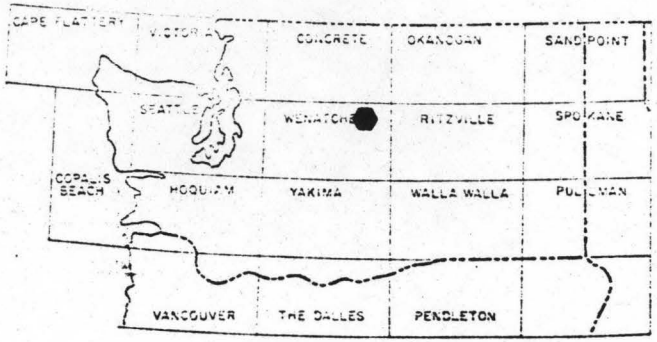
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.4	0.23	2.04	1.00
80	16.6	0.31	2.63	0.97
50	25.5	0.48	3.60	0.86
30	51.1	0.96	5.27	0.63
10	218	4.08	10.4	0.29

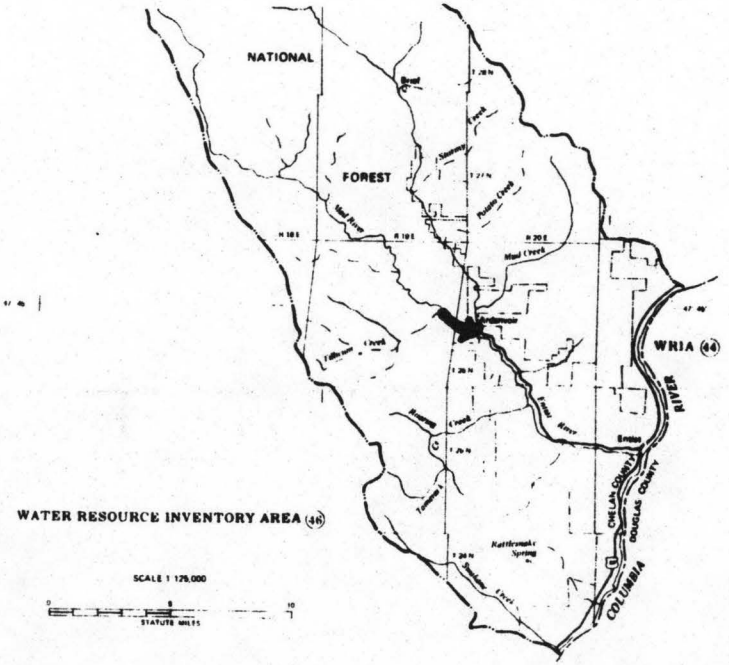
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 69 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



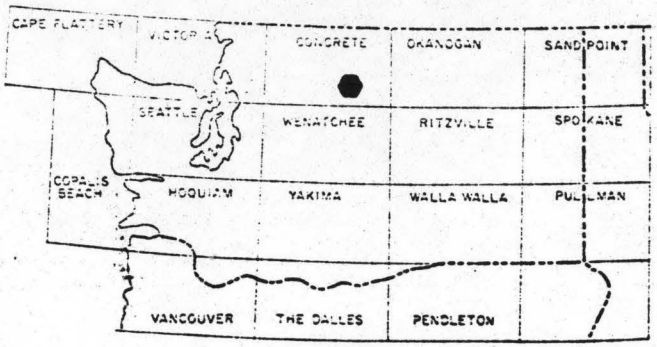
W46-1323

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T27N R23E
D.	Latitude, Longitude	47°49' 120°00'
E.	Stream Name	Chelan River
F.	Major Basin Name	Chelan
G.	River Mile	0.0/4.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

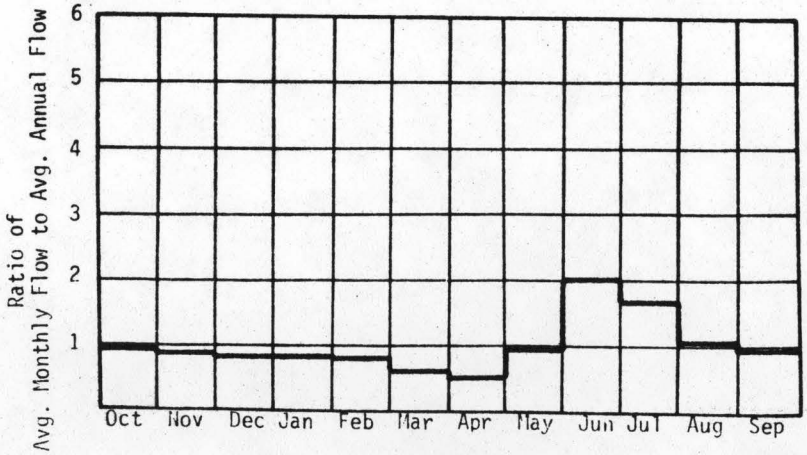
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

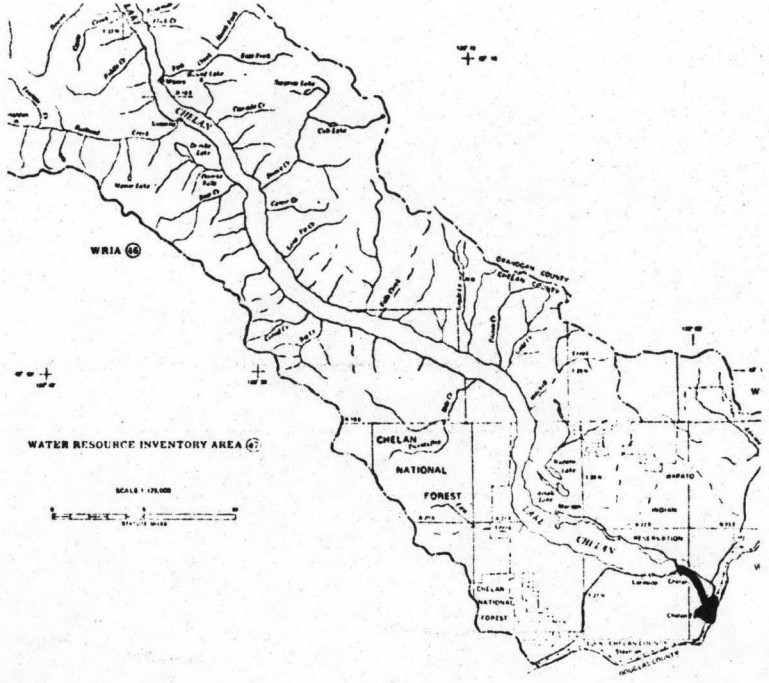
A.	Upstream Elevation of Reach	1080	Ft. MSL
B.	Downstream Elevation of Reach	707	Ft. MSL
C.	Total Available Head in Reach	373	Ft.
D.	Average Slope in Reach	87	Ft./Mi.
E.	Drainage Area above Reach Mouth	943	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	288	9.09	79.6	1.00
80	453	14.3	119	0.95
50	1010	31.8	217	0.78
30	2160	68.2	346	0.58
10	5350	169	517	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2057 cfs





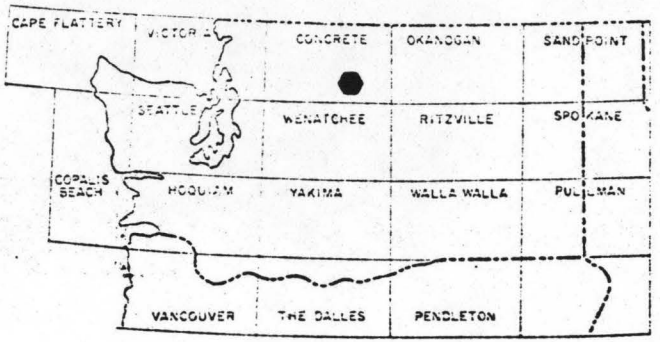
W47-1324

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T33N R17E
D.	Latitude, Longitude	48°18' 120°42'
E.	Stream Name	Stehekin River
F.	Major Basin Name	Chelan
G.	River Mile	54.4/55.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

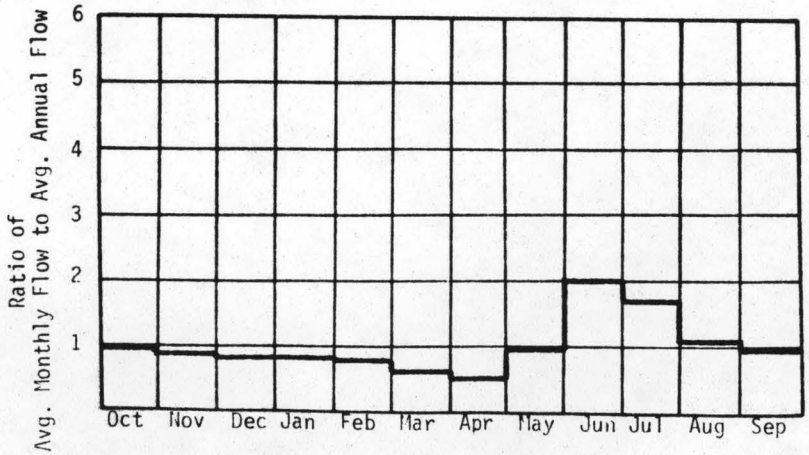
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

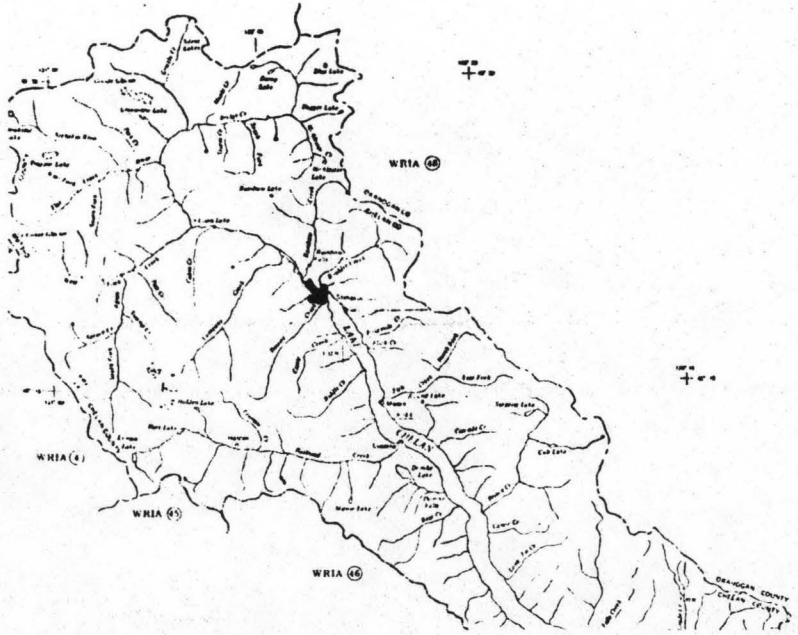
A.	Upstream Elevation of Reach	1100	Ft. MSL
B.	Downstream Elevation of Reach	1098	Ft. MSL
C.	Total Available Head in Reach	2	Ft.
D.	Average Slope in Reach	2	Ft./Mi.
E.	Drainage Area above Reach Mouth	349	Sq.Mi.
F.	Inflow Classification	Natural	

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	0.04	0.31	1.00
80	331	0.06	0.47	0.96
50	767	0.13	0.88	0.77
30	1590	0.27	1.37	0.58
10	3990	0.67	2.07	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1504

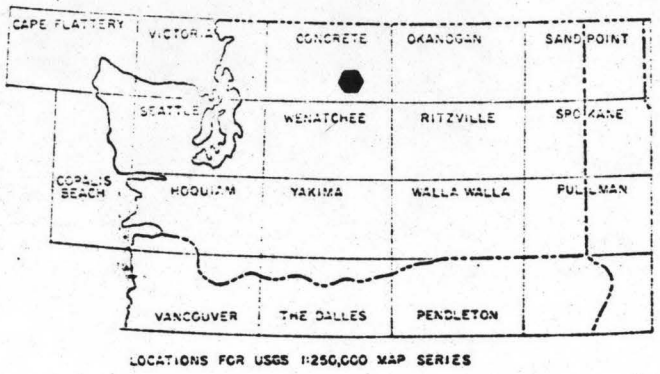




W47-1325

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0003



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T33N R17E	
D. Latitude, Longitude	48°19' 120°42'	
E. Stream Name	Stehekin River	
F. Major Basin Name	Chelan	
G. River Mile	55.4/56.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

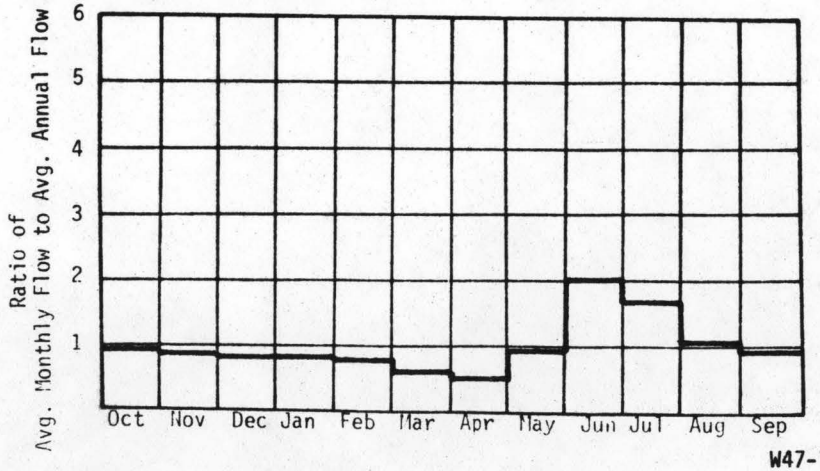
A. Upstream Elevation of Reach	1110	Ft. MSL
B. Downstream Elevation of Reach	1100	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	10	Ft./Mi.
E. Drainage Area above Reach Mouth	325	Sq.Mi.
F. Inflow Classification	Natural	

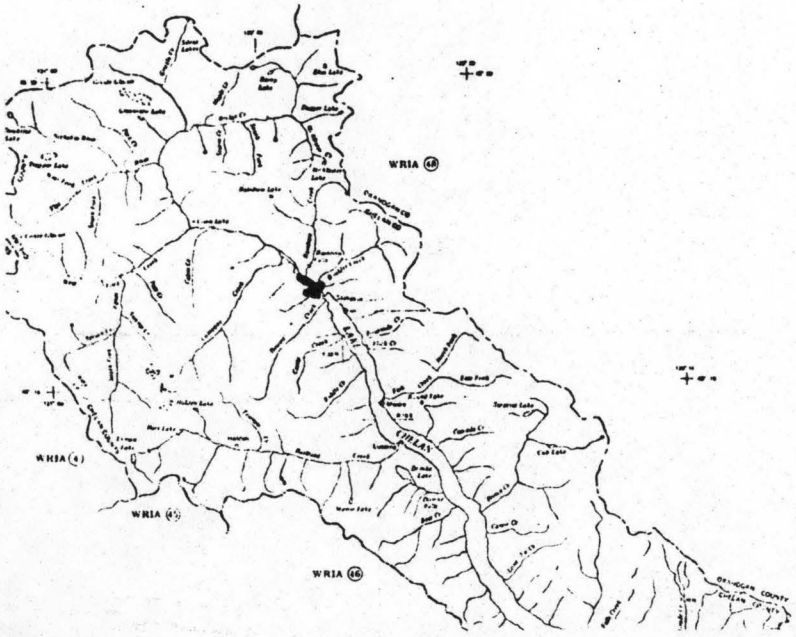
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	198	0.17	1.47	1.00
80	311	0.26	2.21	0.96
50	721	0.61	4.12	0.77
30	1500	1.27	6.44	0.58
10	3750	3.17	9.72	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1414 cfs





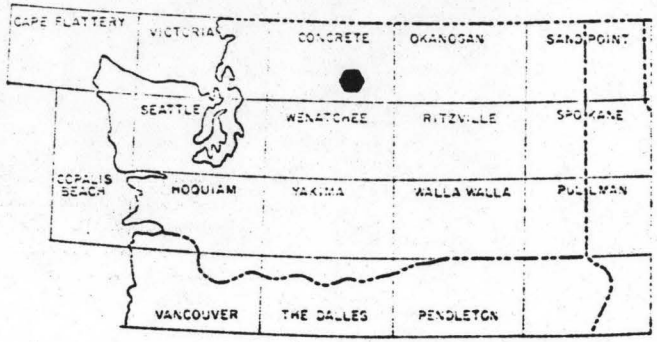
W47-1326

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T33N R17E
D.	Latitude, Longitude	48°20' 120°42'
E.	Stream Name	Stehekin River
F.	Major Basin Name	Chelan
G.	River Mile	56.2/58.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

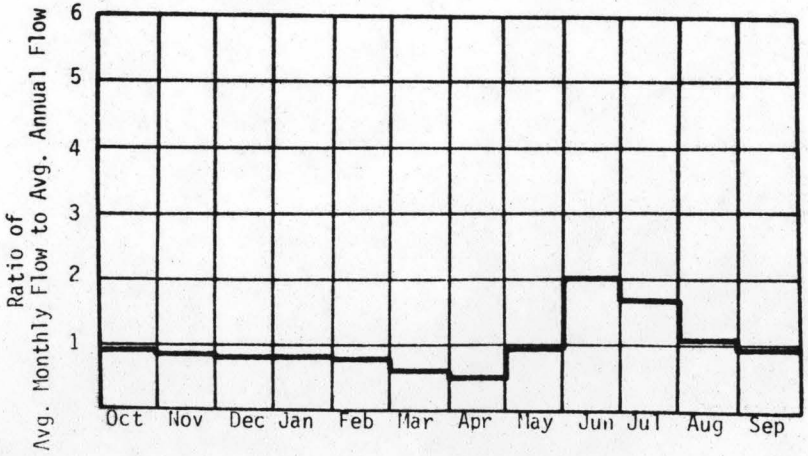
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

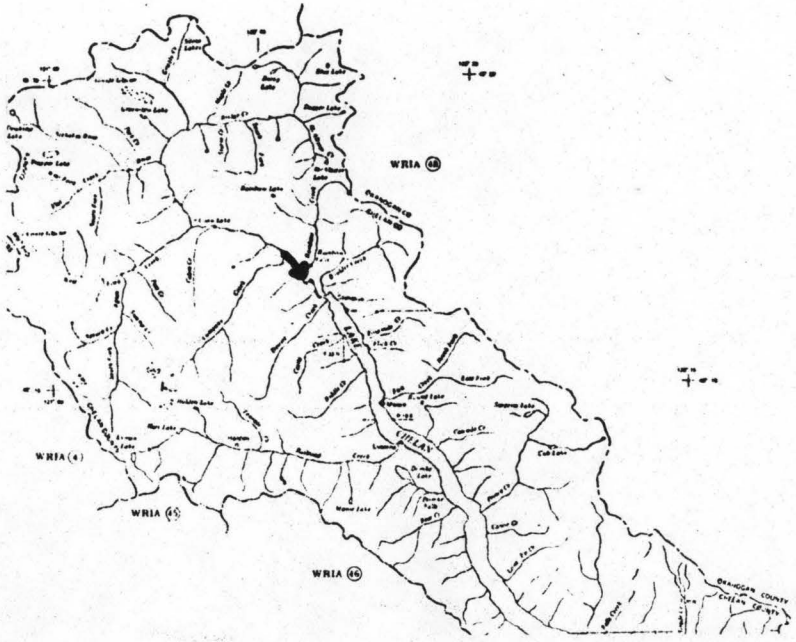
A.	Upstream Elevation of Reach	1195	Ft. MSL
B.	Downstream Elevation of Reach	1110	Ft. MSL
C.	Total Available Head in Reach	85	Ft.
D.	Average Slope in Reach	43	Ft./Mi.
E.	Drainage Area above Reach Mouth	308	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	188	1.35	11.8	1.00
80	295	2.12	17.9	0.96
50	684	4.92	33.2	0.77
30	1420	10.2	52.0	0.58
10	3560	25.6	78.4	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1342 cfs

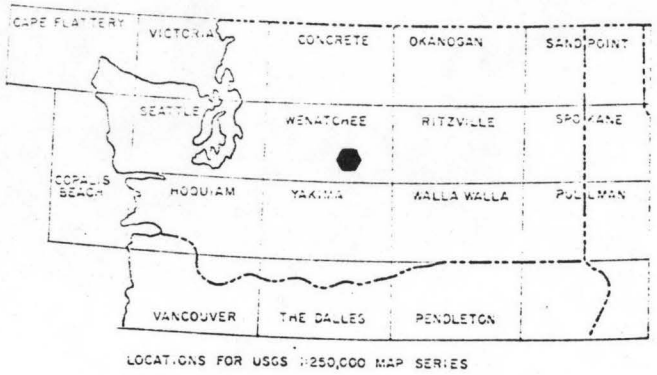




W47-1327

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0005



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T33N R17E
D.	Latitude, Longitude	47°30' 120°47'
E.	Stream Name	Stehekin River
F.	Major Basin Name	Chelan
G.	River Mile	58.2/64.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

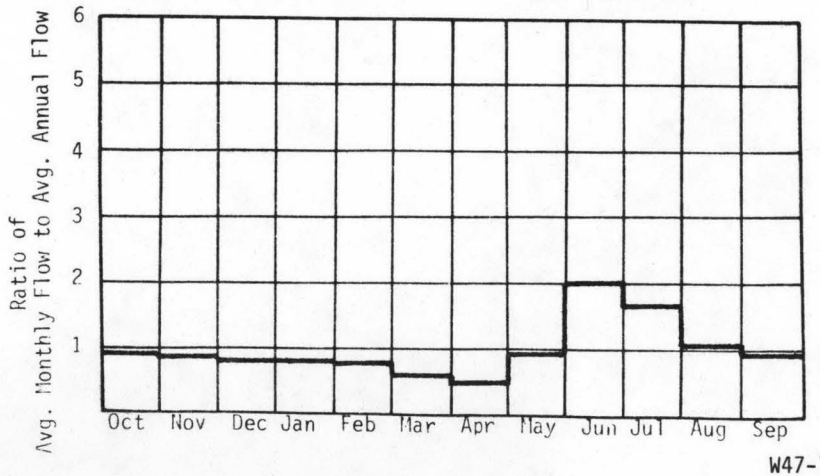
A.	Upstream Elevation of Reach	1520	Ft. MSL
B.	Downstream Elevation of Reach	1195	Ft. MSL
C.	Total Available Head in Reach	325	Ft.
D.	Average Slope in Reach	54	Ft./Mi.
E.	Drainage Area above Reach Mouth	276	Sq.Mi.
F.	Inflow Classification	Natural	

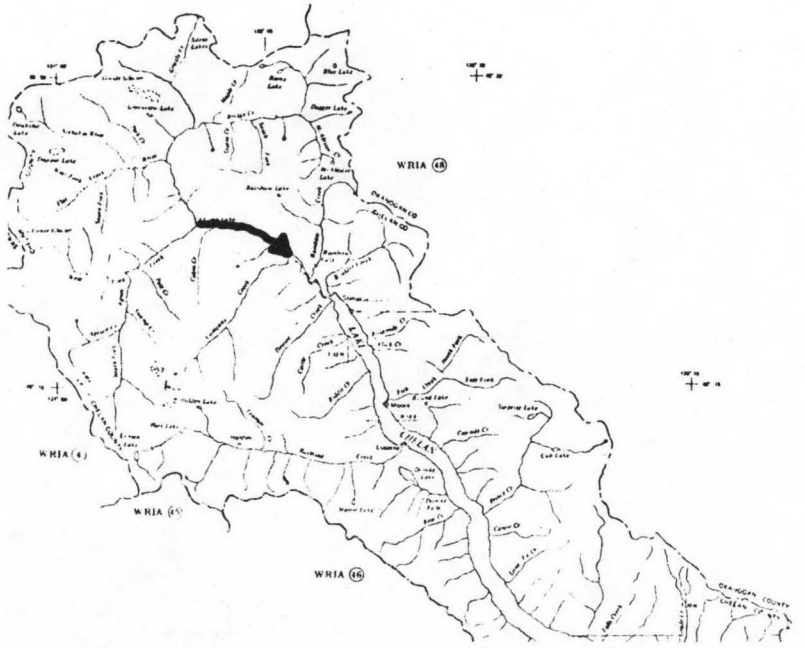
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	180	4.95	43.4	1.00
80	283	7.78	65.4	0.96
50	656	18.0	122	0.77
30	1360	37.5	190	0.58
10	3410	93.5	287	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1286 cfs

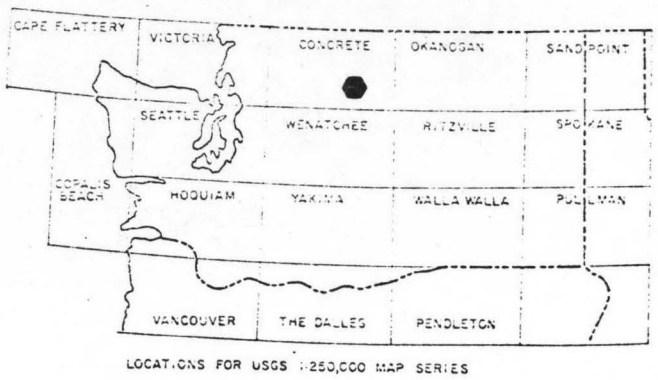




W47-1328

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0006



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T34N R16E
D.	Latitude, Longitude	48°25' 120°52'
E.	Stream Name	Stehekin River
F.	Major Basin Name	Chelan
G.	River Mile	64.2/68.9

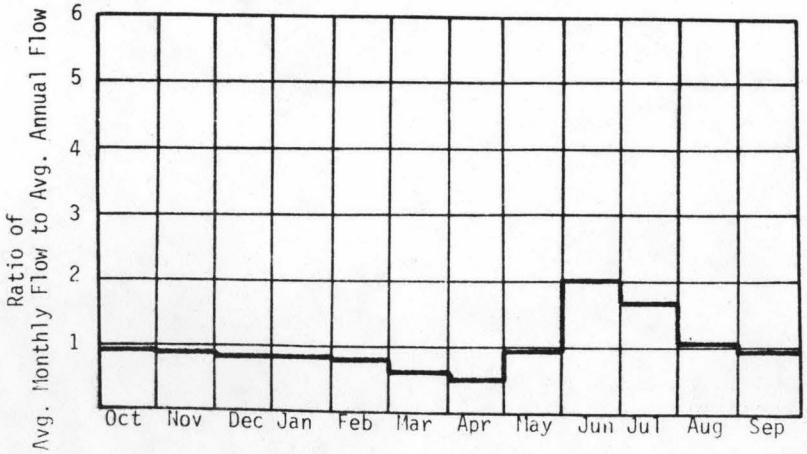
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

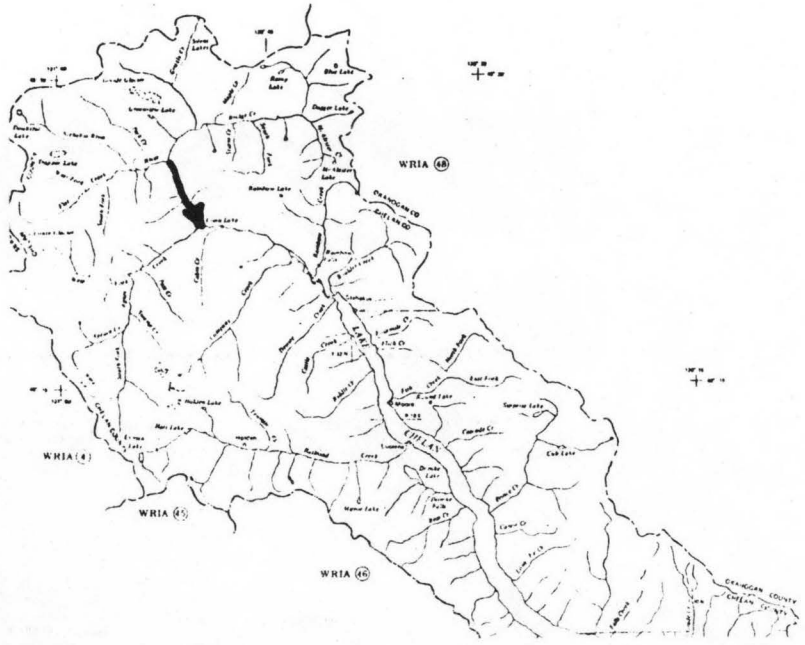
A.	Upstream Elevation of Reach	2050	Ft. MSL
B.	Downstream Elevation of Reach	1520	Ft. MSL
C.	Total Available Head in Reach	530	Ft.
D.	Average Slope in Reach	113	Ft./Mi.
E.	Drainage Area above Reach Mouth	167	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	109	4.88	42.8	1.00
80	171	7.67	64.5	0.96
50	397	17.8	120	0.77
30	825	37.0	188	0.58
10	2060	92.4	283	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 778 cfs





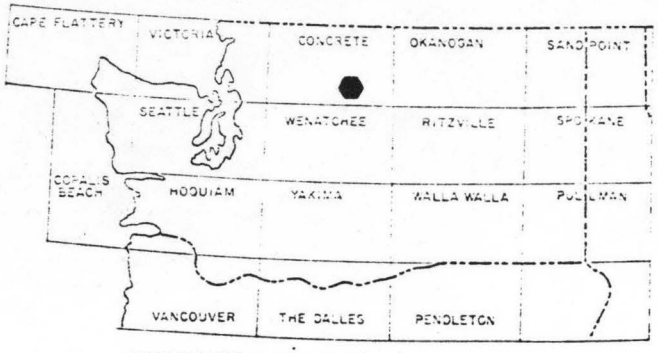
W47-1329

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T34N R15E
D.	Latitude, Longitude	48°26' 120°53'
E.	Stream Name	Stehekin River
F.	Major Basin Name	Chelan
G.	River Mile	68.9/70.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

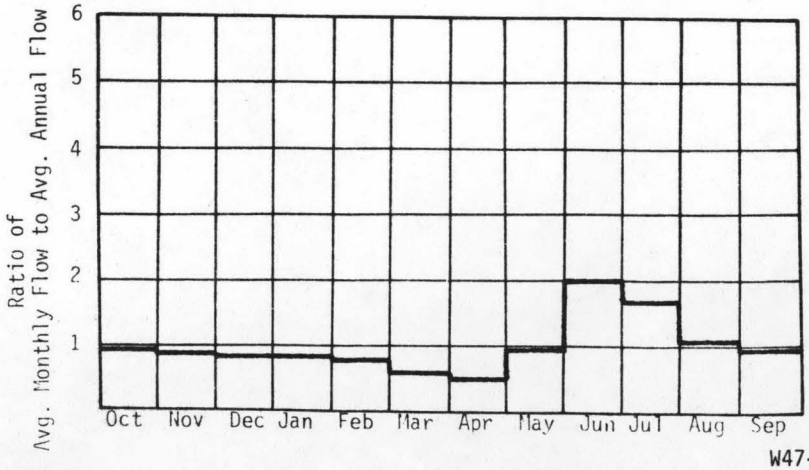
A.	Upstream Elevation of Reach	2200	Ft. MSL
B.	Downstream Elevation of Reach	2050	Ft. MSL
C.	Total Available Head in Reach	150	Ft.
D.	Average Slope in Reach	75	Ft./Mi.
E.	Drainage Area above Reach Mouth	61.6	Sq.Mi.
F.	Inflow Classification	Natural	

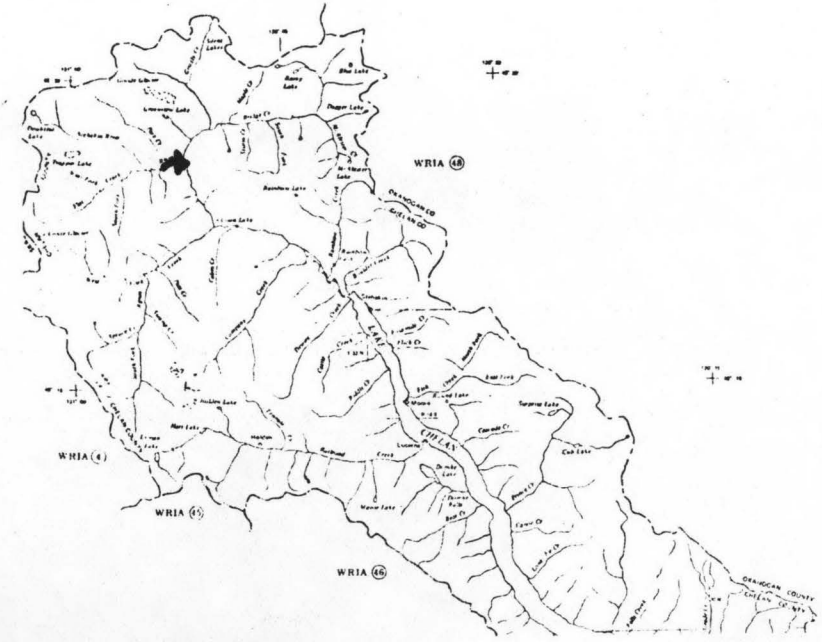
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	45.9	0.58	5.10	1.00
80	72.2	0.92	7.70	0.96
50	167	2.12	14.3	0.77
30	348	4.41	22.4	0.58
10	869	11.0	33.9	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 328 cfs

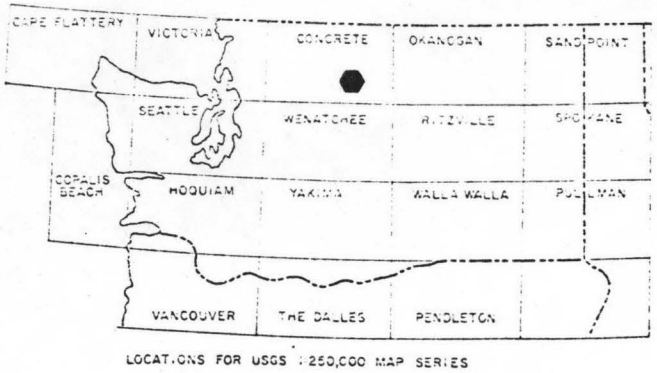




W47-1330

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0008



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T34N R15E
D.	Latitude, Longitude	48°26' 120°55'
E.	Stream Name	Stehekin River
F.	Major Basin Name	Chelan
G.	River Mile	70.9/71.3

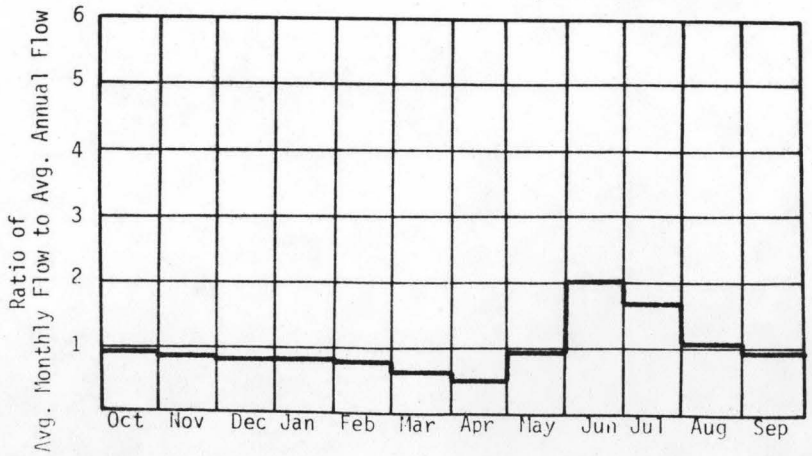
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

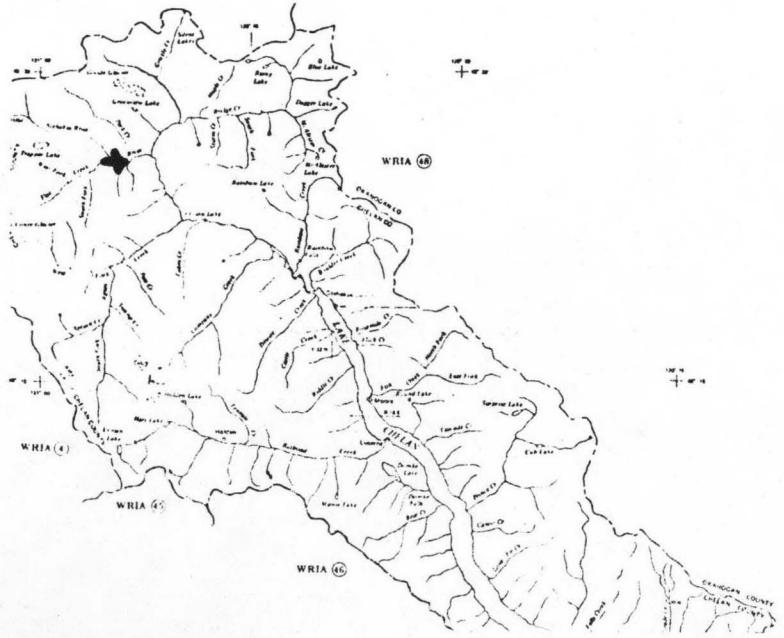
A.	Upstream Elevation of Reach	2220	Ft. MSL
B.	Downstream Elevation of Reach	2200	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	56	Ft./Mi.
E.	Drainage Area above Reach Mouth	48	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	36.1	0.06	0.54	1.00
80	56.8	0.10	0.81	0.96
50	132	0.22	1.50	0.77
30	273	0.46	2.35	0.58
10	684	1.16	3.55	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 258 cfs

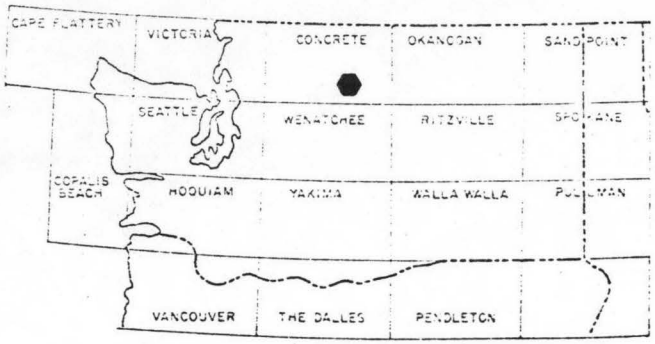




W47-1331

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0009



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T34N R15E
D.	Latitude, Longitude	48°25' 120°57'
E.	Stream Name	Flat Creek
F.	Major Basin Name	Chelan
G.	River Mile	71.3/74.4

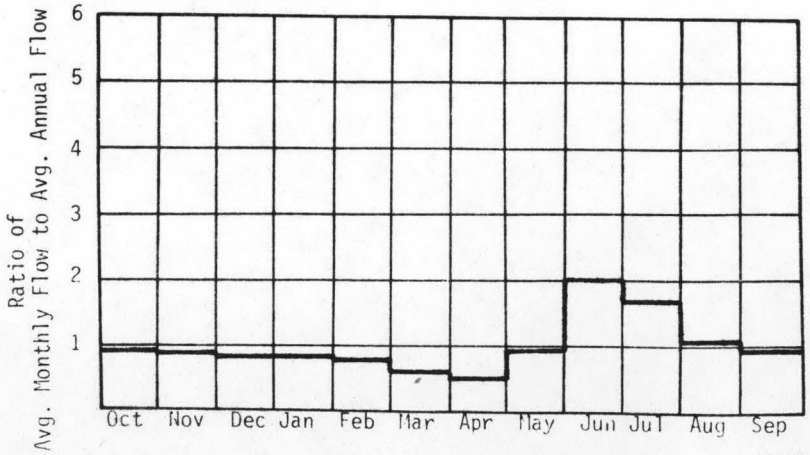
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

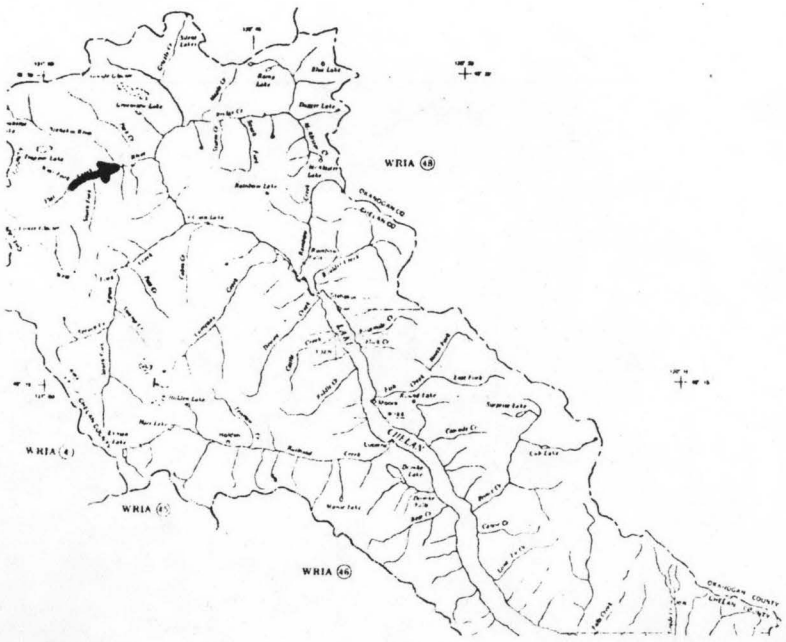
A.	Upstream Elevation of Reach	2560	Ft. MSL
B.	Downstream Elevation of Reach	2200	Ft. MSL
C.	Total Available Head in Reach	360 + 66 = 426	Ft.
D.	Average Slope in Reach	116	Ft./Mi.
E.	Drainage Area above Reach Mouth	26.4	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	16.4	0.59	5.17	1.00
80	25.7	0.93	7.80	0.96
50	59.7	2.15	14.5	0.77
30	124	4.47	22.7	0.58
10	310	11.2	34.3	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 117 cfs

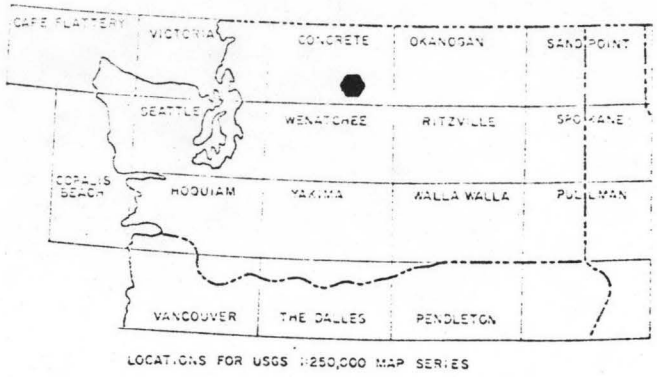




W47-1332

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0010



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T34N R15E	
D. Latitude, Longitude	48°27' 120°57'	
E. Stream Name	Stehekin River	
F. Major Basin Name	Chelan	
G. River Mile	0.0/4.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

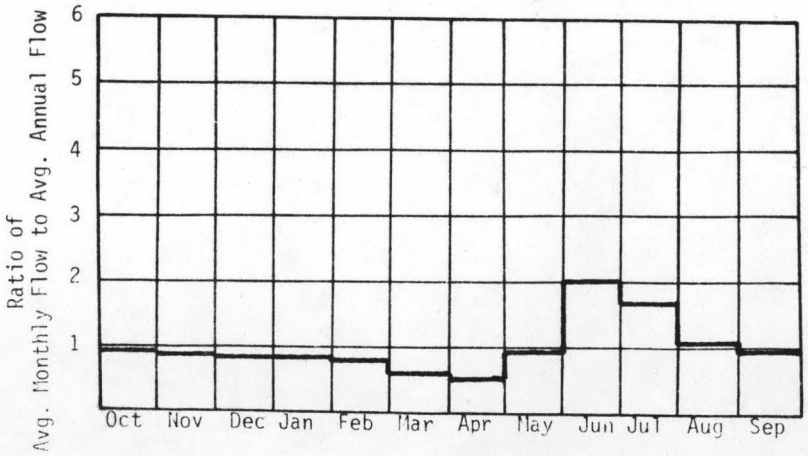
A. Upstream Elevation of Reach	2725	Ft. MSL
B. Downstream Elevation of Reach	2200	Ft. MSL
C. Total Available Head in Reach	525 + 66 = 591	Ft.
D. Average Slope in Reach	122	Ft./Mi.
E. Drainage Area above Reach Mouth	20	Sq.Mi.
F. Inflow Classification	Natural	

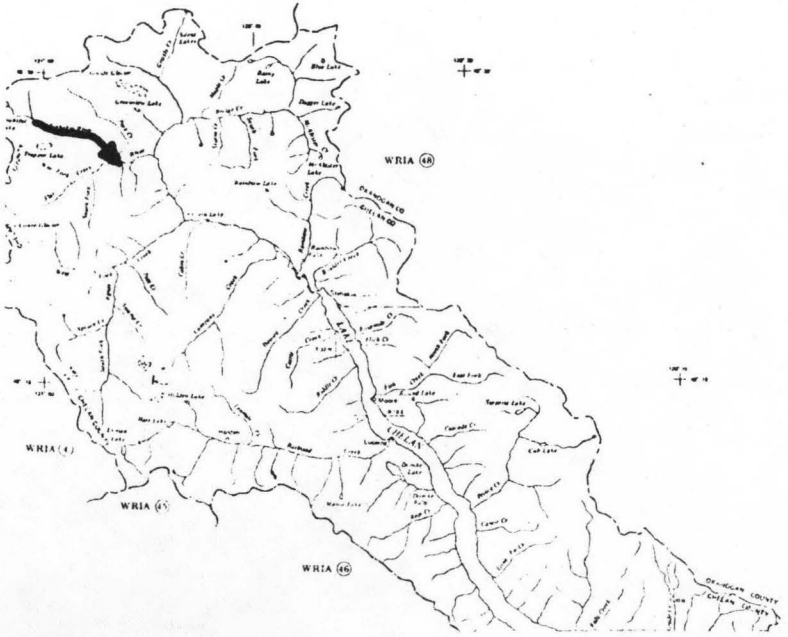
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12.2	0.61	5.33	1.00
80	19.1	0.96	8.05	0.96
50	44.4	2.22	15.0	0.77
30	92.2	4.61	23.4	0.58
10	231	11.5	35.3	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 87 cfs

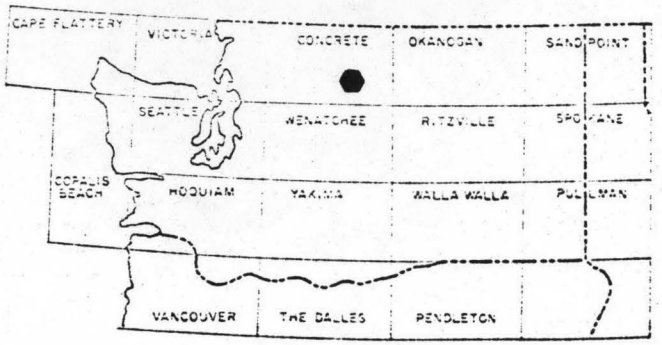




W47-1333

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0011



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T31N R18E
D.	Latitude, Longitude	48°12' 120°37'
E.	Stream Name	Railroad Creek
F.	Major Basin Name	Chelan
G.	River Mile	0.0/3.9

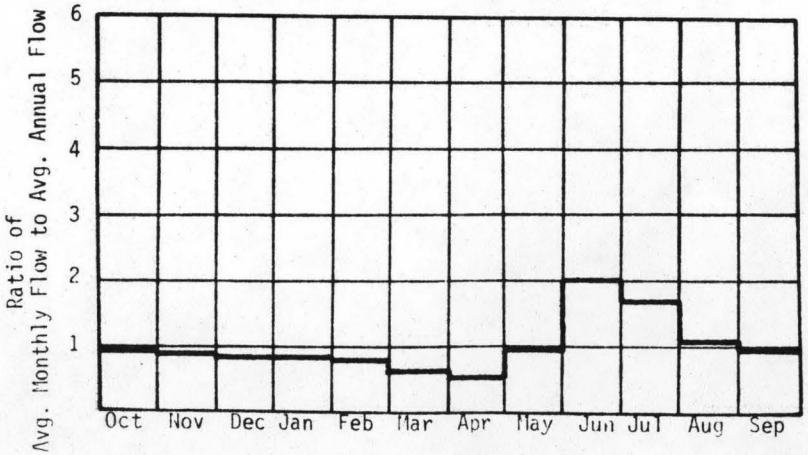
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

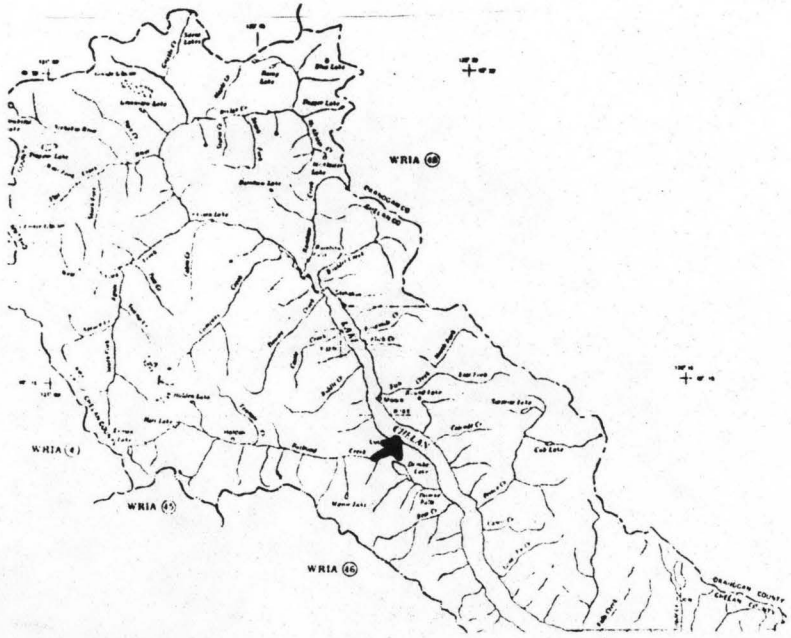
A.	Upstream Elevation of Reach	2250	Ft. MSL
B.	Downstream Elevation of Reach	1098	Ft. MSL
C.	Total Available Head in Reach	1152	Ft.
D.	Average Slope in Reach	295	Ft./Mi.
E.	Drainage Area above Reach Mouth	68	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	27.9	2.72	23.8	1.00
80	43.8	4.27	35.5	0.95
50	97.5	9.50	64.9	0.78
30	210	20.4	103	0.58
10	517	30.4	155	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 199 cfs

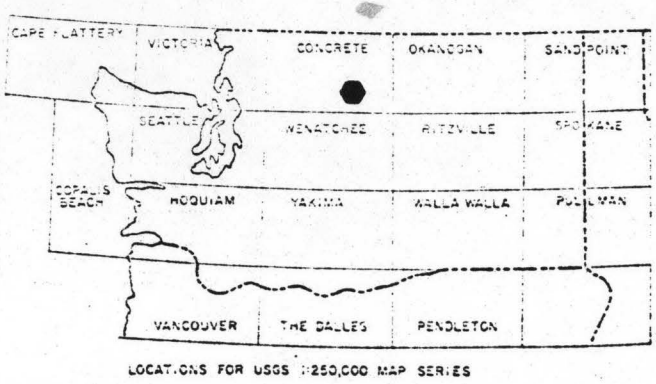




W47-1334

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0012



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T31N R17E
D.	Latitude, Longitude	48°12' 120°42'
E.	Stream Name	Railroad Creek
F.	Major Basin Name	Chelan
G.	River Mile	3.9/9.0

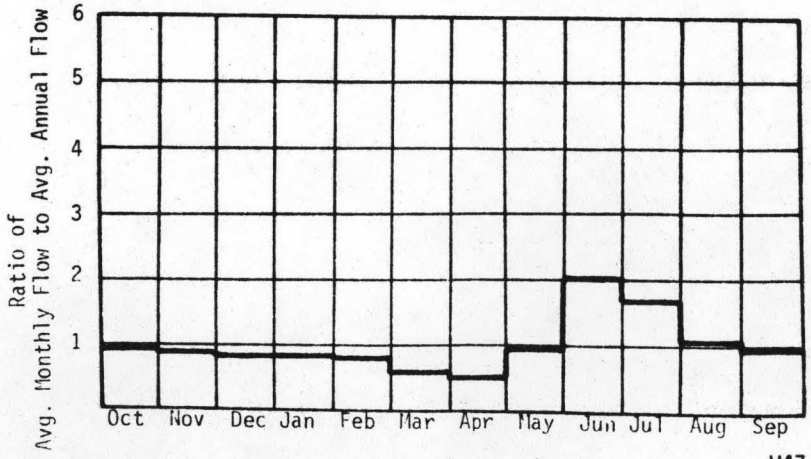
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

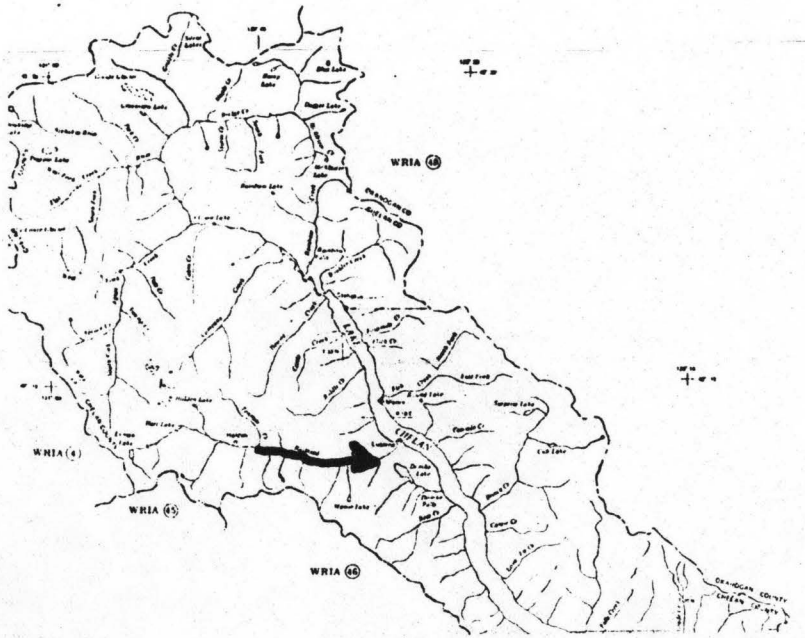
A.	Upstream Elevation of Reach	3210	Ft. MSL
B.	Downstream Elevation of Reach	2250	Ft. MSL
C.	Total Available Head in Reach	960	Ft.
D.	Average Slope in Reach	188	Ft./Mi.
E.	Drainage Area above Reach Mouth	58	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23.0	1.86	16.3	1.00
80	36.1	2.93	24.4	0.95
50	80.4	6.53	44.6	0.78
30	172	14.0	71.1	0.58
10	426	34.6	106	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 164 cfs

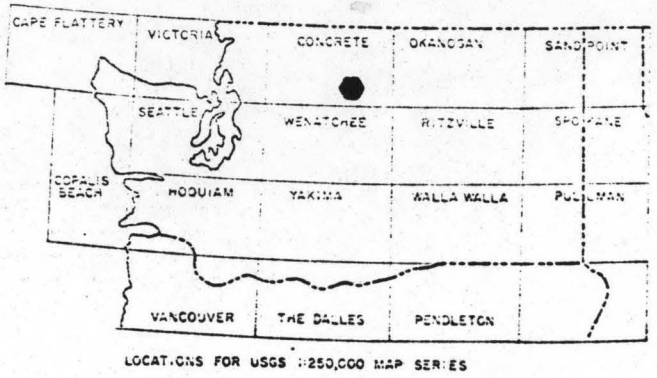




W47-1335

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0013



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T31N R17E	
D. Latitude, Longitude	48°12' 120°46'	
E. Stream Name	Railroad Creek	
F. Major Basin Name	Chelan	
G. River Mile	9.0/10.0	

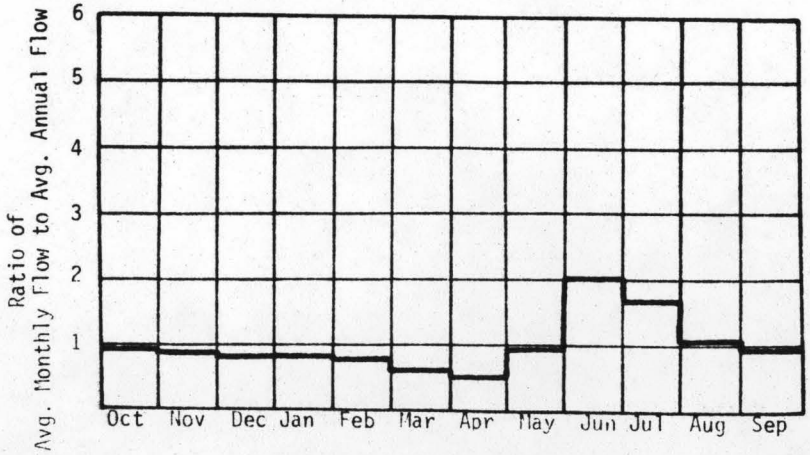
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

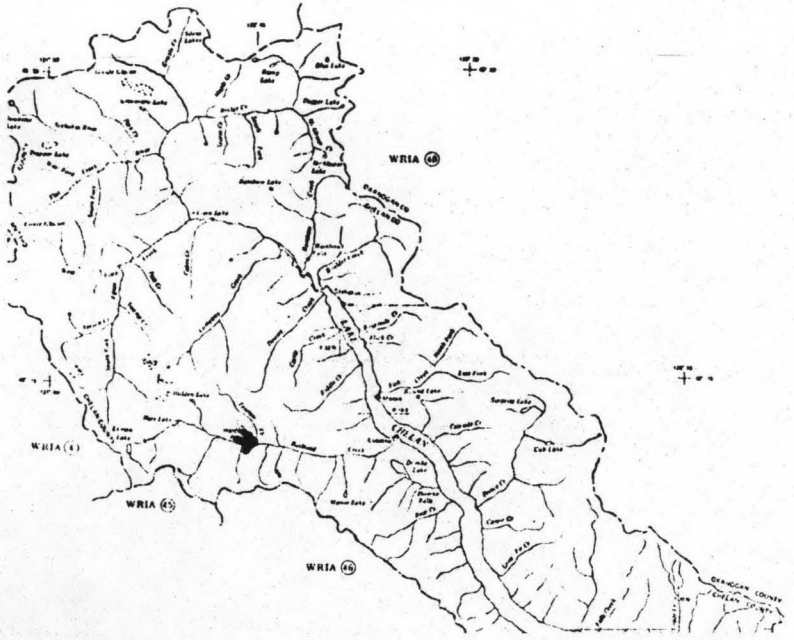
A. Upstream Elevation of Reach	3270	Ft. MSL
B. Downstream Elevation of Reach	3210	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	60	Ft./Mi.
E. Drainage Area above Reach Mouth	34	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.3	0.09	0.82	1.00
80	28.8	0.15	1.22	0.95
50	64.2	0.33	2.23	0.78
30	138	0.70	3.55	0.58
10	341	1.73	5.30	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 131 cfs





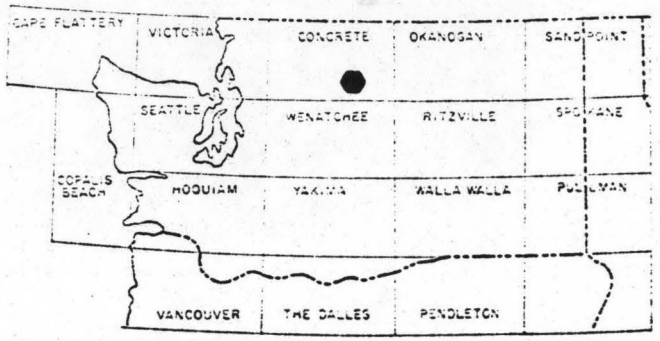
W47-1336

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0014

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T31N R16E
D.	Latitude, Longitude	48°12' 120°47'
E.	Stream Name	Railroad Creek
F.	Major Basin Name	Chelan
G.	River Mile	10.0/12.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

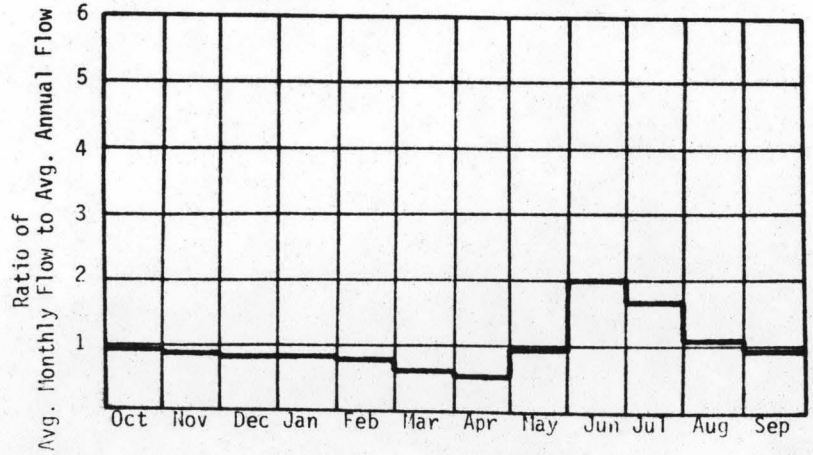
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

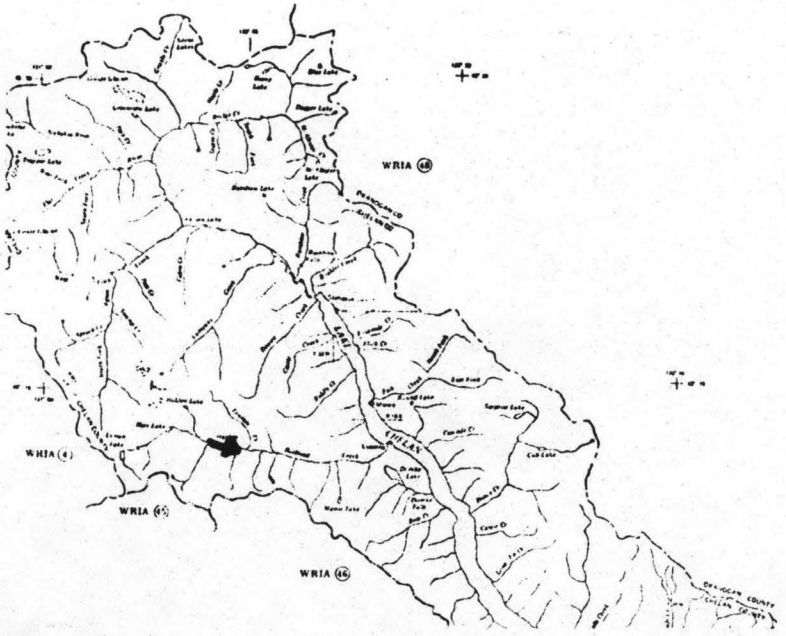
A.	Upstream Elevation of Reach	3440	Ft. MSL
B.	Downstream Elevation of Reach	3270	Ft. MSL
C.	Total Available Head in Reach	170	Ft.
D.	Average Slope in Reach	14	Ft./Mi.
E.	Drainage Area above Reach Mouth	30	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	16.7	0.24	2.10	1.00
80	26.2	0.38	3.13	0.95
50	58.3	0.84	5.73	0.78
30	125	1.80	9.13	0.58
10	309	4.45	13.6	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 119 cfs

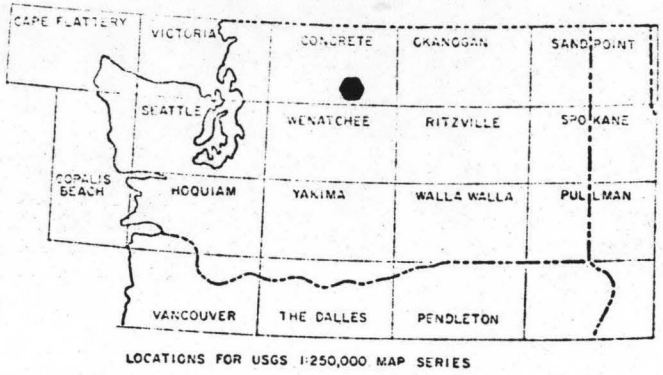




W47-1337

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0015



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T31N R16E
D.	Latitude, Longitude	48°12' 120°48'
E.	Stream Name	Railroad Creek
F.	Major Basin Name	Chelan
G.	River Mile	12.4/13.2

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

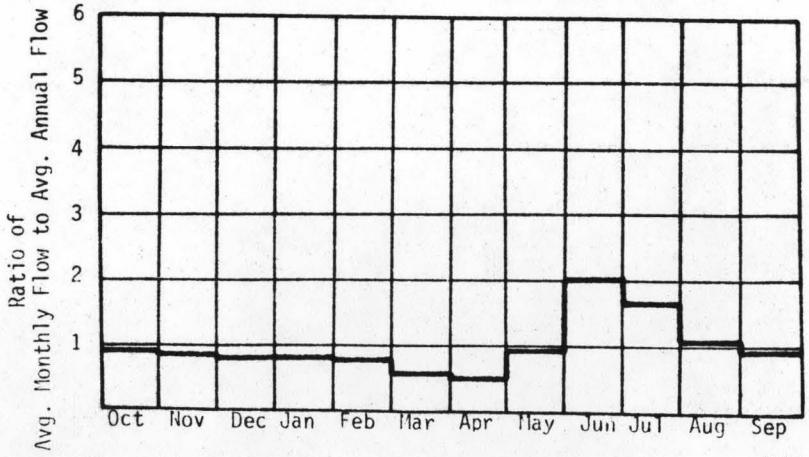
A.	Upstream Elevation of Reach	3550	Ft. MSL
B.	Downstream Elevation of Reach	3440	Ft. MSL
C.	Total Available Head in Reach	110 + 66 = 176	Ft.
D.	Average Slope in Reach	138	Ft./Mi.
E.	Drainage Area above Reach Mouth	20	Sq.Mi.
F.	Inflow Classification	Natural	

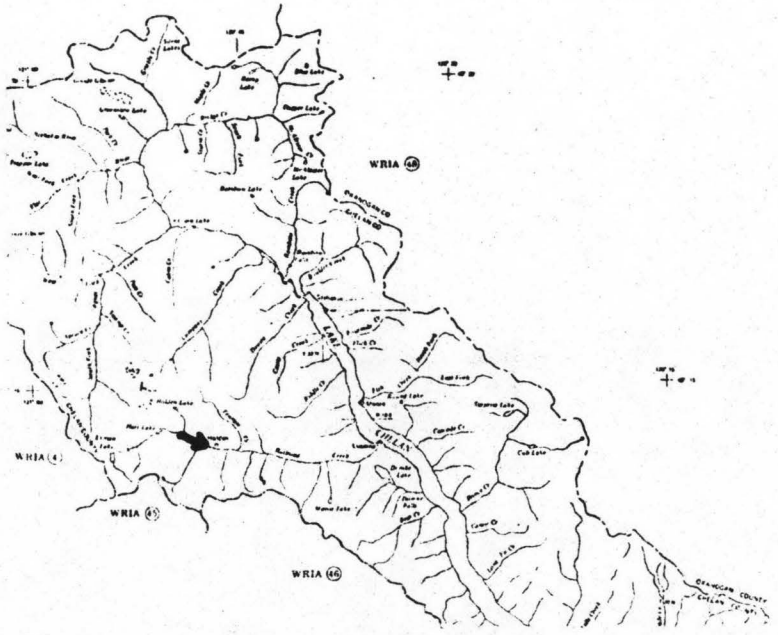
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.6	0.17	1.52	1.00
80	18.3	0.27	2.26	0.95
50	40.7	0.61	4.14	0.78
30	87.1	1.30	6.59	0.58
10	216	3.21	9.85	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 83 cfs





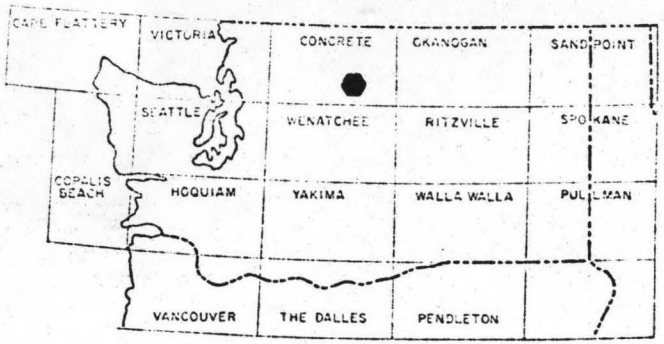
W47-1338

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0016

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T33N R17E
D.	Latitude, Longitude	48°21' 120°45'
E.	Stream Name	Company Creek
F.	Major Basin Name	Chelan
G.	River Mile	0.0/3.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

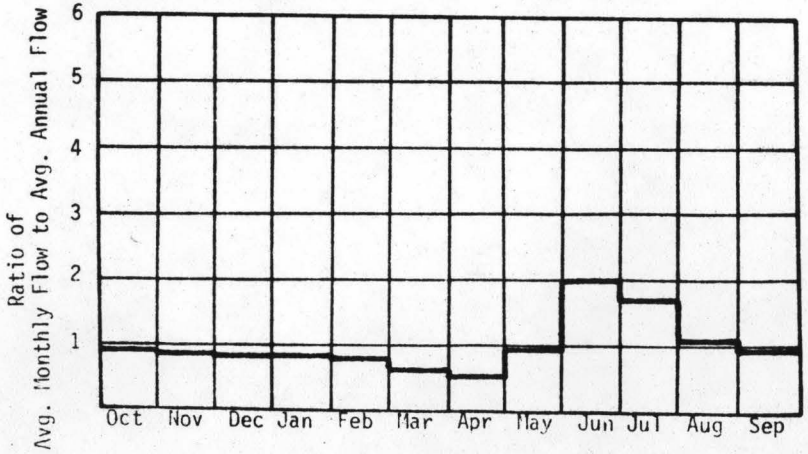
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

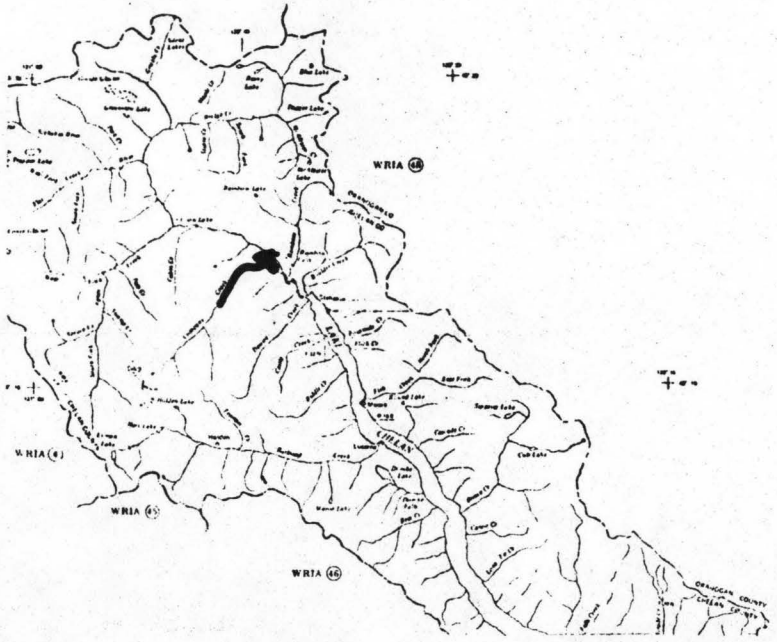
A.	Upstream Elevation of Reach	2820	Ft. MSL
B.	Downstream Elevation of Reach	1195	Ft. MSL
C.	Total Available Head in Reach	1625 + 66 = 1691	Ft.
D.	Average Slope in Reach	524	Ft./Mi.
E.	Drainage Area above Reach Mouth	28	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.4	1.48	13.0	1.00
80	16.3	2.33	19.6	0.96
50	37.7	5.40	36.4	0.77
30	78.4	11.2	57.0	0.58
10	196	28.1	86.0	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 74 cfs

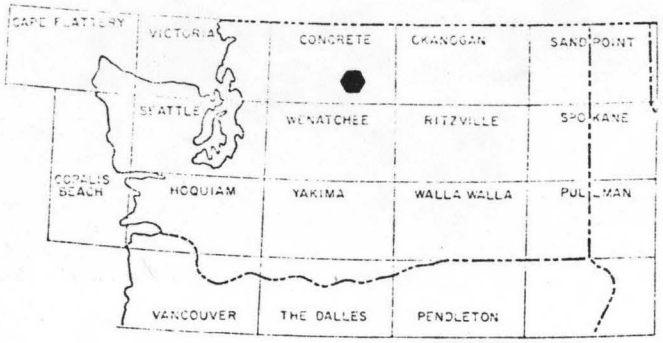




W47-1339

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0017



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T33N R16E	
D. Latitude, Longitude	48°22' 120°52'	
E. Stream Name	Agnes Creek	
F. Major Basin Name	Chelan	
G. River Mile	0.0/4.6	

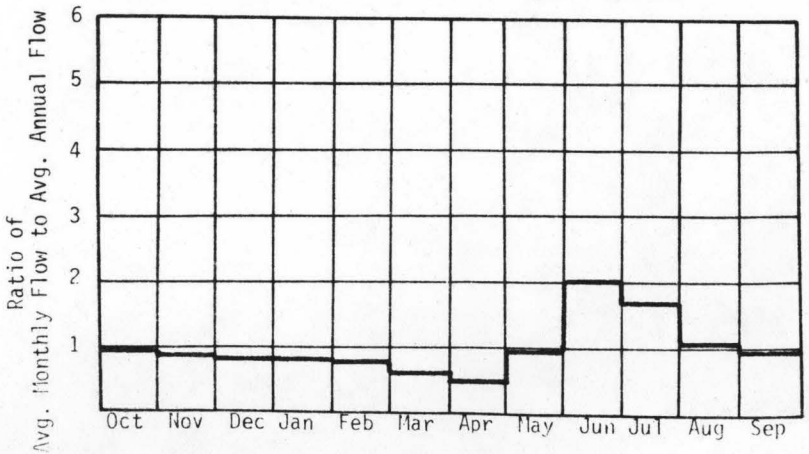
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

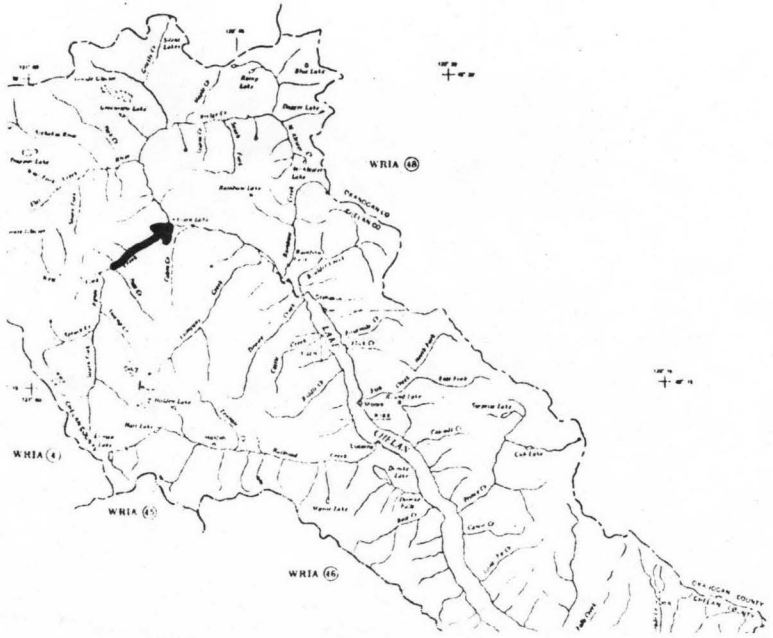
A. Upstream Elevation of Reach	2080	Ft. MSL
B. Downstream Elevation of Reach	1520	Ft. MSL
C. Total Available Head in Reach	560	Ft.
D. Average Slope in Reach	122	Ft./Mi.
E. Drainage Area above Reach Mouth	82	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	55.2	2.61	22.9	1.00
80	86.7	4.11	34.5	0.96
50	201	9.52	64.2	0.77
30	418	19.8	101	0.58
10	1040	49.5	152	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 394 cfs





W47-1340

REACH HYDRO POTENTIAL CHARACTERISTICS

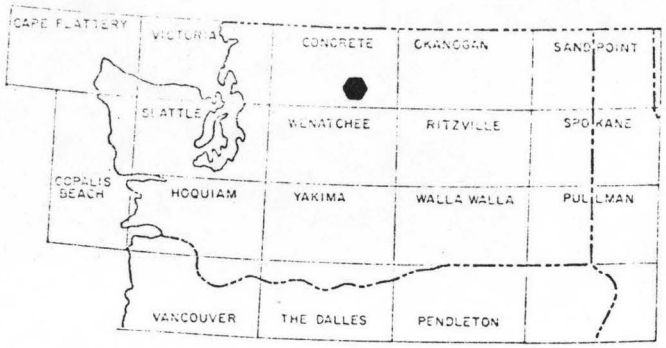
REACH # 01-500-340-000-000-R0018

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T33N R15E	
D. Latitude, Longitude	48°21' 120°53'	
E. Stream Name	Agnes Creek	
F. Major Basin Name	Chelan	
G. River Mile	4.6/5.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2155	Ft. MSL
B. Downstream Elevation of Reach	2080	Ft. MSL
C. Total Available Head in Reach	75	Ft.
D. Average Slope in Reach	68	Ft./Mi.
E. Drainage Area above Reach Mouth	67	Sq.Mi.
F. Inflow Classification	Natural	



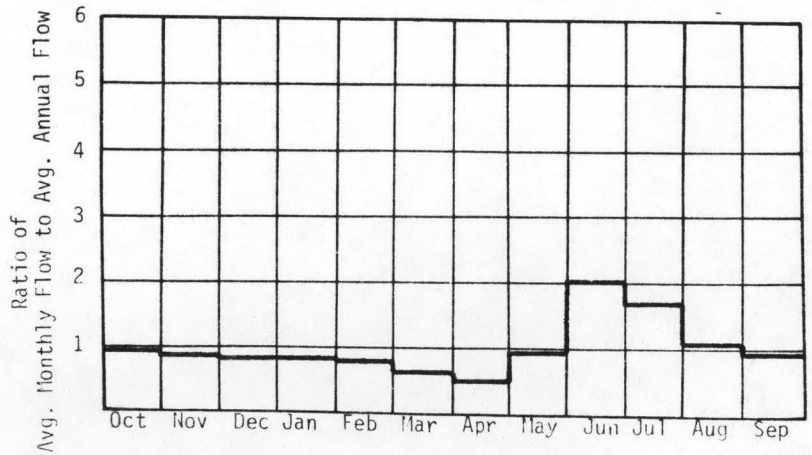
LOCATIONS FOR USGS 1:250,000 MAP SERIES

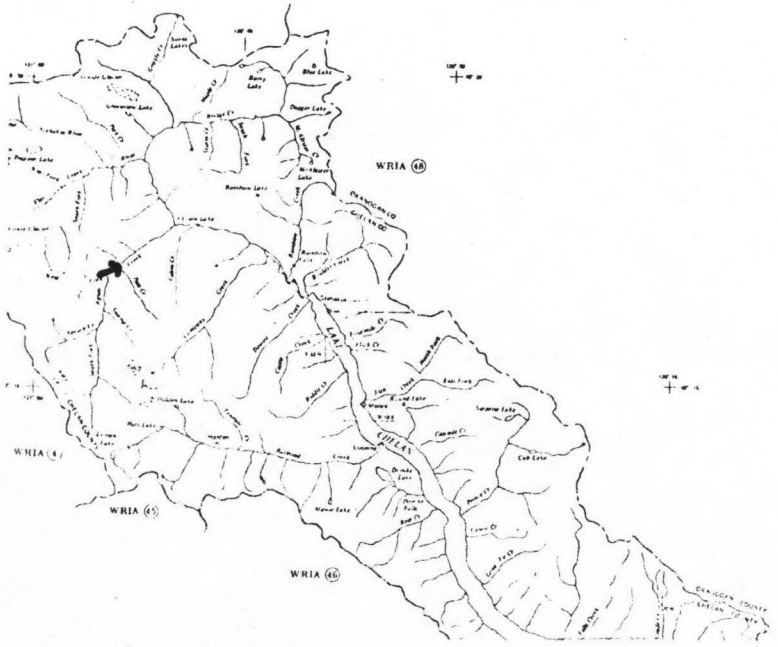
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	49.4	0.31	2.75	1.00
80	77.6	0.48	4.14	0.96
50	180	1.14	7.70	0.77
30	374	2.37	12.1	0.58
10	935	5.94	18.2	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 353 cfs

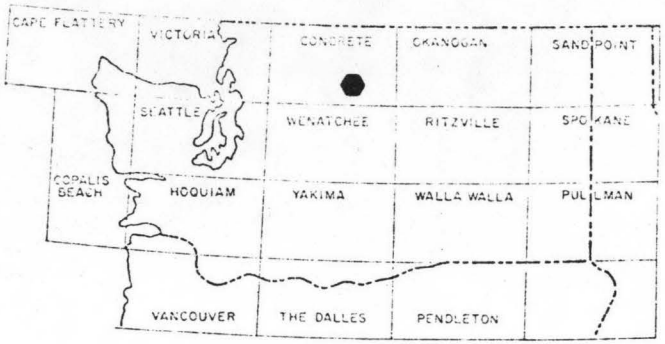




W47-1341

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0019



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T32N R15E
D.	Latitude, Longitude	48°19' 120°55'
E.	Stream Name	Agnes Creek
F.	Major Basin Name	Chelan
G.	River Mile	5.7/7.9

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

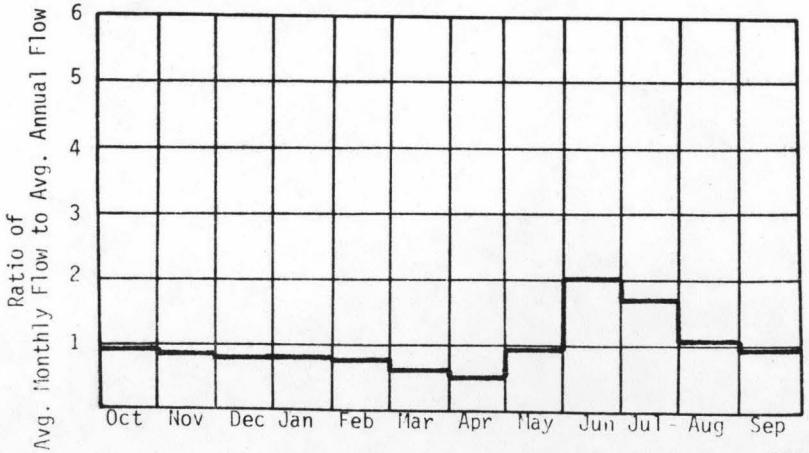
A.	Upstream Elevation of Reach	2705	Ft. MSL
B.	Downstream Elevation of Reach	2155	Ft. MSL
C.	Total Available Head in Reach	550	Ft.
D.	Average Slope in Reach	250	Ft./Mi.
E.	Drainage Area above Reach Mouth	39	Sq.Mi.
F.	Inflow Classification	Natural	

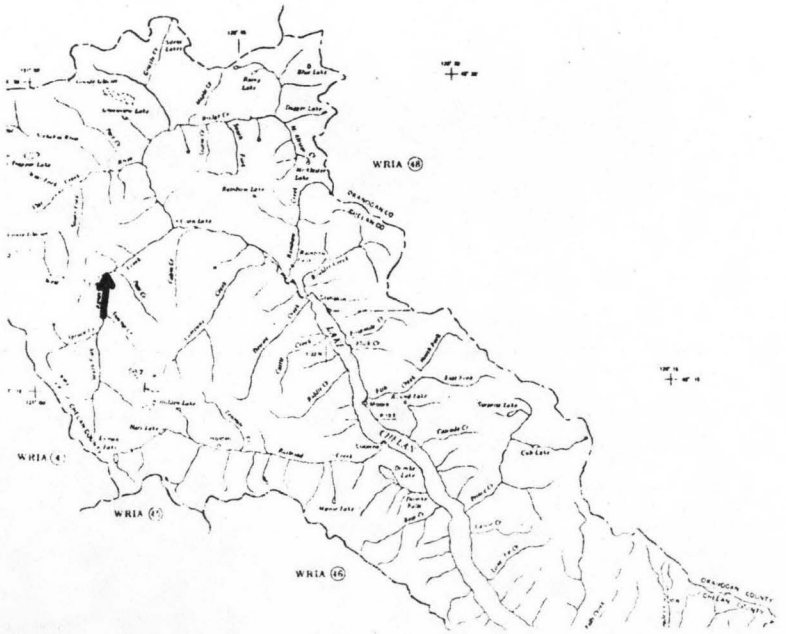
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.9	1.21	10.6	1.00
80	40.7	1.89	15.9	0.95
50	94.3	4.39	29.6	0.77
30	196	9.12	46.4	0.58
10	490	22.9	69.9	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 185 cfs

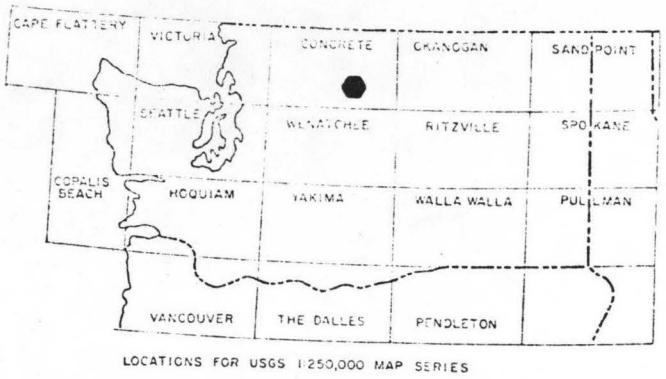




W47-1342

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0020



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

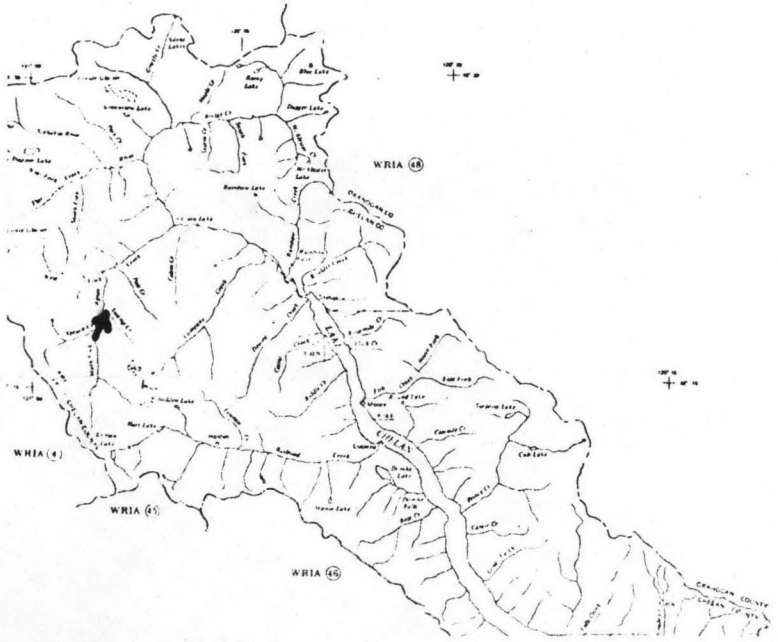
A.	State	Washington
B.	County	Chelan
C.	Township, Range	T32N R15E
D.	Latitude, Longitude	48°18' 120°55'
E.	Stream Name	Agnes Creek
F.	Major Basin Name	Chelan
G.	River Mile	7.9/9.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

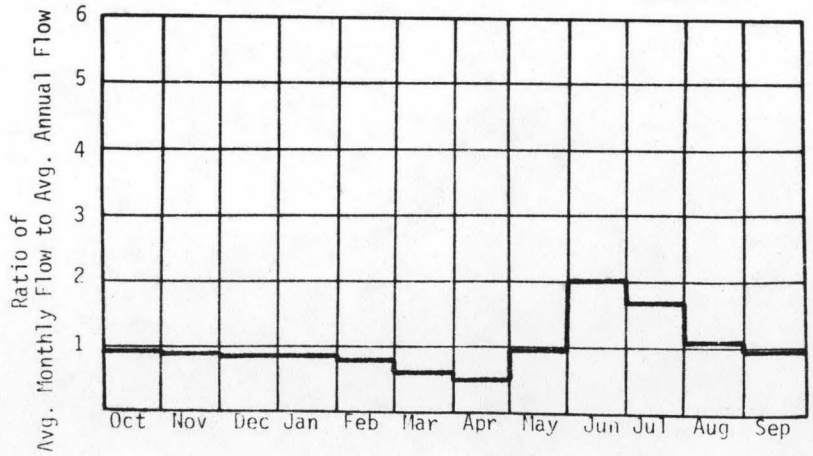
A.	Upstream Elevation of Reach	2860	Ft. MSL
B.	Downstream Elevation of Reach	2705	Ft. MSL
C.	Total Available Head in Reach	155	Ft.
D.	Average Slope in Reach	111	Ft./Mi.
E.	Drainage Area above Reach Mouth	29	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.6	0.27	2.36	1.00
80	32.3	0.42	3.57	0.96
50	75.0	0.98	6.63	0.77
30	156	2.04	10.4	0.58
10	390	5.11	15.7	0.35



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 147 cfs



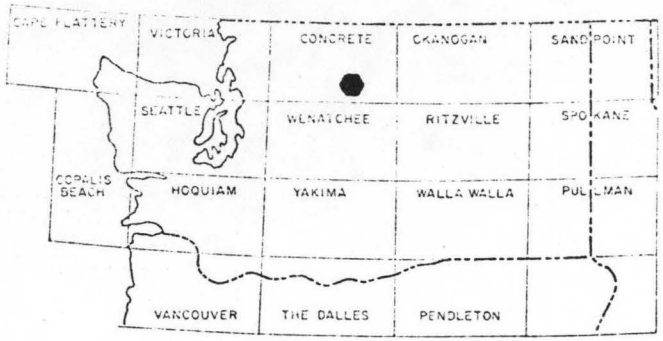
W47-1343

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0021

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T32N R15E
D.	Latitude, Longitude	48°16' 120°55'
E.	Stream Name	Agnes Creek
F.	Major Basin Name	Chelan
G.	River Mile	9.3/11.1



LOCATIONS FOR USGS 1-250,000 MAP SERIES

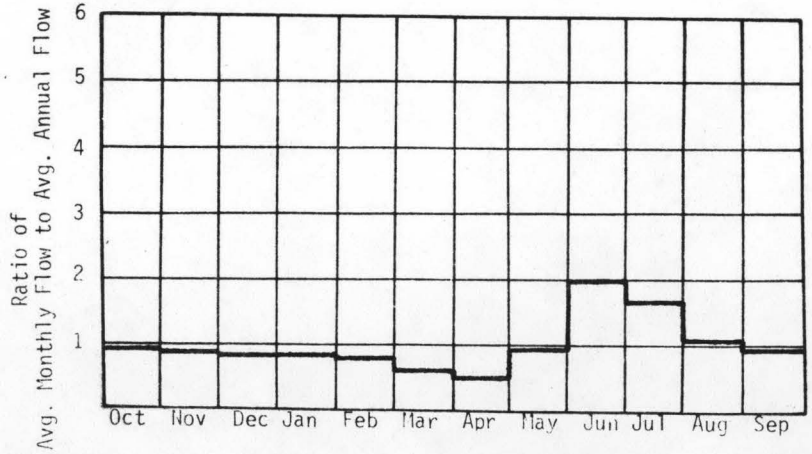
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

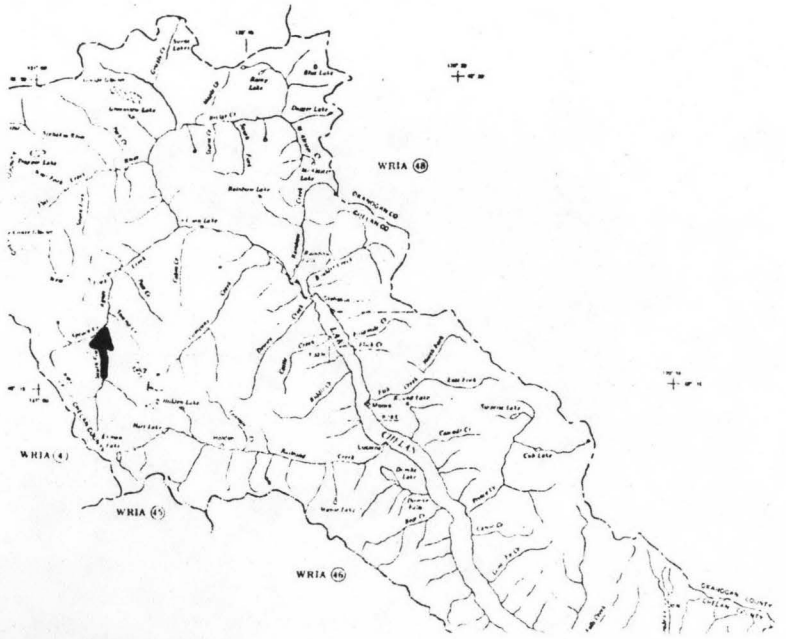
A.	Upstream Elevation of Reach	3275	Ft. MSL
B.	Downstream Elevation of Reach	2860	Ft. MSL
C.	Total Available Head in Reach	415 + 66 = 481	Ft.
D.	Average Slope in Reach	231	Ft./Mi.
E.	Drainage Area above Reach Mouth	17.9	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10.8	0.44	3.84	1.00
80	16.9	0.69	5.80	0.96
50	39.3	1.60	10.8	0.77
30	81.6	3.32	16.9	0.58
10	204	8.30	25.5	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 77 cfs

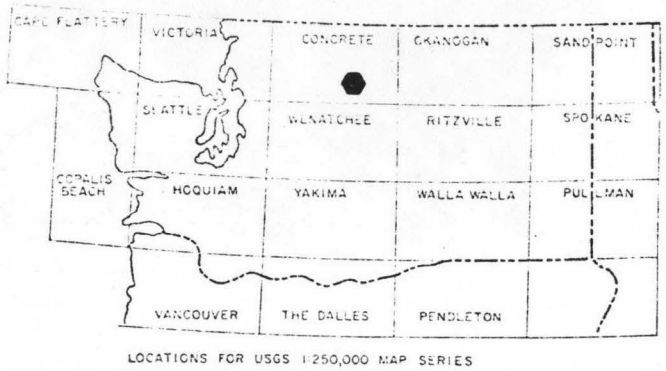




W47-1344

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0022



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T34N R16E
D.	Latitude, Longitude	48°27' 120°52'
E.	Stream Name	Bridge Creek
F.	Major Basin Name	Chelan
G.	River Mile	0.0/2.7

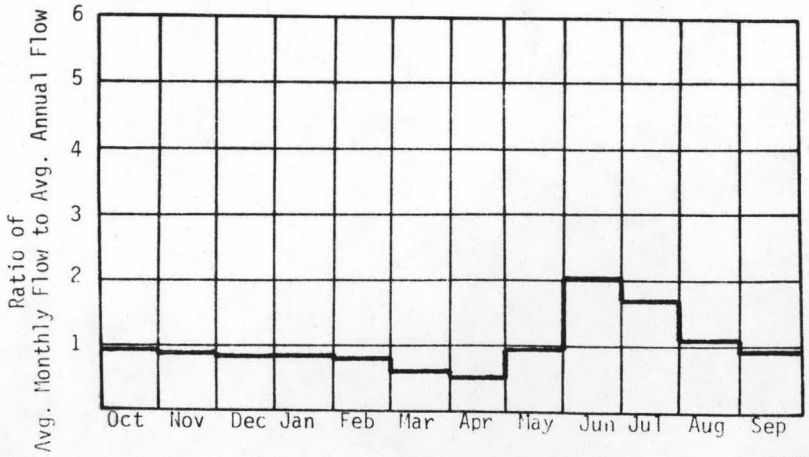
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

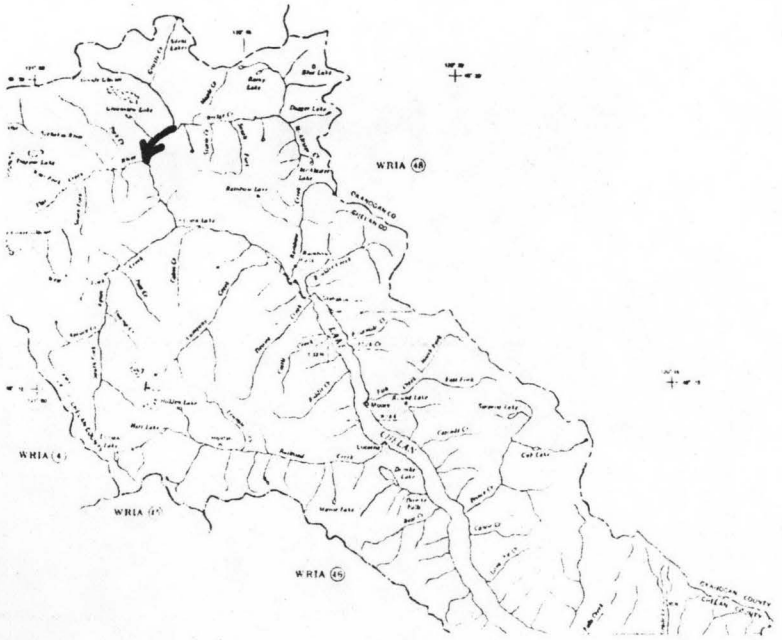
A.	Upstream Elevation of Reach	2540	Ft. MSL
B.	Downstream Elevation of Reach	2050	Ft. MSL
C.	Total Available Head in Reach	490	Ft.
D.	Average Slope in Reach	181	Ft./Mi.
E.	Drainage Area above Reach Mouth	92	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	57.1	2.37	20.7	1.00
80	89.8	3.72	31.3	0.96
50	208	8.63	58.2	0.77
30	432	17.9	91.1	0.58
10	1080	44.8	137	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 408 cfs





W47-1345

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0023

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T34N R16E	
D. Latitude, Longitude	48°28' 120°50'	
E. Stream Name	Bridge Creek	
F. Major Basin Name	Chelan	
G. River Mile	2.7/4.3	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

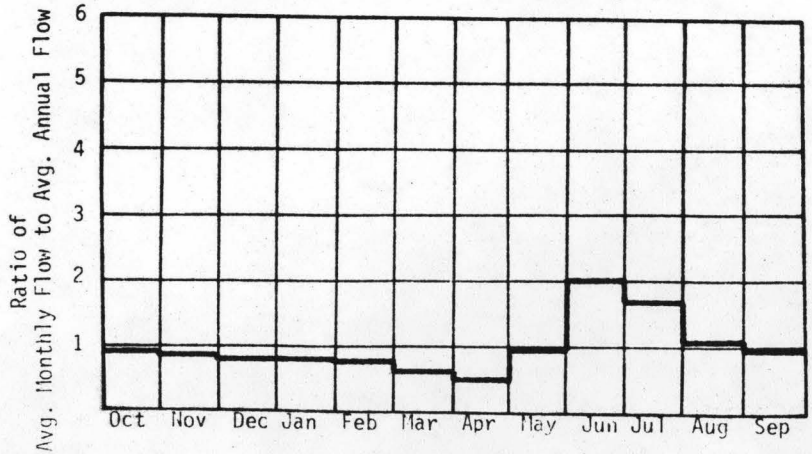
A. Upstream Elevation of Reach	2820	Ft. MSL
B. Downstream Elevation of Reach	2540	Ft. MSL
C. Total Available Head in Reach	280	Ft.
D. Average Slope in Reach	175	Ft./Mi.
E. Drainage Area above Reach Mouth	59	Sq.Mi.
F. Inflow Classification	Natural	

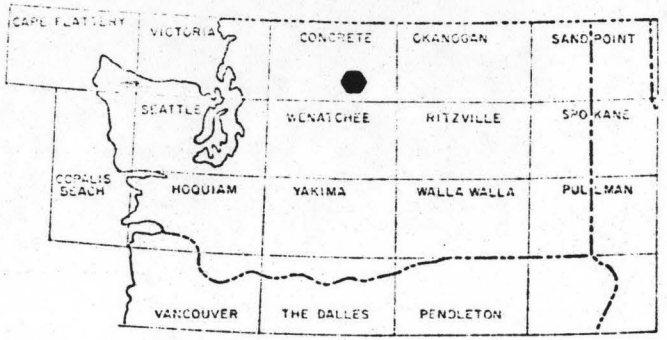
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	32.5	0.77	6.74	1.00
80	51.0	1.21	10.2	0.96
50	118	2.80	18.9	0.77
30	245	5.83	29.6	0.58
10	615	14.6	44.7	0.35

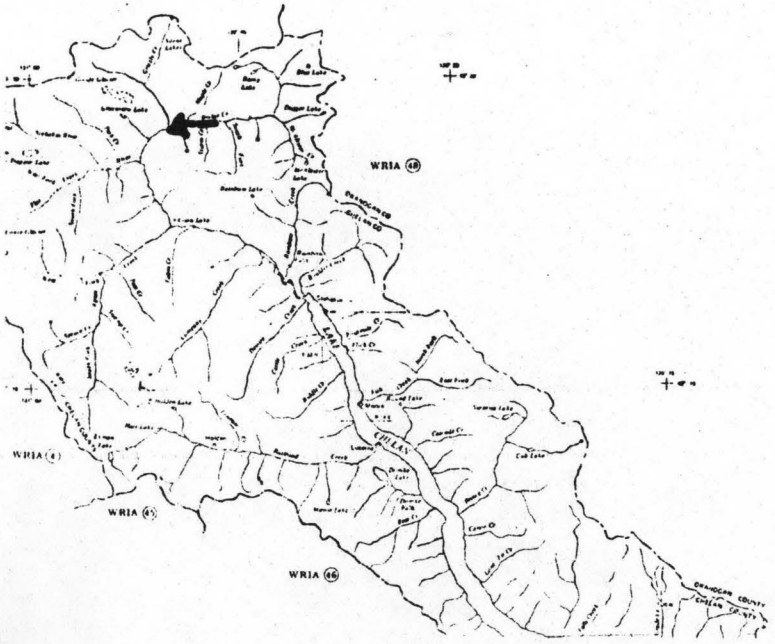
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 232 cfs





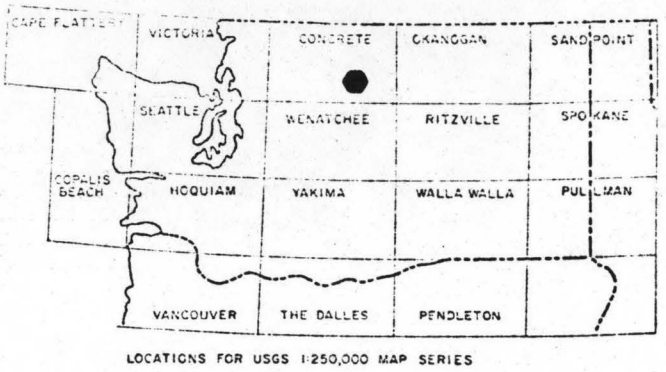
LOCATIONS FOR USGS 1:250,000 MAP SERIES



W47-1346

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0024



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Chelan	
C. Township, Range	T34N R17E	
D. Latitude, Longitude	48°18' 120°47'	
E. Stream Name	Bridge Creek	
F. Major Basin Name	Chelan	
G. River Mile	4.3/6.5	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

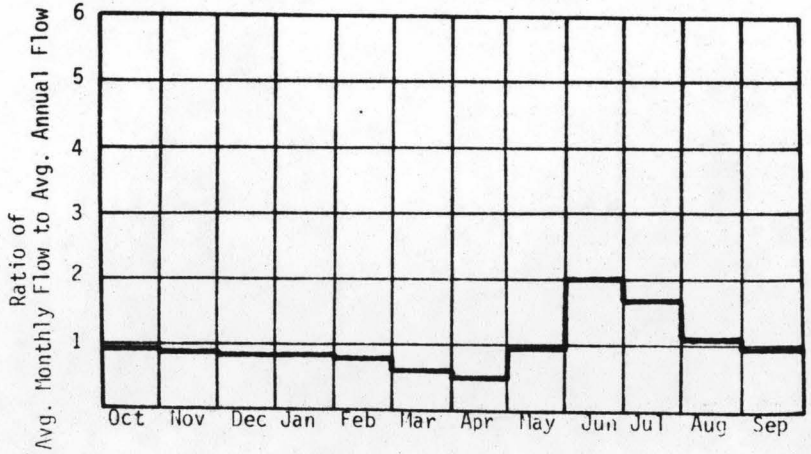
A. Upstream Elevation of Reach	3150	Ft. MSL
B. Downstream Elevation of Reach	2820	Ft. MSL
C. Total Available Head in Reach	330	Ft.
D. Average Slope in Reach	150	Ft./Mi.
E. Drainage Area above Reach Mouth	51	Sq.Mi.
F. Inflow Classification	Natural	

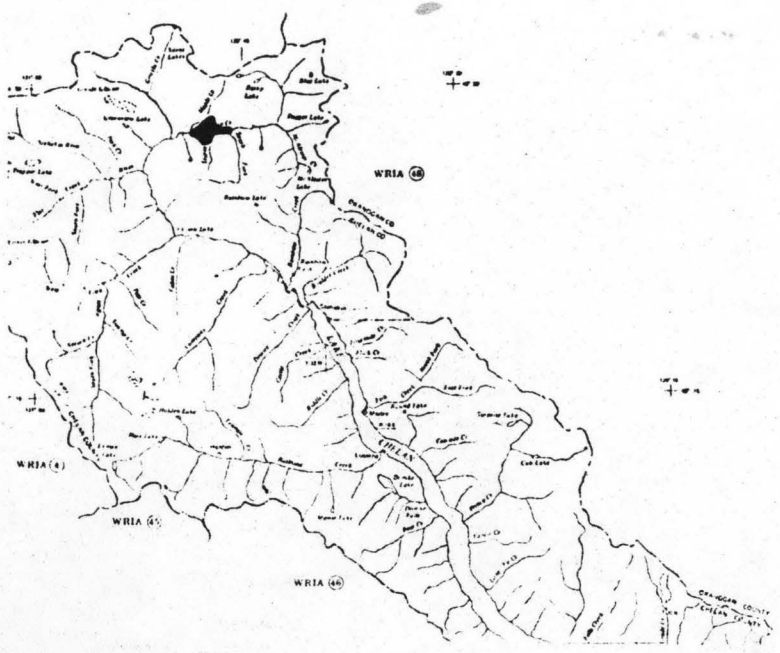
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.5	0.74	6.47	1.00
80	41.6	1.16	9.76	0.96
50	96.4	2.69	18.2	0.77
30	200	5.59	28.4	0.58
10	501	14.0	42.9	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 189 cfs





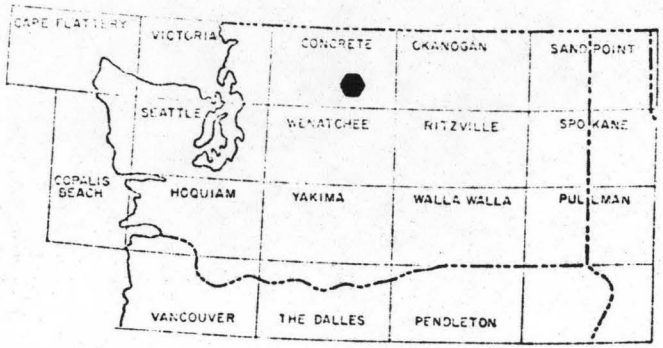
W47-1347

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-340-000-000-R0025

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T34N R17E
D.	Latitude, Longitude	48°28' 120°45'
E.	Stream Name	Bridge Creek
F.	Major Basin Name	Chelan
G.	River Mile	6.5/8.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

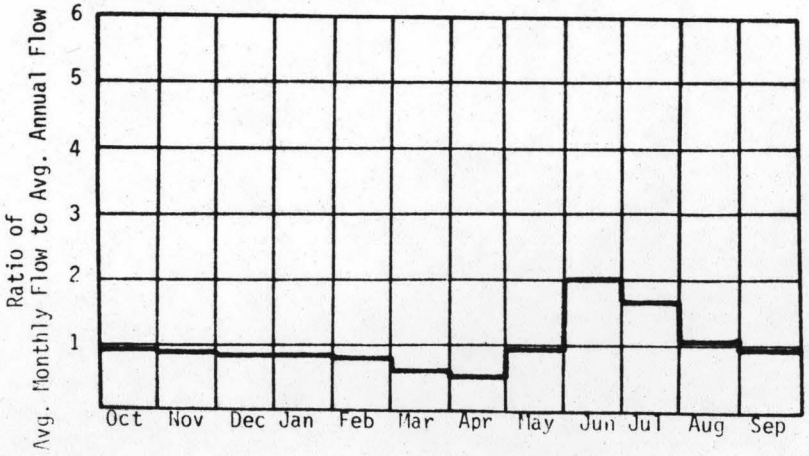
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

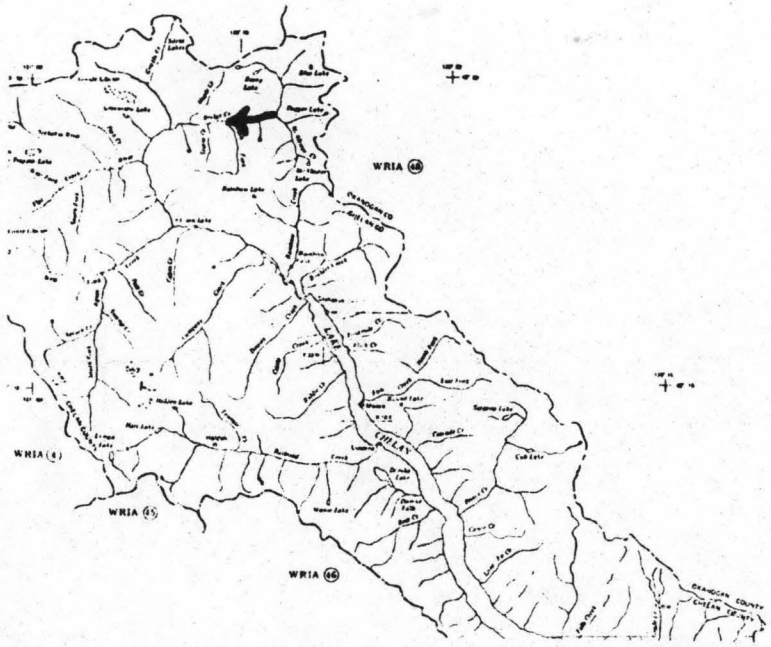
A.	Upstream Elevation of Reach	3580	Ft. MSL
B.	Downstream Elevation of Reach	3150	Ft. MSL
C.	Total Available Head in Reach	430 + 66 = 496	Ft.
D.	Average Slope in Reach	179	Ft./Mi.
E.	Drainage Area above Reach Mouth	46	Sq.Mi.
F.	Inflow Classification	Natural	

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	0.77	6.74	1.00
80	28.8	1.21	10.2	0.96
50	66.8	2.80	18.9	0.77
30	139	5.83	29.6	0.58
10	347	14.6	44.7	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 131 cfs





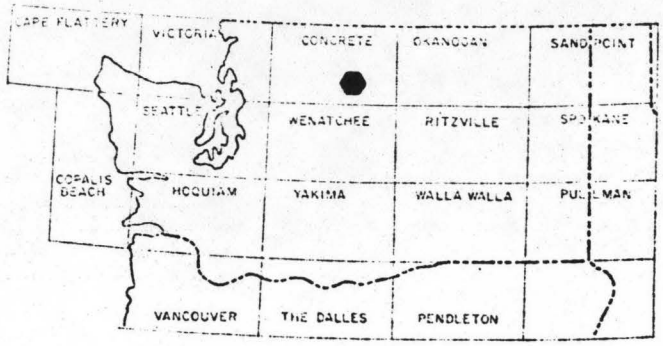
W47-1348

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-340-000-000-R0026

I. LOCATION

A.	State	Washington
B.	County	Chelan
C.	Township, Range	T35N R16E
D.	Latitude, Longitude	48°29' 120°51'
E.	Stream Name	N.F. Bridge Creek
F.	Major Basin Name	Chelan
G.	River Mile	0.0/3.4



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

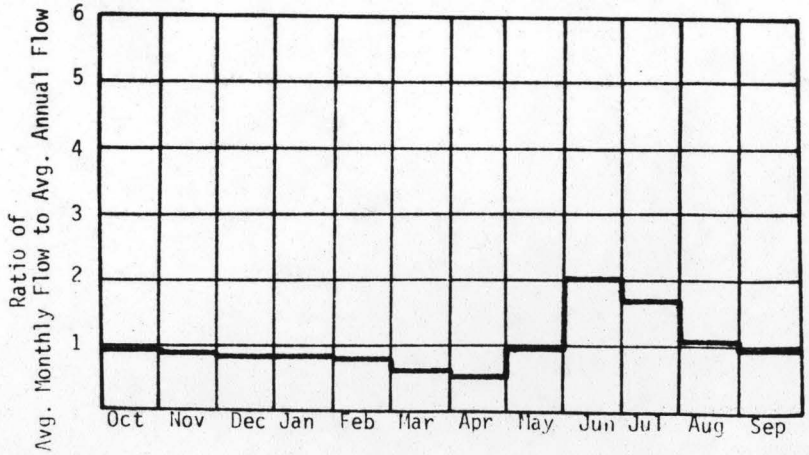
A.	Upstream Elevation of Reach	3110	Ft. MSL
B.	Downstream Elevation of Reach	2540	Ft. MSL
C.	Total Available Head in Reach	570	Ft.
D.	Average Slope in Reach	168	Ft./Mi.
E.	Drainage Area above Reach Mouth	27	Sq.Mi.
F.	Inflow Classification	Natural	

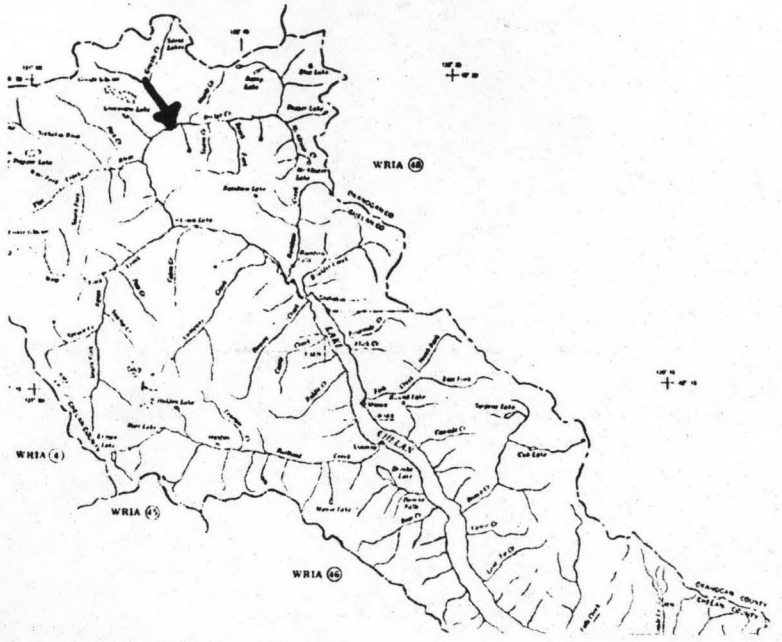
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.5	0.94	8.22	1.00
80	30.6	1.47	12.4	0.96
50	70.9	3.42	23.1	0.77
30	147	7.11	36.1	0.58
10	368	17.8	54.5	0.35

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 139 cfs

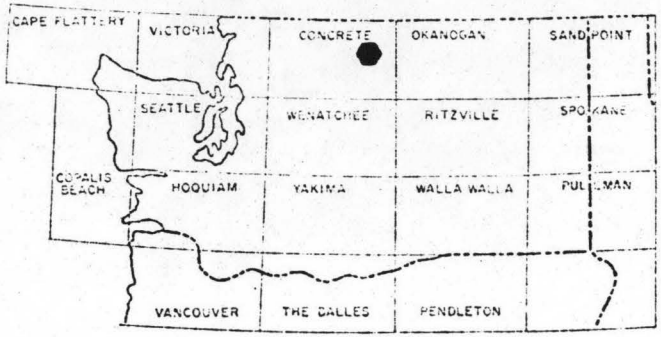




W47-1349

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-064-000-000-000-R0001



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T40N R18E	
D. Latitude, Longitude	48°59' 120°34'	
E. Stream Name	Pasayten River	
F. Major Basin Name	Pasayten	
G. River Mile	13.2/15.1	

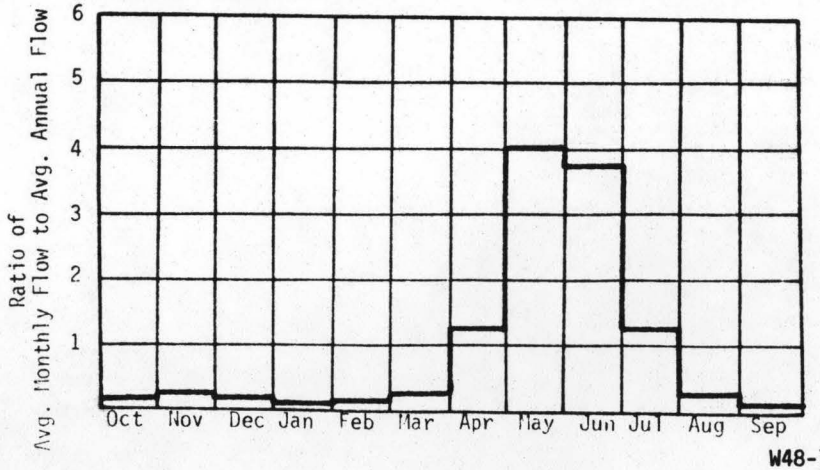
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

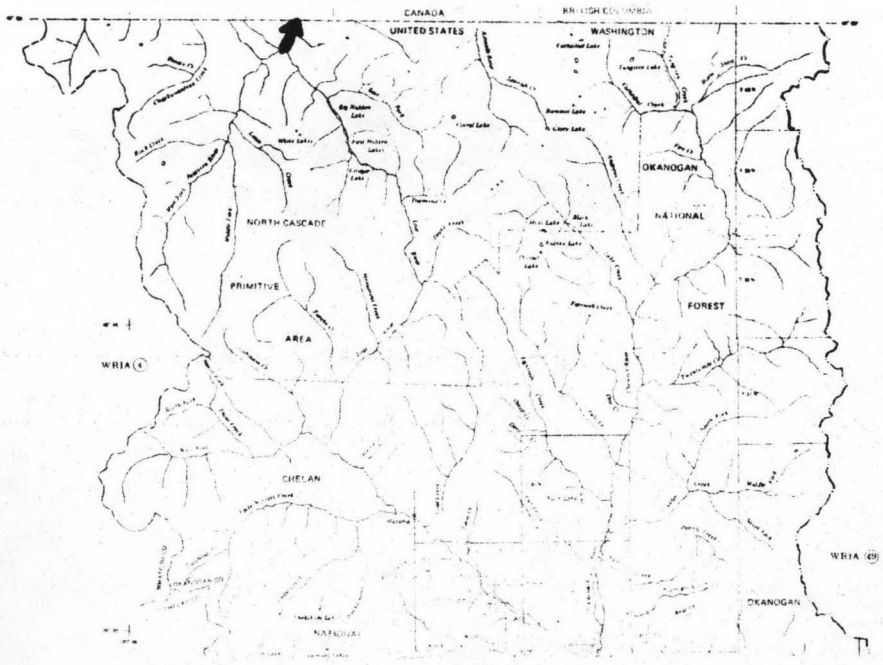
A. Upstream Elevation of Reach	3550	Ft. MSL
B. Downstream Elevation of Reach	3580	Ft. MSL
C. Total Available Head in Reach	30	Ft.
D. Average Slope in Reach	16	Ft./Mi.
E. Drainage Area above Reach Mouth	173	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	40.0	0.10	0.88	1.00
80	53.0	0.13	1.14	0.97
50	84.8	0.22	1.58	0.84
30	178	0.45	2.41	0.61
10	798	2.02	4.97	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 265 cfs





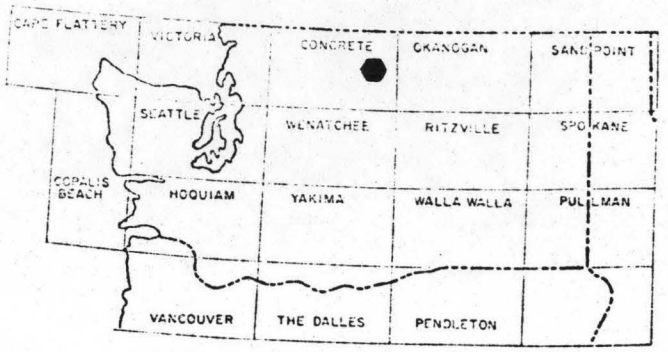
W48-1350

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-064-000-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T40N R18E
D.	Latitude, Longitude	48°57' 120°37'
E.	Stream Name	Pasayten River
F.	Major Basin Name	Pasayten
G.	River Mile	15.1/23.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

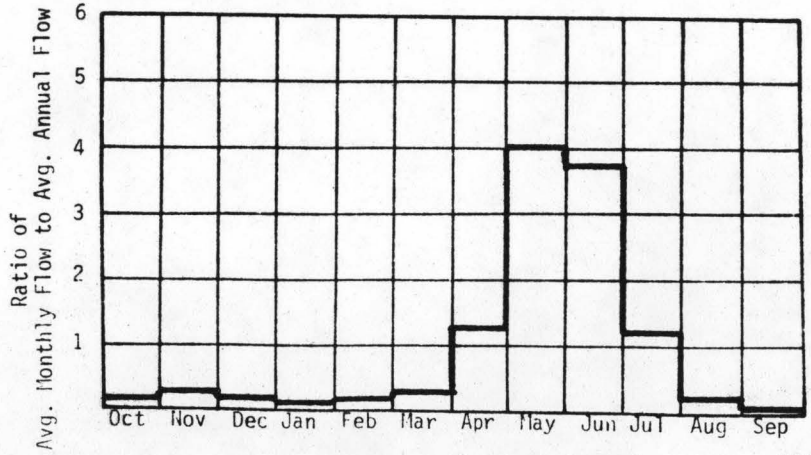
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

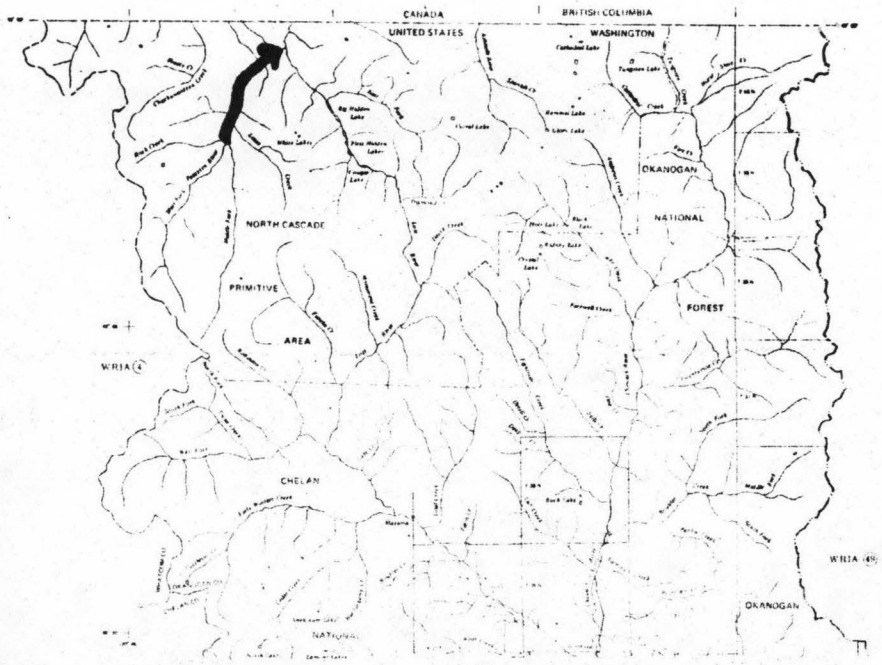
A.	Upstream Elevation of Reach	4270	Ft. MSL
B.	Downstream Elevation of Reach	3580	Ft. MSL
C.	Total Available Head in Reach	690 + 66 = 756	Ft.
D.	Average Slope in Reach	79	Ft./Mi.
E.	Drainage Area above Reach Mouth	57.5	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.3	1.62	14.2	1.00
80	33.8	2.16	18.4	0.97
50	54.1	3.46	25.4	0.84
30	113	7.24	38.7	0.61
10	509	32.5	79.8	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 169 cfs





W48-1351

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T30N R23E	
D. Latitude, Longitude	48°06' 120°01'	
E. Stream Name	Methow River	
F. Major Basin Name	Methow	
G. River Mile	0.0/21.4	

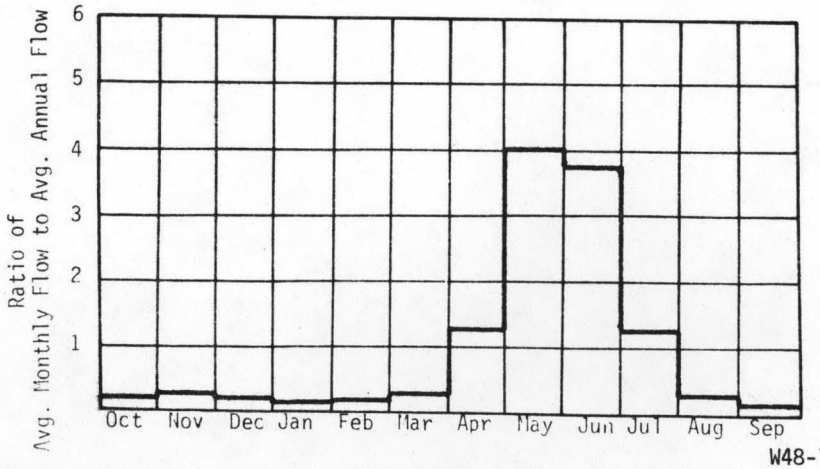
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

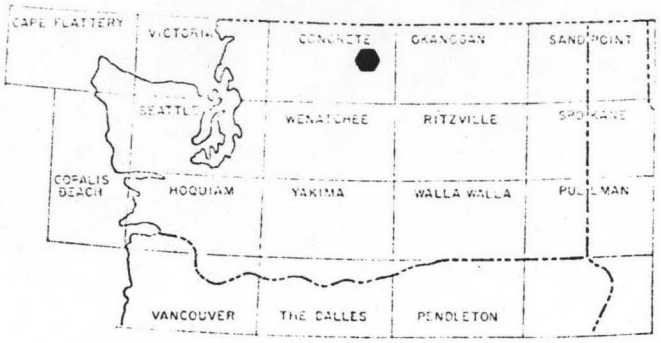
A. Upstream Elevation of Reach	1280	Ft. MSL
B. Downstream Elevation of Reach	720	Ft. MSL
C. Total Available Head in Reach	560	Ft.
D. Average Slope in Reach	26	Ft./Mi.
E. Drainage Area above Reach Mouth	1790	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

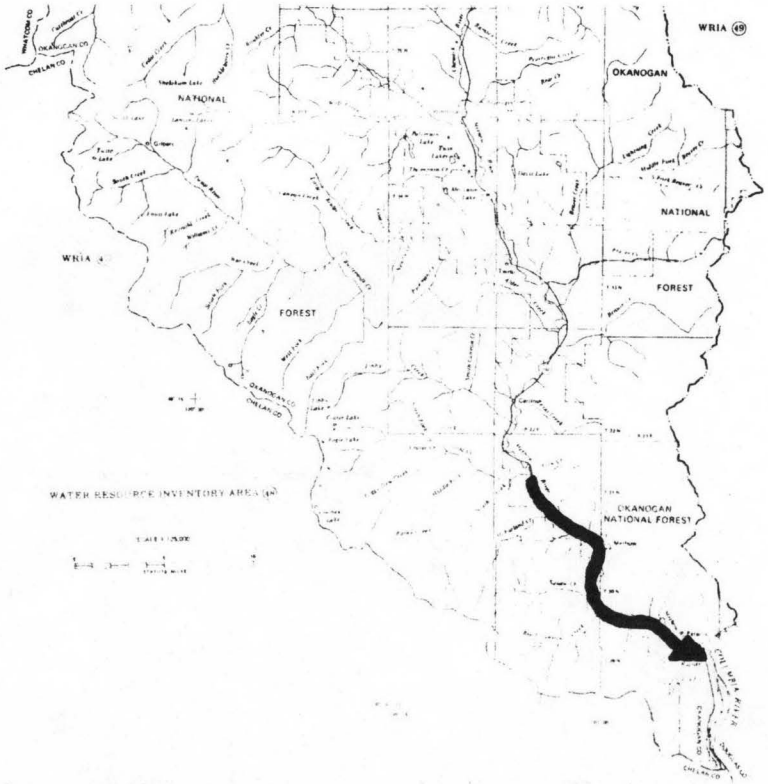
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	312	14.8	130	1.00
80	394	18.7	160	0.98
50	542	25.7	198	0.88
30	1150	54.5	301	0.63
10	4750	225	592	0.30

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1644 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



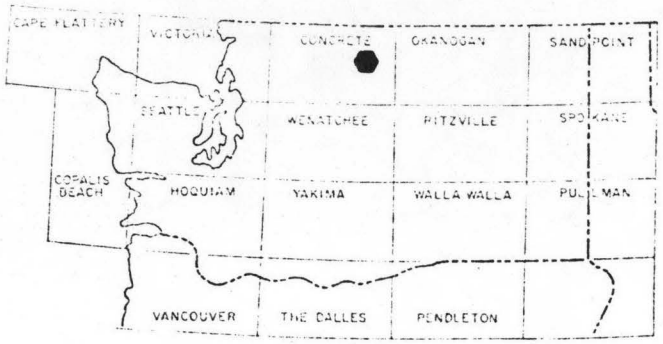
W48-1352

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T32N R22E
D.	Latitude, Longitude	48°15' 120°06'
E.	Stream Name	Methow River
F.	Major Basin Name	Methow
G.	River Mile	21.4/35.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

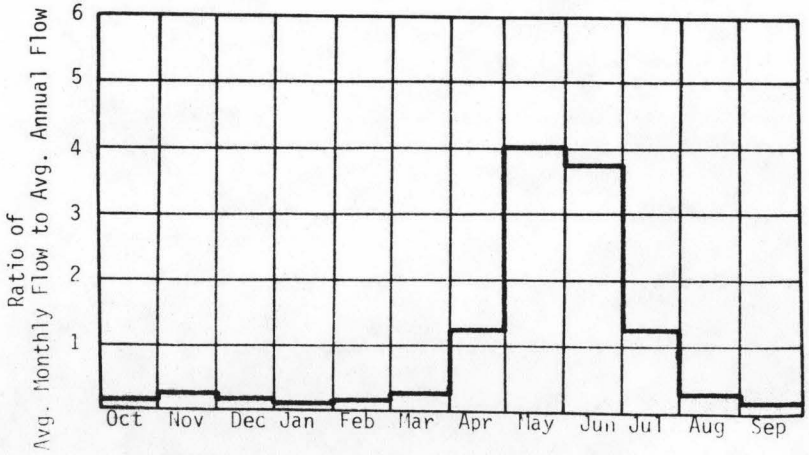
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

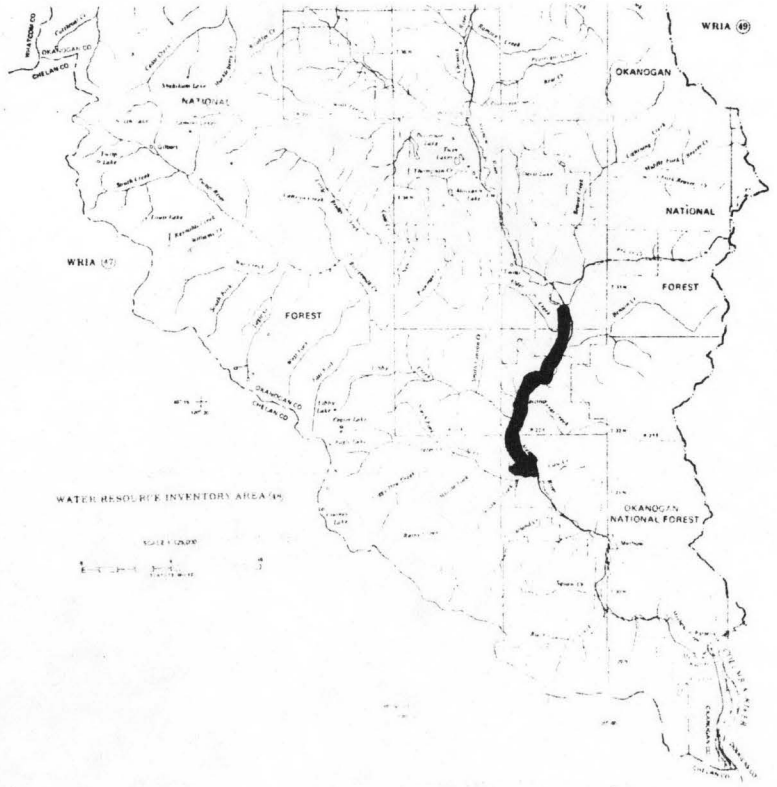
A.	Upstream Elevation of Reach	1485	Ft. MSL
B.	Downstream Elevation of Reach	1280	Ft. MSL
C.	Total Available Head in Reach	205	Ft.
D.	Average Slope in Reach	14	Ft./Mi.
E.	Drainage Area above Reach Mouth	1566	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	224	3.88	34.0	1.00
80	298	5.17	43.9	0.97
50	477	8.27	60.9	0.84
30	999	17.3	92.6	0.61
10	4490	77.8	191	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1491 cfs





W48-1353

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T33N R22E	
D. Latitude, Longitude	48°21' 120°05'	
E. Stream Name	Methow River	
F. Major Basin Name	Methow	
G. River Mile	35.8/41.0	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

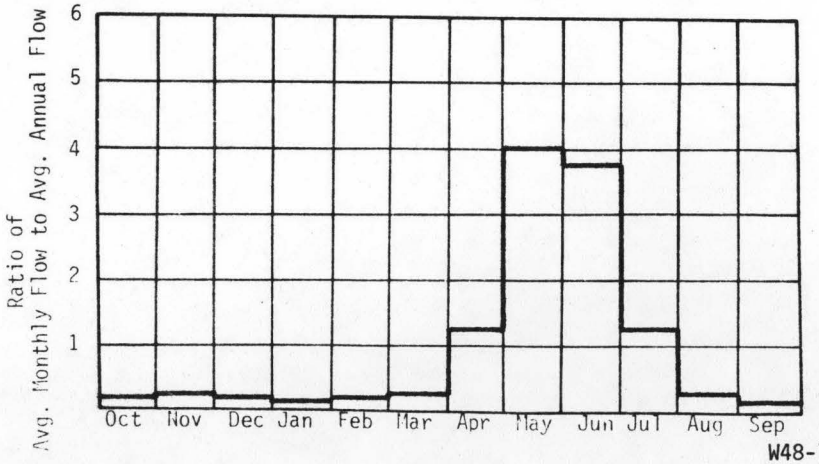
A. Upstream Elevation of Reach	1570	Ft. MSL
B. Downstream Elevation of Reach	1485	Ft. MSL
C. Total Available Head in Reach	85	Ft.
D. Average Slope in Reach	16	Ft./Mi.
E. Drainage Area above Reach Mouth	1308	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

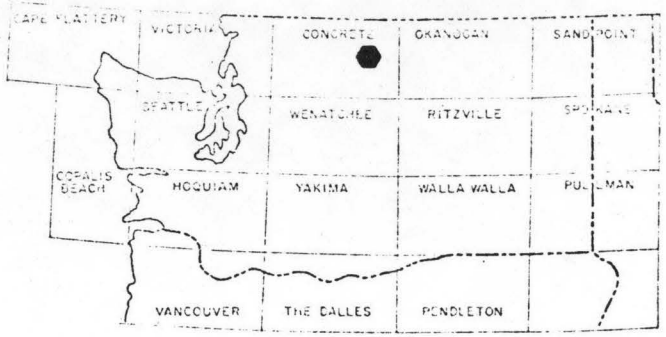
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	210	1.51	13.2	1.00
80	280	2.01	17.1	0.97
50	448	3.22	23.7	0.84
30	938	6.75	36.0	0.61
10	4214	30.3	74.3	0.28

IV. TYPICAL ANNUAL HYDROGRAPH

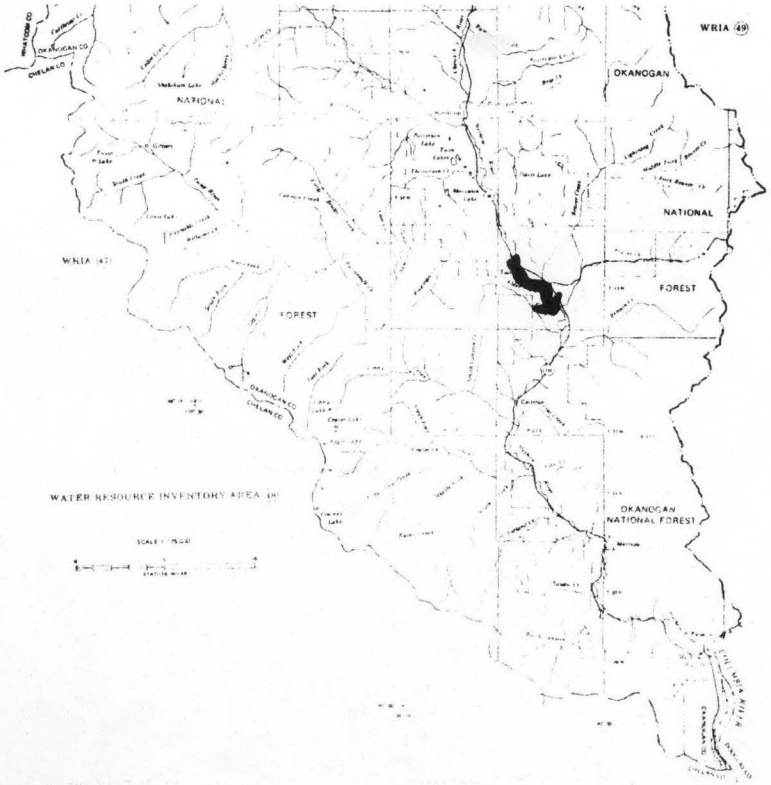
QMR = 1400 cfs



W48-1354



LOCATIONS FOR USGS 1:250,000 MAP SERIES

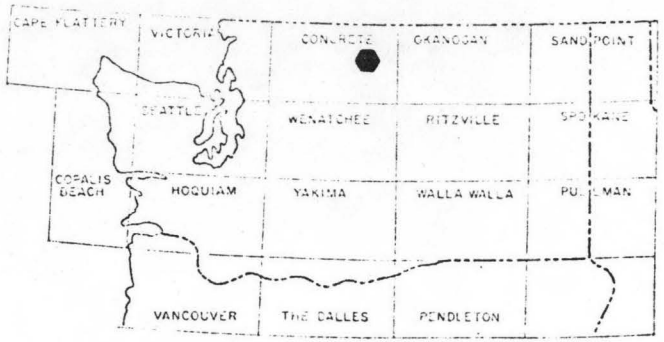


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-360-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T34N R22E
D.	Latitude, Longitude	48°25' 120°08'
E.	Stream Name	Methow River
F.	Major Basin Name	Methow
G.	River Mile	41.0/51.3



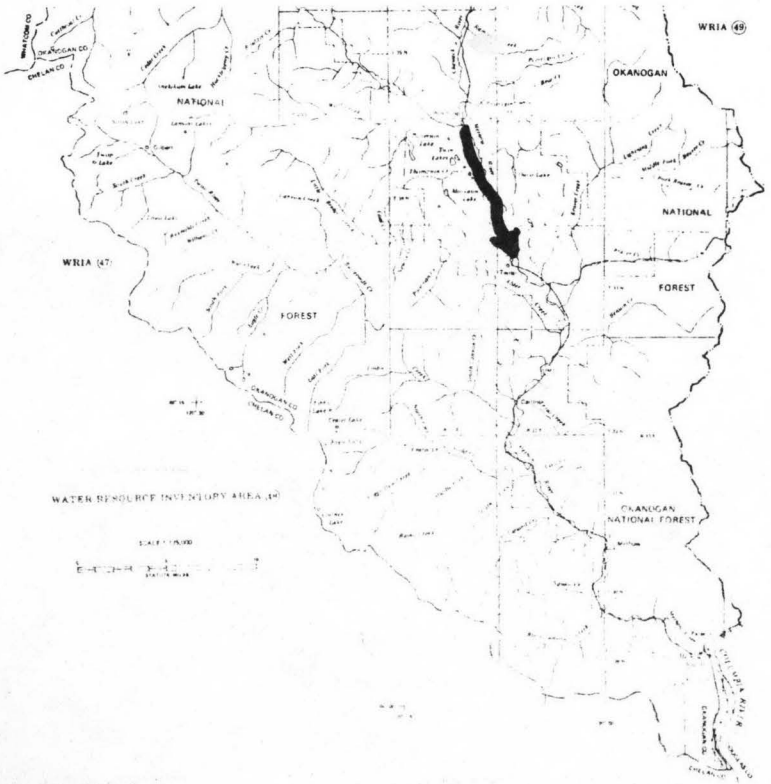
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

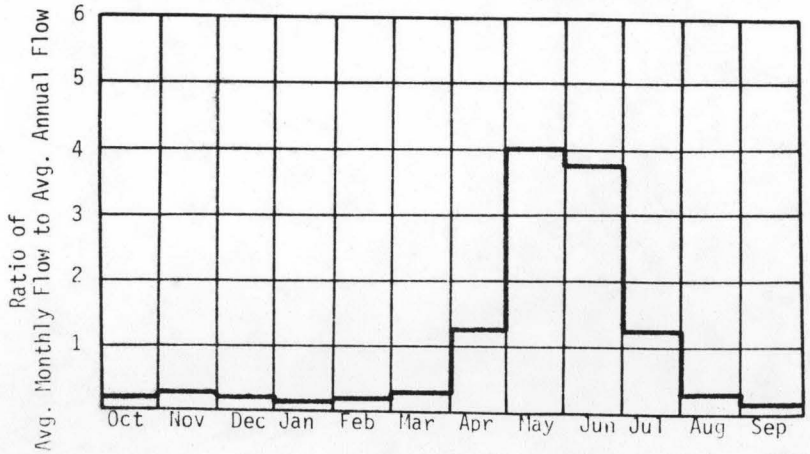
A.	Upstream Elevation of Reach	1740	Ft. MSL
B.	Downstream Elevation of Reach	1570	Ft. MSL
C.	Total Available Head in Reach	170	Ft.
D.	Average Slope in Reach	17	Ft./Mi.
E.	Drainage Area above Reach Mouth	105	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	163	2.34	20.5	1.00
80	217	3.12	26.5	0.97
50	317	4.99	36.7	0.84
30	726	10.5	55.8	0.61
10	3262	46.9	115	0.28



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1084 cfs



W48-1355

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T34N R21E	
D. Latitude, Longitude	48°28' 120°12'	
E. Stream Name	Methow River	
F. Major Basin Name	Methow	
G. River Mile	51.3/52.8	

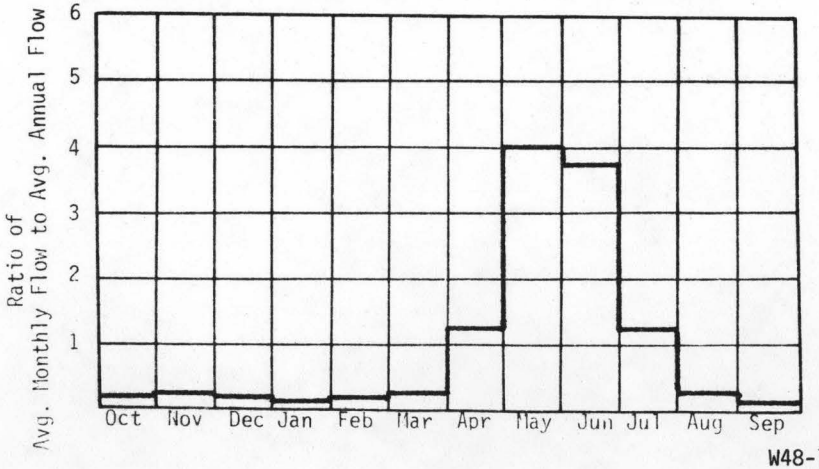
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

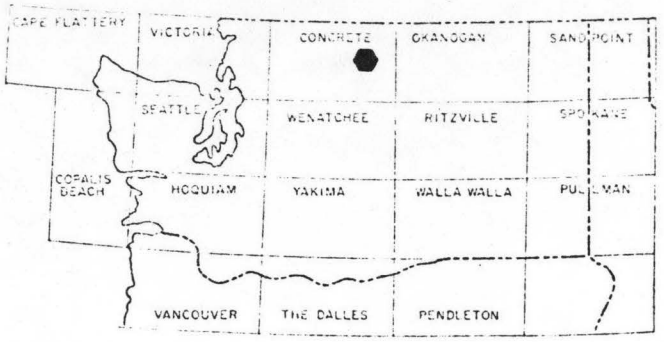
A. Upstream Elevation of Reach	1780	Ft. MSL
B. Downstream Elevation of Reach	1740	Ft. MSL
C. Total Available Head in Reach	40	Ft.
D. Average Slope in Reach	27	Ft./Mi.
E. Drainage Area above Reach Mouth	465	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

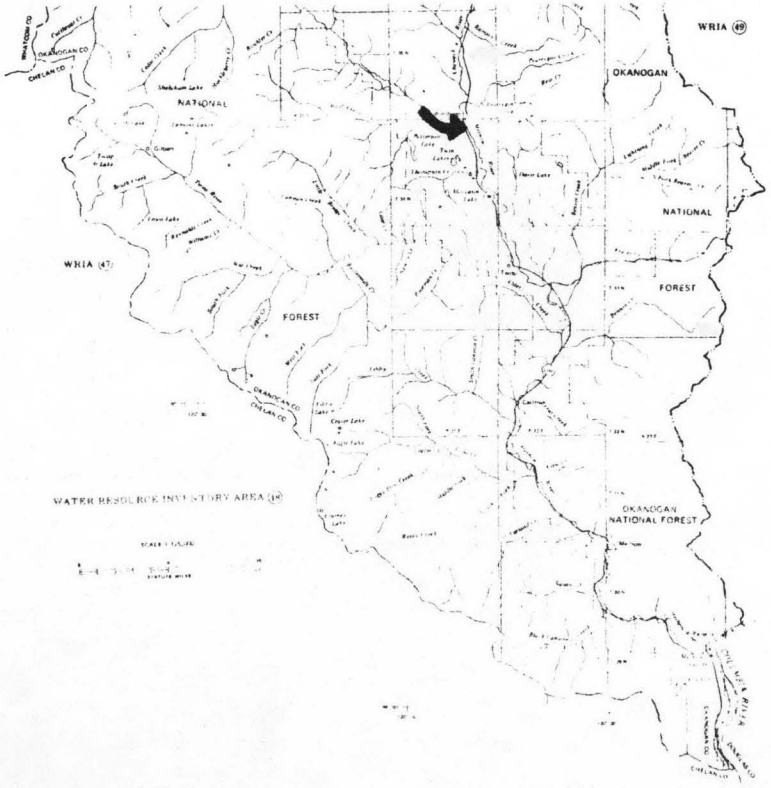
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	92.2	0.31	2.73	1.00
80	123	0.42	3.54	0.97
50	197	0.67	4.90	0.84
30	412	1.39	7.45	0.61
10	1850	6.26	15.4	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 615 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



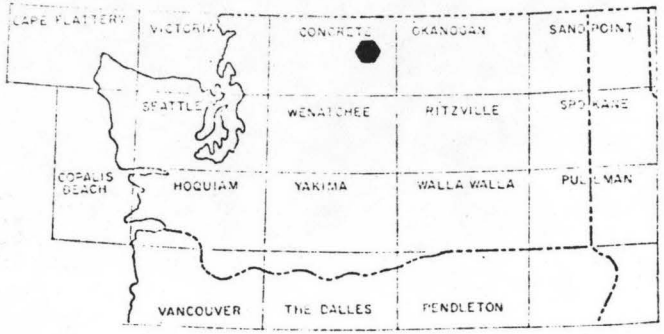
W48-1356

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T35N R20E	
D. Latitude, Longitude	48°52' 120°18'	
E. Stream Name	Methow River	
F. Major Basin Name	Methow	
G. River Mile	52.8/63.8	



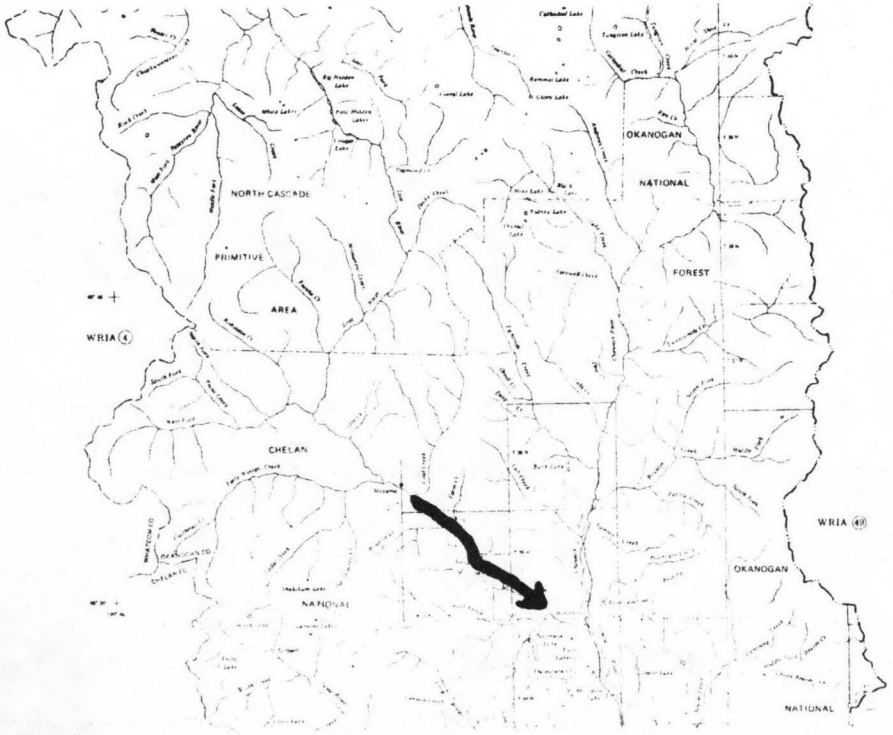
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

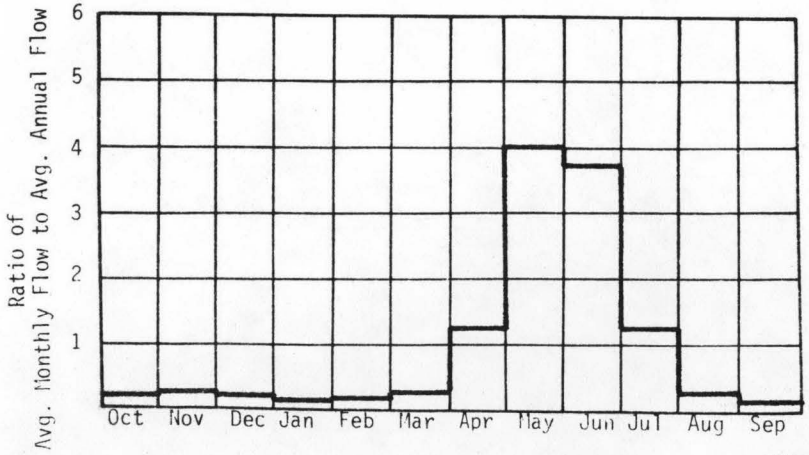
A. Upstream Elevation of Reach	2040	Ft. MSL
B. Downstream Elevation of Reach	1780	Ft. MSL
C. Total Available Head in Reach	260	Ft.
D. Average Slope in Reach	24	Ft./Mi.
E. Drainage Area above Reach Mouth	419	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	84.1	1.85	16.2	1.00
80	112	2.47	21.0	0.97
50	179	3.96	29.1	0.84
30	376	8.27	44.2	0.61
10	1690	37.1	91.1	0.28



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 561 cfs



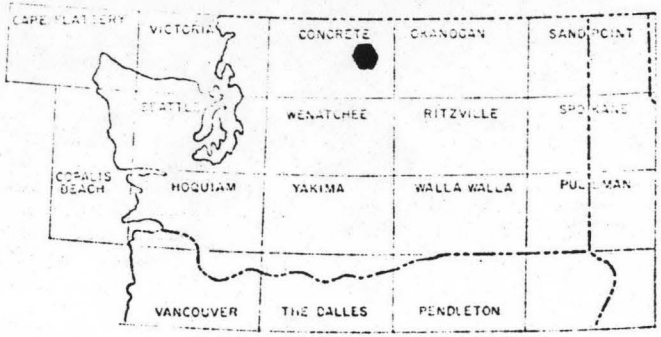
W48-1357

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0007

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T36N R20E	
D. Latitude, Longitude	48°35' 120°24'	
E. Stream Name	Methow River	
F. Major Basin Name	Methow	
G. River Mile	63.8/67.8	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

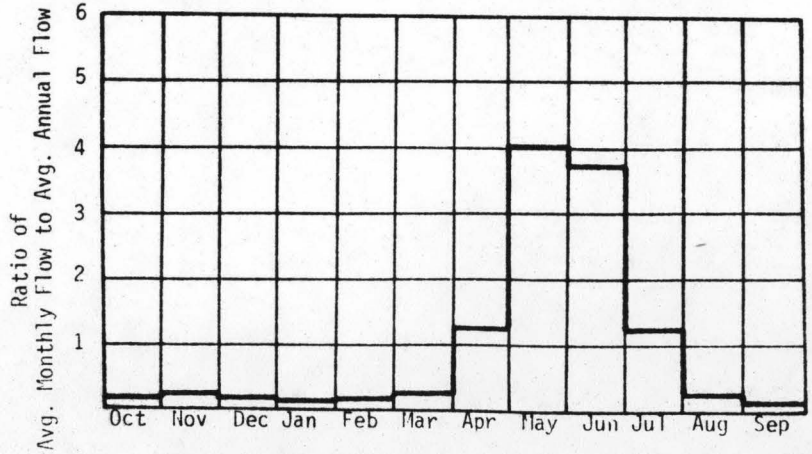
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

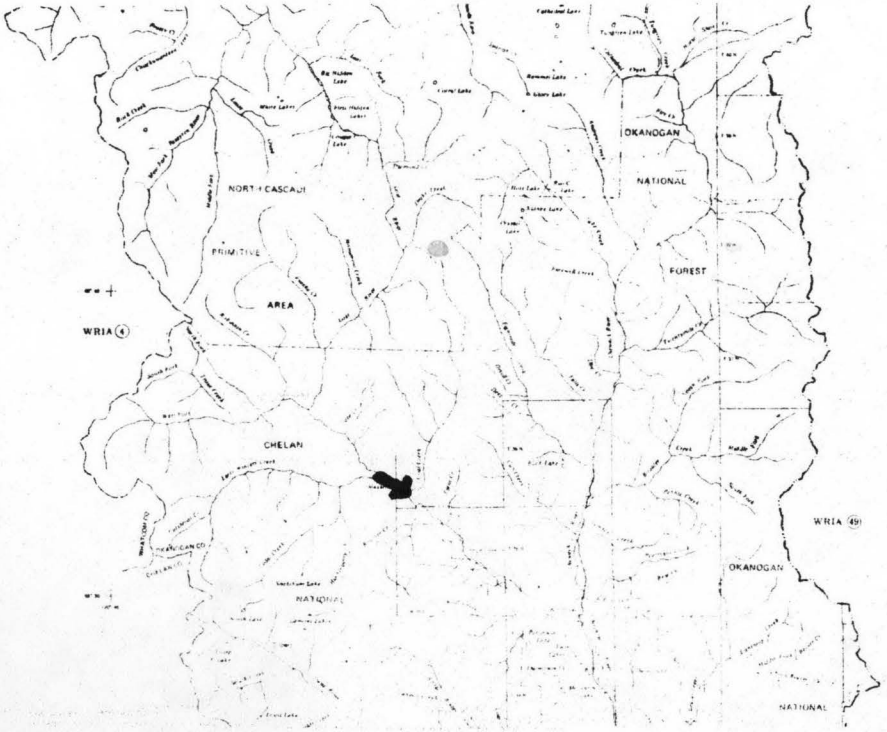
A. Upstream Elevation of Reach	2130	Ft. MSL
B. Downstream Elevation of Reach	2040	Ft. MSL
C. Total Available Head in Reach	90	Ft.
D. Average Slope in Reach	23	Ft./Mi.
E. Drainage Area above Reach Mouth	338	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	77.4	0.59	5.16	1.00
80	103	0.79	6.68	0.97
50	165	1.26	9.25	0.84
30	346	2.63	14.1	0.61
10	1550	11.8	29.0	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 516 cfs





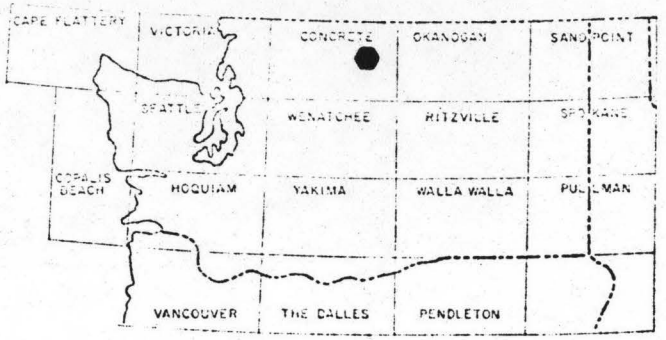
W48-1358

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T36N R19E
D.	Latitude, Longitude	48°37' 120°00'
E.	Stream Name	Methow River
F.	Major Basin Name	Methow
G.	River Mile	67.8/73.7



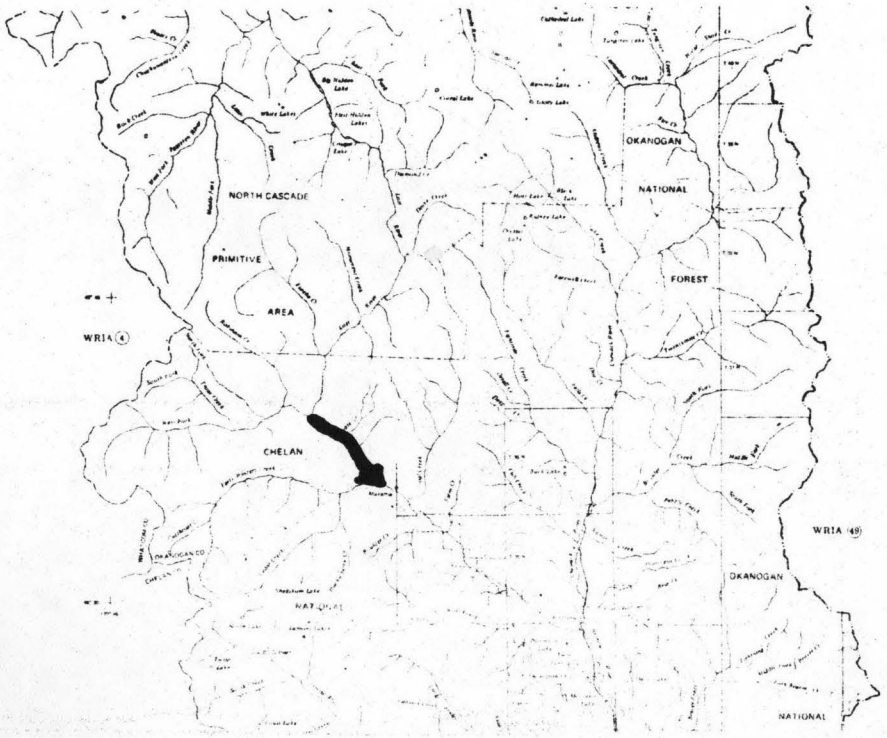
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2350	Ft. MSL
B.	Downstream Elevation of Reach	2130	Ft. MSL
C.	Total Available Head in Reach	220	Ft.
D.	Average Slope in Reach	37	Ft./Mi.
E.	Drainage Area above Reach Mouth	250	Sq.Mi.
F.	Inflow Classification	Natural	

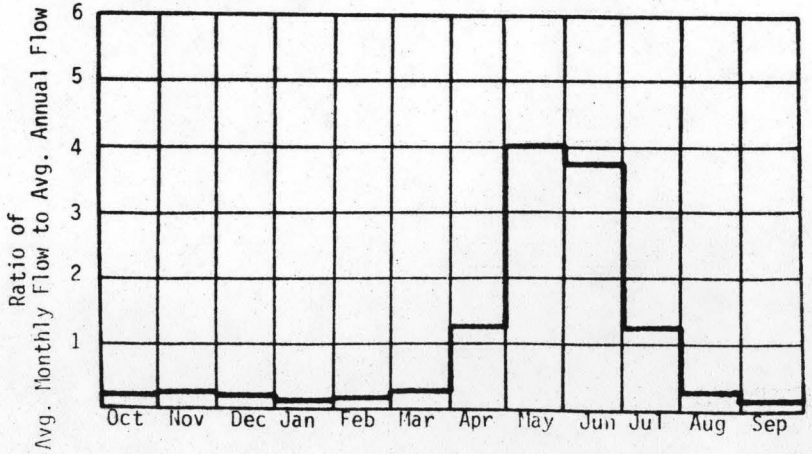
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	53.2	0.99	8.68	1.00
80	71.0	1.32	11.2	0.97
50	114	2.11	15.6	0.84
30	238	4.43	23.7	0.61
10	1070	19.9	48.8	0.28



IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 355 cfs



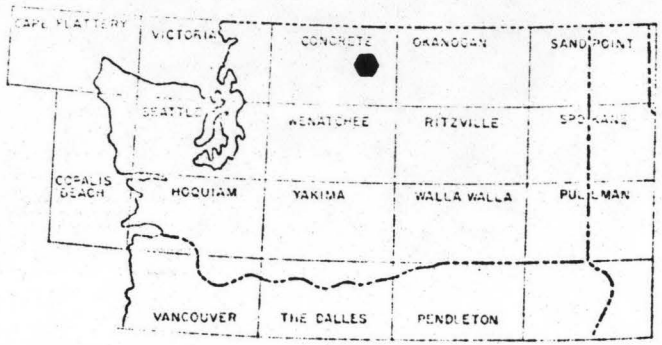
W48-1359

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T36N R19E
D.	Latitude, Longitude	48°39' 120°32'
E.	Stream Name	Methow River
F.	Major Basin Name	Methow
G.	River Mile	0.0/1.6



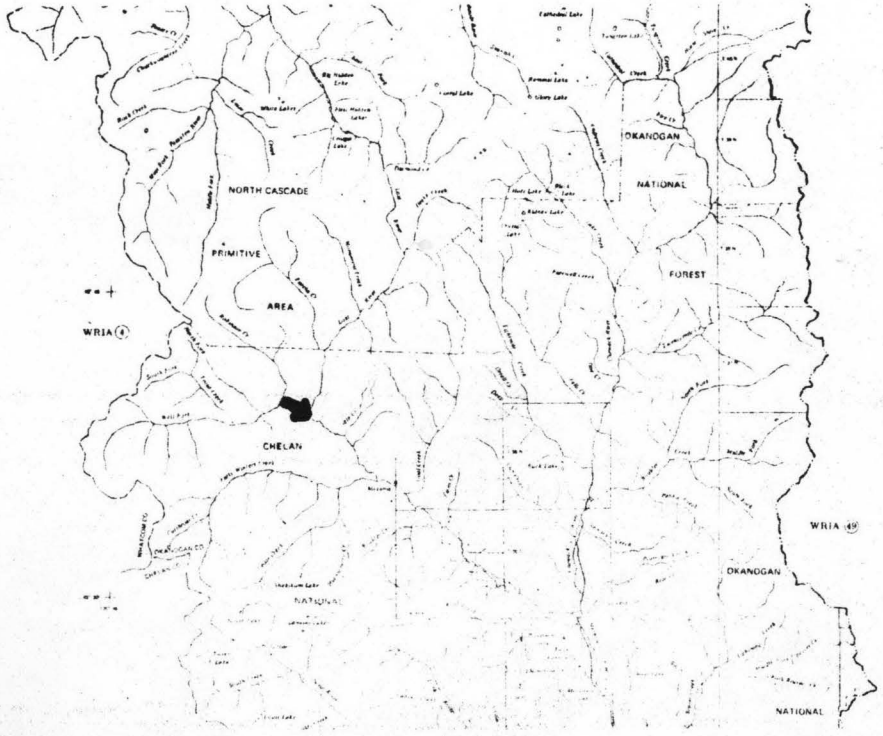
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

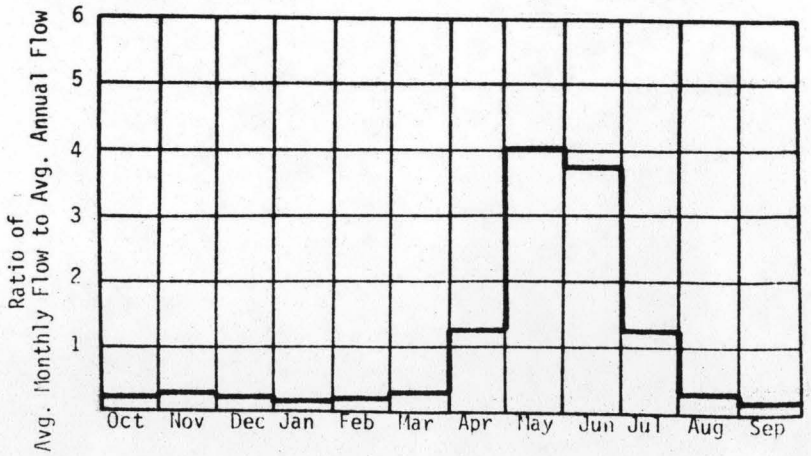
A.	Upstream Elevation of Reach	2470	Ft. MSL
B.	Downstream Elevation of Reach	2350	Ft. MSL
C.	Total Available Head in Reach	120	Ft.
D.	Average Slope in Reach	75	Ft./Mi.
E.	Drainage Area above Reach Mouth	78	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22.2	0.23	1.99	1.00
80	29.8	0.30	2.57	0.97
50	47.7	0.48	3.56	0.84
30	99.8	1.01	5.42	0.61
10	448	4.55	11.2	0.28



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 149 cfs



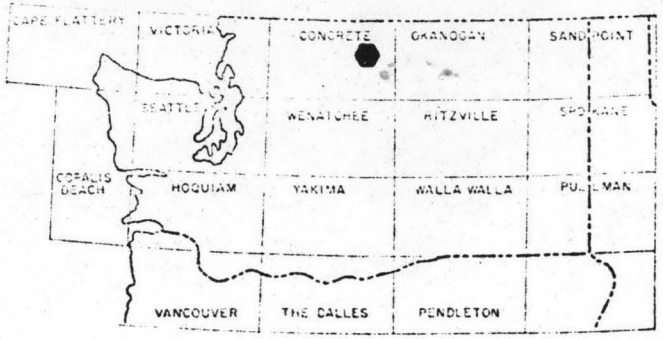
W48-1360

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T33N R21E
D.	Latitude, Longitude	48°22' 120°14'
E.	Stream Name	Twisp River
F.	Major Basin Name	Methow
G.	River Mile	0.0/12.7



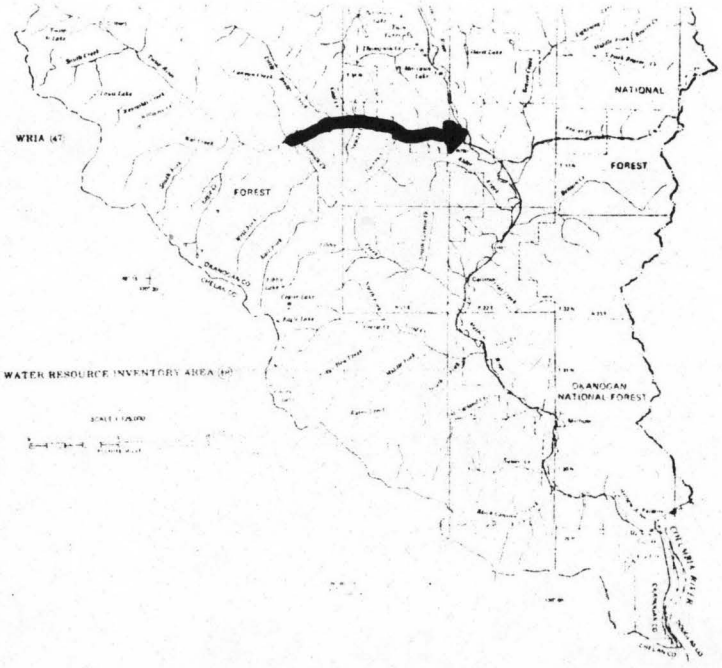
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2250	Ft. MSL
B.	Downstream Elevation of Reach	1570	Ft. MSL
C.	Total Available Head in Reach	680	Ft.
D.	Average Slope in Reach	54	Ft./Mi.
E.	Drainage Area above Reach Mouth	250	Sq.Mi.
F.	Inflow Classification	Natural	

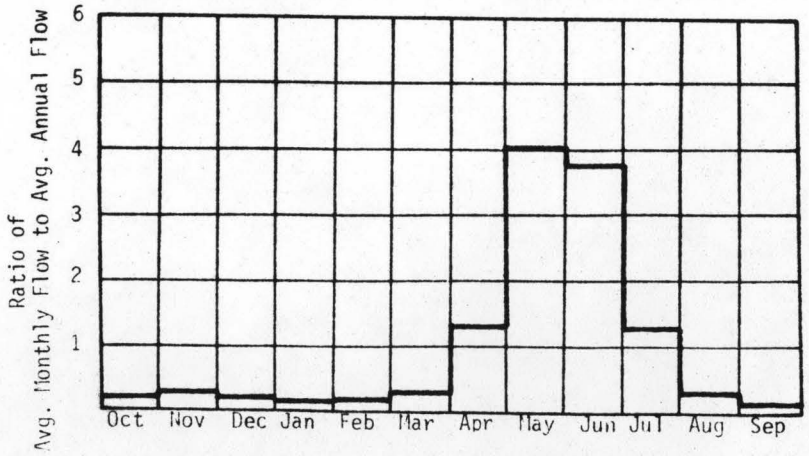
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	39.9	2.30	20.1	1.00
80	53.2	3.06	26.0	0.97
50	85.1	4.90	36.0	0.84
30	178	10.9	54.8	0.61
10	800	46.1	113	0.28



IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 266 cfs



W48-1361

REACH HYDRO POTENTIAL CHARACTERISTICS

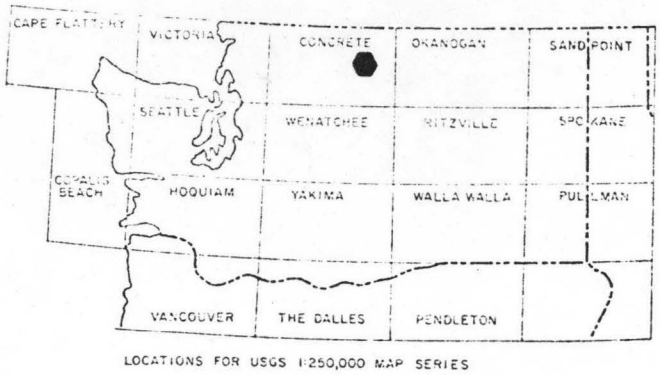
REACH # 01-500-360-000-000-R0011

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T33N R30E	
D. Latitude, Longitude	48°21' 120°20'	
E. Stream Name	Twisp River	
F. Major Basin Name	Methow	
G. River Mile	12.7/16.2	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

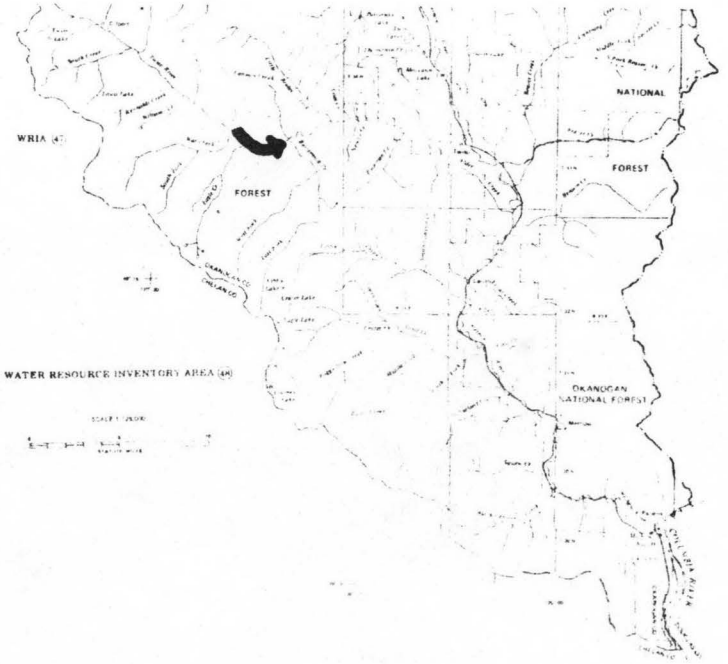
A. Upstream Elevation of Reach	2380	Ft. MSL
B. Downstream Elevation of Reach	2250	Ft. MSL
C. Total Available Head in Reach	130 + 66 = 196	Ft.
D. Average Slope in Reach	37	Ft./Mi.
E. Drainage Area above Reach Mouth	133	Sq.Mi.
F. Inflow Classification	Natural	



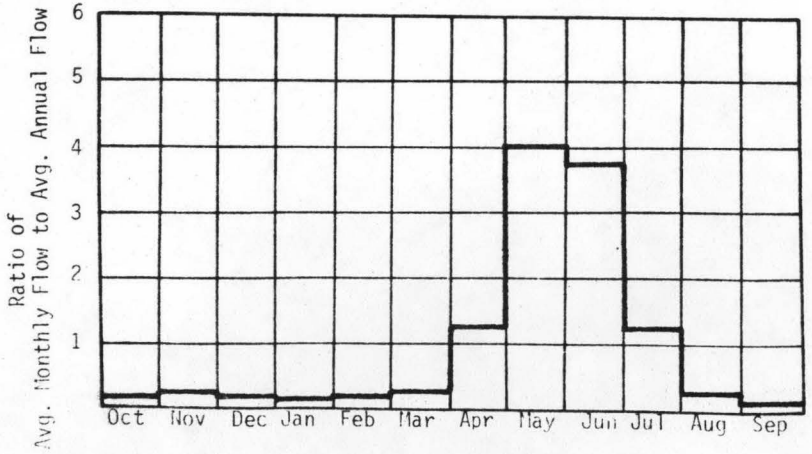
LOCATIONS FOR USGS 1:250,000 MAP SERIES

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.8	0.43	3.75	1.00
80	34.4	0.57	4.85	0.97
50	55.0	0.91	6.72	0.84
30	115	1.91	10.2	0.61
10	518	8.58	21.1	0.28



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 172 cfs



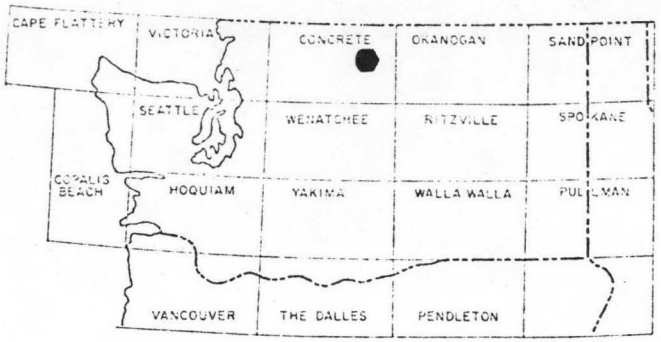
W48-1362

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T35N R21E
D.	Latitude, Longitude	48°32' 120°10'
E.	Stream Name	Chewack
F.	Major Basin Name	Methow
G.	River Mile	0.0/9.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

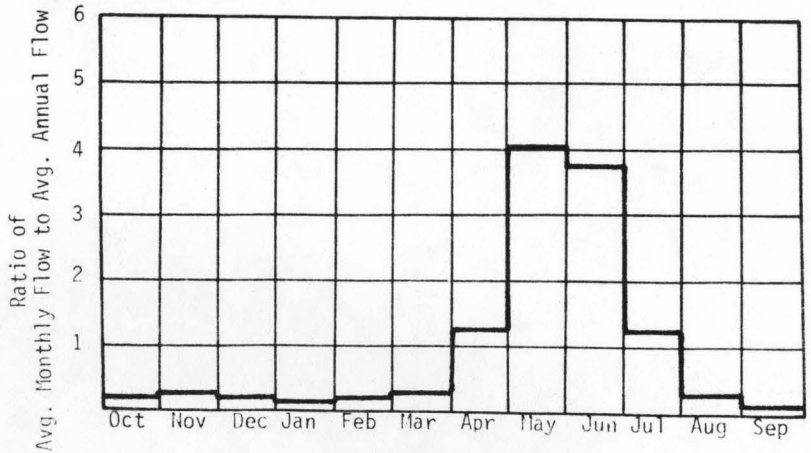
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

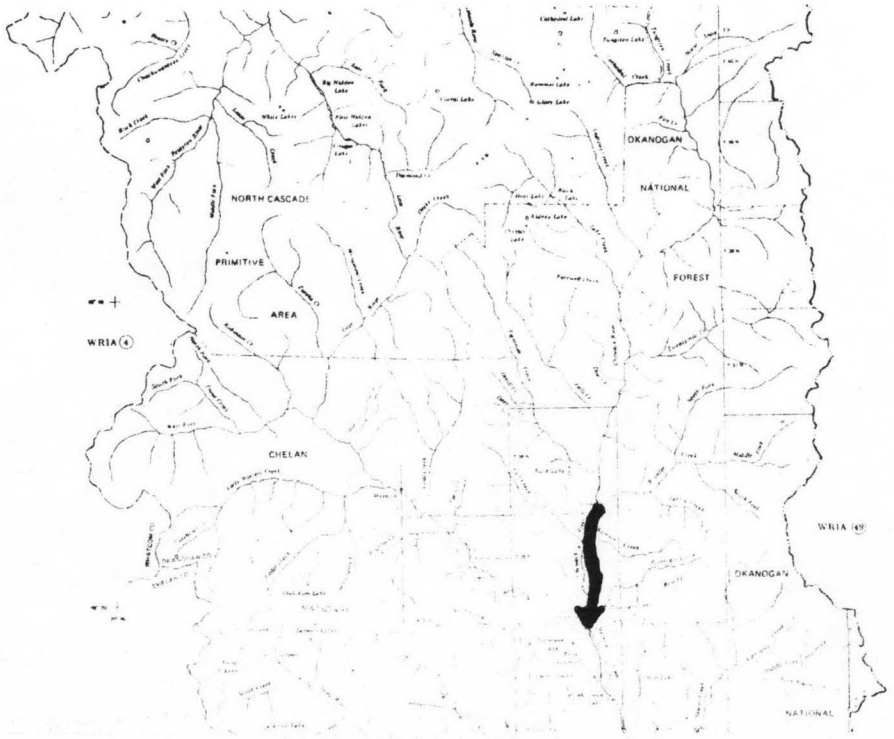
A.	Upstream Elevation of Reach	2010	Ft. MSL
B.	Downstream Elevation of Reach	1740	Ft. MSL
C.	Total Available Head in Reach	270	Ft.
D.	Average Slope in Reach	30	Ft./Mi.
E.	Drainage Area above Reach Mouth	534	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	64.3	1.47	12.9	1.00
80	85.8	1.96	16.6	0.97
50	137	3.14	23.1	0.84
30	287	6.57	35.1	0.61
10	1290	29.5	72.4	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 429 cfs

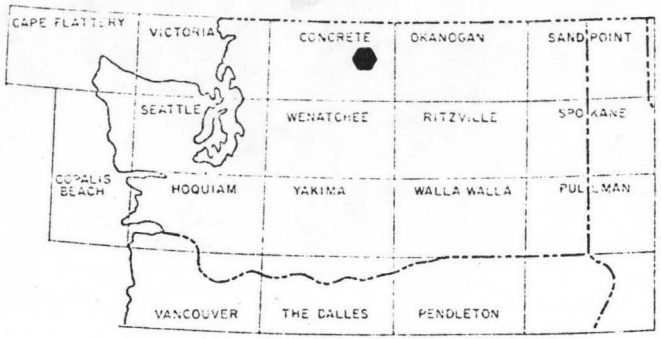




W48-1363

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH = 01-500-360-000-000-R0013



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T36N R21E	
D. Latitude, Longitude	48°35' 120°10'	
E. Stream Name	Chewack	
F. Major Basin Name	Methow	
G. River Mile	9.1/11.1	

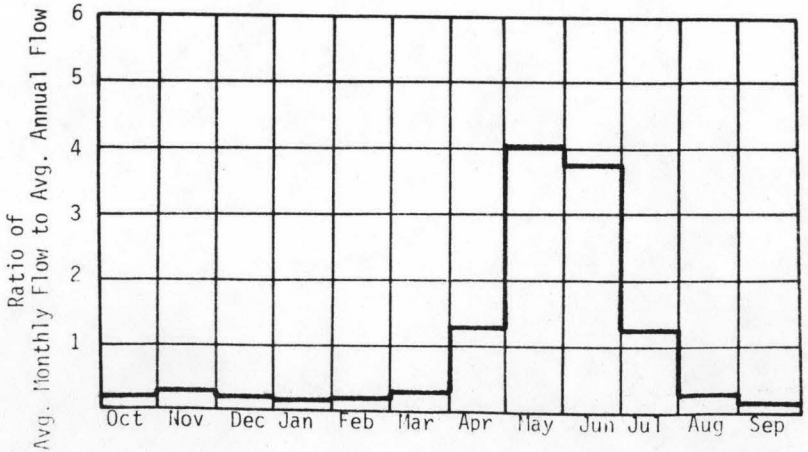
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

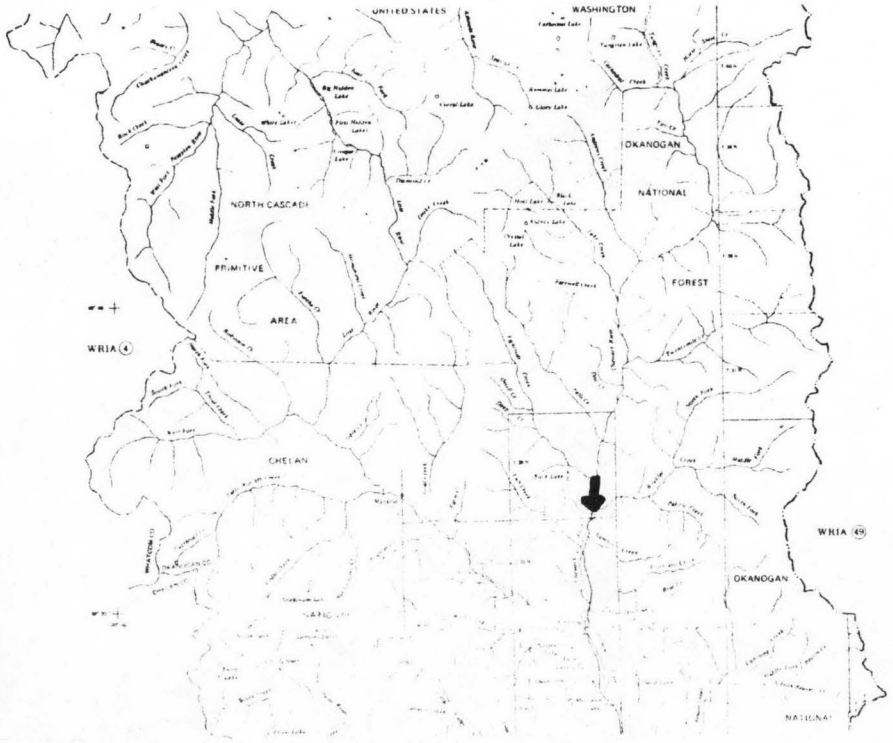
A. Upstream Elevation of Reach	2120	Ft. MSL
B. Downstream Elevation of Reach	2010	Ft. MSL
C. Total Available Head in Reach	110	Ft.
D. Average Slope in Reach	55	Ft./Mi.
E. Drainage Area above Reach Mouth	386	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	50.1	0.47	4.09	1.00
80	66.8	0.62	5.28	0.97
50	107	0.99	7.32	0.84
30	224	2.08	11.1	0.61
10	1000	9.36	22.9	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 334 cfs





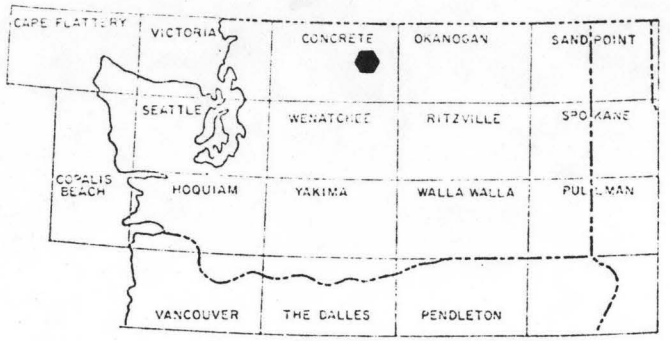
W48-1364

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0014

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T36N R21E	
D. Latitude, Longitude	48°38' 120°10'	
E. Stream Name	Chewack	
F. Major Basin Name	Methow	
G. River Mile	11.0/13.7	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

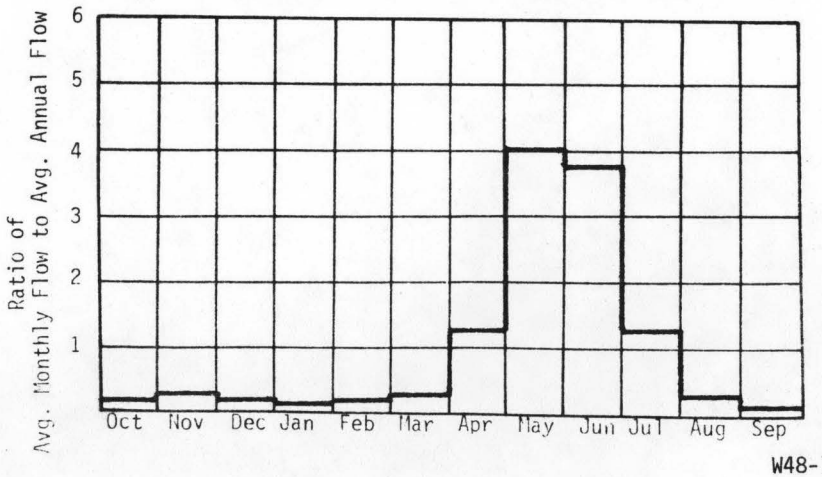
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

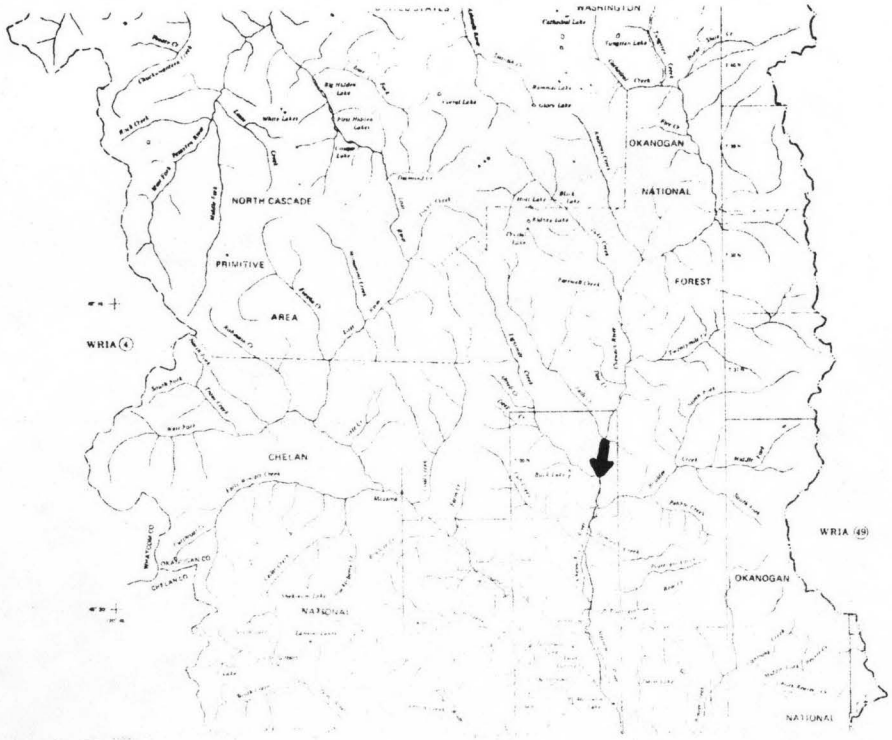
A. Upstream Elevation of Reach	2160	Ft. MSL
B. Downstream Elevation of Reach	2120	Ft. MSL
C. Total Available Head in Reach	40	Ft.
D. Average Slope in Reach	15	Ft./Mi.
E. Drainage Area above Reach Mouth	335	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	45.0	0.15	1.33	1.00
80	60.0	0.20	1.75	0.97
50	96.0	0.32	2.39	0.84
30	201	0.68	3.63	0.61
10	903	3.06	7.50	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 300 cfs





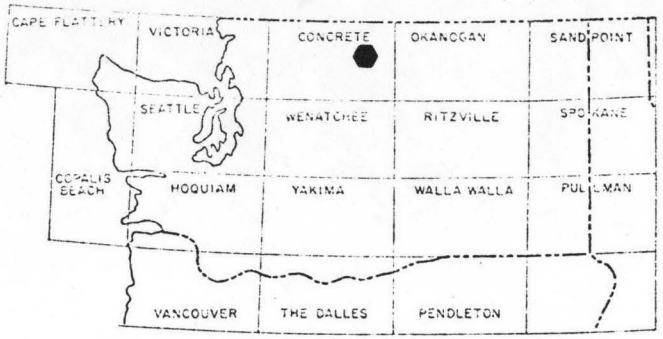
W48-1365

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0015

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T37N R22E	
D. Latitude, Longitude	48°40' 120°09'	
E. Stream Name	Chewack	
F. Major Basin Name	Methow	
G. River Mile	13.7/18.8	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

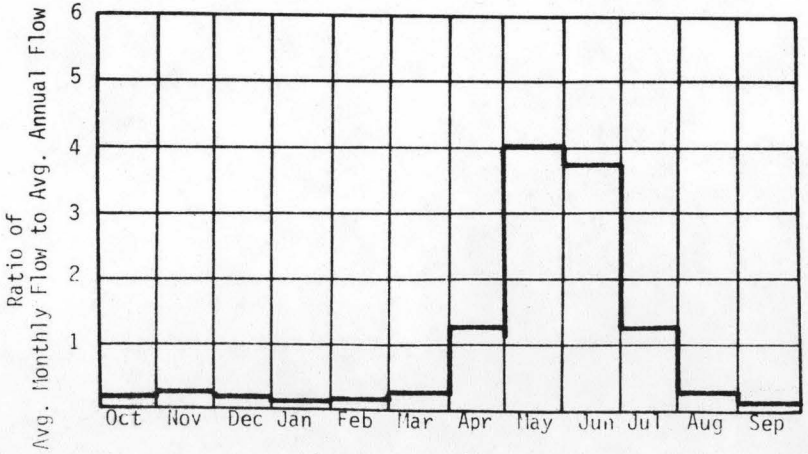
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

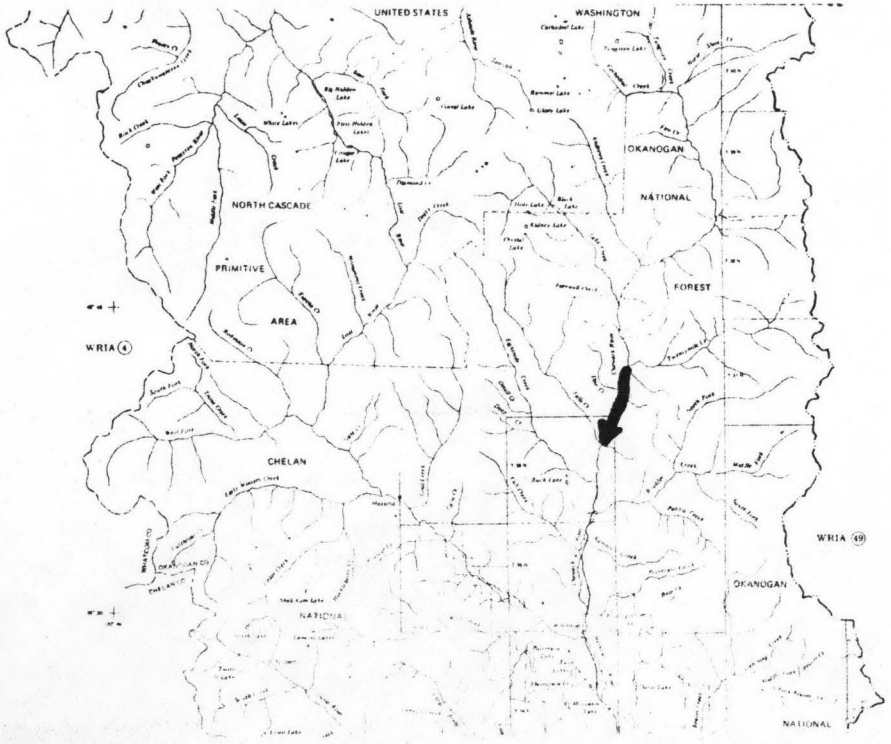
A. Upstream Elevation of Reach	2320	Ft. MSL
B. Downstream Elevation of Reach	2160	Ft. MSL
C. Total Available Head in Reach	160	Ft.
D. Average Slope in Reach	31	Ft./Mi.
E. Drainage Area above Reach Mouth	302	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	41.1	0.56	4.87	1.00
80	54.8	0.74	6.30	0.97
50	87.7	1.19	8.73	0.84
30	184	2.48	13.3	0.61
10	825	11.2	27.4	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 274 cfs

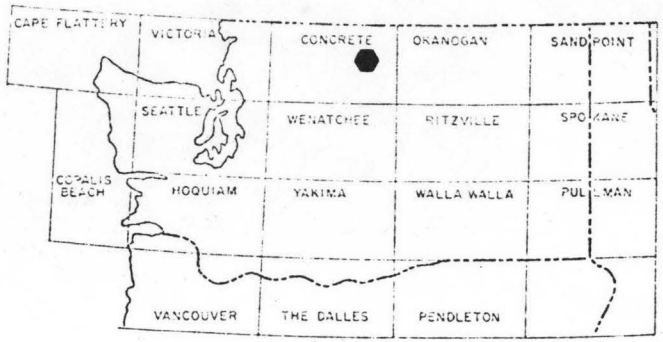




W48-1366

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0016



LOCATIONS FOR USGS 1:250,000 MAP SERIES

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T37N R22E	
D. Latitude, Longitude	48°44' 120°08'	
E. Stream Name	Chewack	
F. Major Basin Name	Methow	
G. River Mile	20.3/22.6	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

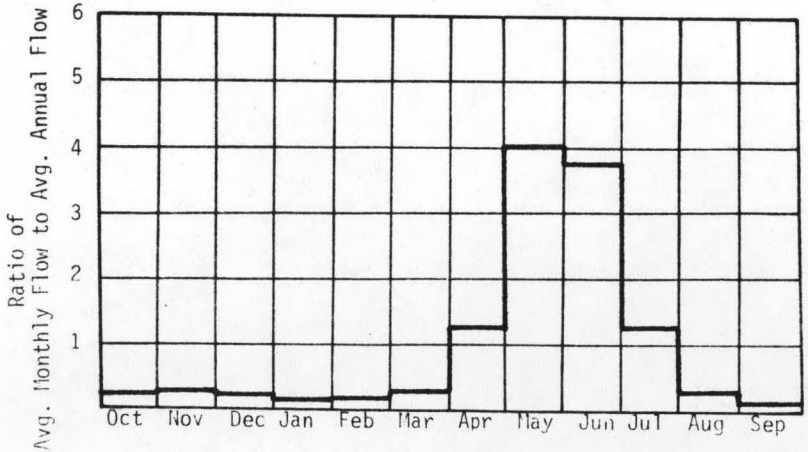
A. Upstream Elevation of Reach	2600	Ft. MSL
B. Downstream Elevation of Reach	2400	Ft. MSL
C. Total Available Head in Reach	200	Ft.
D. Average Slope in Reach	87	Ft./Mi.
E. Drainage Area above Reach Mouth	243	Sq.Mi.
F. Inflow Classification	Natural	

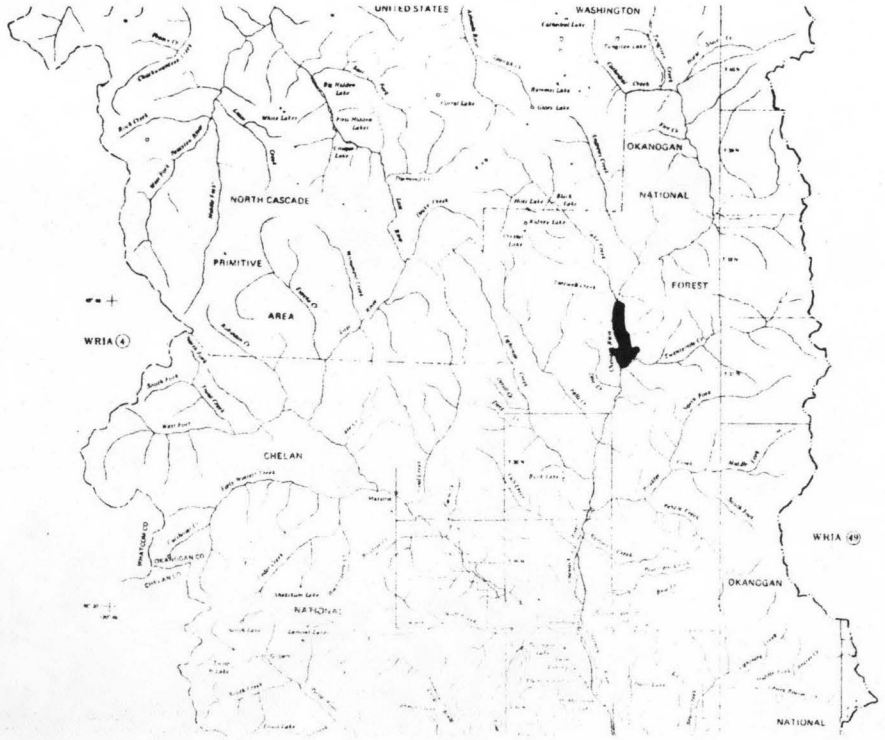
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	34.2	0.58	5.07	1.00
80	45.6	0.77	6.56	0.97
50	73.0	1.23	9.08	0.84
30	153	2.58	13.8	0.61
10	686	11.6	28.5	0.28

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 228 cfs





W48-1367

REACH HYDRO POTENTIAL CHARACTERISTICS

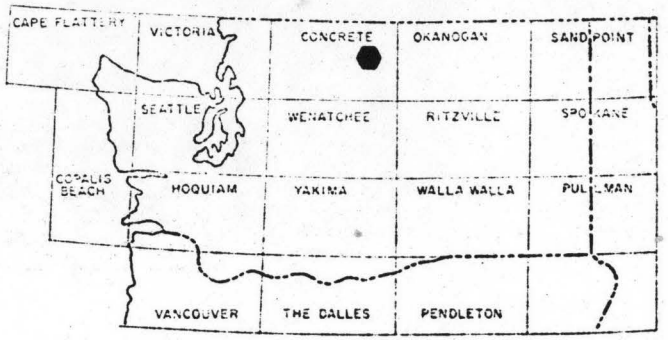
REACH # 01-500-360-000-000-R0017

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T38N R22E	
D. Latitude, Longitude	48°47' 120°07'	
E. Stream Name	Chewack	
F. Major Basin Name	Methow	
G. River Mile	22.6/25.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3000	Ft. MSL
B. Downstream Elevation of Reach	2600	Ft. MSL
C. Total Available Head in Reach	400	Ft.
D. Average Slope in Reach	125	Ft./Mi.
E. Drainage Area above Reach Mouth	176	Sq.Mi.
F. Inflow Classification	Natural	



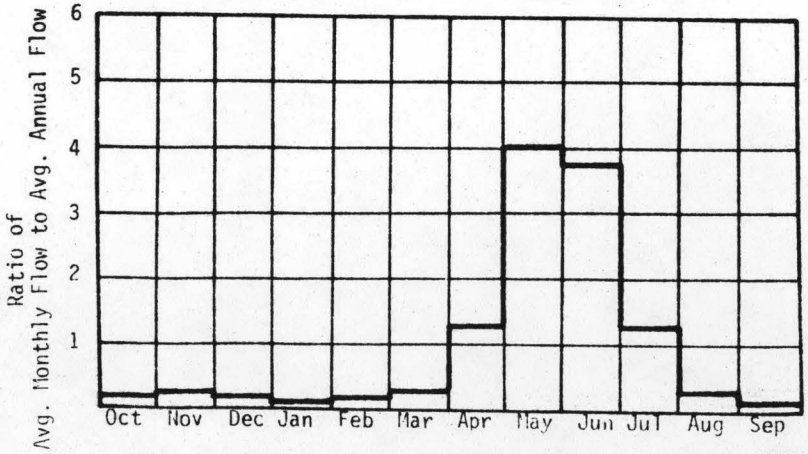
LOCATIONS FOR USGS 1:250,000 MAP SERIES

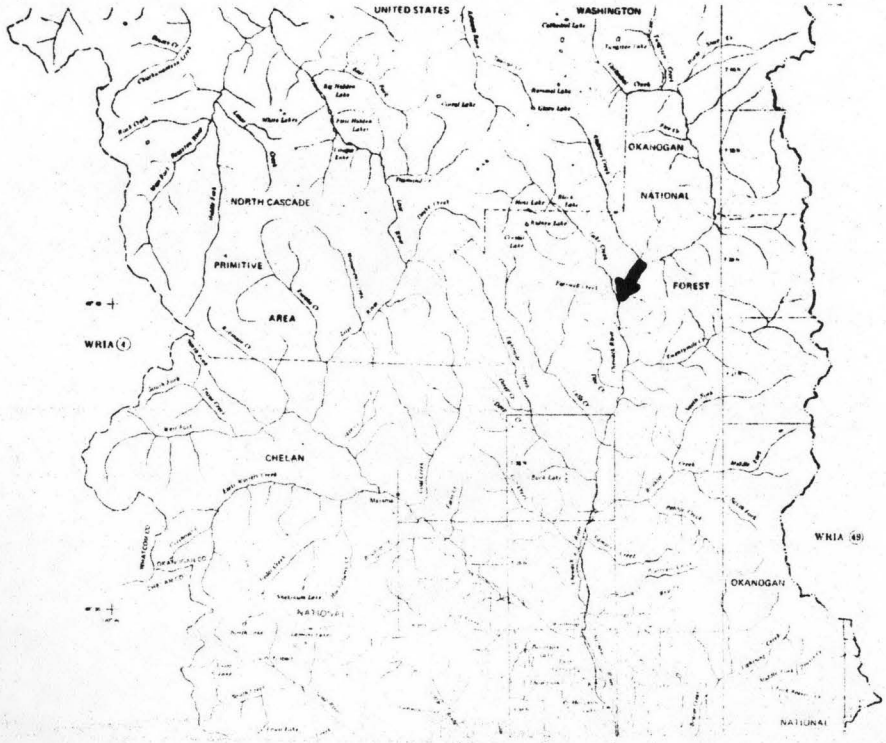
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	26.7	0.90	7.91	1.00
80	35.6	1.20	10.2	0.97
50	57.0	1.93	14.2	0.84
30	119	4.04	21.6	0.61
10	536	18.1	44.5	0.28

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 178 cfs





W48-1368

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0018

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T38N R22E	
D. Latitude, Longitude	48°48' 120°02'	
E. Stream Name	Chewack	
F. Major Basin Name	Methow	
G. River Mile	25.8/31.9	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

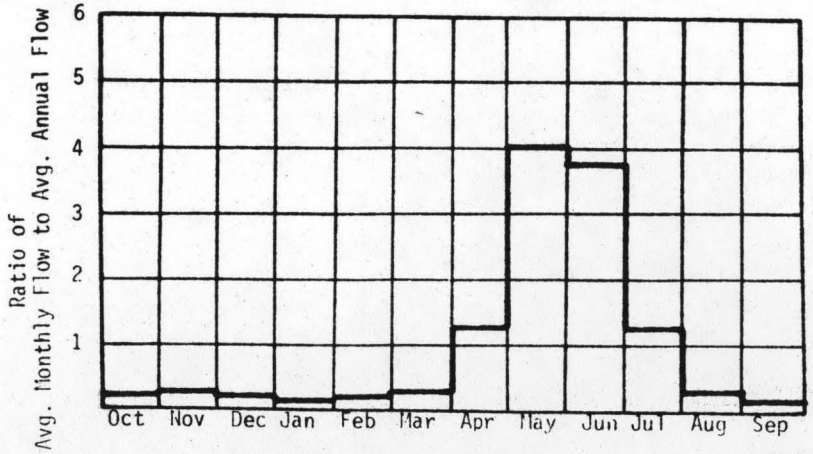
A. Upstream Elevation of Reach	3400	Ft. MSL
B. Downstream Elevation of Reach	3000	Ft. MSL
C. Total Available Head in Reach	400 + 66 = 466	Ft.
D. Average Slope in Reach	66	Ft./Mi.
E. Drainage Area above Reach Mouth	144	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

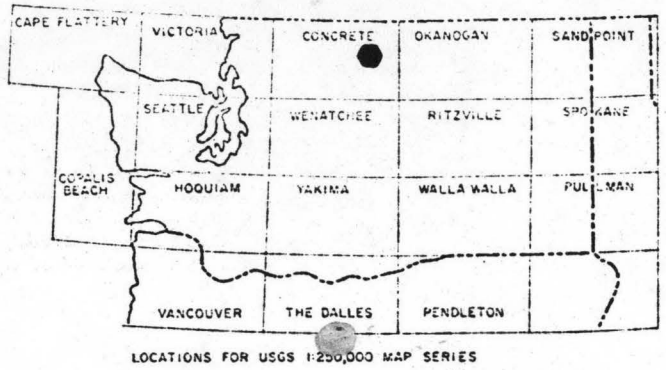
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.1	0.79	6.94	1.00
80	26.8	1.06	8.98	0.97
50	42.9	1.69	12.4	0.84
30	89.8	3.54	18.9	0.61
10	403	15.9	39.0	0.28

IV. TYPICAL ANNUAL HYDROGRAPH

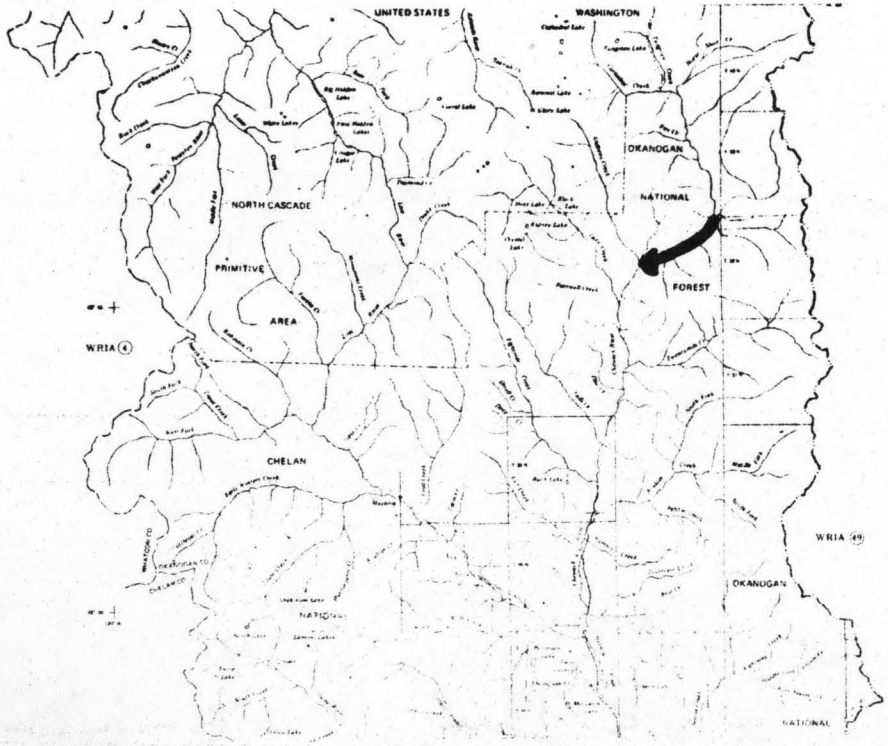
QMR = 134 cfs



W48-1369



LOCATIONS FOR USGS 1:250,000 MAP SERIES

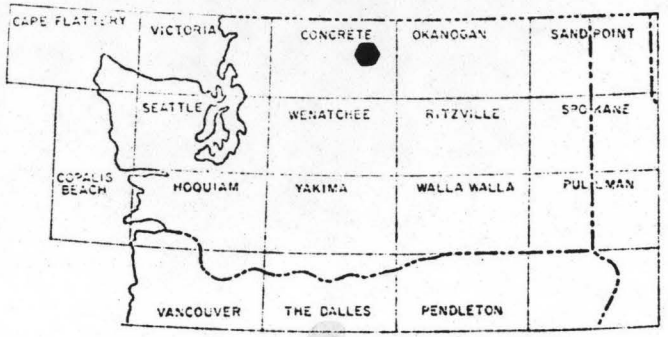


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0019

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T36N R19E	
D. Latitude, Longitude	48°33' 120°25'	
E. Stream Name	Early Winters Creek	
F. Major Basin Name	Methow	
G. River Mile	0.0/1.3	



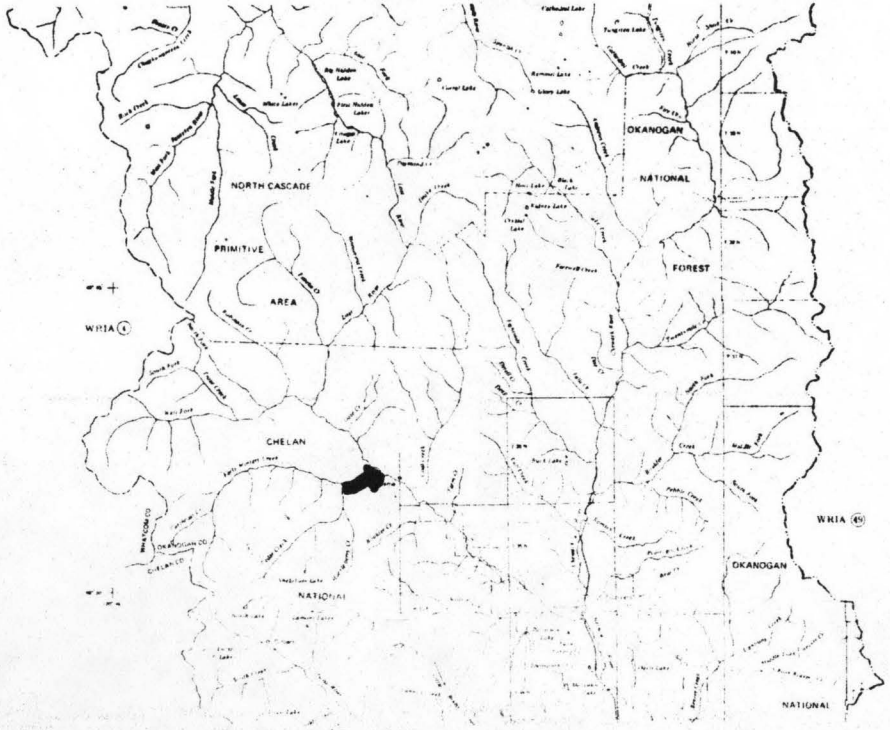
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

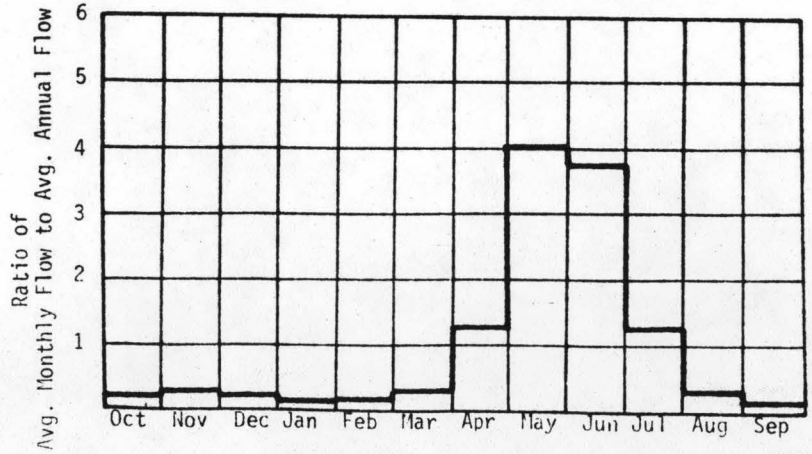
A. Upstream Elevation of Reach	2360	Ft. MSL	
B. Downstream Elevation of Reach	2130	Ft. MSL	
C. Total Available Head in Reach	230 + 66 = 296	Ft.	
D. Average Slope in Reach	177	Ft./Mi.	
E. Drainage Area above Reach Mouth	81.4	Sq.Mi.	???
F. Inflow Classification	Natural		

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.9	0.45	3.92	1.00
80	23.8	0.60	5.06	0.97
50	38.1	0.95	7.02	0.84
30	79.7	2.00	10.7	0.61
10	358	8.97	22.0	0.28



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 119 cfs



W48-1370

REACH HYDRO POTENTIAL CHARACTERISTICS

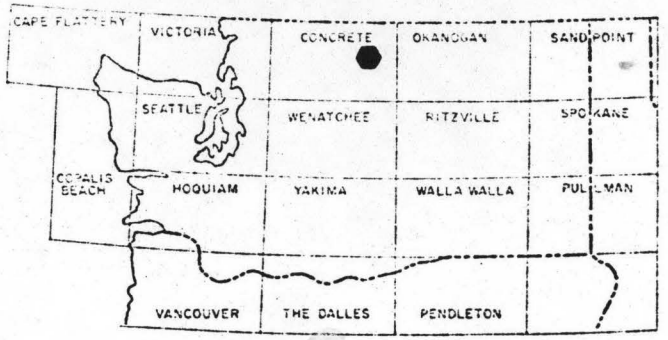
REACH # 01-500-360-000-000-R0020

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T37N R19E	
D. Latitude, Longitude	48°40' 120°29'	
E. Stream Name	Lost River	
F. Major Basin Name	Methow	
G. River Mile	73.7/77.8	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

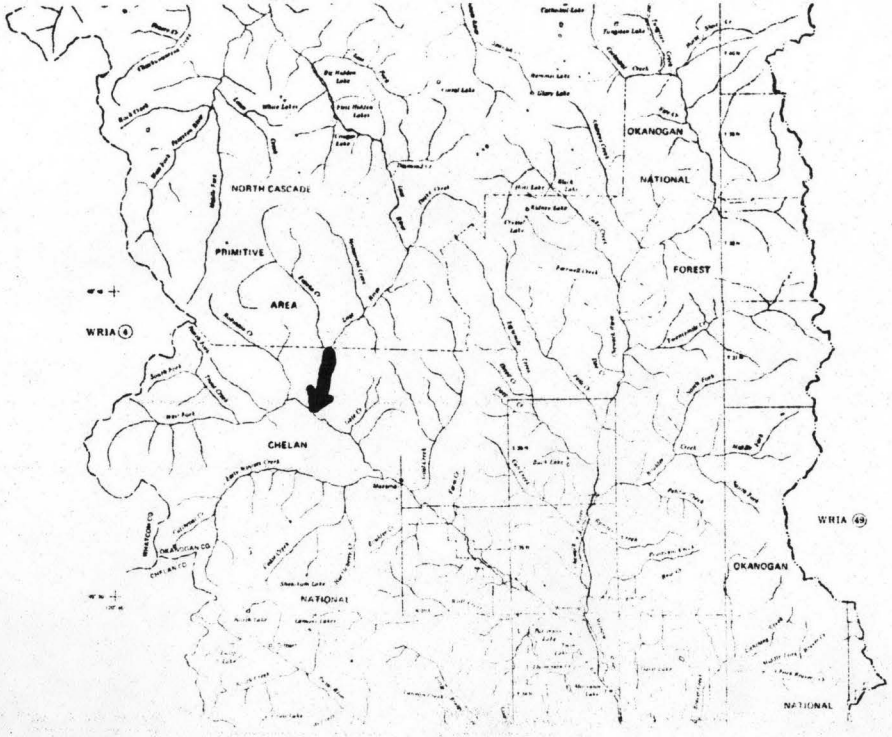
A. Upstream Elevation of Reach	2600	Ft. MSL
B. Downstream Elevation of Reach	2350	Ft. MSL
C. Total Available Head in Reach	250	Ft.
D. Average Slope in Reach	61	Ft./Mi.
E. Drainage Area above Reach Mouth	148	Sq.Mi.
F. Inflow Classification	Natural	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

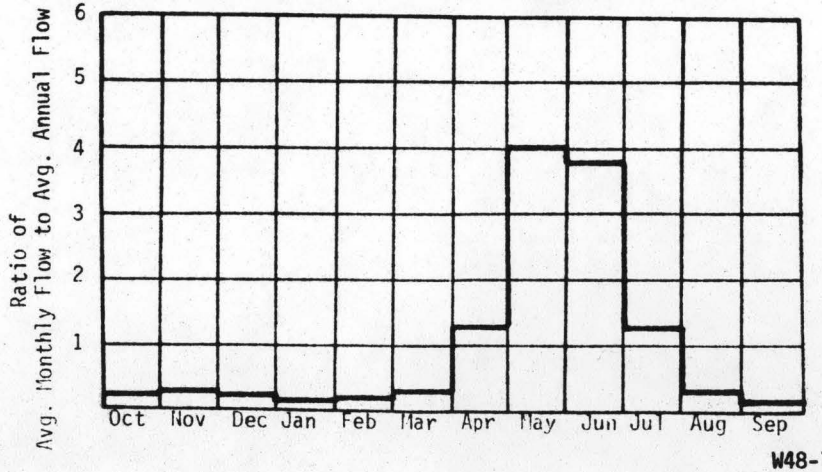
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	24.6	0.52	4.56	1.00
80	32.8	0.69	5.89	0.97
50	52.5	1.11	8.17	0.84
30	110	2.32	12.4	0.61
10	494	10.4	25.6	0.28



IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 164 cfs



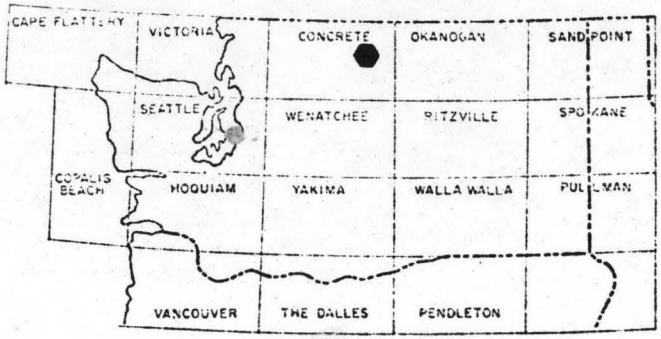
W48-1371

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0021

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T37N R19E
D.	Latitude, Longitude	48°44' 120°28'
E.	Stream Name	Lost River
F.	Major Basin Name	Methow
G.	River Mile	77.8/81.1



LOCATIONS FOR USGS 1:250,000 MAP SERIES

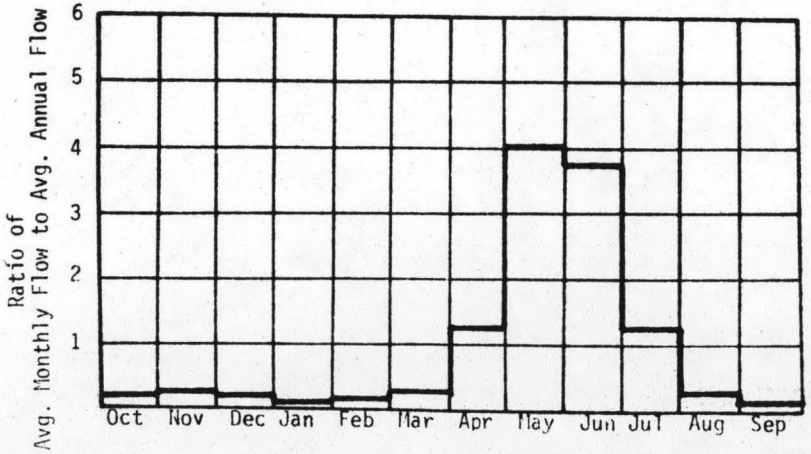
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

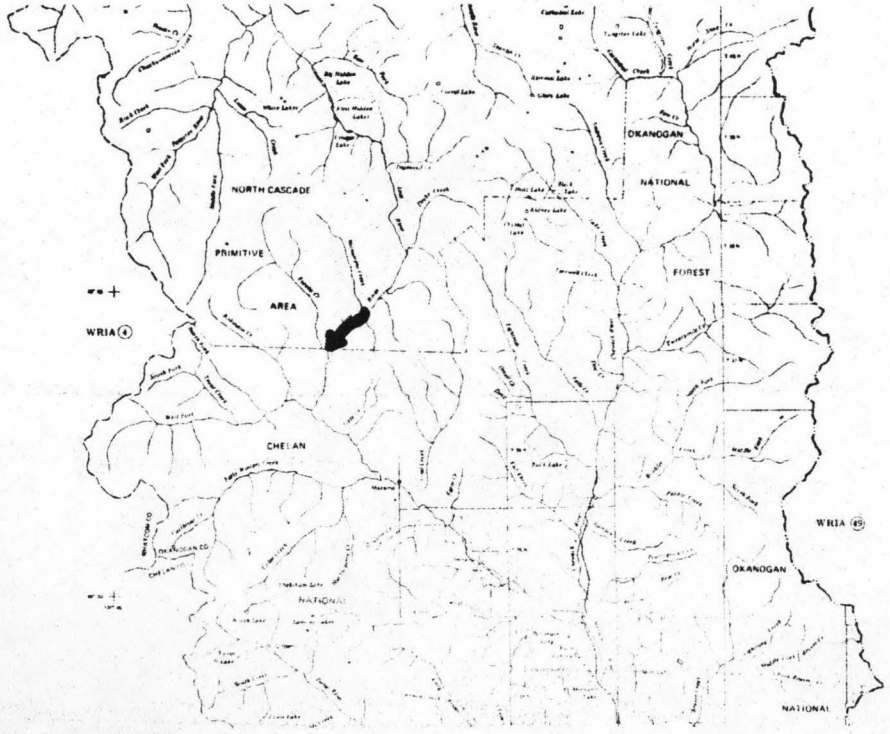
A.	Upstream Elevation of Reach	2960	Ft. MSL
B.	Downstream Elevation of Reach	2600	Ft. MSL
C.	Total Available Head in Reach	360	Ft.
D.	Average Slope in Reach	109	Ft./Mi.
E.	Drainage Area above Reach Mouth	102	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.6	0.53	4.68	1.00
80	23.4	0.71	6.06	0.97
50	37.4	1.14	8.39	0.84
30	78.4	2.39	12.8	0.61
10	352	10.7	26.3	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 117 cfs





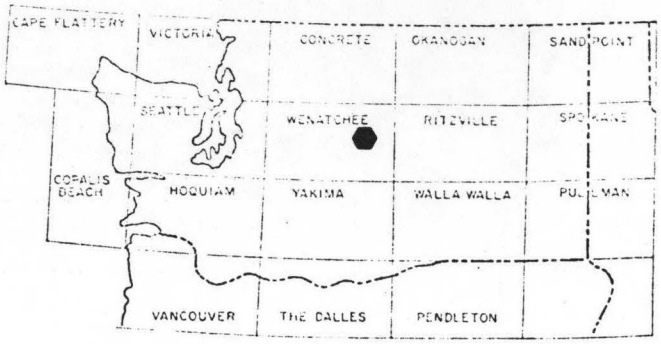
W48-1372

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-360-000-000-R0022

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T36N R18E
D.	Latitude, Longitude	48°38' 120°34'
E.	Stream Name	W.F. Methow River
F.	Major Basin Name	Methow
G.	River Mile	12.7/16.2



LOCATIONS FOR USGS 1:250,000 MAP SERIES

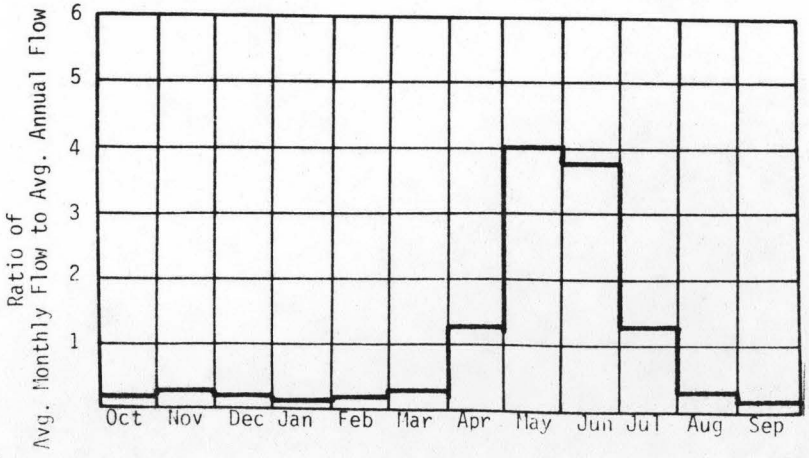
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

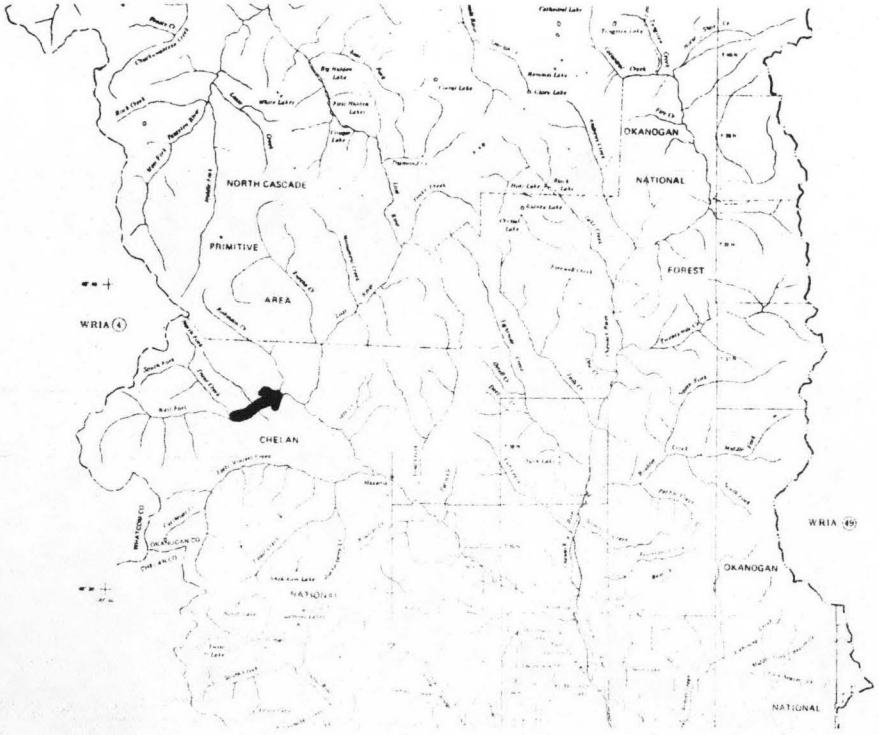
A.	Upstream Elevation of Reach	2380	Ft. MSL
B.	Downstream Elevation of Reach	2250	Ft. MSL
C.	Total Available Head in Reach	130	Ft.
D.	Average Slope in Reach	37	Ft./Mi.
E.	Drainage Area above Reach Mouth	133	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.6	0.28	2.47	1.00
80	34.2	0.38	3.20	0.97
50	54.7	0.60	4.43	0.84
30	115	1.26	6.73	0.61
10	515	5.66	13.9	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 171 cfs





W48-1373

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T31N R25E	
D. Latitude, Longitude	48°10' 119°43'	
E. Stream Name	Okanogan River	
F. Major Basin Name	Okanogan	
G. River Mile	0.0/17.2	

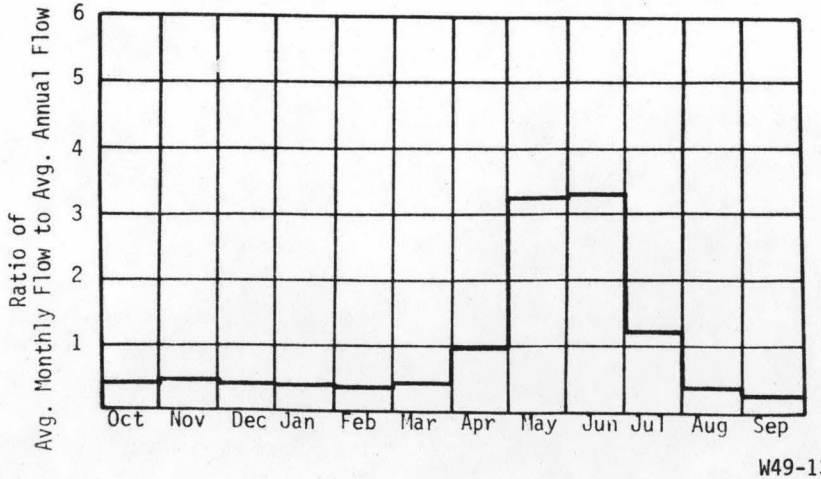
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

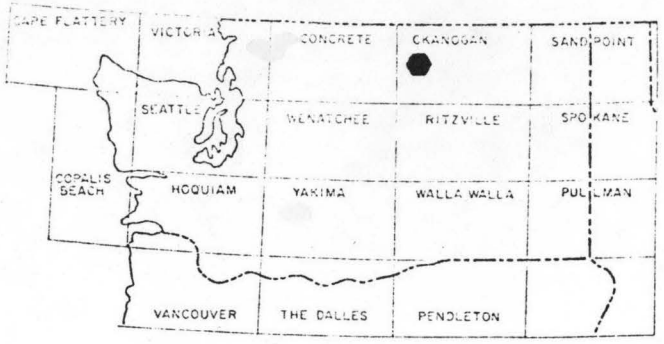
A. Upstream Elevation of Reach	785	Ft. MSL
B. Downstream Elevation of Reach	740	Ft. MSL
C. Total Available Head in Reach	45	Ft.
D. Average Slope in Reach	262	Ft./Mi.
E. Drainage Area above Reach Mouth	8183	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

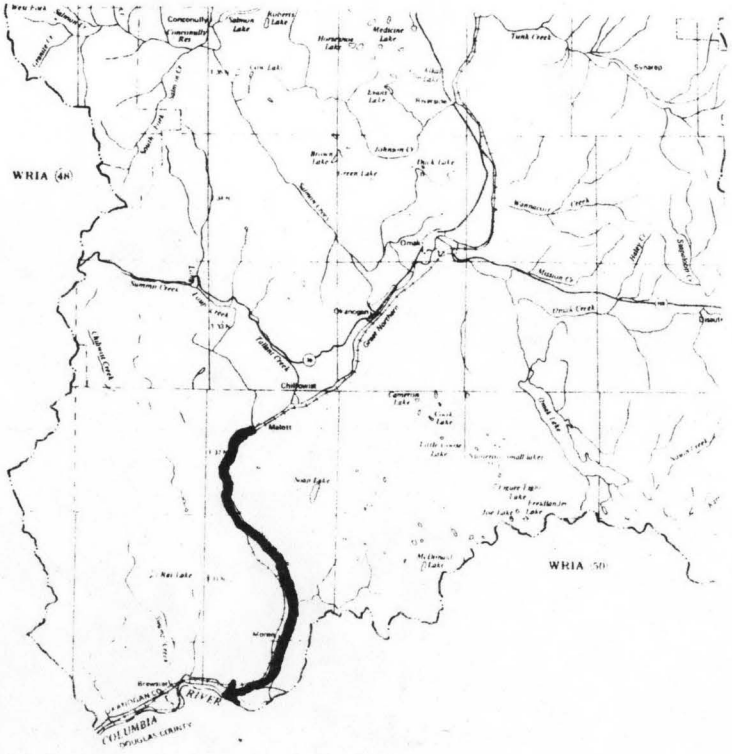
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	877	3.34	29.3	1.00
80	1150	4.38	37.2	0.97
50	1694	6.45	49.2	0.87
30	2390	9.10	58.2	0.73
10	7200	27.4	88.8	0.37

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3025 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1374

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0002

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T33N R23E	
D. Latitude, Longitude	48°19' 119°37'	
E. Stream Name	Okanogan River	
F. Major Basin Name	Okanogan	
G. River Mile	17.2/26.1	

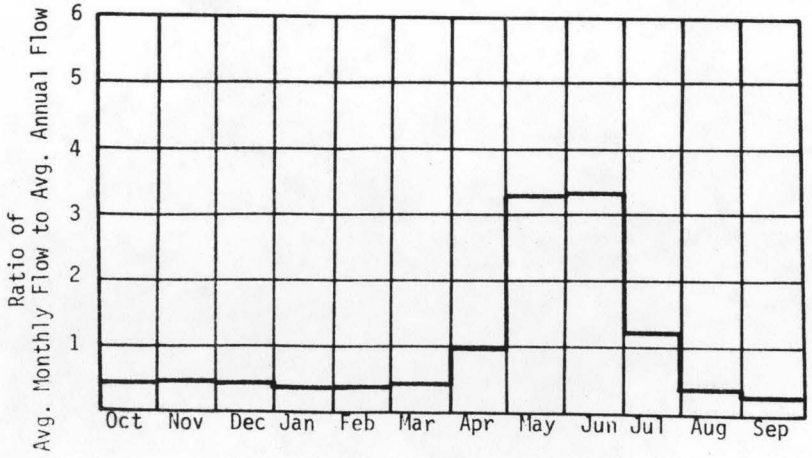
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

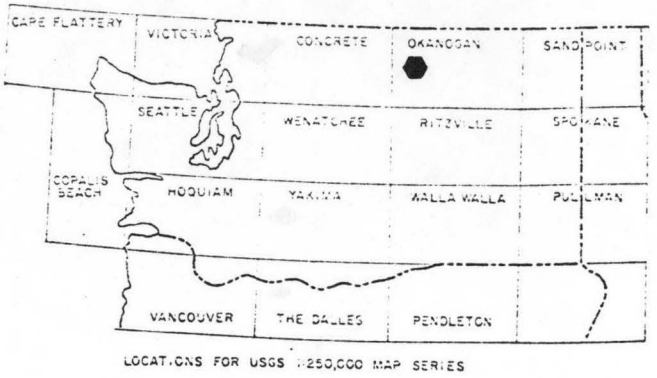
A. Upstream Elevation of Reach	805	Ft. MSL
B. Downstream Elevation of Reach	785	Ft. MSL
C. Total Available Head in Reach	20	Ft.
D. Average Slope in Reach	2.25	Ft./Mi.
E. Drainage Area above Reach Mouth	7977	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

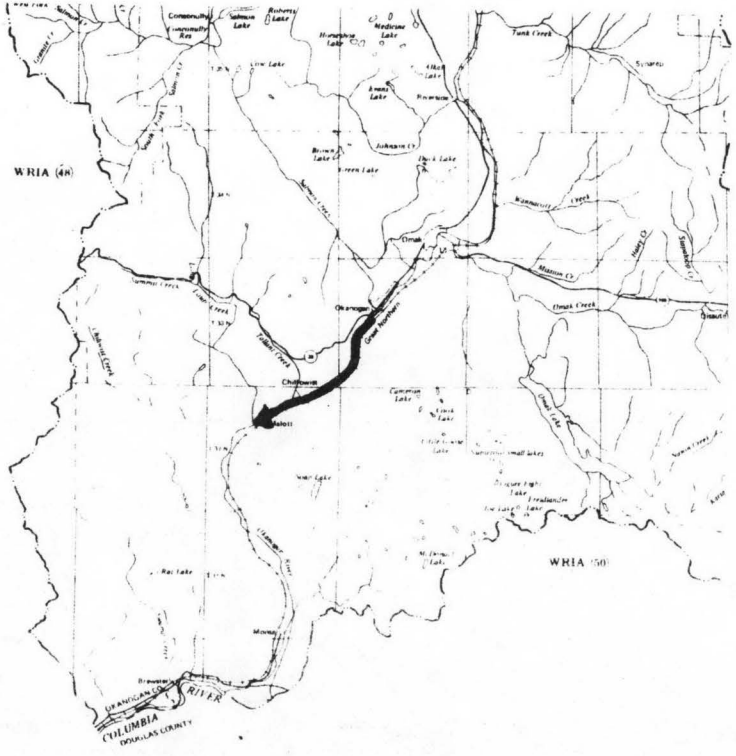
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	750	1.27	11.1	1.00
80	960	1.62	13.8	0.97
50	1350	2.28	17.8	0.89
30	2190	3.71	22.7	0.70
10	8580	14.5	40.7	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1375

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T33N R26E	
D. Latitude, Longitude	48°23' 119°32'	
E. Stream Name	Okanogan River	
F. Major Basin Name	Okanogan	
G. River Mile	26.0/32.4	

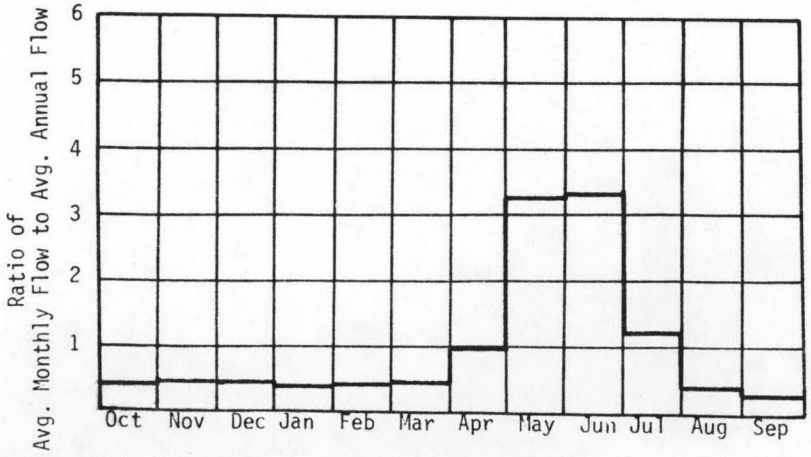
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

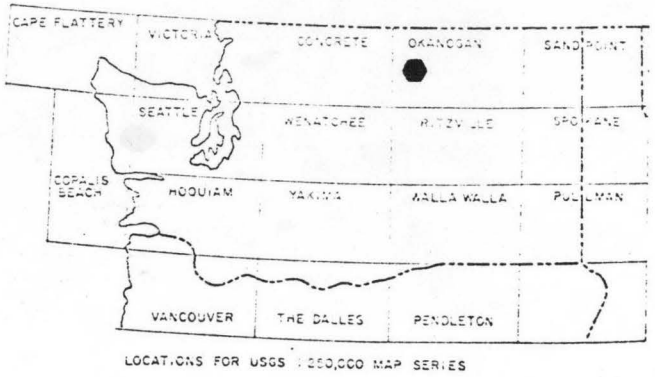
A. Upstream Elevation of Reach	810	Ft. MSL
B. Downstream Elevation of Reach	805	Ft. MSL
C. Total Available Head in Reach	5	Ft.
D. Average Slope in Reach	0.79	Ft./Mi.
E. Drainage Area above Reach Mouth	7758	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

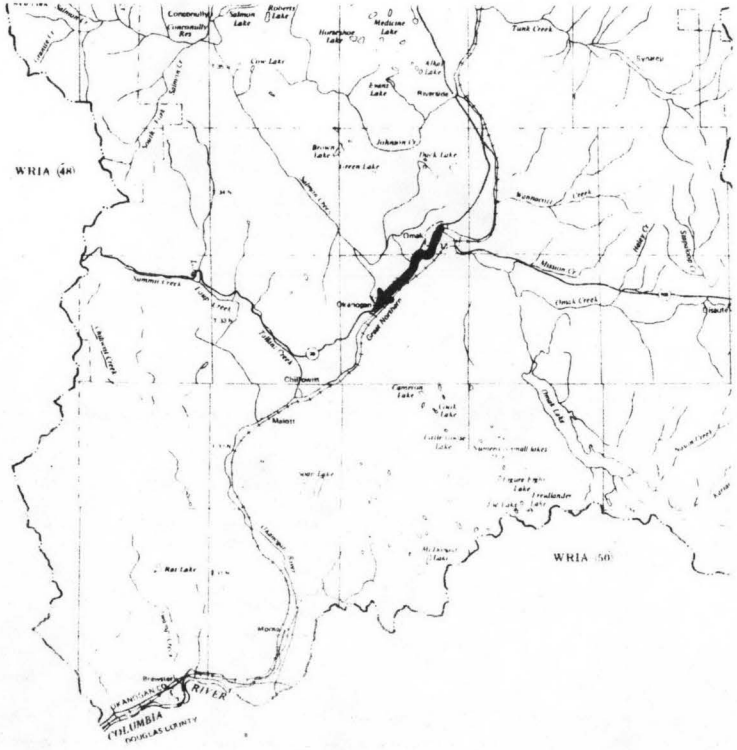
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	750	0.32	2.78	1.00
80	960	0.41	3.45	0.97
50	1350	0.57	4.45	0.89
30	2190	0.93	5.68	0.70
10	8580	3.36	10.2	0.32

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



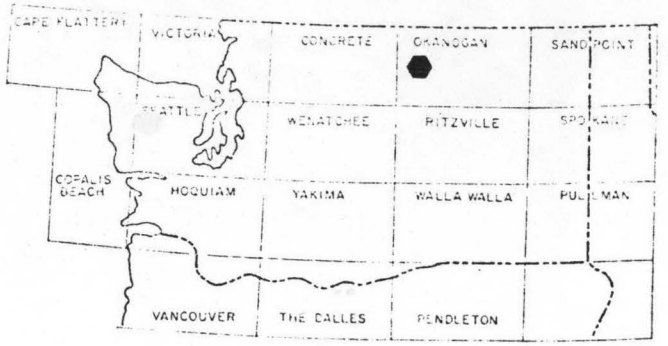
W49-1376

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T34N R27E
D.	Latitude, Longitude	48°25' 119°29'
E.	Stream Name	Okanogan River
F.	Major Basin Name	Okanogan
G.	River Mile	32.4/35.4



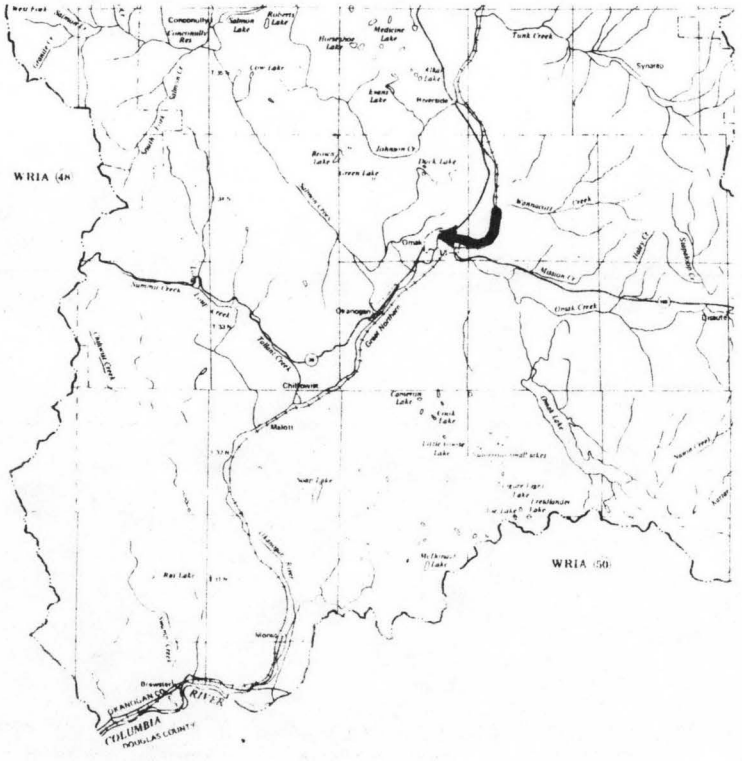
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

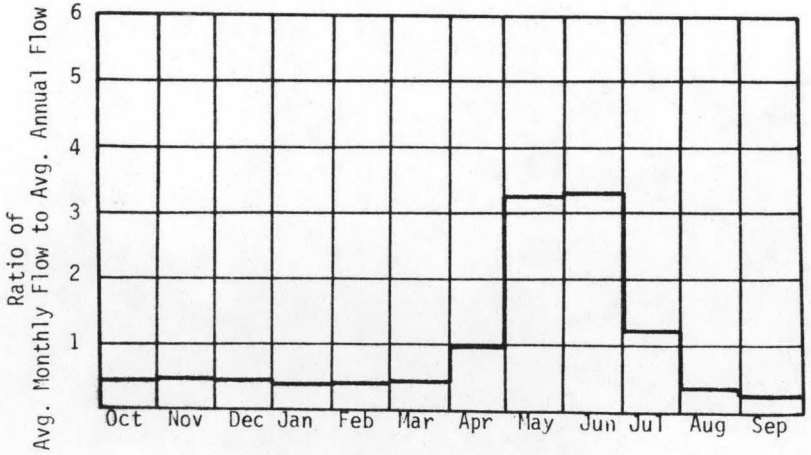
A.	Upstream Elevation of Reach	820	Ft. MSL
B.	Downstream Elevation of Reach	810	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	3.33	Ft./Mi.
E.	Drainage Area above Reach Mouth	7582	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	540	0.46	4.00	1.00
80	870	0.74	6.19	0.96
50	1410	1.19	8.78	0.84
30	2310	1.95	11.5	0.67
10	8010	6.78	19.6	0.33



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs



W49-1377

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T34N R27E	
D. Latitude, Longitude	48°28' 119°29'	
E. Stream Name	Okanogan River	
F. Major Basin Name	Okanogan	
G. River Mile	35.4/36.3	

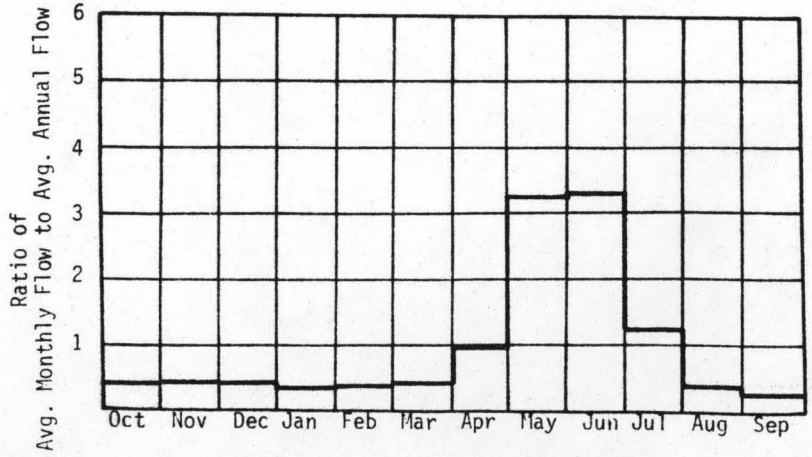
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

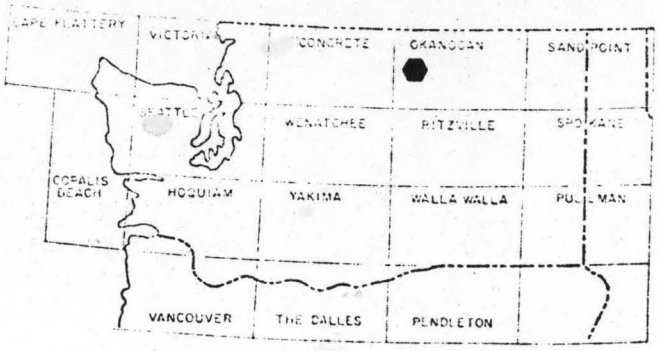
A. Upstream Elevation of Reach	830	Ft. MSL
B. Downstream Elevation of Reach	820	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	11.11	Ft./Mi.
E. Drainage Area above Reach Mouth	7552	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

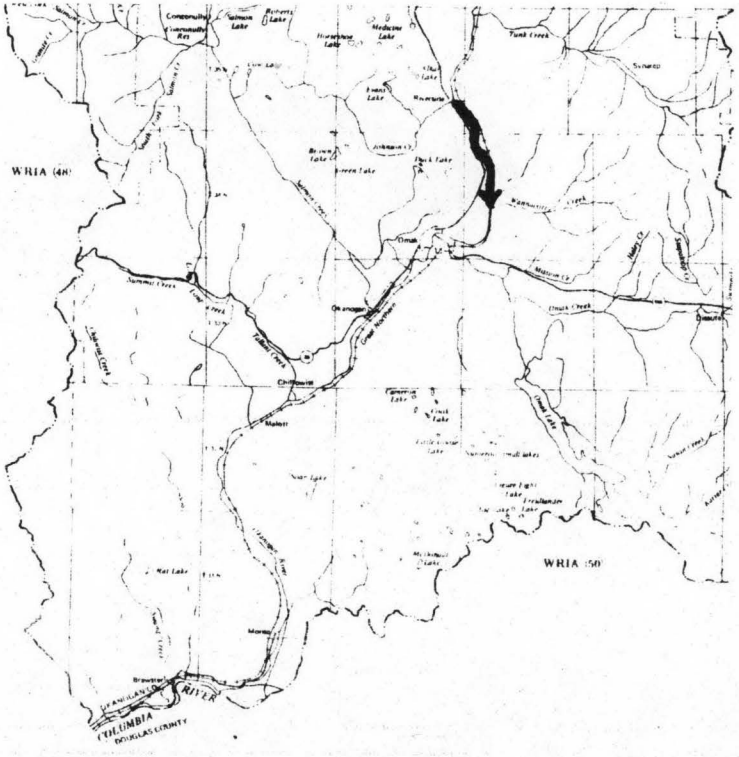
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	540	0.46	4.00	1.00
80	870	0.74	6.19	0.96
50	1410	1.19	8.78	0.84
30	2310	1.95	11.5	0.67
10	8010	6.78	19.6	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1378

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0006

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T35N R27E
D.	Latitude, Longitude	48°32' 119°30'
E.	Stream Name	Okanogan River
F.	Major Basin Name	Okanogan
G.	River Mile	36.3/40.8

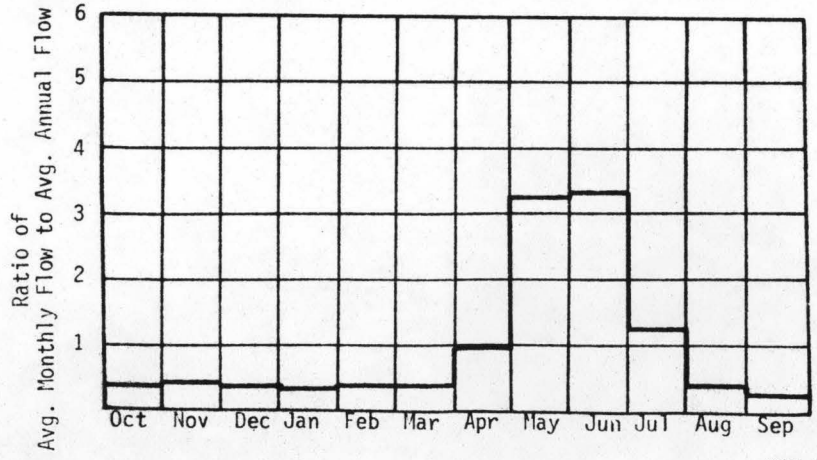
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

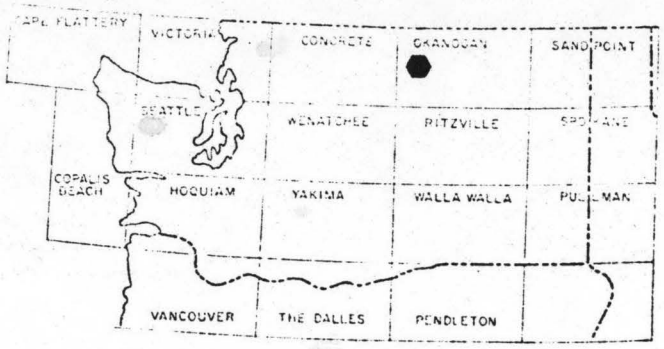
A.	Upstream Elevation of Reach	840	Ft. MSL
B.	Downstream Elevation of Reach	830	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	2.22	Ft./Mi.
E.	Drainage Area above Reach Mouth	7448	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

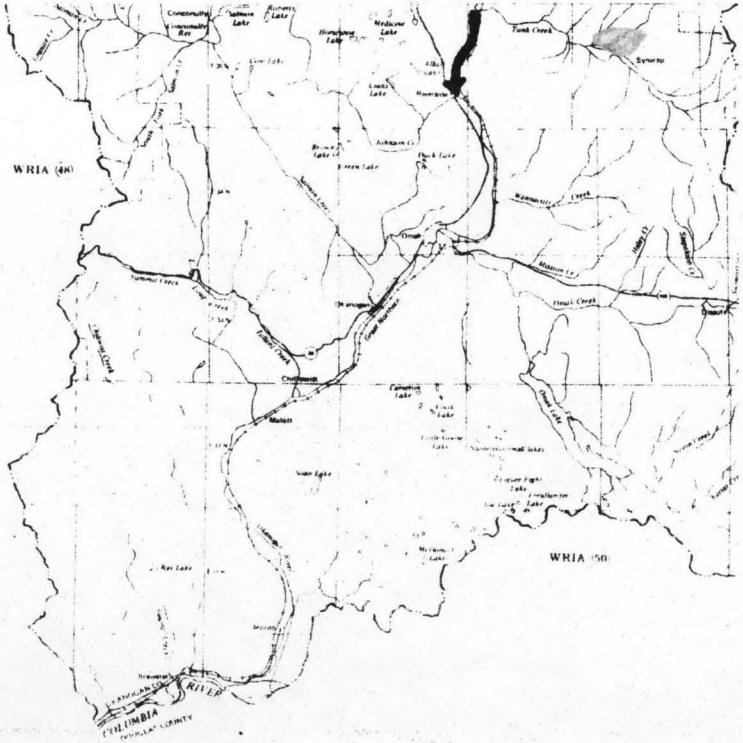
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	540	0.46	4.00	1.00
80	870	0.74	6.19	0.96
50	1410	1.19	8.78	0.84
30	3210	1.95	11.5	0.67
10	8010	6.78	19.6	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1379

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0007

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T36N R27E	
D. Latitude, Longitude	48°36' 119°29'	
E. Stream Name	Okanogan River	
F. Major Basin Name	Okanogan	
G. River Mile	40.8/46.5	

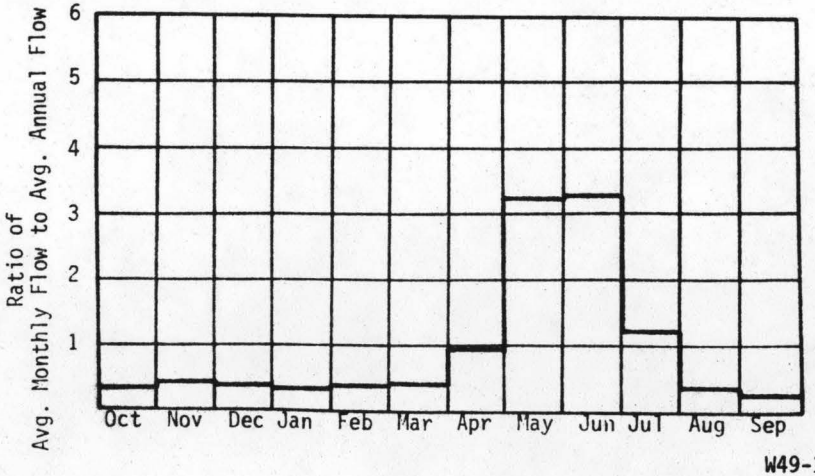
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

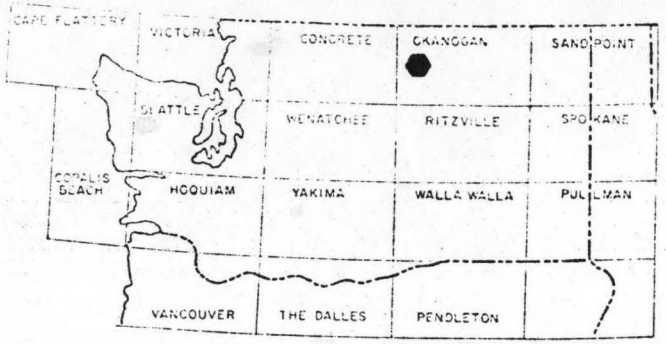
A. Upstream Elevation of Reach	860	Ft. MSL
B. Downstream Elevation of Reach	840	Ft. MSL
C. Total Available Head in Reach	20	Ft.
D. Average Slope in Reach	3.6	Ft./Mi.
E. Drainage Area above Reach Mouth	7310	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

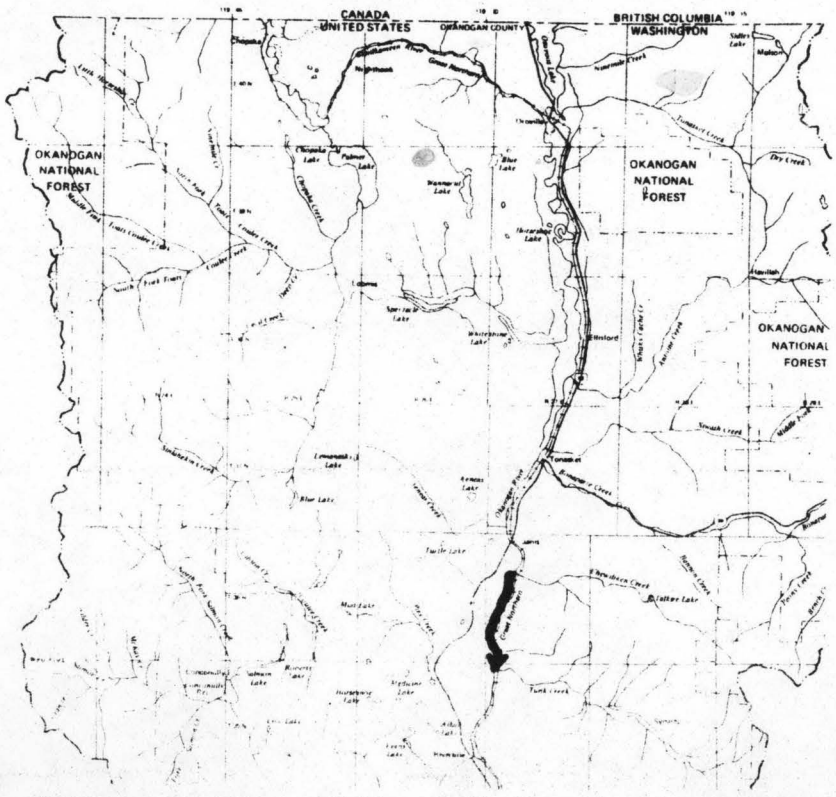
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	540	0.91	8.00	1.00
80	870	1.47	12.4	0.97
50	1410	2.39	17.6	0.84
30	2310	3.91	22.9	0.67
10	8010	13.6	39.2	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



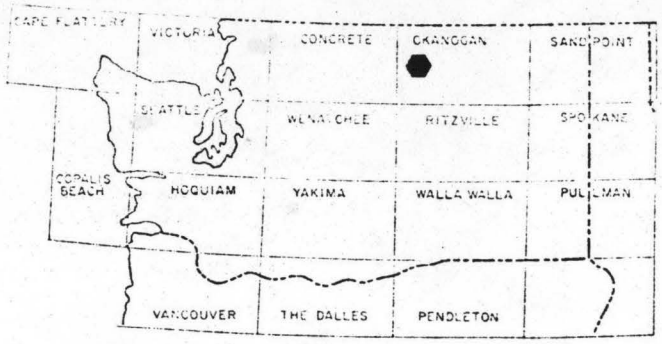
W49-1380

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T37N R27E
D.	Latitude, Longitude	48°40' 119°28'
E.	Stream Name	Okanogan River
F.	Major Basin Name	Okanogan
G.	River Mile	46.5/52.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

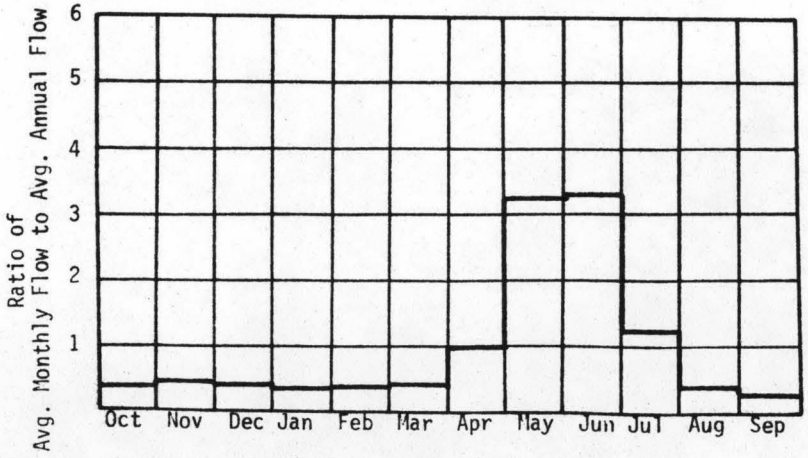
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

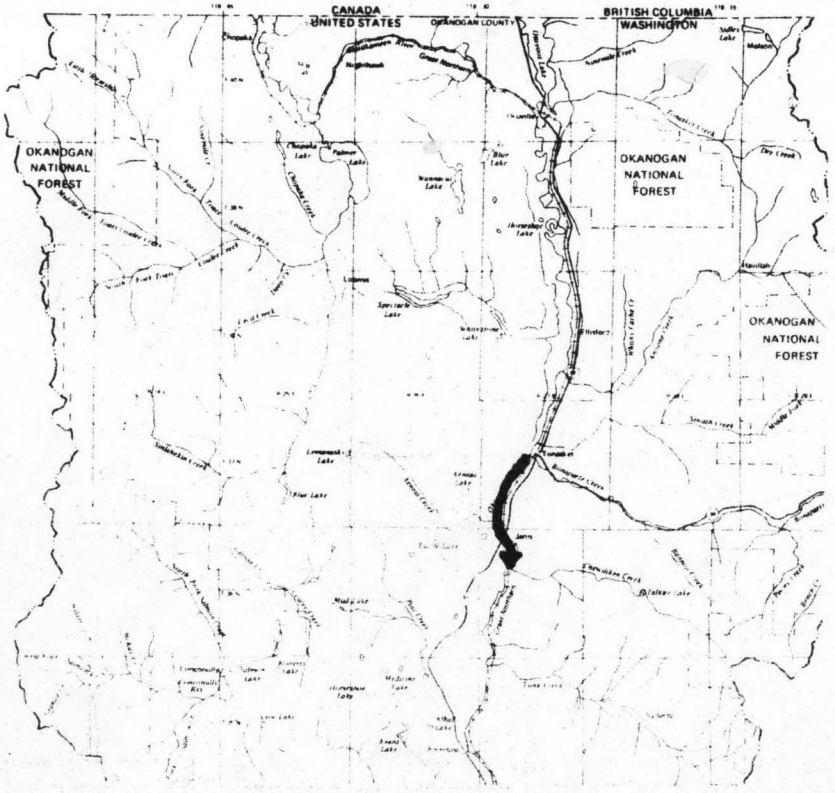
A.	Upstream Elevation of Reach	880	Ft. MSL
B.	Downstream Elevation of Reach	860	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	3.13	Ft./Mi.
E.	Drainage Area above Reach Mouth	7288	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	540	0.91	8.00	1.00
80	870	1.47	12.4	0.97
50	1410	2.39	17.6	0.84
30	2310	3.91	22.9	0.67
10	8010	13.6	39.2	0.36

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs





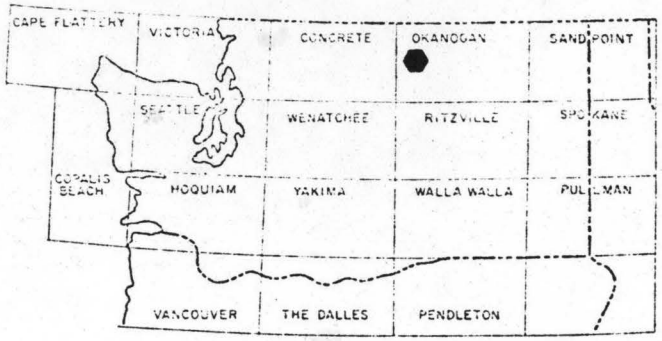
W49-1381

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T38N R27E
D.	Latitude, Longitude	48°50' 119°25'
E.	Stream Name	Okanogan River
F.	Major Basin Name	Okanogan
G.	River Mile	52.9/73.6



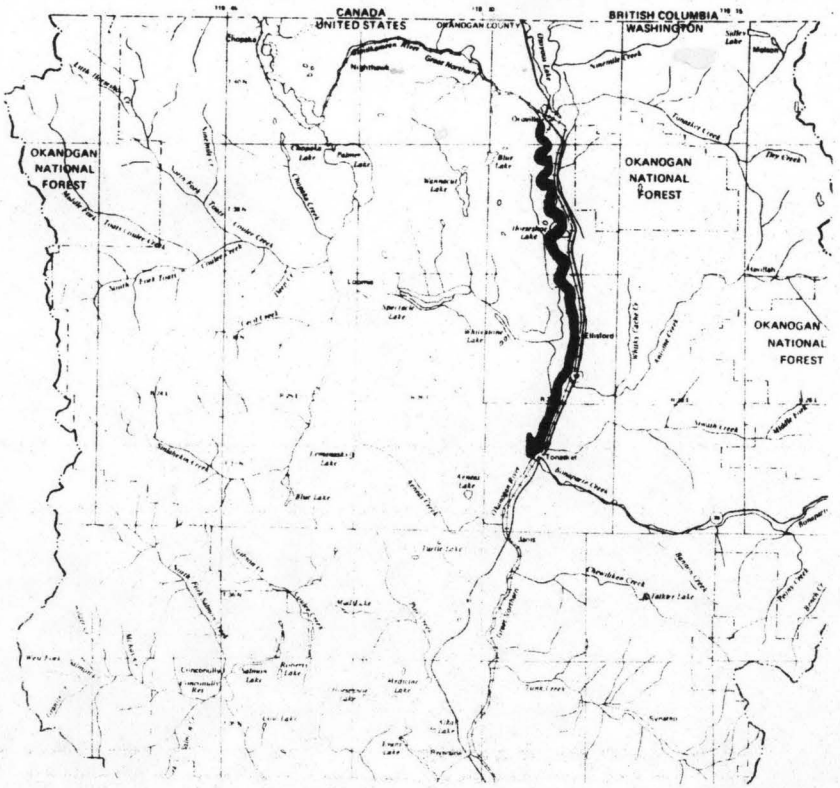
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

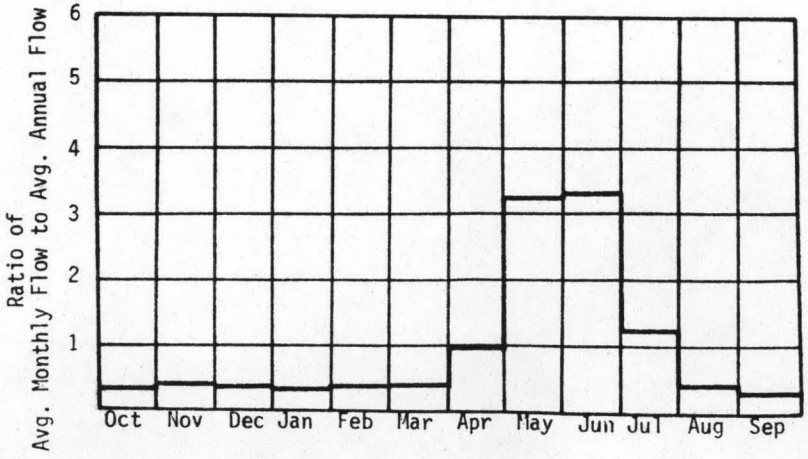
A.	Upstream Elevation of Reach	900	Ft. MSL
B.	Downstream Elevation of Reach	880	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	0.97	Ft./Mi.
E.	Drainage Area above Reach Mouth	7044	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	540	0.91	8.00	1.00
80	870	1.47	12.4	0.97
50	1410	2.39	17.6	0.84
30	2310	3.91	22.9	0.67
10	8010	13.6	39.2	0.36



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 3000 cfs



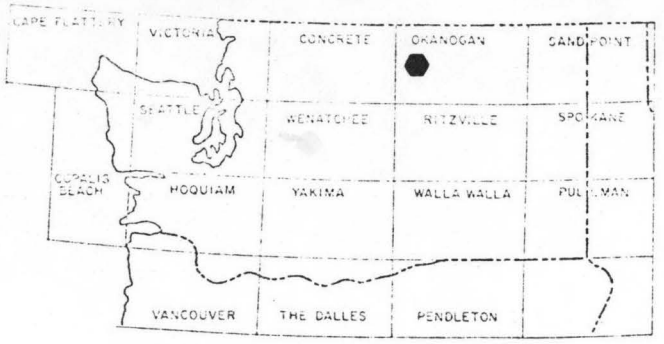
W49-1382

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T40N R27E
D.	Latitude, Longitude	48°56' 119°25'
E.	Stream Name	Okanogan River
F.	Major Basin Name	Okanogan
G.	River Mile	73.6/75.6



LOCATIONS FOR USGS 1:250,000 MAP SERIES

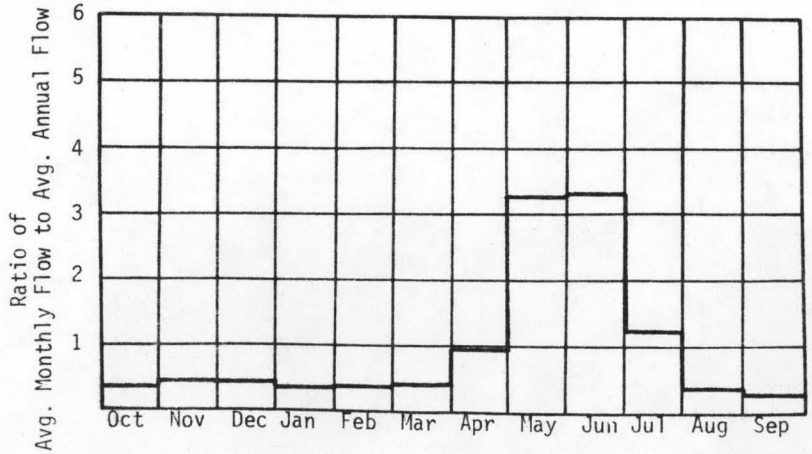
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

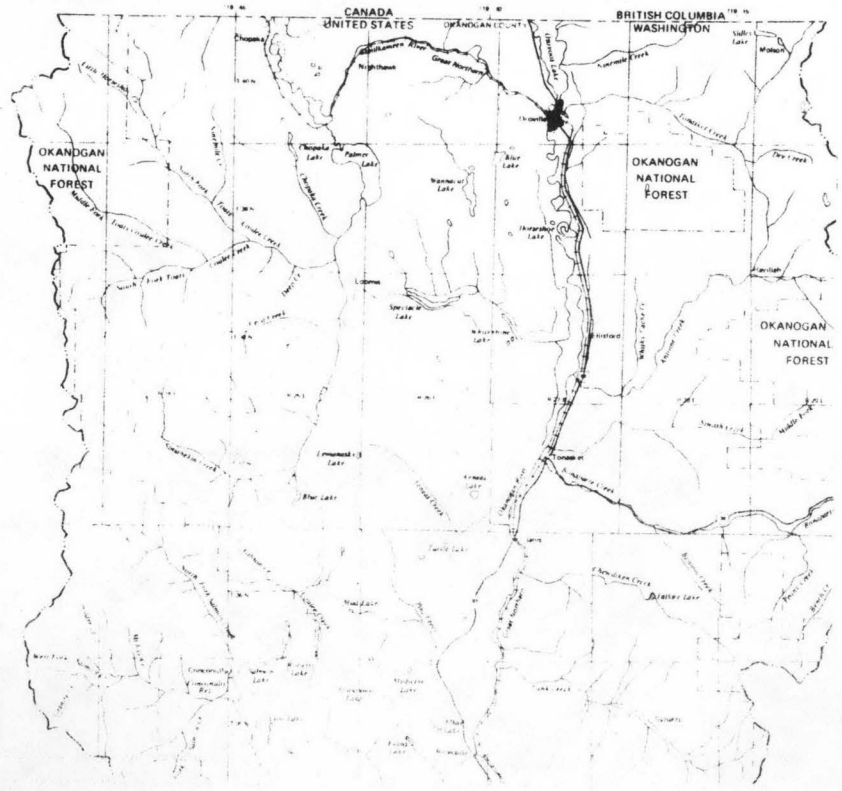
A.	Upstream Elevation of Reach	911	Ft. MSL
B.	Downstream Elevation of Reach	900	Ft. MSL
C.	Total Available Head in Reach	11	Ft.
D.	Average Slope in Reach	5.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	3217	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	0	0	0	1.00
80	0	0	0	0.85
50	175	0.16	0.89	0.62
30	551	0.51	2.11	0.47
10	1620	1.51	3.70	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 626 cfs



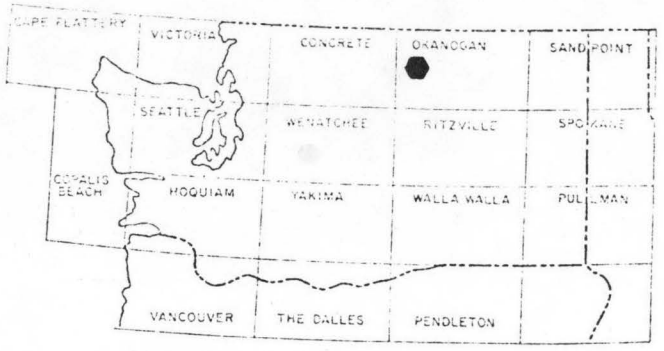


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T40N R27E
D.	Latitude, Longitude	49°52' 119°28'
E.	Stream Name	Similkameen River
F.	Major Basin Name	Okanogan
G.	River Mile	0.0/5.0



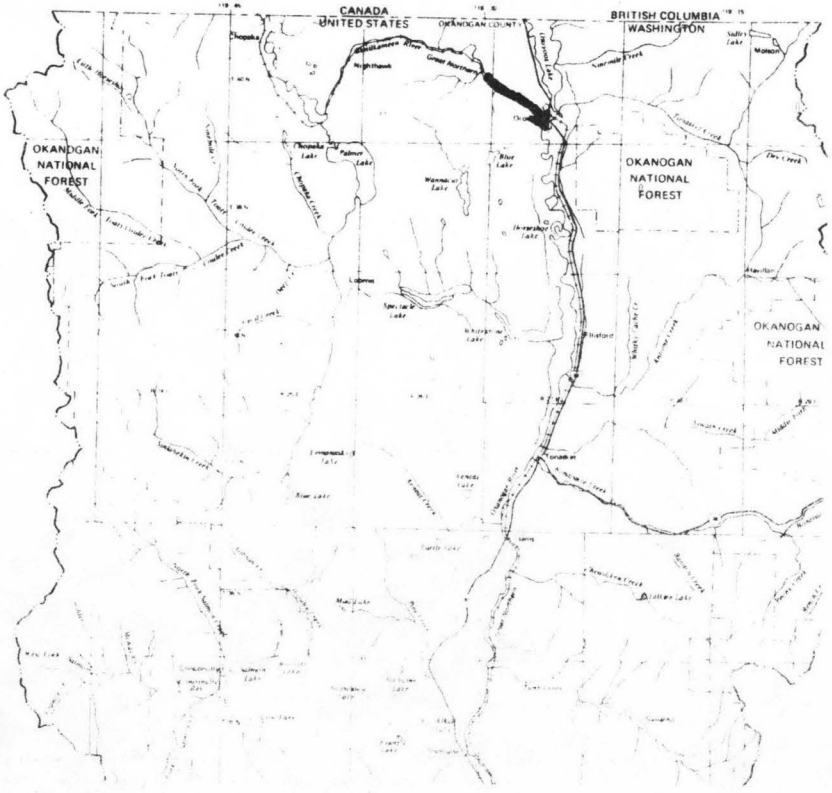
LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

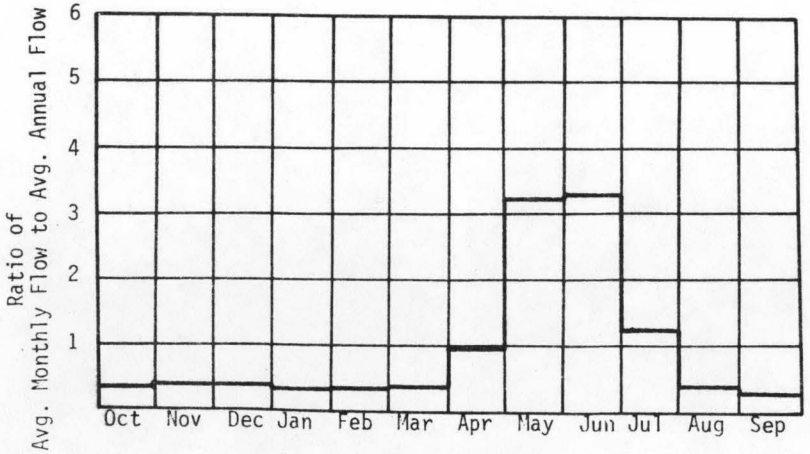
A.	Upstream Elevation of Reach	1040	Ft. MSL
B.	Downstream Elevation of Reach	900	Ft. MSL
C.	Total Available Head in Reach	140	Ft.
D.	Average Slope in Reach	28.0	Ft./Mi.
E.	Drainage Area above Reach Mouth	3582	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	377	4.47	39.2	1.00
80	495	5.87	50.0	0.97
50	778	9.22	68.7	0.85
30	1530	18.2	100	0.63
10	7410	87.7	215	0.28



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2359 cfs



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0012

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T40N R25E	
D. Latitude, Longitude	48°59' 119°36'	
E. Stream Name	Similkameen River	
F. Major Basin Name	Okanogan	
G. River Mile	5.0/10.5	

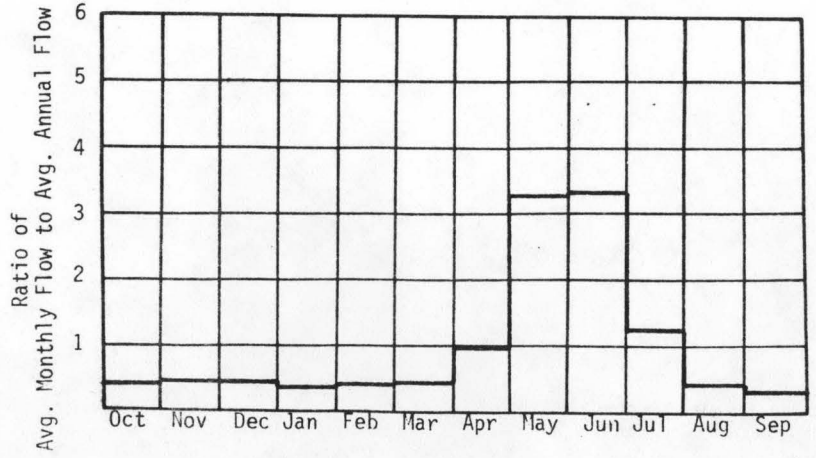
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

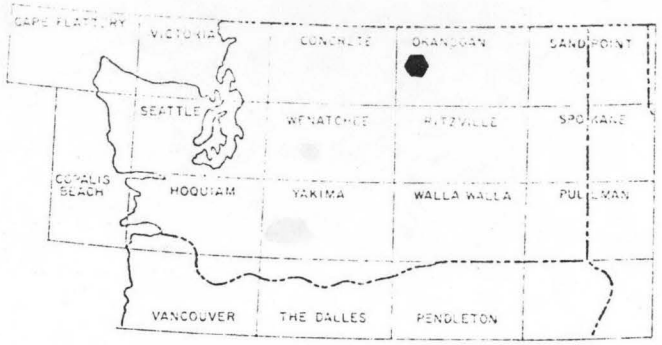
A. Upstream Elevation of Reach	1140	Ft. MSL
B. Downstream Elevation of Reach	1040	Ft. MSL
C. Total Available Head in Reach	100	Ft.
D. Average Slope in Reach	18.2	Ft./Mi.
E. Drainage Area above Reach Mouth	3563	Sq.Mi.
F. Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

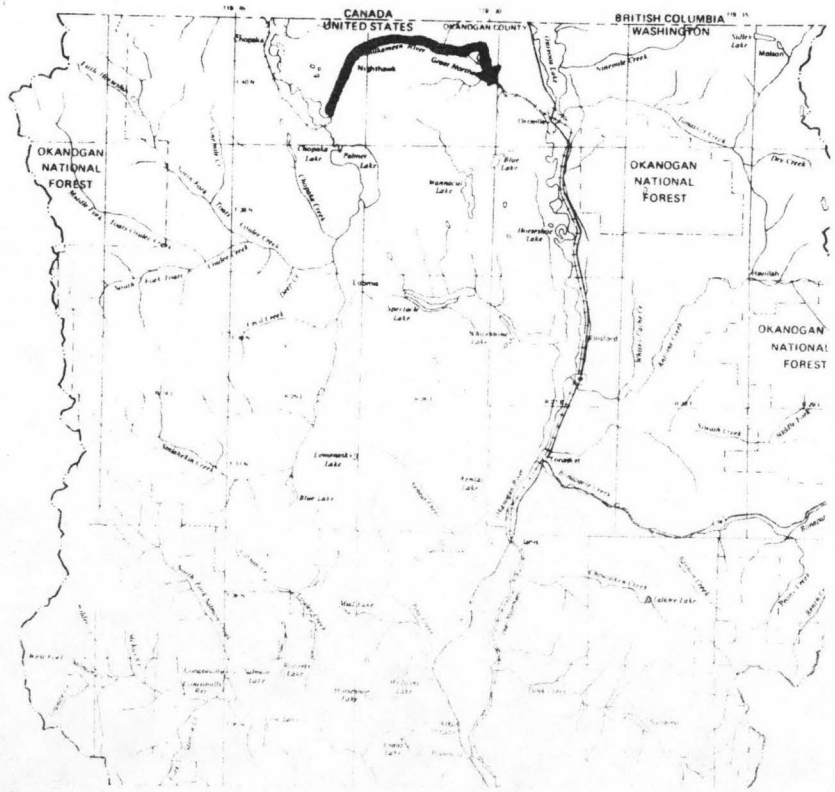
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	329	2.78	24.4	1.00
80	470	3.98	33.5	0.96
50	799	6.76	49.2	0.83
30	1600	13.5	72.3	0.61
10	7220	61.1	150	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2351 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1385

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-380-000-000-R0013

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T40N T25E	
D. Latitude, Longitude	48°57' 119°42'	
E. Stream Name	Similkameen River	
F. Major Basin Name	Okanogan	
G. River Mile	10.5/16.6	

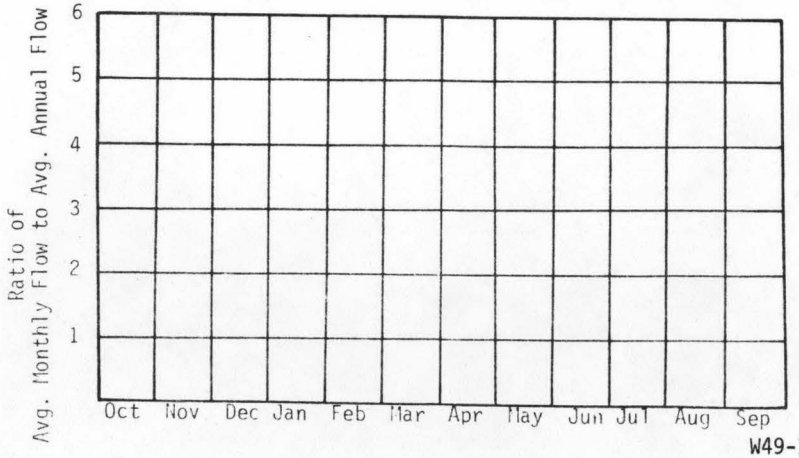
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

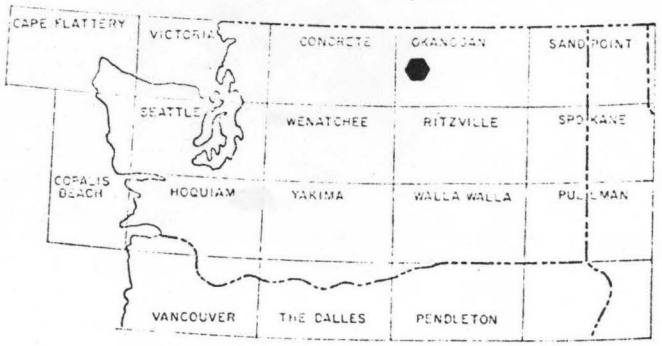
A. Upstream Elevation of Reach	1180	Ft. MSL
B. Downstream Elevation of Reach	1140	Ft. MSL
C. Total Available Head in Reach	40	Ft.
D. Average Slope in Reach	6.56	Ft./Mi.
E. Drainage Area above Reach Mouth	3245	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

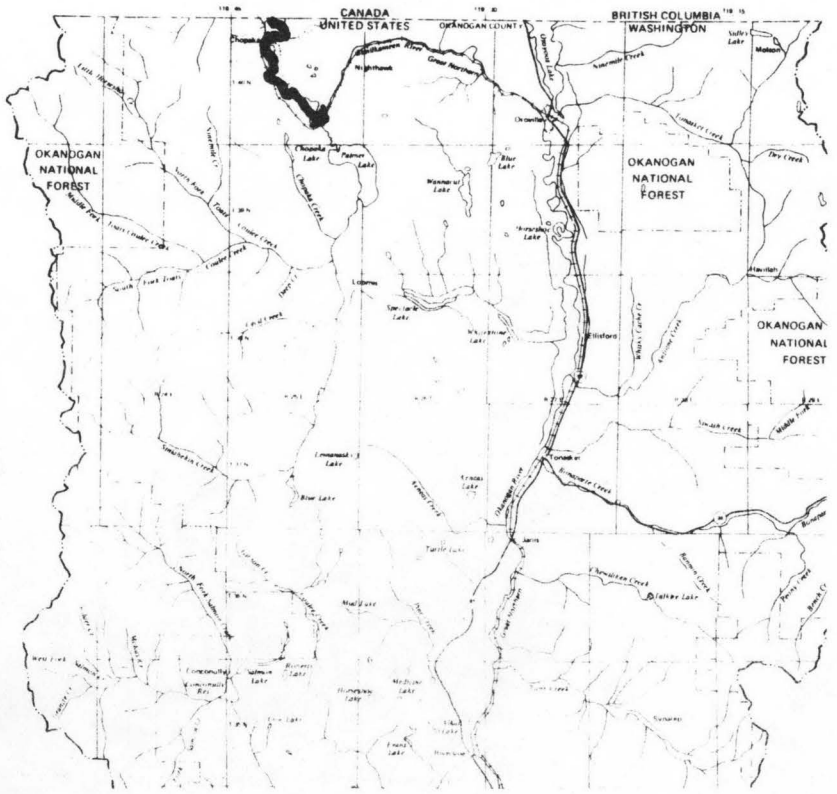
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	317	1.07	9.38	1.00
80	452	1.53	12.9	0.96
50	769	2.60	18.9	0.83
30	1540	5.20	27.8	0.61
10	6940	23.5	57.6	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2261 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1386

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-390-000-000-R0001

I. LOCATION

A. State	Washington	
B. County	Okanogan	
C. Township, Range	T31N R30E	
D. Latitude, Longitude	48°07' 119°01'	
E. Stream Name	Nespelem River	
F. Major Basin Name	Nespelem	
G. River Mile	0.0/1.4	

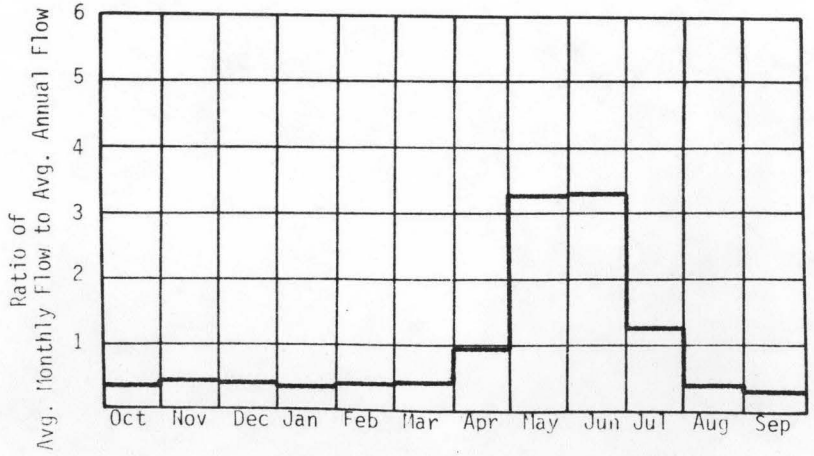
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

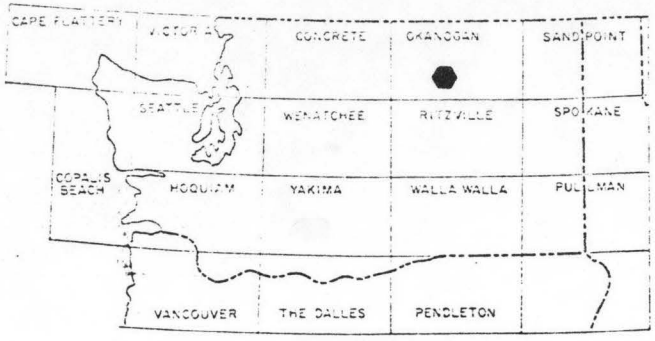
A. Upstream Elevation of Reach	1190	Ft. MSL
B. Downstream Elevation of Reach	905	Ft. MSL
C. Total Available Head in Reach	285	Ft.
D. Average Slope in Reach	204	Ft./Mi.
E. Drainage Area above Reach Mouth	222.7	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

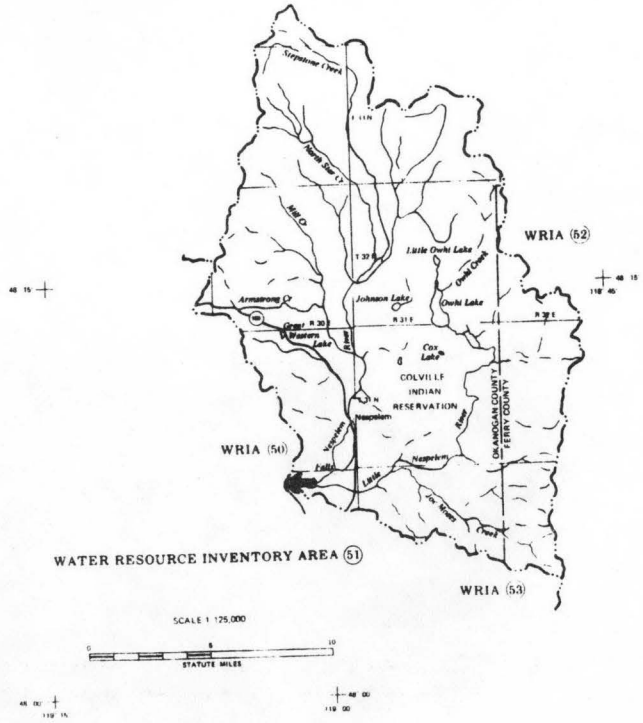
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22.6	0.55	4.78	1.00
80	29.4	0.71	6.02	0.97
50	40.7	0.98	7.56	0.88
30	80.2	1.94	10.8	0.64
10	402	9.70	23.8	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 113 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



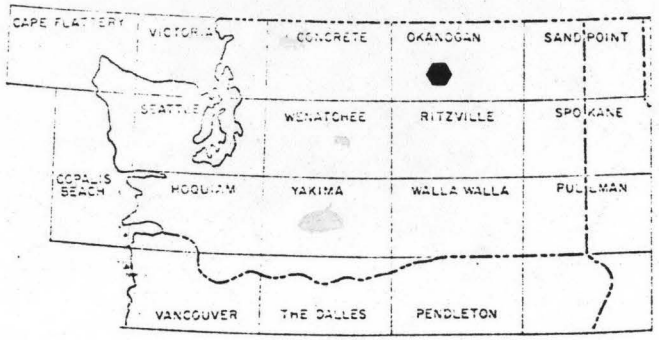
WATER RESOURCE INVENTORY AREA (51)

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-390-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T31N R30E
D.	Latitude, Longitude	48°10' 118°59'
E.	Stream Name	Nespelem River
F.	Major Basin Name	Nespelem
G.	River Mile	1.4/9.0



LOCATIONS FOR USGS 1:250,000 MAP SERIES

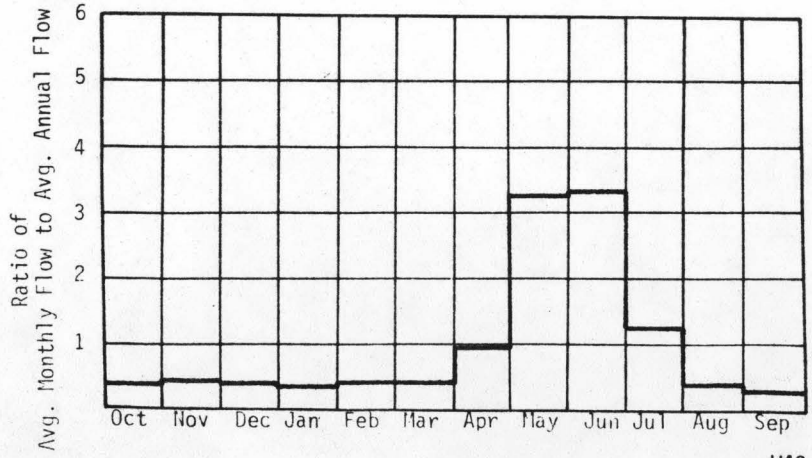
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

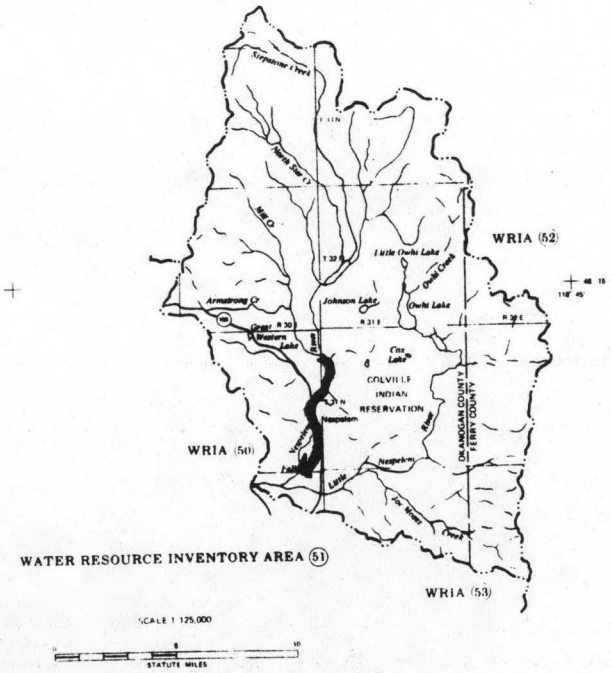
A.	Upstream Elevation of Reach	1855	Ft. MSL
B.	Downstream Elevation of Reach	1190	Ft. MSL
C.	Total Available Head in Reach	665 + 66 = 731	Ft.
D.	Average Slope in Reach	88	Ft./Mi.
E.	Drainage Area above Reach Mouth	221.1	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11.9	0.74	6.47	1.00
80	15.5	0.96	8.15	0.97
50	21.5	1.33	10.2	0.88
30	42.4	2.62	14.7	0.64
10	212	13.1	32.2	0.28

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 60 cfs





W49-1388

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-400-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Ferry
C.	Township, Range	T31N R33E
D.	Latitude, Longitude	48°10' 118°41'
E.	Stream Name	Sanpoil River
F.	Major Basin Name	Sanpoil
G.	River Mile	0.0/17.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

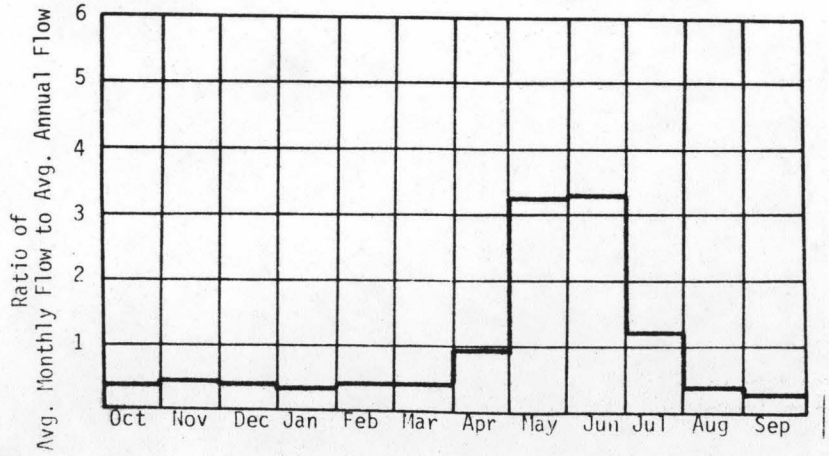
A.	Upstream Elevation of Reach	1680	Ft. MSL
B.	Downstream Elevation of Reach	1289	Ft. MSL
C.	Total Available Head in Reach	400	Ft.
D.	Average Slope in Reach	23	Ft./Mi.
E.	Drainage Area above Reach Mouth	937	Sq.Mi.
F.	Inflow Classification	Natural	

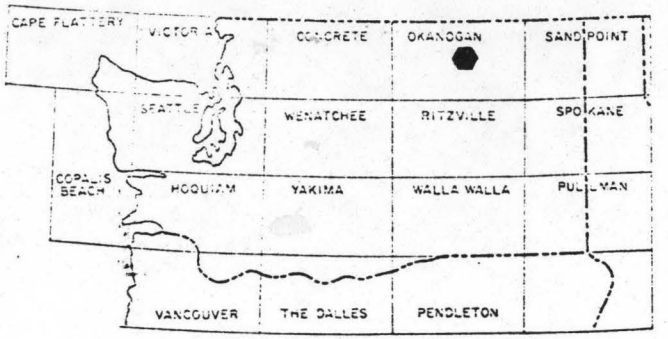
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	63.0	2.13	18.7	1.00
80	102	3.41	29.0	0.96
50	164	5.57	41.0	0.84
30	270	9.12	53.5	0.67
10	934	31.6	91.4	0.33

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 350 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W49-1389

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-400-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Ferry
C.	Township, Range	T33N R32E
D.	Latitude, Longitude	48°23' 118°45'
E.	Stream Name	Sanpoil River
F.	Major Basin Name	Sanpoil
G.	River Mile	17.3/34.0

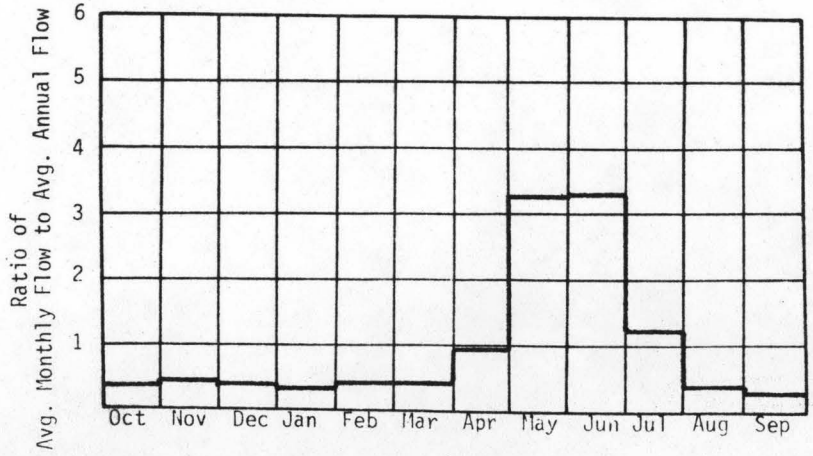
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

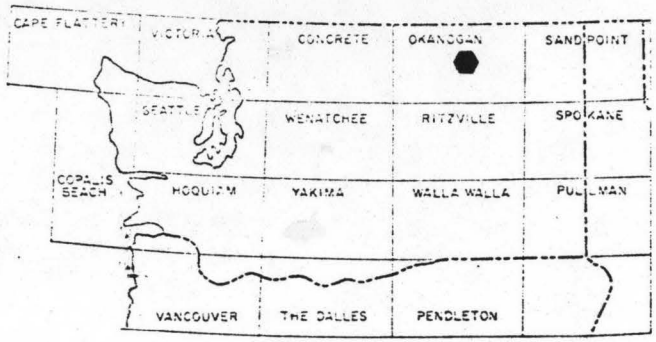
A.	Upstream Elevation of Reach	1940	Ft. MSL
B.	Downstream Elevation of Reach	1640	Ft. MSL
C.	Total Available Head in Reach	300	Ft.
D.	Average Slope in Reach	18	Ft./Mi.
E.	Drainage Area above Reach Mouth	607	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

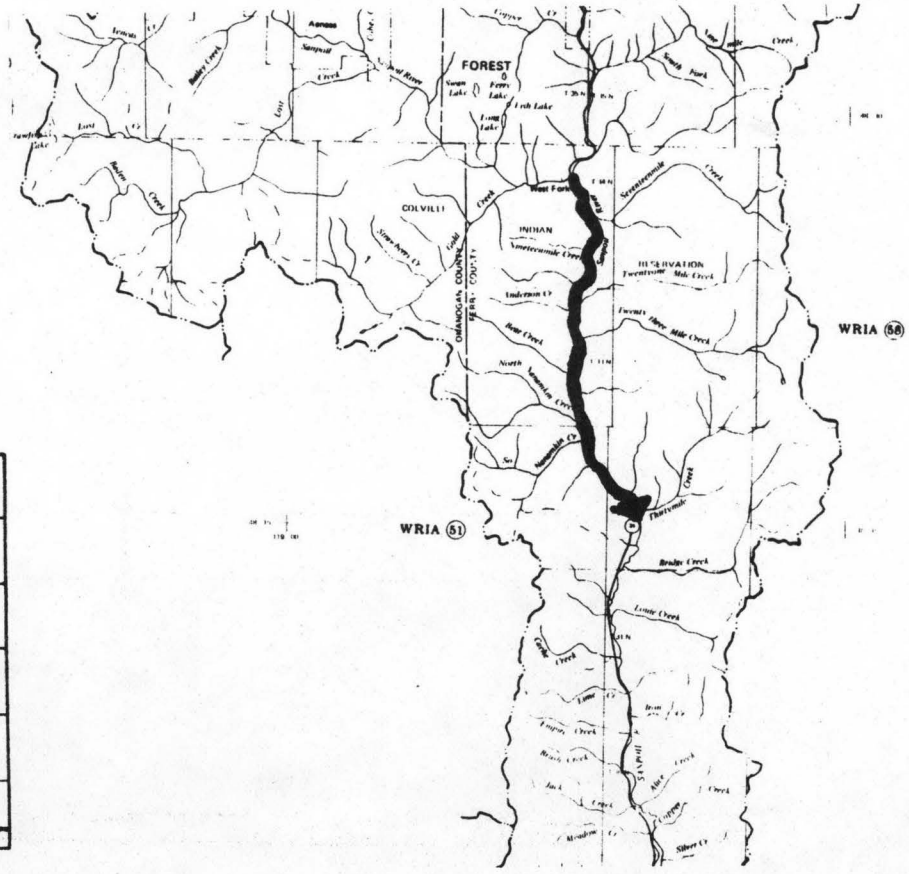
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	52.3	1.33	11.6	1.00
80	84.2	2.14	18.0	0.96
50	136.5	3.46	25.5	0.84
30	224	5.68	33.3	0.67
10	775	19.7	56.9	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 290 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1390

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-400-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Ferry
C.	Township, Range	T35N R33E
D.	Latitude, Longitude	48°30' 118°44'
E.	Stream Name	Sanpoil River
F.	Major Basin Name	Sanpoil
G.	River Mile	34.0/40.7

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

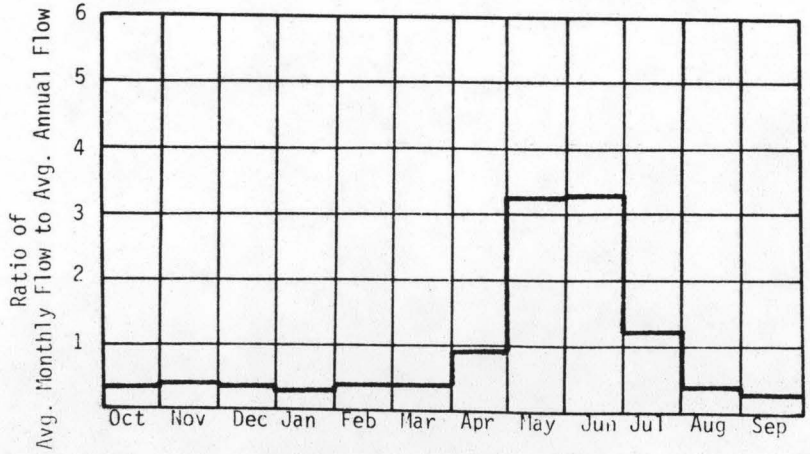
A.	Upstream Elevation of Reach	2125	Ft. MSL
B.	Downstream Elevation of Reach	1940	Ft. MSL
C.	Total Available Head in Reach	185 + 66 = 251	Ft.
D.	Average Slope in Reach	28	Ft./Mi.
E.	Drainage Area above Reach Mouth	278	Sq.Mi.
F.	Inflow Classification	Natural	

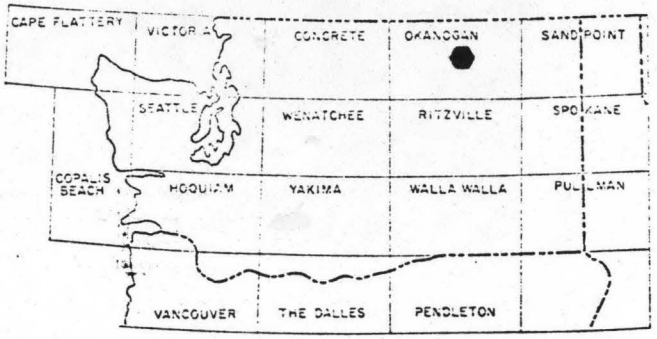
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.9	0.40	3.52	1.00
80	30.4	0.65	5.44	0.96
50	49.4	1.05	7.71	0.84
30	80.8	1.72	10.1	0.67
10	280	5.95	17.2	0.33

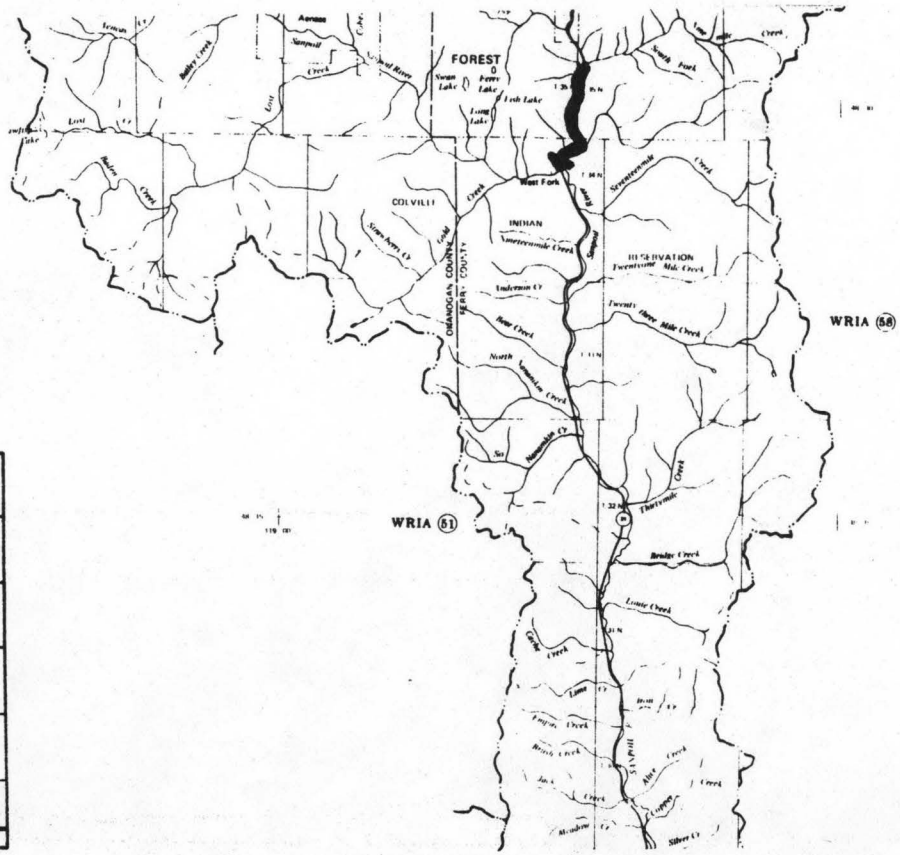
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 105 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W49-1391

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-400-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Ferry
C.	Township, Range	T34N R32E
D.	Latitude, Longitude	48°27' 118°46'
E.	Stream Name	W.F. Sanpoil River
F.	Major Basin Name	Sanpoil
G.	River Mile	0.0/2.8

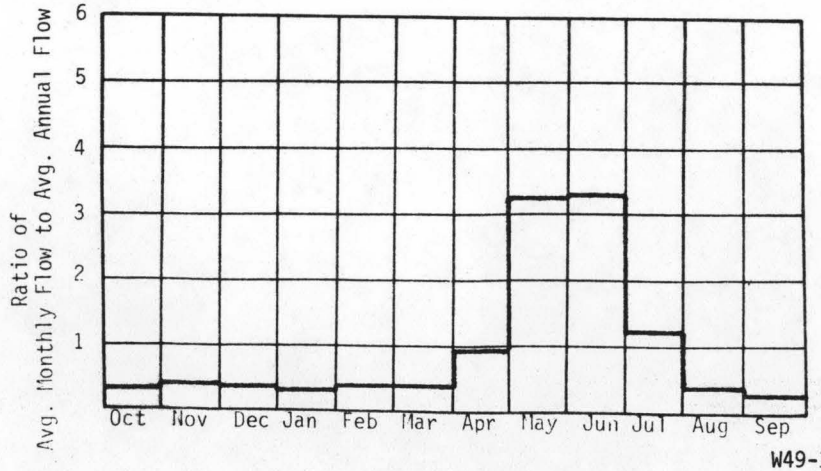
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2030	Ft. MSL
B.	Downstream Elevation of Reach	1940	Ft. MSL
C.	Total Available Head in Reach	90	Ft.
D.	Average Slope in Reach	32	Ft./Mi.
E.	Drainage Area above Reach Mouth	329	Sq.Mi.
F.	Inflow Classification	Natural	

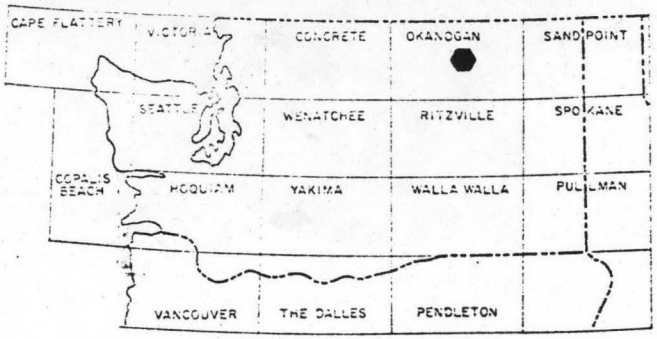
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.9	0.26	1.73	1.00
80	41.8	0.32	2.67	0.96
50	67.7	0.52	3.79	0.84
30	111	0.84	4.96	0.67
10	384	2.93	8.46	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 144 cfs



W49-1392



LOCATIONS FOR USGS 1:250,000 MAP SERIES

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-400-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Okanogan
C.	Township, Range	T35N R32E
D.	Latitude, Longitude	48°30' 118°51'
E.	Stream Name	W.F. Sanpoil River
F.	Major Basin Name	Sanpoil
G.	River Mile	2.8/12.0

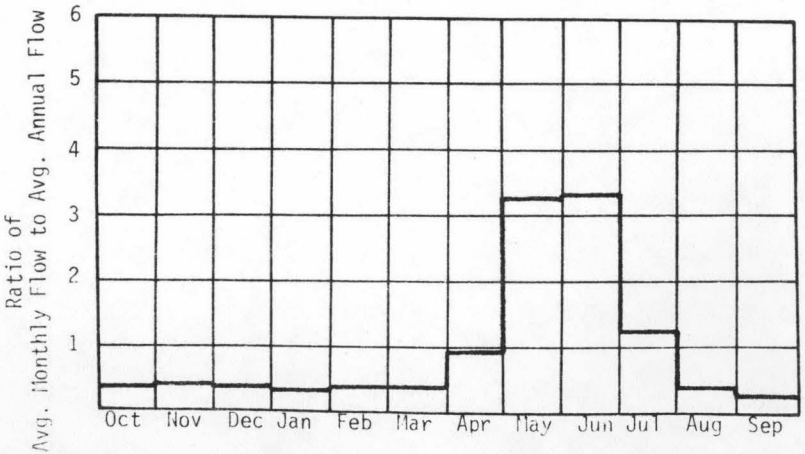
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

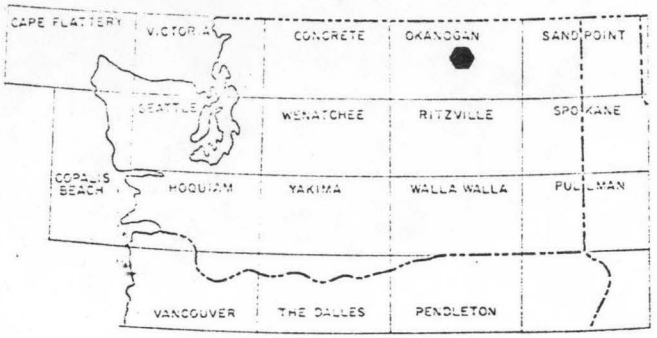
A.	Upstream Elevation of Reach	2325	Ft. MSL
B.	Downstream Elevation of Reach	2030	Ft. MSL
C.	Total Available Head in Reach	295 + 66 = 361	Ft.
D.	Average Slope in Reach	32	Ft./Mi.
E.	Drainage Area above Reach Mouth	271.2	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.6	0.63	5.51	1.00
80	33.2	1.01	8.53	0.96
50	53.8	1.64	12.1	0.84
30	88.2	2.69	15.8	0.67
10	306	9.34	27.0	0.33

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 114 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES

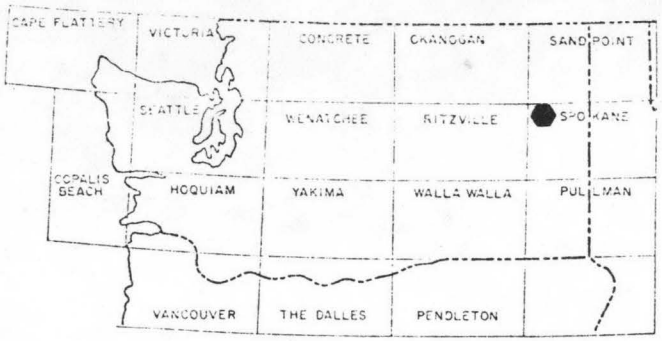
W49-1393

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T26N R42E
D.	Latitude, Longitude	47°42' 117°29'
E.	Stream Name	Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	61/71.8



LOCATIONS FOR USGS 1:250,000 MAP SERIES

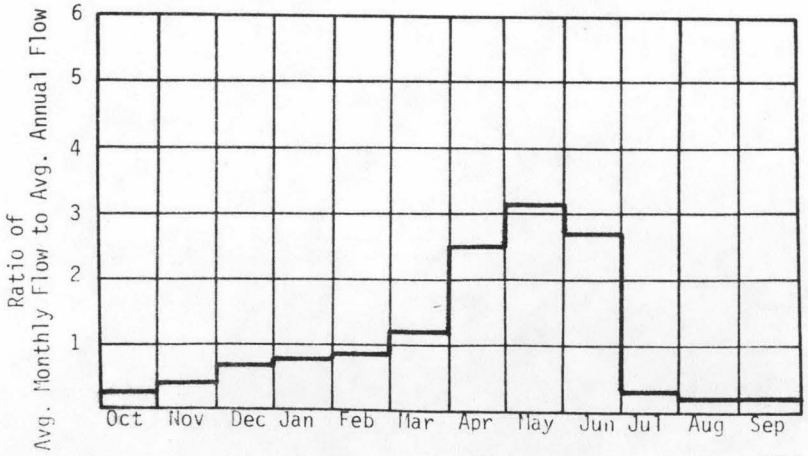
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1700	Ft. MSL
B.	Downstream Elevation of Reach	1602	Ft. MSL
C.	Total Available Head in Reach	98	Ft.
D.	Average Slope in Reach	9	Ft./Mi.
E.	Drainage Area above Reach Mouth	4300	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	1250	10.4	91.1	1.00
80	1780	14.8	124	0.96
50	3630	30.1	208	0.79
30	7330	60.7	314	0.59
10	17100	142	459	0.37

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 6600 cfs



W54-1394

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T25N R42E
D.	Latitude, Longitude	47°40' 117°26'
E.	Stream Name	Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	71.8/73.5

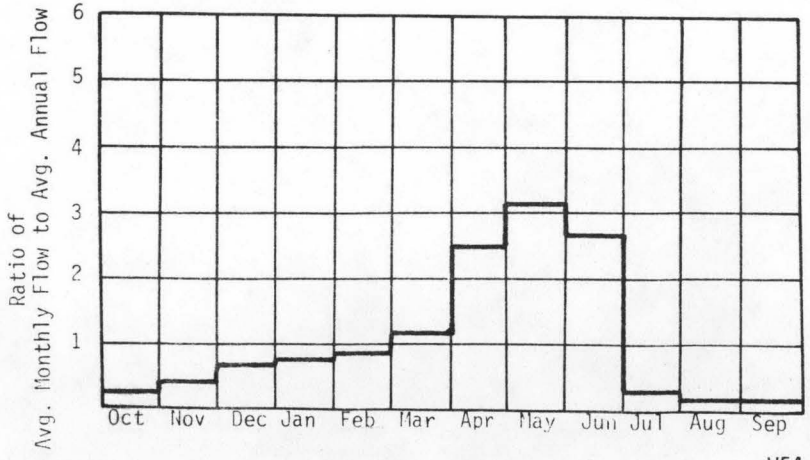
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

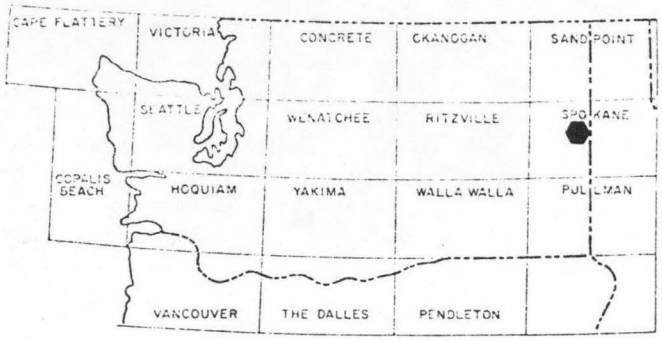
A.	Upstream Elevation of Reach	1760	Ft. MSL
B.	Downstream Elevation of Reach	1700	Ft. MSL
C.	Total Available Head in Reach	60	Ft.
D.	Average Slope in Reach	35	Ft./Mi.
E.	Drainage Area above Reach Mouth	4290	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

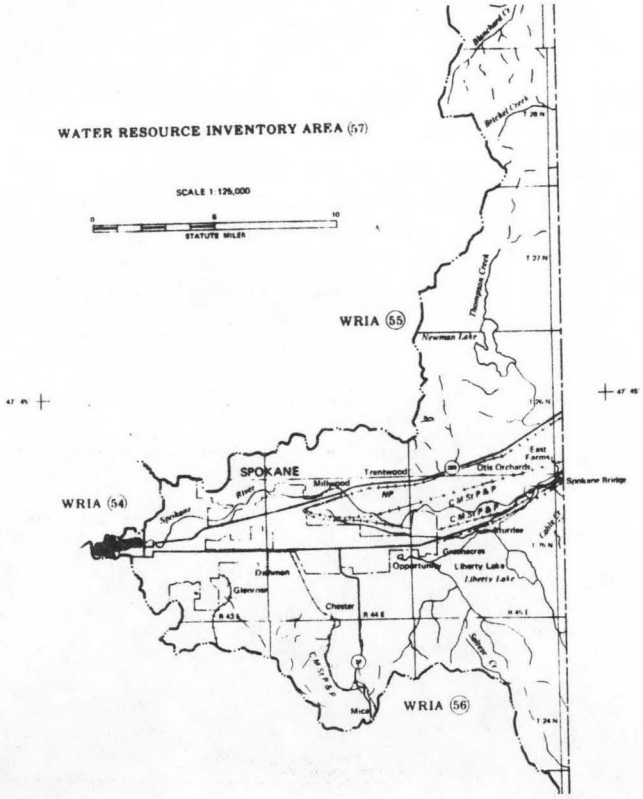
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1310	6.67	58.4	1.00
80	1840	9.34	79.4	0.97
50	3810	19.3	134	0.79
30	7230	36.7	196	0.61
10	11800	60.0	237	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 6570 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W54-1395

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0003

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T25N R45E
D.	Latitude, Longitude	47°40' 117°10'
E.	Stream Name	Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	85/95.1

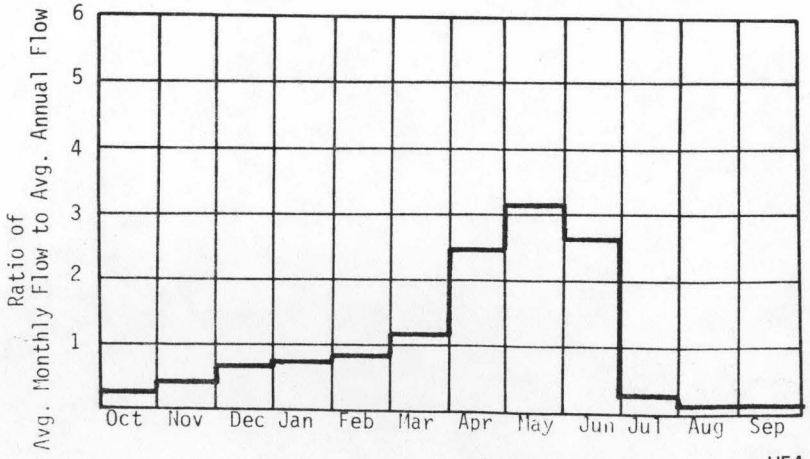
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

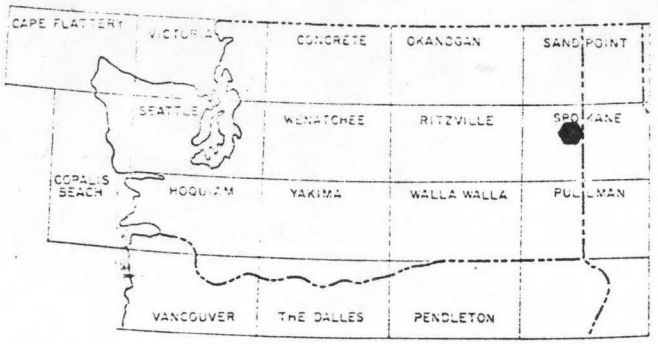
A.	Upstream Elevation of Reach	2030	Ft. MSL
B.	Downstream Elevation of Reach	1909	Ft. MSL
C.	Total Available Head in Reach	39	Ft.
D.	Average Slope in Reach	4	Ft./Mi.
E.	Drainage Area above Reach Mouth	4160	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

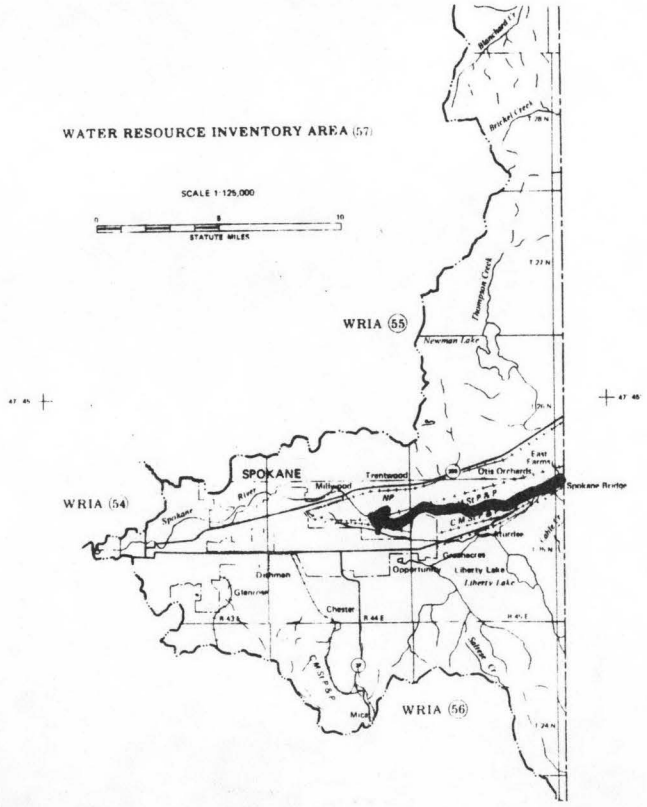
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	124	0.63	5.51	1.00
80	743	3.77	29.1	0.88
50	3100	15.7	96.4	0.70
30	8920	45.3	198	0.50
10	18400	93.4	286	0.35

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 6195 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W54-1396

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0004

I. LOCATION

A. State	Washington	
B. County	Stevens	
C. Township, Range	T27N R39E	
D. Latitude, Longitude	47°51' 117°51'	
E. Stream Name	Chamokane River	
F. Major Basin Name	Spokane	
G. River Mile	0.0/1.4	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

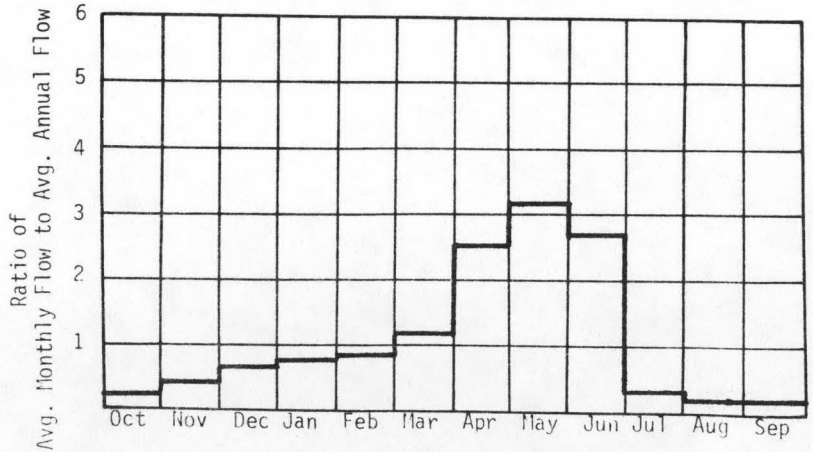
A. Upstream Elevation of Reach	1500	Ft. MSL
B. Downstream Elevation of Reach	1370	Ft. MSL
C. Total Available Head in Reach	130	Ft.
D. Average Slope in Reach	93	Ft./Mi.
E. Drainage Area above Reach Mouth	180	Sq.Mi.
F. Inflow Classification	Natural	

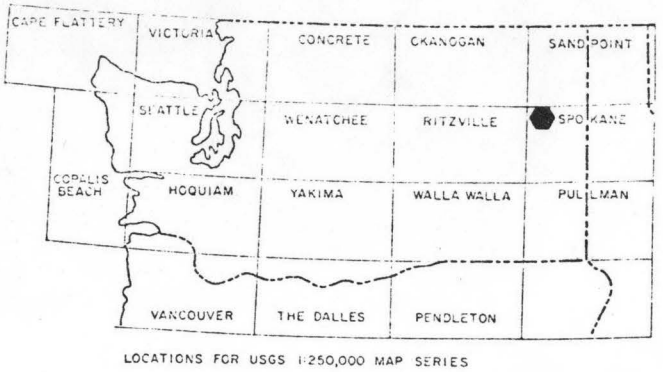
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22.3	0.24	2.14	1.00
80	28.6	0.31	2.67	0.97
50	39.0	0.43	3.30	0.88
30	51.7	0.57	3.78	0.76
10	170	1.87	5.90	0.36

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 79.5 cfs (Historical)





LOCATIONS FOR USGS 1:250,000 MAP SERIES

W54-1397

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T26W R44E
D.	Latitude, Longitude	47°46' 117°30'
E.	Stream Name	Little Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	0.0/12.7

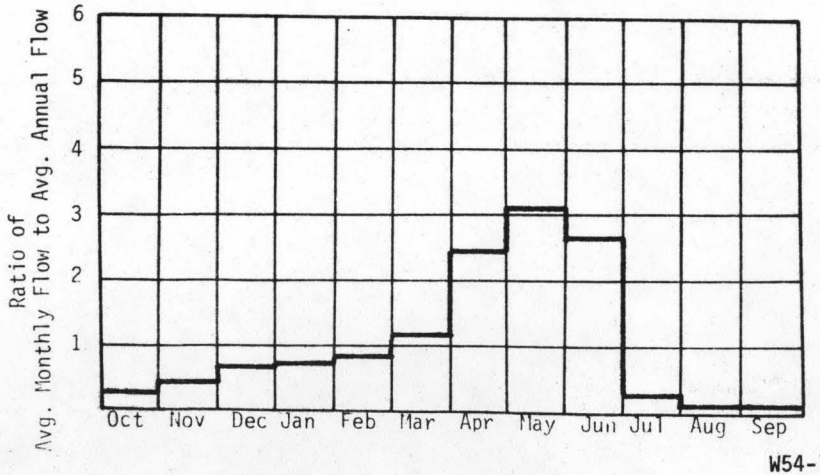
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1610	Ft. MSL
B.	Downstream Elevation of Reach	1534	Ft. MSL
C.	Total Available Head in Reach	76	Ft.
D.	Average Slope in Reach	6	Ft./Mi.
E.	Drainage Area above Reach Mouth	712	Sq.Mi.
F.	Inflow Classification	Natural	

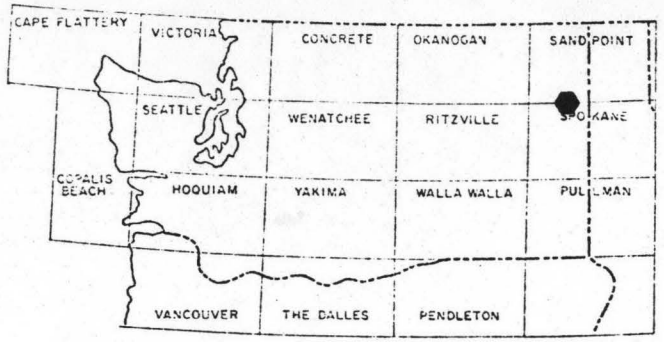
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	97.6	0.63	5.50	1.00
80	138	0.89	7.53	0.97
50	187	1.20	9.25	0.88
30	296	1.90	11.6	0.70
10	591	3.80	15.0	0.45

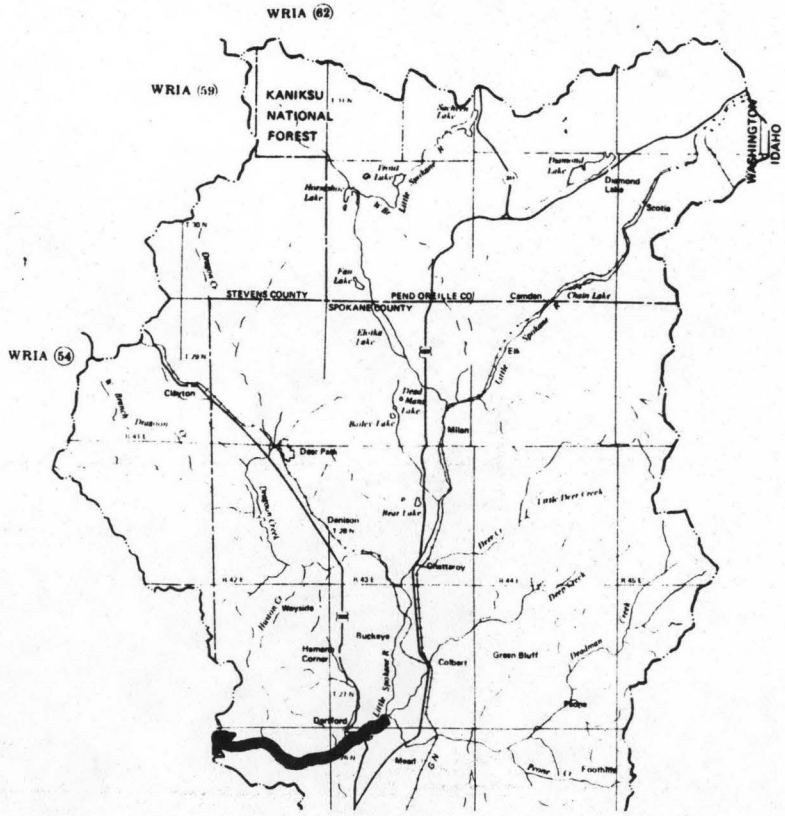
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 287 cfs



W54-1398



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Spokane	
C. Township, Range	T27N R43E	
D. Latitude, Longitude	47°50' 117°17'	
E. Stream Name	Little Spokane River	
F. Major Basin Name	Spokane	
G. River Mile	12.7/20.3	

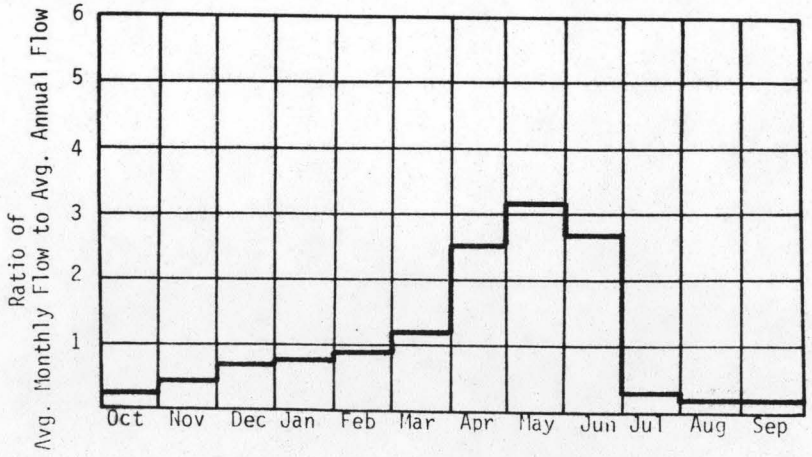
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

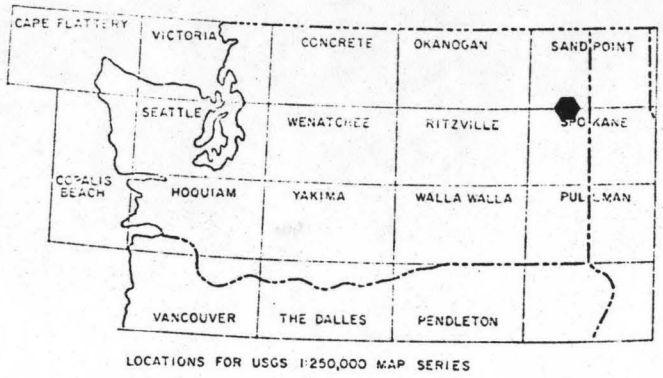
A. Upstream Elevation of Reach	1670	Ft. MSL
B. Downstream Elevation of Reach	1610	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	8	Ft./Mi.
E. Drainage Area above Reach Mouth	544	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

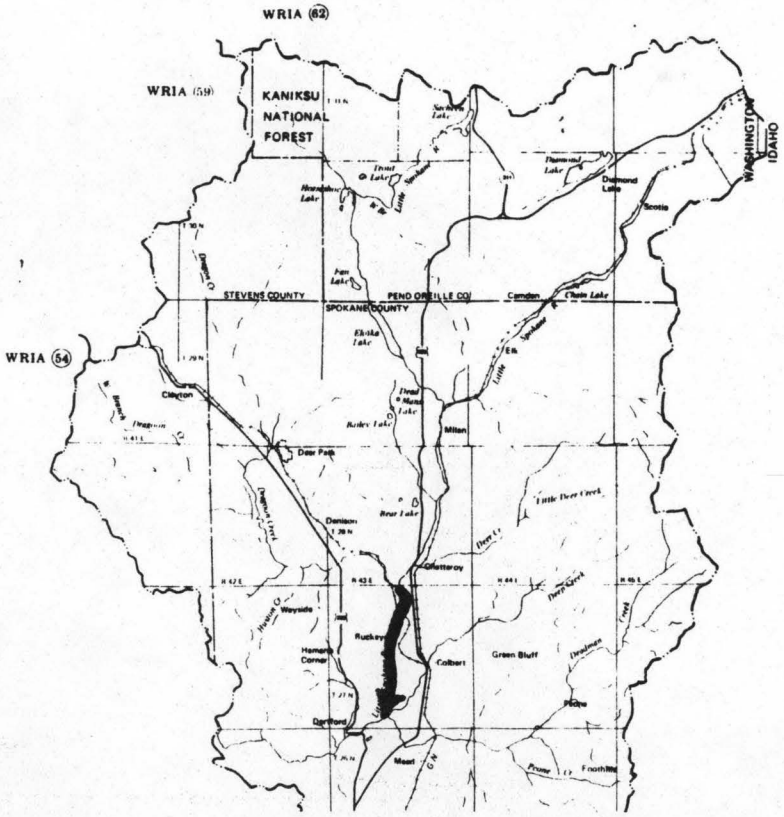
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	77.9	0.40	3.46	1.00
80	110	0.56	4.74	0.97
50	149	0.76	5.82	0.88
30	236	1.20	7.34	0.70
10	472	2.39	9.44	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 229 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W54-1399

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0007

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T28N R43E
D.	Latitude, Longitude	47°47' 117°17'
E.	Stream Name	Little Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	20.3/21.9

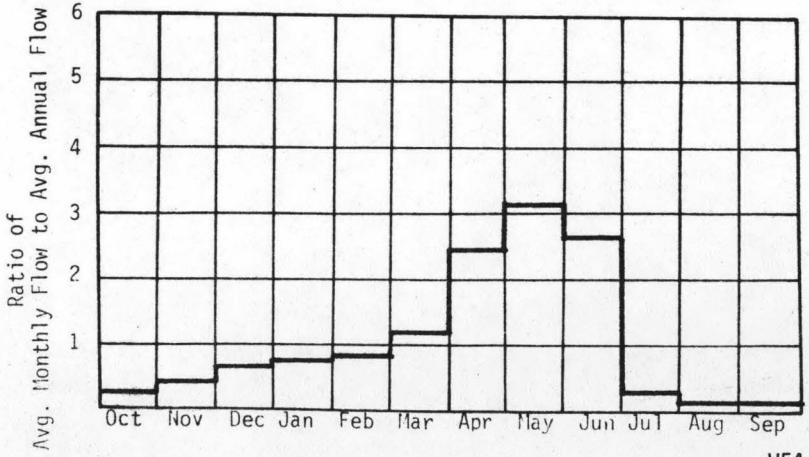
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1685	Ft. MSL
B.	Downstream Elevation of Reach	1670	Ft. MSL
C.	Total Available Head in Reach	15	Ft.
D.	Average Slope in Reach	9	Ft./Mi.
E.	Drainage Area above Reach Mouth	357	Sq.Mi.
F.	Inflow Classification	Natural	

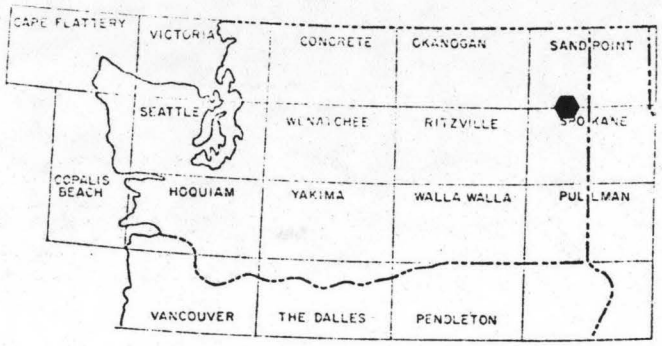
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	55.4	0.07	0.62	1.00
80	78.2	0.10	0.84	0.97
50	106	0.13	1.04	0.88
30	168	0.21	1.31	0.70
10	336	0.43	169	0.45

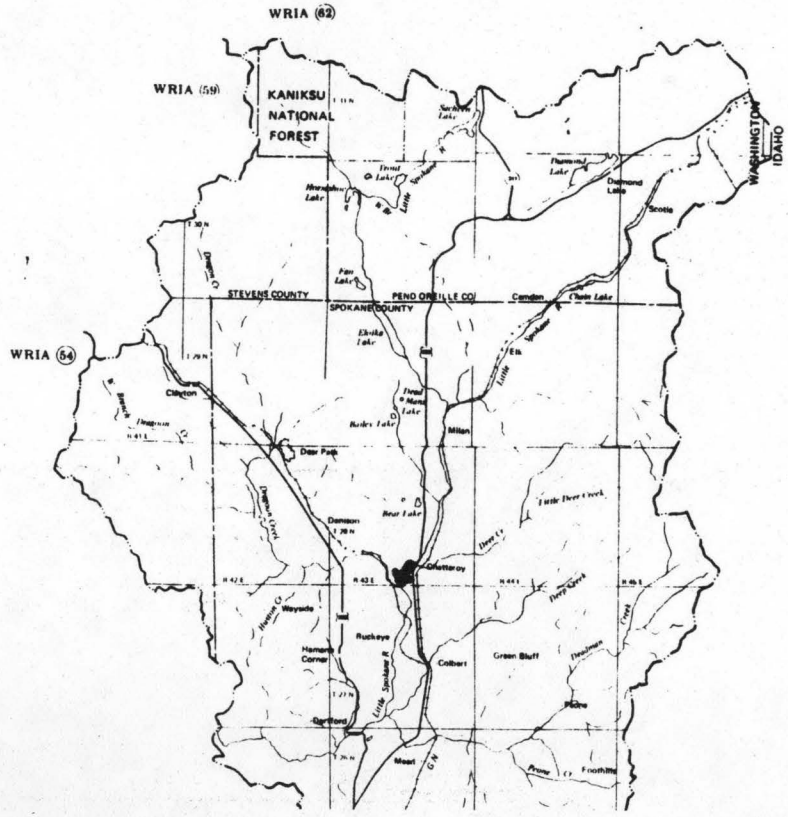
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 163 cfs



W54-1400



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0008

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T28N R43E
D.	Latitude, Longitude	47°48' 117°17'
E.	Stream Name	Little Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	21.9/30.5

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

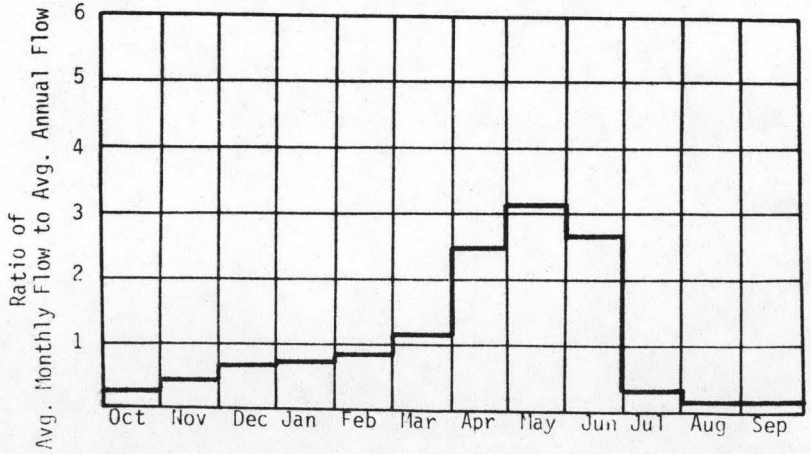
A.	Upstream Elevation of Reach	1790	Ft. MSL
B.	Downstream Elevation of Reach	1685	Ft. MSL
C.	Total Available Head in Reach	105	Ft.
D.	Average Slope in Reach	12	Ft./Mi.
E.	Drainage Area above Reach Mouth	321	Sq.Mi.
F.	Inflow Classification	Natural	

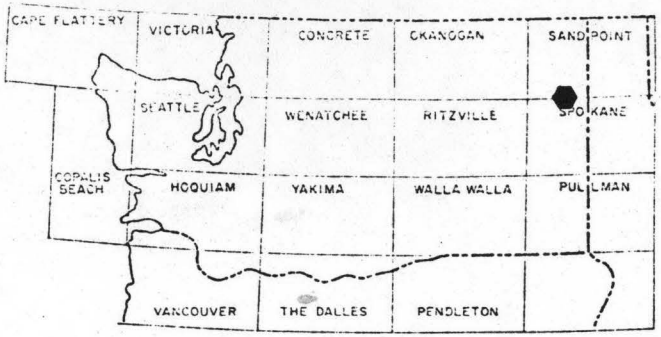
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	47.9	0.43	3.73	1.00
80	67.7	0.60	5.11	0.97
50	91.6	0.81	6.28	0.88
30	145	1.29	7.91	0.70
10	290	2.58	10.2	0.45

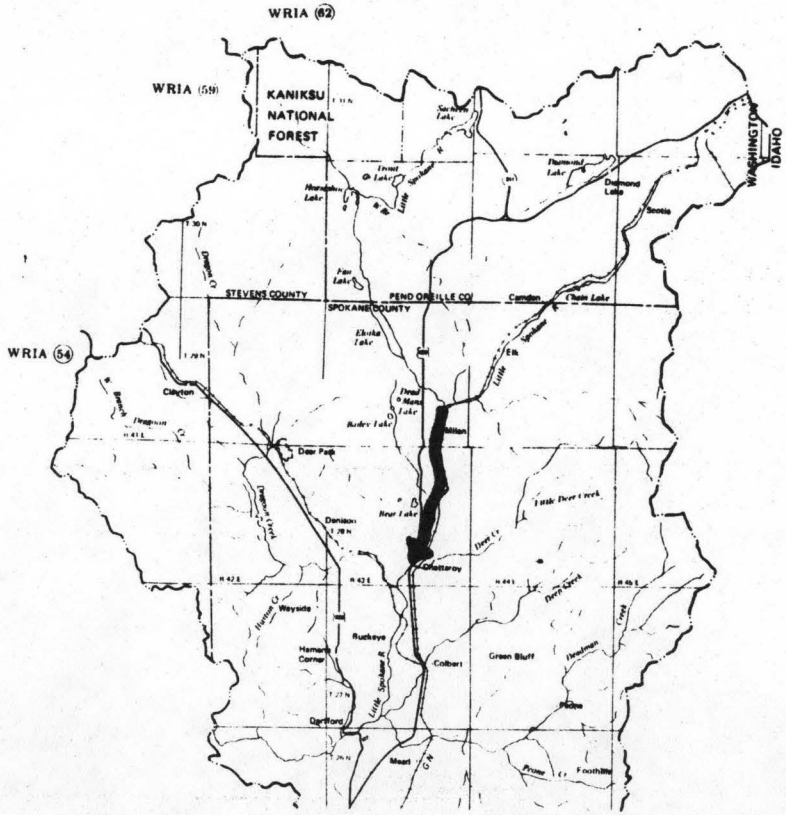
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 141 cfs





LOCATIONS FOR USGS 1-250,000 MAP SERIES



W54-1401

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0009

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T29N R43E
D.	Latitude, Longitude	48°00' 117°16'
E.	Stream Name	Little Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	30.5/31

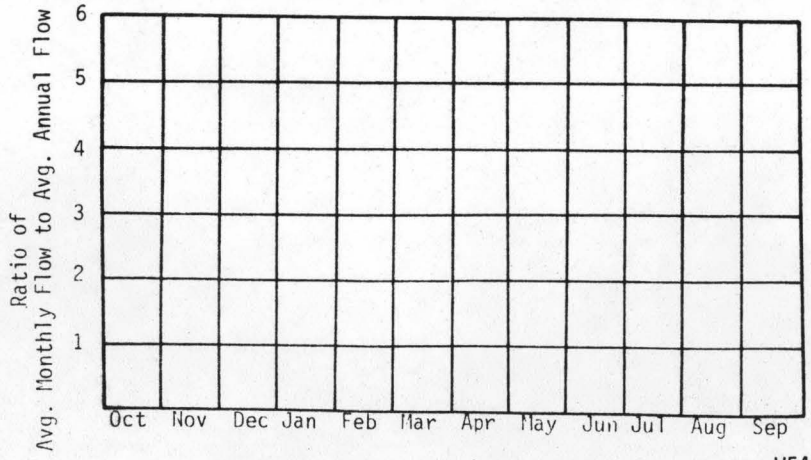
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

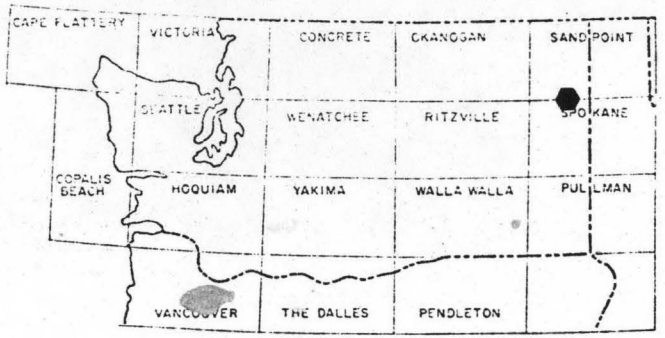
A.	Upstream Elevation of Reach	1795	Ft. MSL
B.	Downstream Elevation of Reach	1790	Ft. MSL
C.	Total Available Head in Reach	5	Ft.
D.	Average Slope in Reach	10	Ft./Mi.
E.	Drainage Area above Reach Mouth	177	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

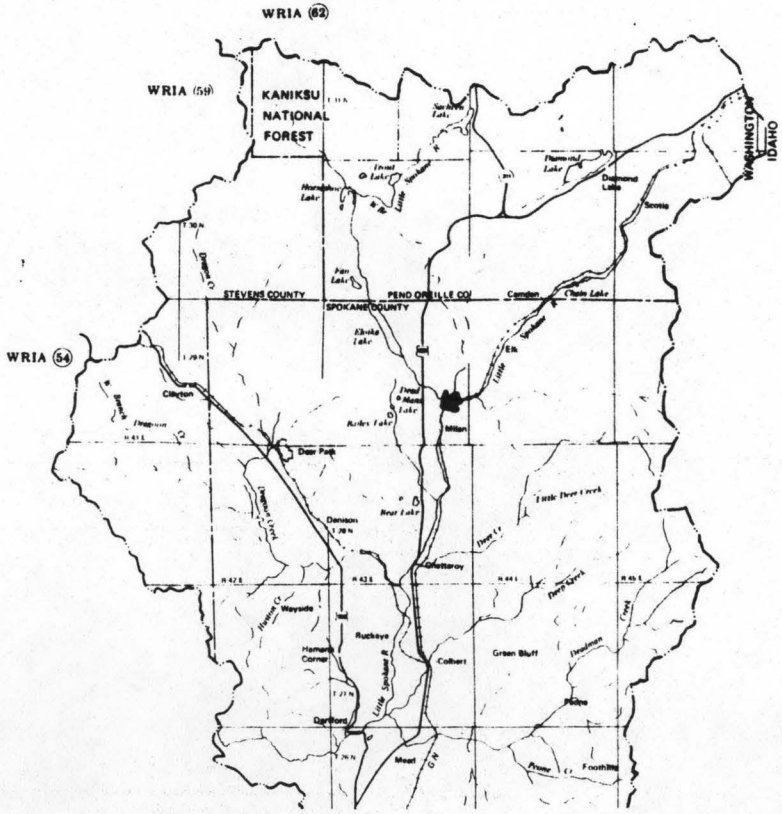
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23.8	0.01	0.09	1.00
80	33.6	0.01	0.12	0.97
50	45.5	0.02	0.15	0.88
30	72.1	0.03	0.19	0.70
10	144	0.06	0.24	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 70 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W54-1402

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0010

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T29N R44E
D.	Latitude, Longitude	48°00' 117°17'
E.	Stream Name	Little Spokane River
F.	Major Basin Name	Spokane
G.	River Mile	31/35

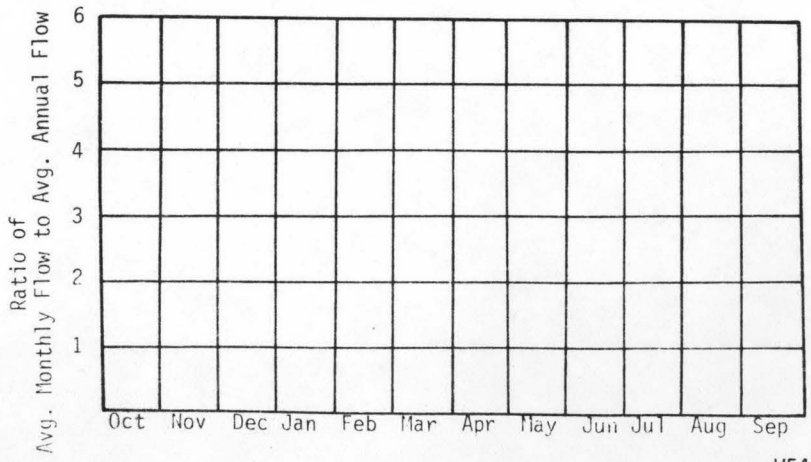
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

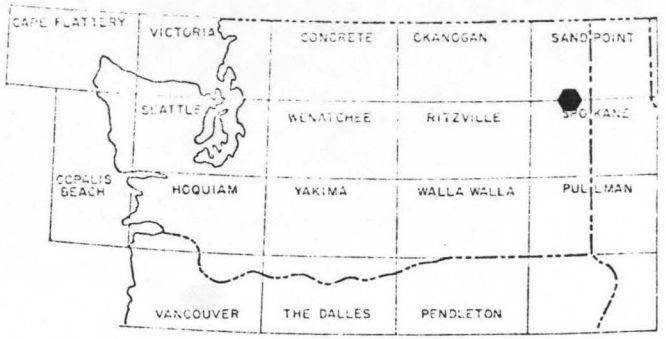
A.	Upstream Elevation of Reach	1835	Ft. MSL
B.	Downstream Elevation of Reach	1795	Ft. MSL
C.	Total Available Head in Reach	40 + 66 = 106	Ft.
D.	Average Slope in Reach	10	Ft./Mi.
E.	Drainage Area above Reach Mouth	136	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

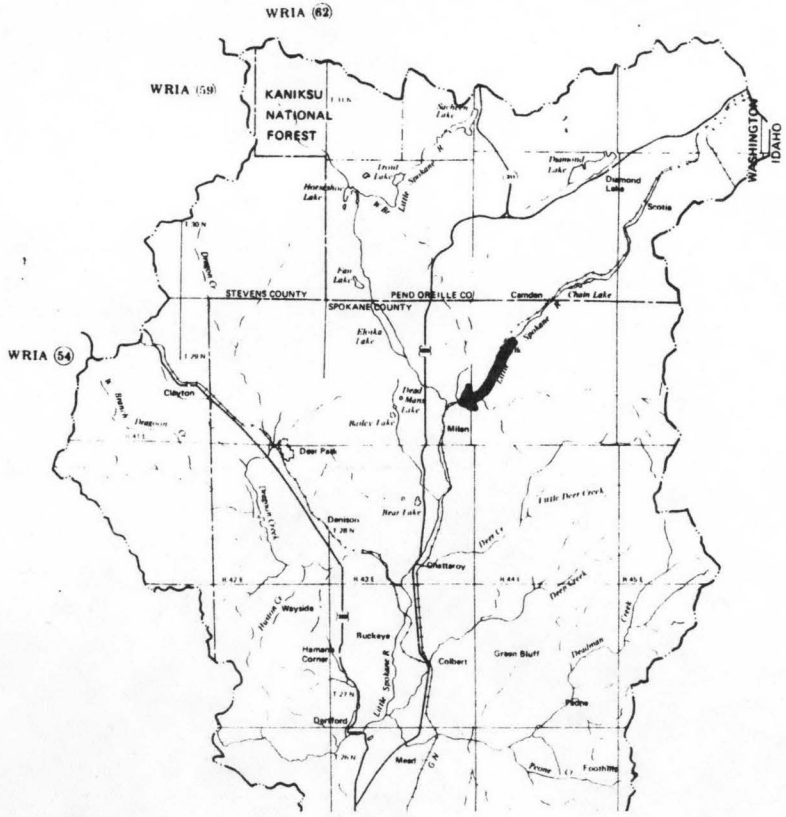
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.6	0.17	1.46	1.00
80	26.2	0.24	2.00	0.97
50	35.5	0.32	2.45	0.88
30	56.2	0.50	3.09	0.70
10	112	1.01	3.98	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 54.6 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W54-1403

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0011

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T28N R42E
D.	Latitude, Longitude	47°50' 117°30'
E.	Stream Name	Dragoon Creek
F.	Major Basin Name	Spokane
G.	River Mile	0.0/11.6

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

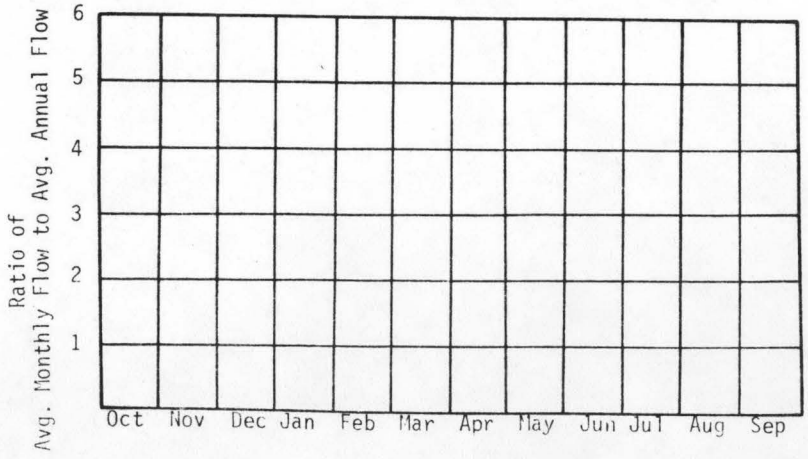
A.	Upstream Elevation of Reach	2010	Ft. MSL
B.	Downstream Elevation of Reach	1670	Ft. MSL
C.	Total Available Head in Reach	340 + 66 = 406	Ft.
D.	Average Slope in Reach	29	Ft./Mi.
E.	Drainage Area above Reach Mouth	173	Sq.Mi.
F.	Inflow Classification	Natural	

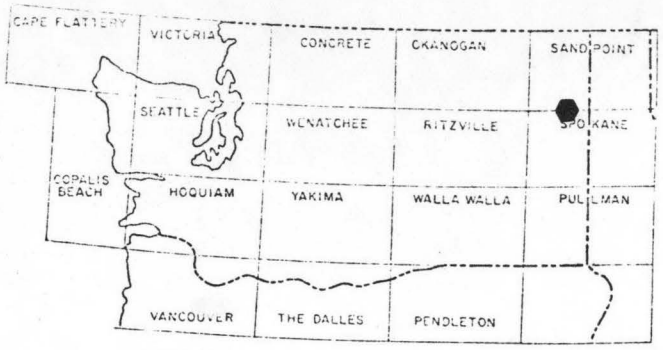
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.4	0.63	5.52	1.00
80	25.9	0.89	7.56	0.97
50	35.1	1.21	9.29	0.88
30	55.6	1.91	11.7	0.70
10	111	3.82	15.1	0.45

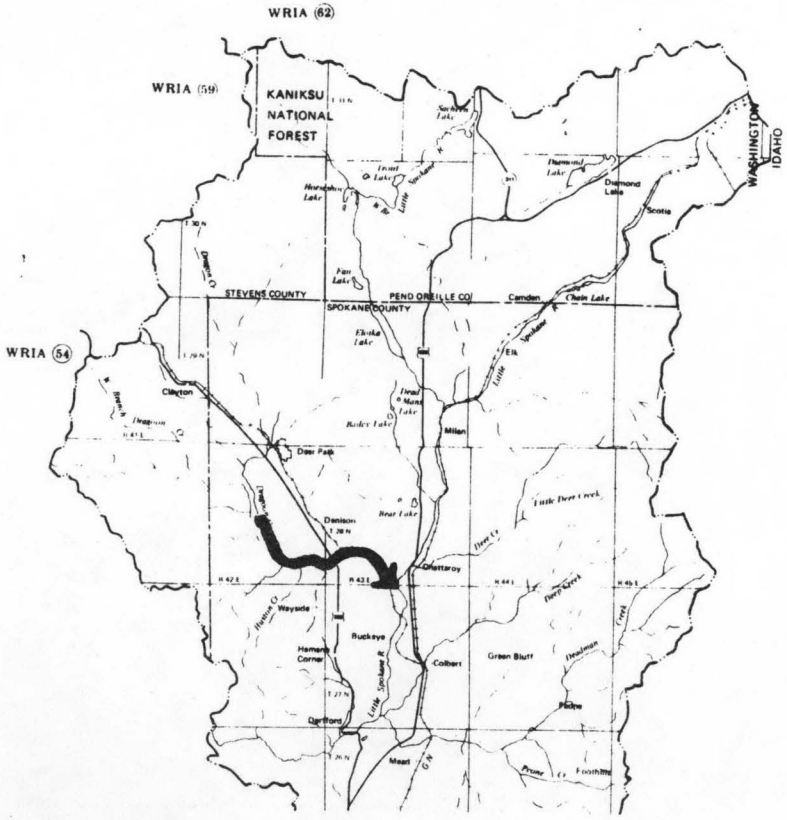
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 54 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W54-1404

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-420-000-000-R0012

I. LOCATION

A.	State	Washington
B.	County	Spokane
C.	Township, Range	T29N R43E
D.	Latitude, Longitude	48°06' 117°22'
E.	Stream Name	W.Br.Little Spokane
F.	Major Basin Name	Spokane
G.	River Mile	0.0/6.3

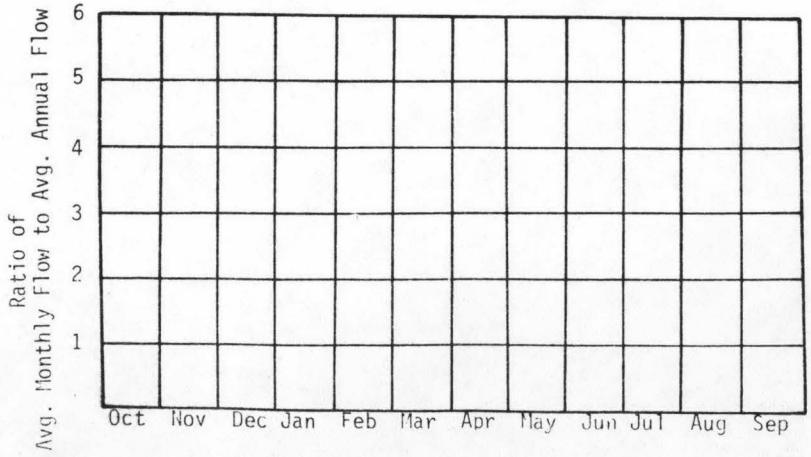
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

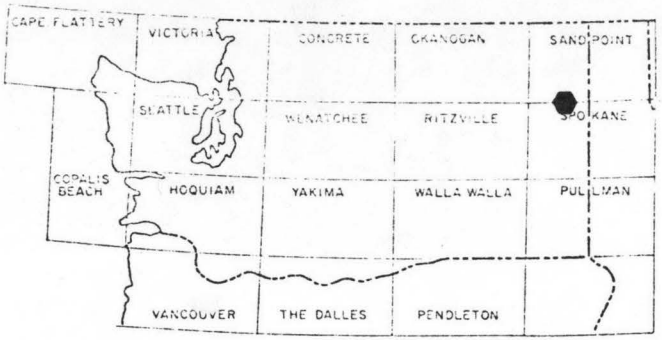
A.	Upstream Elevation of Reach	1950	Ft. MSL
B.	Downstream Elevation of Reach	1760	Ft. MSL
C.	Total Available Head in Reach	144 + 66 = 210	Ft.
D.	Average Slope in Reach	23	Ft./Mi.
E.	Drainage Area above Reach Mouth	109	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

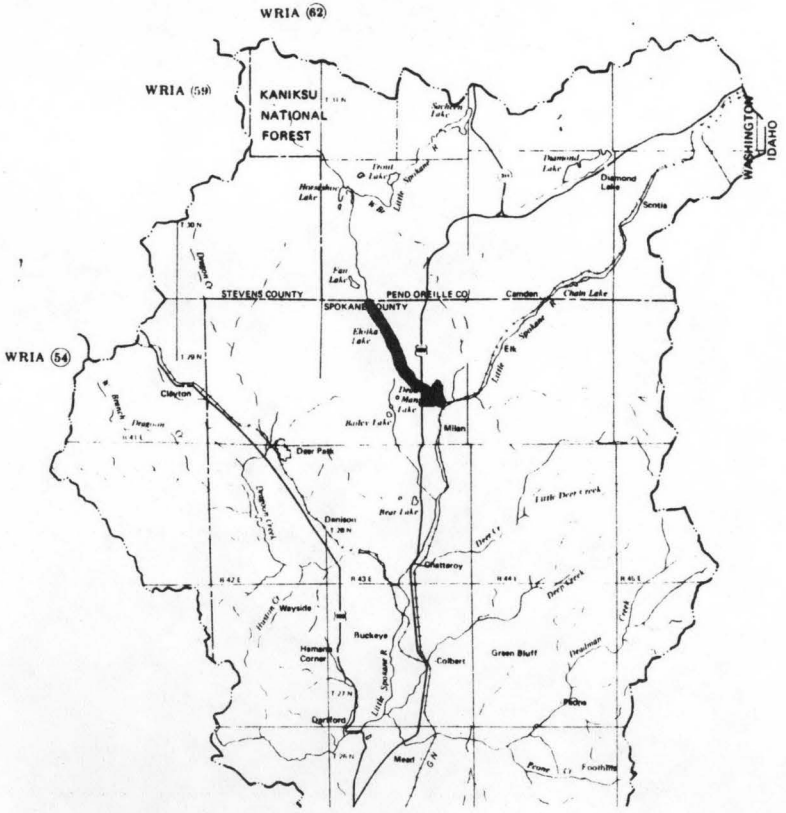
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19.7	0.35	3.07	1.00
80	27.8	0.49	4.20	0.97
50	37.7	0.67	5.16	0.88
30	59.7	1.06	6.51	0.70
10	119	2.12	8.37	0.45

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 58 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W54-1405

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-440-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Stevens
C.	Township, Range	T36N R38E
D.	Latitude, Longitude	48°35' 118°03'
E.	Stream Name	Colville River
F.	Major Basin Name	Colville
G.	River Mile	0.0/5.8

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

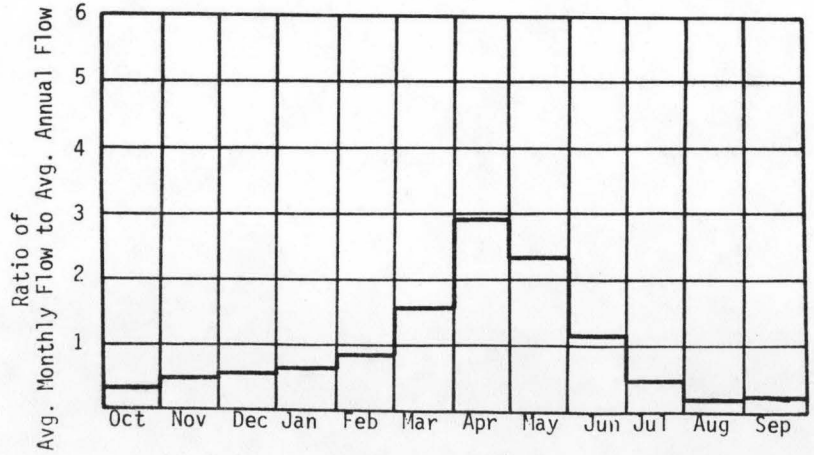
A.	Upstream Elevation of Reach	1360	Ft. MSL
B.	Downstream Elevation of Reach	1289	Ft. MSL
C.	Total Available Head in Reach	71	Ft.
D.	Average Slope in Reach	12	Ft./Mi.
E.	Drainage Area above Reach Mouth	1043	Sq.Mi.
F.	Inflow Classification	Regulated	

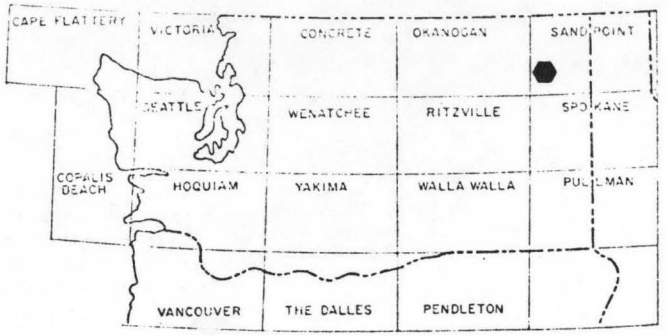
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	90.0	0.54	4.74	1.00
80	126	0.76	6.43	0.97
50	189	1.14	8.55	0.86
30	297	1.78	10.9	0.70
10	678	4.07	15.0	0.42

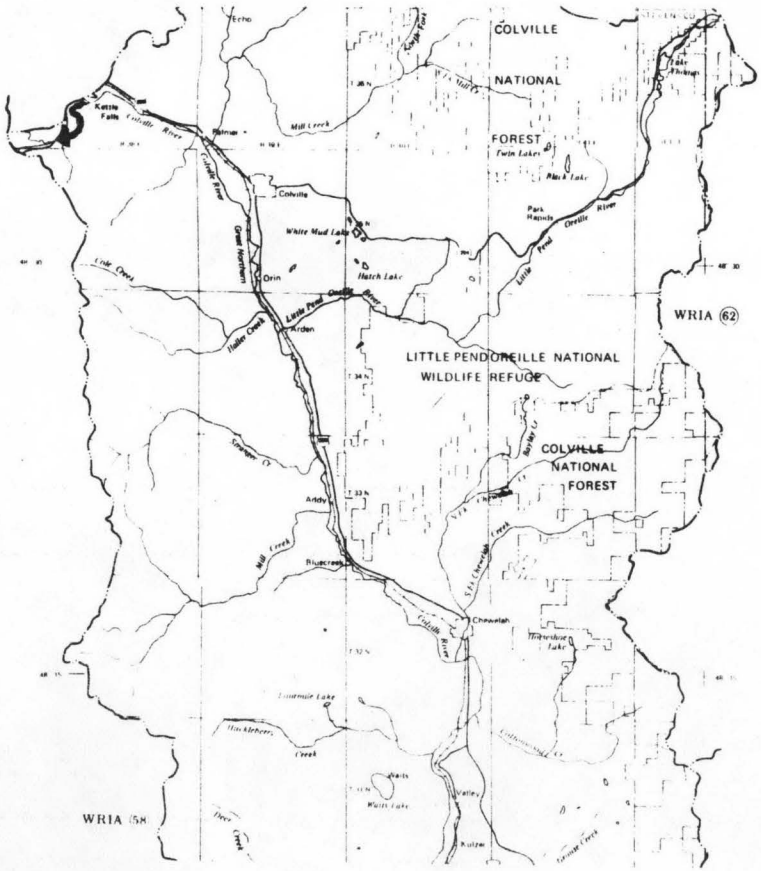
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 300 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W59-1406

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-440-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Stevens
C.	Township, Range	T36N R38E
D.	Latitude, Longitude	48°35' 117°59'
E.	Stream Name	Colville River
F.	Major Basin Name	Colville
G.	River Mile	7.1/9.2

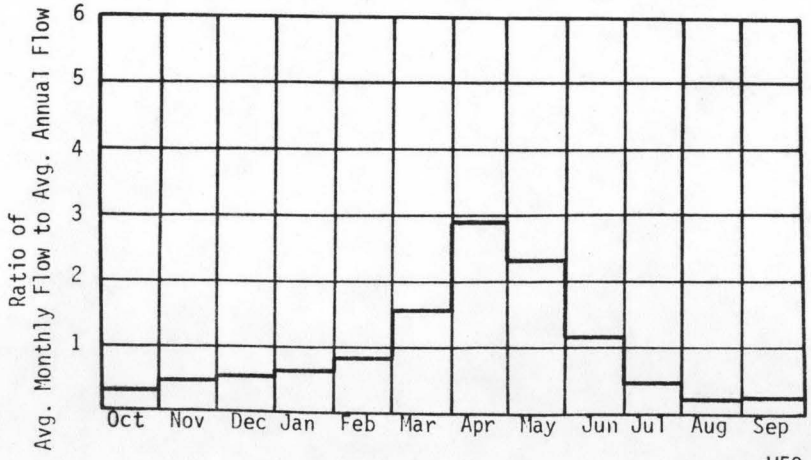
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1530	Ft. MSL
B.	Downstream Elevation of Reach	1520	Ft. MSL
C.	Total Available Head in Reach	10	Ft.
D.	Average Slope in Reach	4.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	1005	Sq.Mi.
F.	Inflow Classification	Natural	

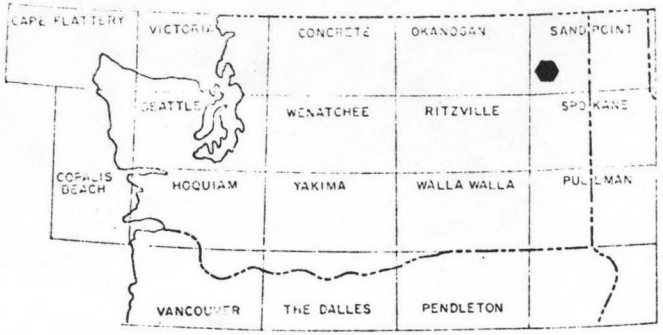
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	89	0.08	0.66	1.00
80	125	0.11	0.90	0.97
50	187	0.16	1.19	0.86
30	294	0.25	1.53	0.70
10	671	0.57	2.09	0.42

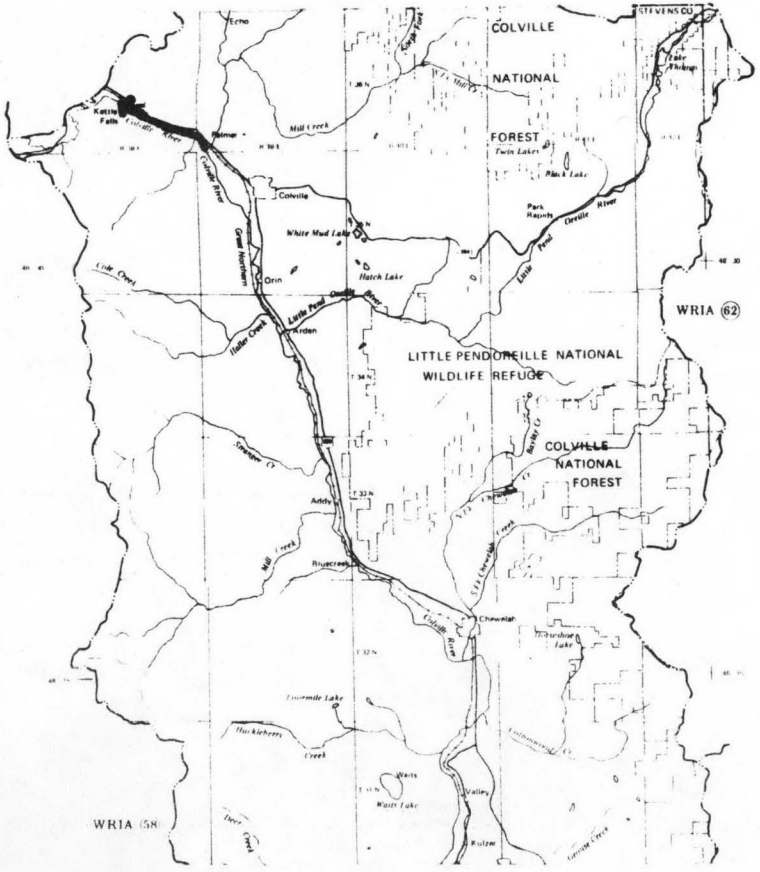
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 297 cfs



W59-1407



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-440-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Stevens	
C. Township, Range	T35N R39E	
D. Latitude, Longitude	48°31' 117°53'	
E. Stream Name	Colville River	
F. Major Basin Name	Colville	
G. River Mile	9.2/20.0	

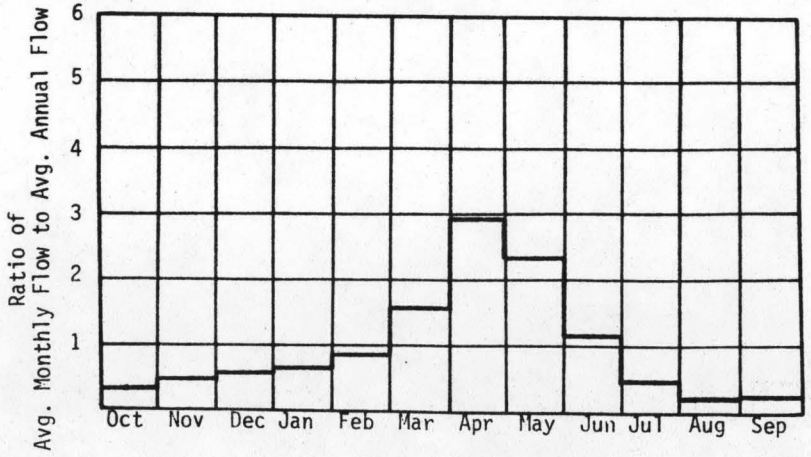
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

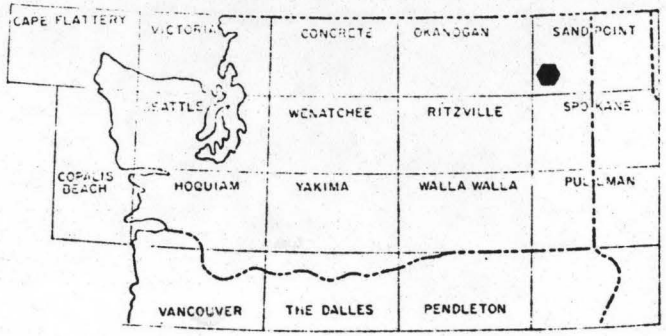
A. Upstream Elevation of Reach	1580	Ft. MSL
B. Downstream Elevation of Reach	1530	Ft. MSL
C. Total Available Head in Reach	50	Ft.
D. Average Slope in Reach	4.6	Ft./Mi.
E. Drainage Area above Reach Mouth	834	Sq.Mi.
F. Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

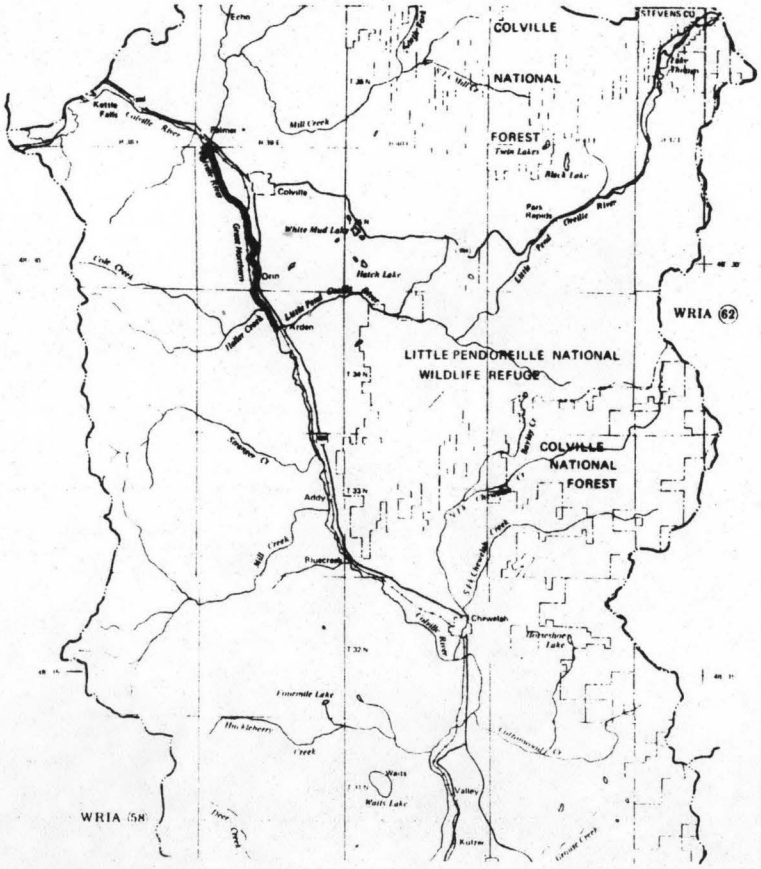
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	69.6	0.29	2.58	1.00
80	97.4	0.41	3.50	0.97
50	146	0.62	4.66	0.86
30	230	0.97	5.96	0.70
10	524	2.22	8.16	0.42

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 232 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W59-1408

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-440-000-000-R0004

I. LOCATION

A. State	Washington	
B. County	Stevens	
C. Township, Range	T33N R39E	
D. Latitude, Longitude	48°21' 117°50'	
E. Stream Name	Colville River	
F. Major Basin Name	Colville	
G. River Mile	20.0/40.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

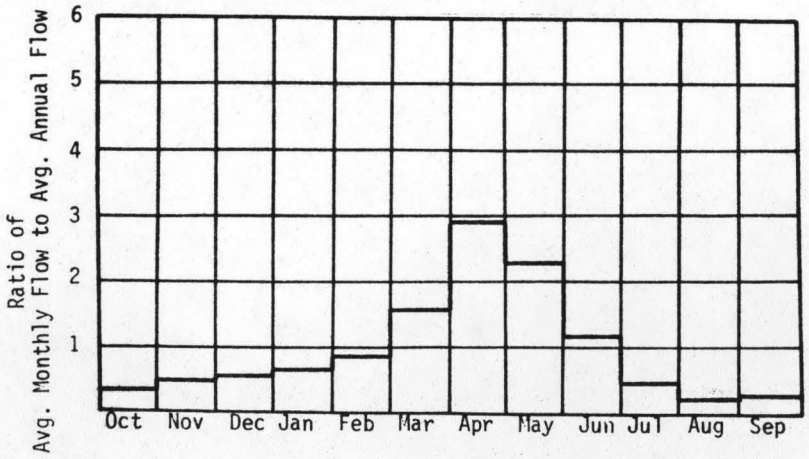
A. Upstream Elevation of Reach	1635	Ft. MSL
B. Downstream Elevation of Reach	1580	Ft. MSL
C. Total Available Head in Reach	55	Ft.
D. Average Slope in Reach	2.7	Ft./Mi.
E. Drainage Area above Reach Mouth	569	Sq.Mi.
F. Inflow Classification	Natural	

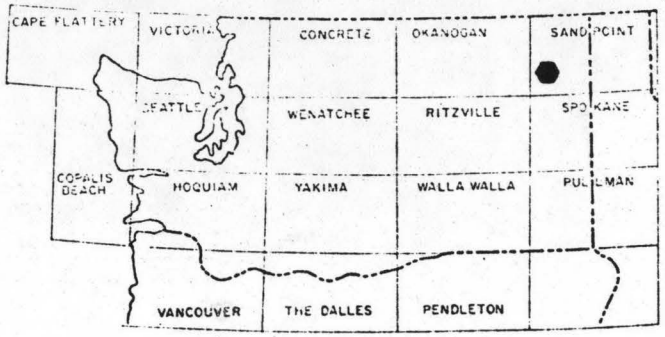
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	45.0	0.21	1.83	1.00
80	63.0	0.29	2.49	0.97
50	94.5	0.44	3.31	0.86
30	149	0.69	4.24	0.70
10	339	1.58	5.80	0.42

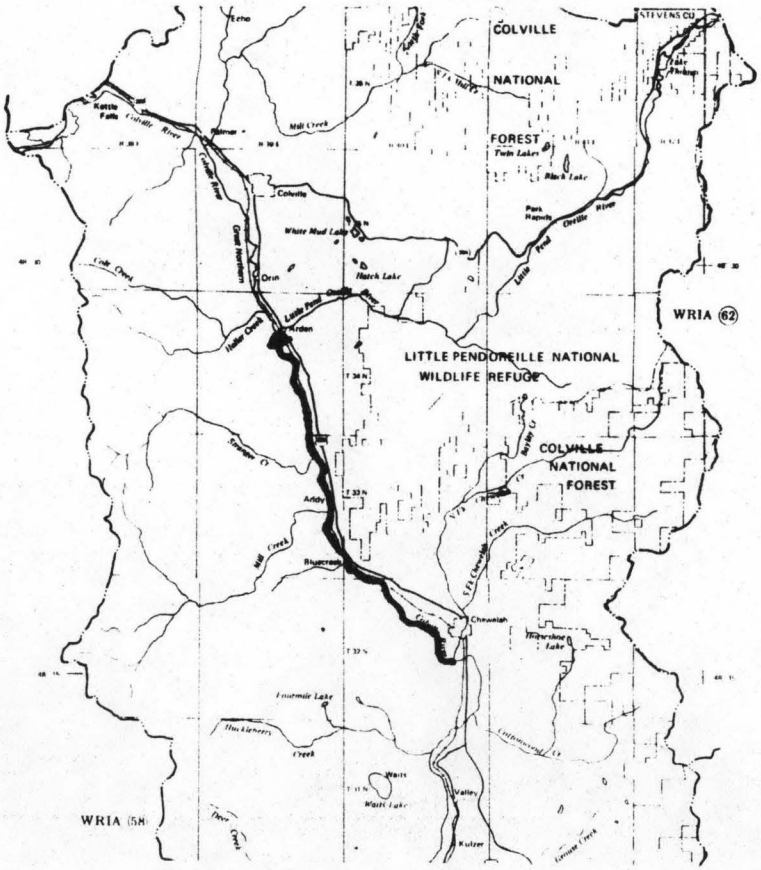
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 150 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



W59-1409

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-440-000-000-R0005

I. LOCATION

A.	State	Washington
B.	County	Stevens
C.	Township, Range	T32N R40E
D.	Latitude, Longitude	48°15' 117°42'
E.	Stream Name	Colville River
F.	Major Basin Name	Colville
G.	River Mile	40.7/44.1

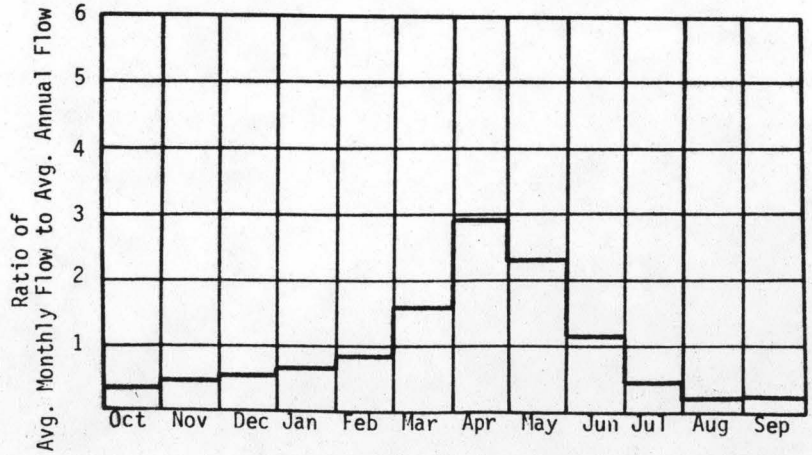
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	1640	Ft. MSL
B.	Downstream Elevation of Reach	1635	Ft. MSL
C.	Total Available Head in Reach	5	Ft.
D.	Average Slope in Reach	1.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	296	Sq.Mi.
F.	Inflow Classification	Natural	

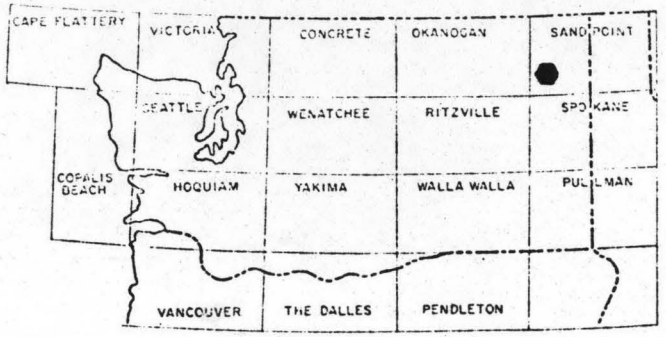
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	28.8	0.01	0.11	1.00
80	40.3	0.02	0.14	0.97
50	60.0	0.03	0.19	0.86
30	95.0	0.04	0.25	0.70
10	217	0.09	0.34	0.42

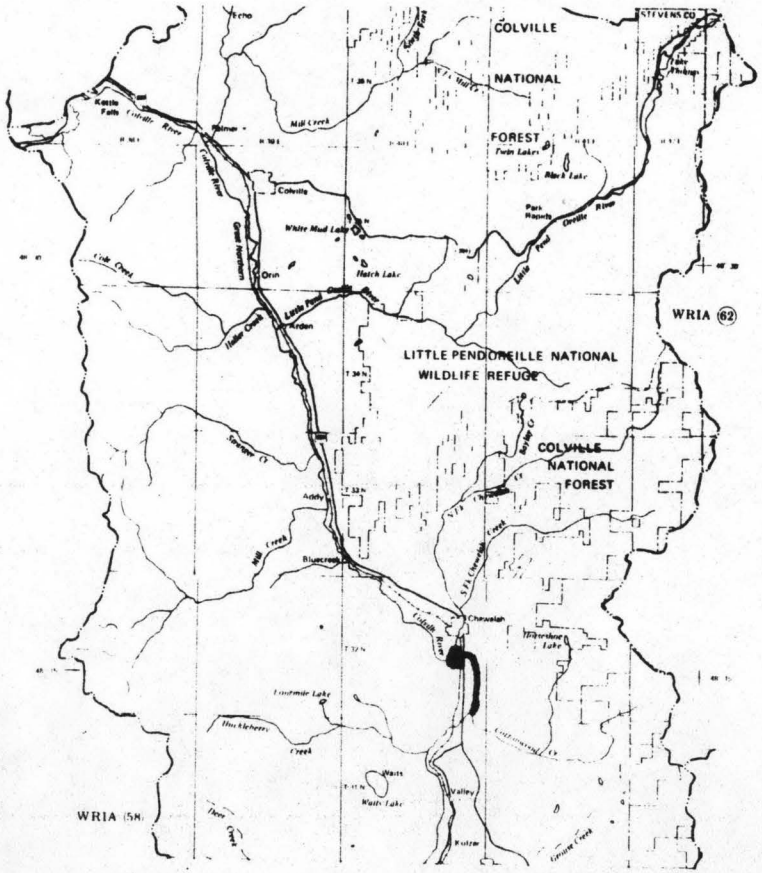
IV. TYPICAL ANNUAL HYDROGRAPH QMR = 96 cfs



W59-1410



LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-440-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Stevens	
C. Township, Range	T31N R40E	
D. Latitude, Longitude	48°13' 117°44'	
E. Stream Name	Colville River	
F. Major Basin Name	Colville	
G. River Mile	44.1/46.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

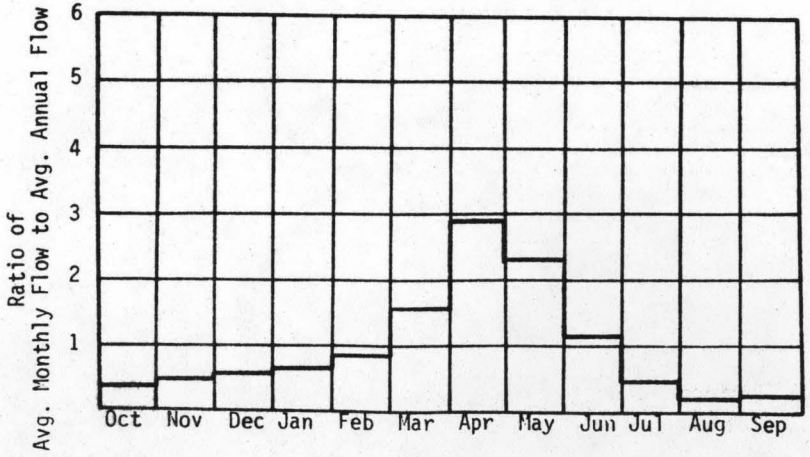
A. Upstream Elevation of Reach	1650	Ft. MSL
B. Downstream Elevation of Reach	1640	Ft. MSL
C. Total Available Head in Reach	10 + 66 = 76	Ft.
D. Average Slope in Reach	3.9	Ft./Mi.
E. Drainage Area above Reach Mouth	226	Sq.Mi.
F. Inflow Classification	Natural	

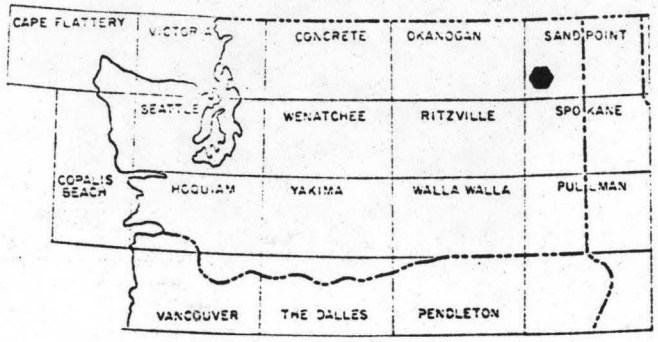
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20.7	0.13	1.17	1.00
80	29.0	0.19	1.58	0.97
50	43.5	0.28	2.11	0.86
30	68.3	0.44	2.69	0.70
10	156	1.00	3.69	0.42

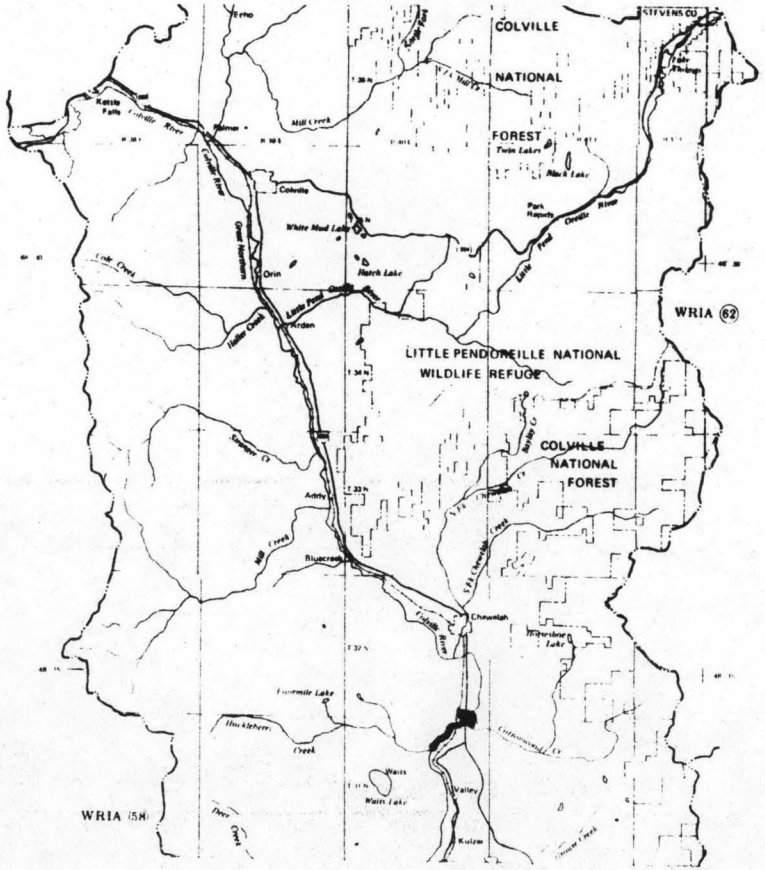
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 69 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



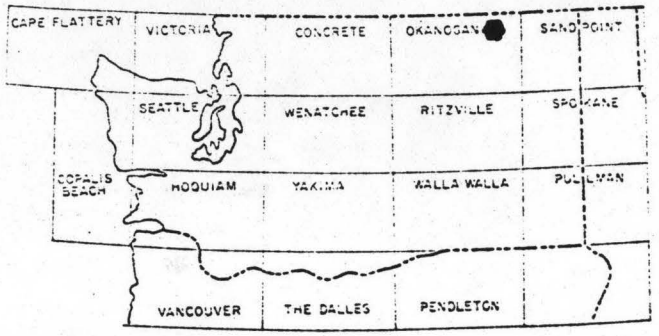
W59-1411

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-460-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Ferry
C.	Township, Range	T38N R37E
D.	Latitude, Longitude	48°49' 118°09'
E.	Stream Name	Kettle River
F.	Major Basin Name	Kettle
G.	River Mile	11.5/16.7



LOCATIONS FOR USGS 1:250,000 MAP SERIES

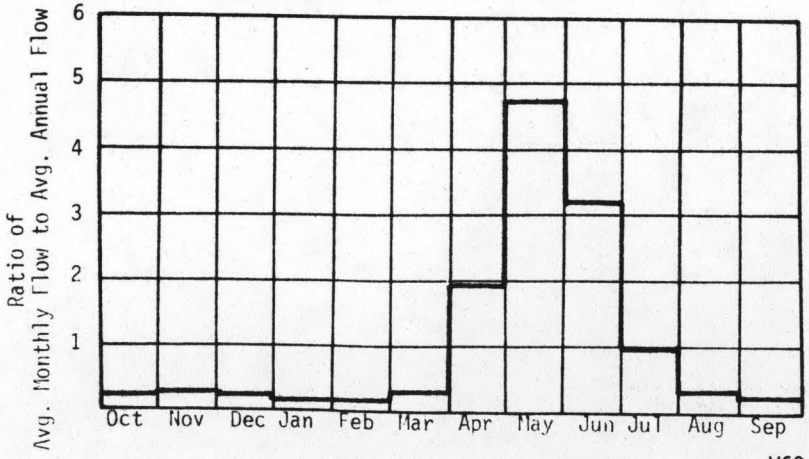
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

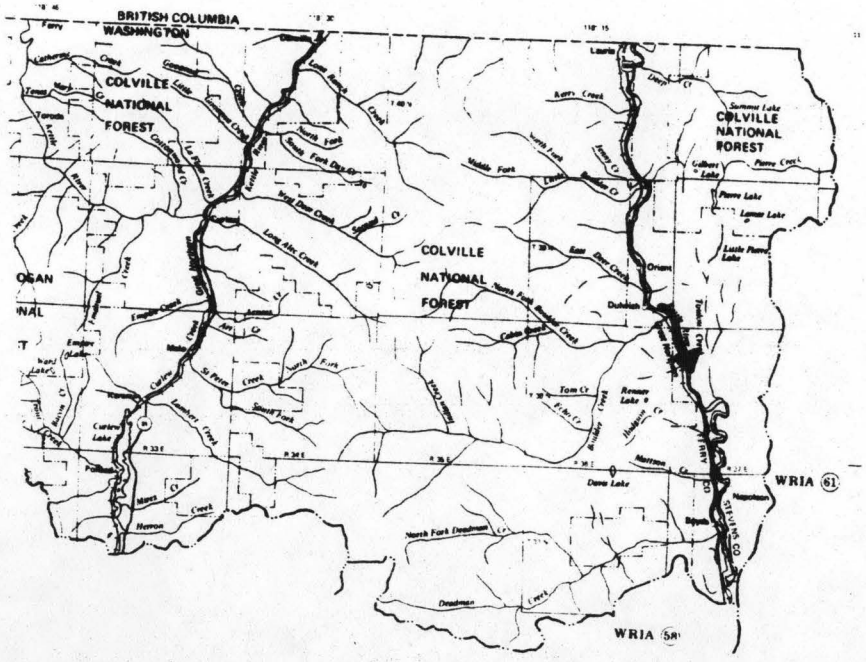
A.	Upstream Elevation of Reach	1350	Ft. MSL
B.	Downstream Elevation of Reach	1280	Ft. MSL
C.	Total Available Head in Reach	70	Ft.
D.	Average Slope in Reach	13.5	Ft./Mi.
E.	Drainage Area above Reach Mouth	3954	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	233.5	1.38	12.1	1.00
80	379	2.25	18.9	0.96
50	759	4.49	31.1	0.79
30	2043	12.1	58.3	0.55
10	10000	59.5	135	0.26

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2919 cfs





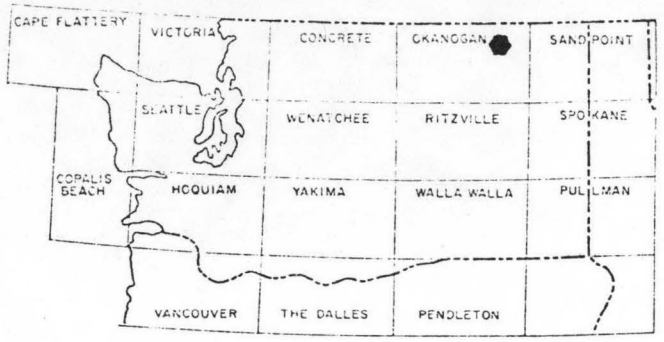
W60-1412

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-460-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Ferry
C.	Township, Range	T39N R36E
D.	Latitude, Longitude	48°55' 118°12'
E.	Stream Name	Kettle River
F.	Major Basin Name	Kettle
G.	River Mile	16.7/29.9



LOCATIONS FOR USGS 1:250,000 MAP SERIES

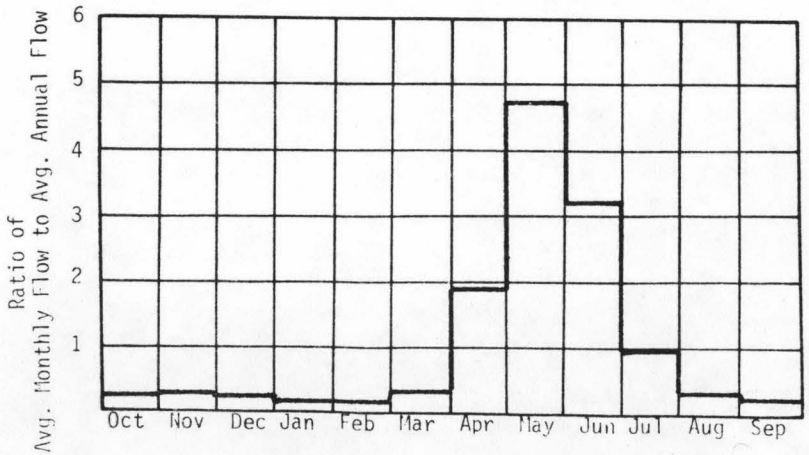
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

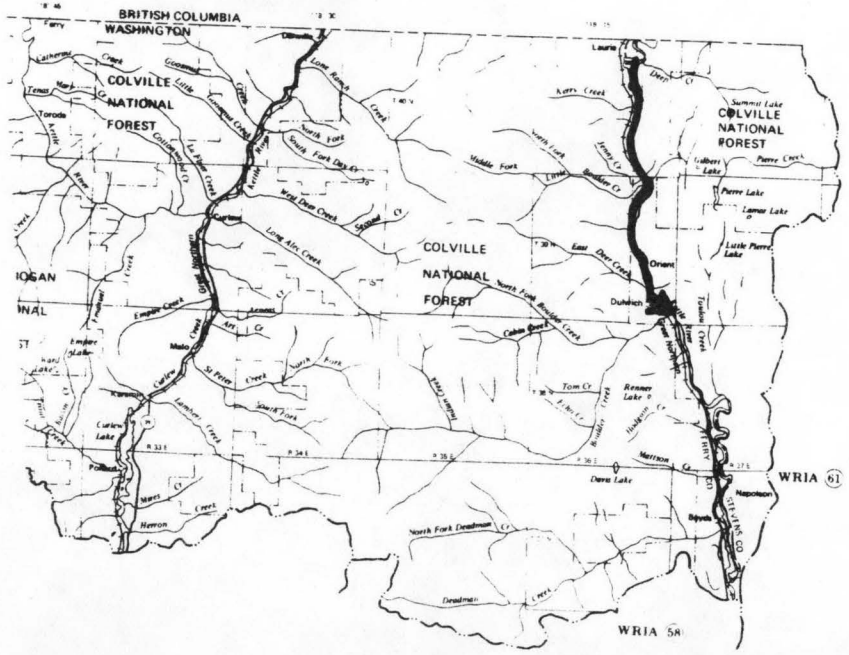
A.	Upstream Elevation of Reach	1430	Ft. MSL
B.	Downstream Elevation of Reach	1350	Ft. MSL
C.	Total Available Head in Reach	80	Ft.
D.	Average Slope in Reach	6.1	Ft./Mi.
E.	Drainage Area above Reach Mouth	3883	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	229	1.55	13.6	1.00
80	372	2.52	21.2	0.96
50	746	5.05	34.9	0.79
30	2000	13.6	65.5	0.55
10	9870	66.8	152	0.26

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2869 cfs





W60-1413

REACH HYDRO POTENTIAL CHARACTERISTICS

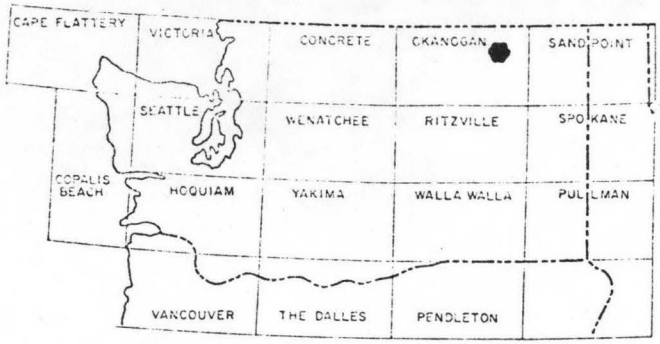
REACH # 01-500-460-000-000-R0003

I. LOCATION

A. State	Washington	
B. County	Ferry	
C. Township, Range	T40N R36E	
D. Latitude, Longitude	49°00' 118°12'	
E. Stream Name	Kettle River	
F. Major Basin Name	Kettle	
G. River Mile	29.9/32.7	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

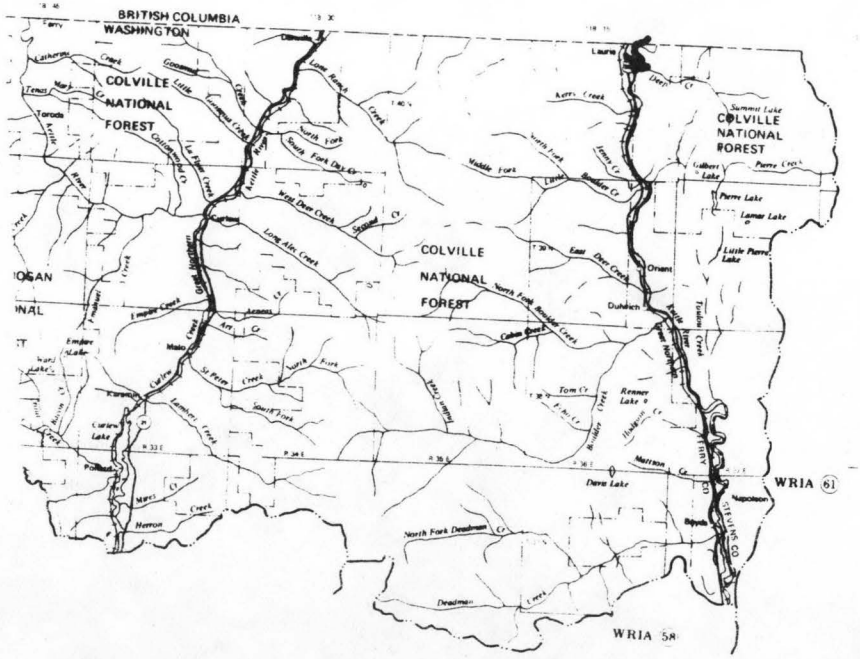
A. Upstream Elevation of Reach	1440	Ft. MSL
B. Downstream Elevation of Reach	1430	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	3.6	Ft./Mi.
E. Drainage Area above Reach Mouth	3800	Sq.Mi.
F. Inflow Classification	Natural	



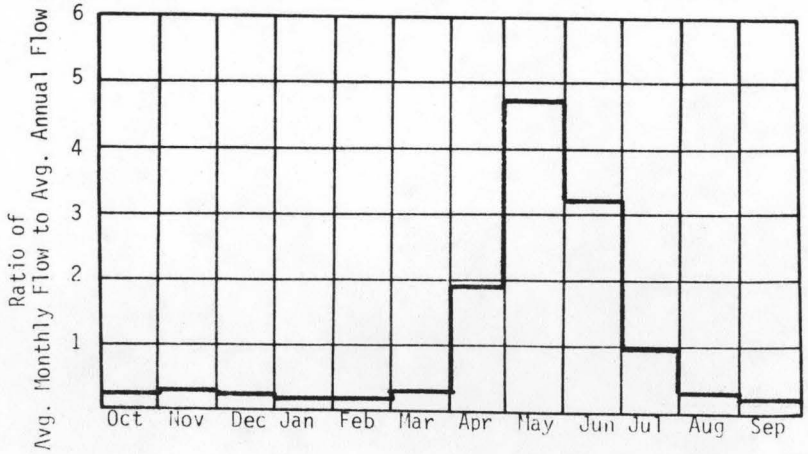
LOCATIONS FOR USGS 1:250,000 MAP SERIES

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	0.19	1.69	1.00
80	371	0.31	2.64	0.96
50	741	0.63	4.34	0.79
30	2000	1.69	8.14	0.55
10	9810	8.30	18.9	0.26



IV. TYPICAL ANNUAL HYDROGRAPH QMR = 2852 cfs



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-460-000-000-R0004

I. LOCATION

A.	State	Washington
B.	County	Ferry
C.	Township, Range	T40N R34E
D.	Latitude, Longitude	48°57' 118°34'
E.	Stream Name	Kettle River
F.	Major Basin Name	Kettle
G.	River Mile	59.2/70.3

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

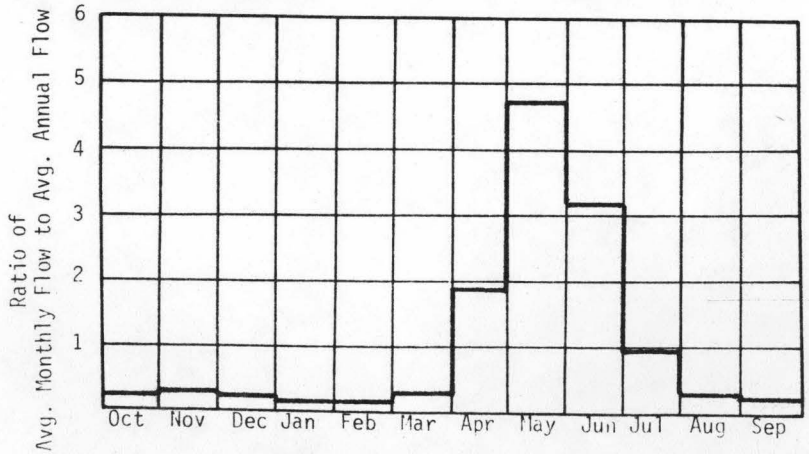
A.	Upstream Elevation of Reach	1740	Ft. MSL
B.	Downstream Elevation of Reach	1720	Ft. MSL
C.	Total Available Head in Reach	20	Ft.
D.	Average Slope in Reach	1.8	Ft./Mi.
E.	Drainage Area above Reach Mouth	2735	Sq.Mi.
F.	Inflow Classification	Natural	

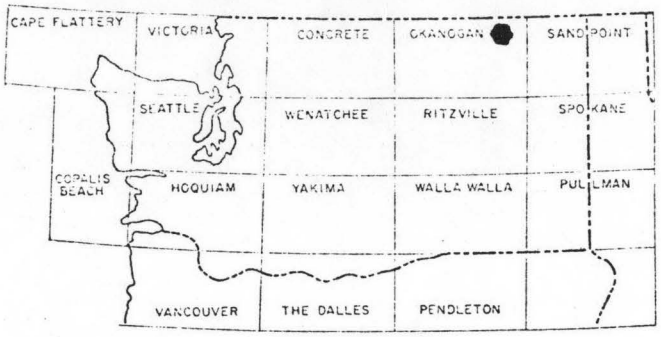
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	118	0.20	1.75	1.00
80	185	0.31	2.61	0.95
50	388	0.66	4.49	0.78
30	1010	1.71	8.25	0.55
10	5920	10.0	21.9	0.25

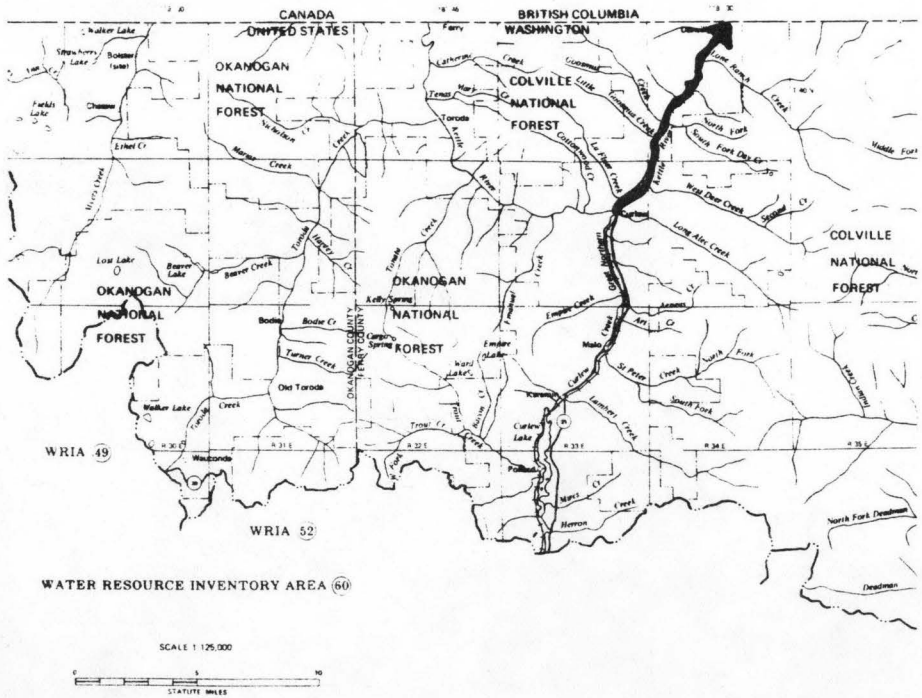
IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1686 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



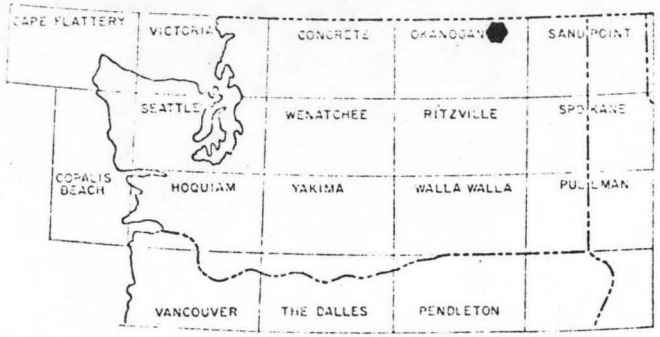
W60-1415

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-460-000-000-R0005

I. LOCATION

A. State	Washington	
B. County	Ferry	
C. Township, Range	T39N R32E	
D. Latitude, Longitude	48°54' 118°44'	
E. Stream Name	Kettle River	
F. Major Basin Name	Kettle	
G. River Mile	70.3/81	



LOCATIONS FOR USGS 1:250,000 MAP SERIES

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

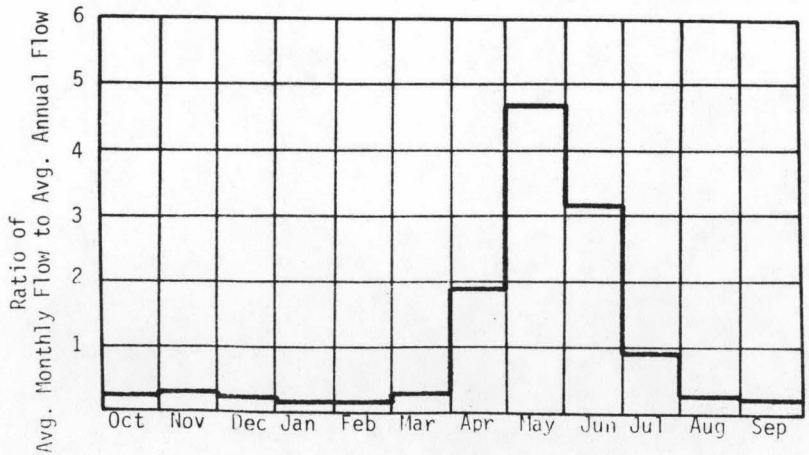
A. Upstream Elevation of Reach	1800	Ft. MSL
B. Downstream Elevation of Reach	1740	Ft. MSL
C. Total Available Head in Reach	60	Ft.
D. Average Slope in Reach	5.6	Ft./Mi.
E. Drainage Area above Reach Mouth	2466	Sq.Mi.
F. Inflow Classification	Natural	

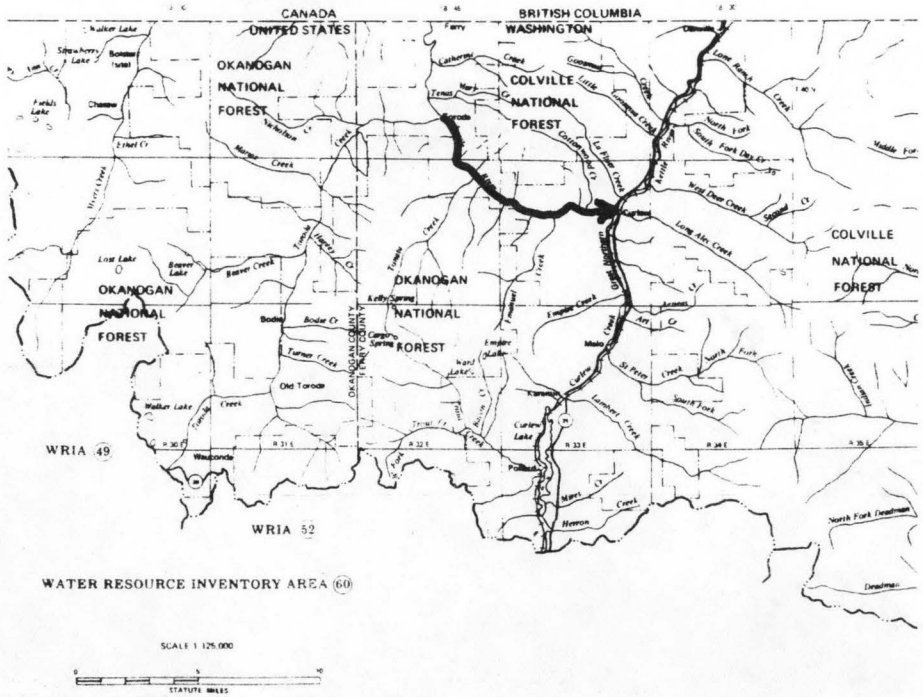
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	111	0.56	4.94	1.00
80	174	0.89	7.37	0.95
50	365	1.85	12.6	0.78
30	951	4.83	23.3	0.55
10	5570	28.3	61.9	0.25

IV. TYPICAL ANNUAL HYDROGRAPH

QMR = 1586 cfs





REACH HYDRO POTENTIAL CHARACTERISTICS

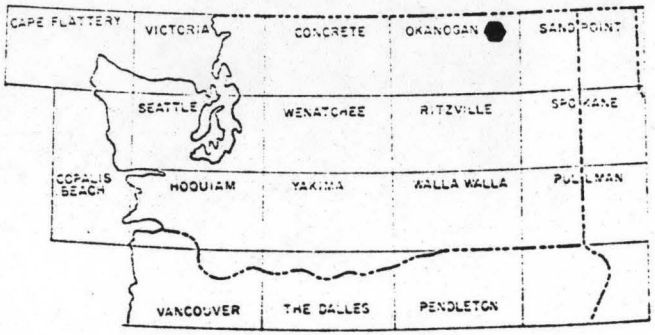
REACH # 01-500-460-000-000-R0006

I. LOCATION

A. State	Washington	
B. County	Ferry	
C. Township, Range	T40N R32E	
D. Latitude, Longitude	48°59' 118°46'	
E. Stream Name	Kettle River	
F. Major Basin Name	Kettle	
G. River Mile	81/85	

II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1875	Ft. MSL
B. Downstream Elevation of Reach	1800	Ft. MSL
C. Total Available Head in Reach	25	Ft.
D. Average Slope in Reach	6.2	Ft./Mi.
E. Drainage Area above Reach Mouth	2220	Sq.Mi.
F. Inflow Classification	Natural	

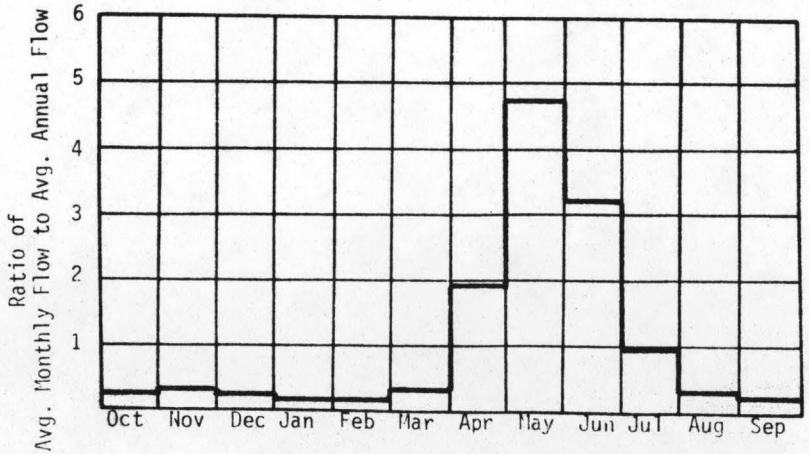


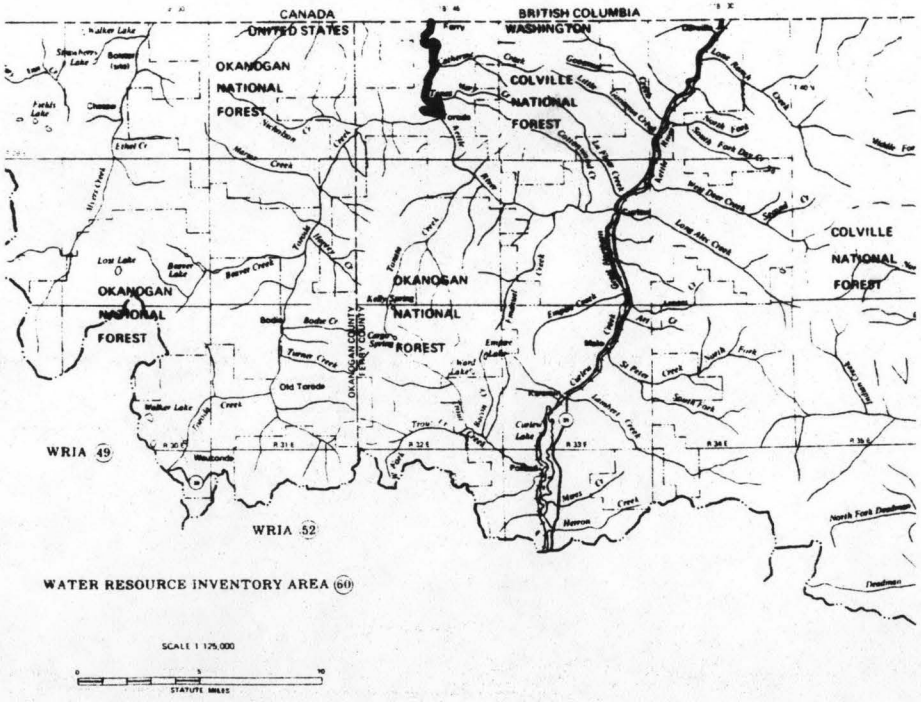
LOCATIONS FOR USGS 1:250,000 MAP SERIES

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	0.22	1.95	1.00
80	165	0.35	2.90	0.95
50	345	0.73	4.99	0.78
30	900	1.90	9.17	0.55
10	5260	11.1	24.4	0.25

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 1500 cfs



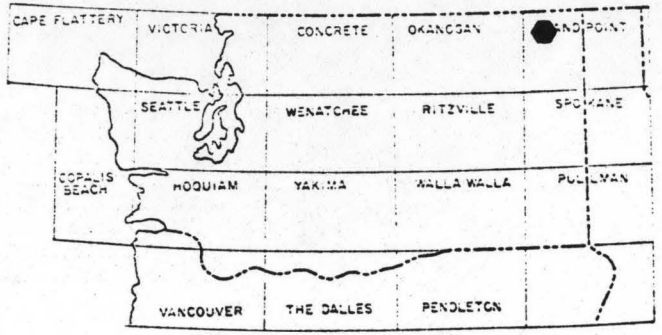


REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-470-000-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Stevens
C.	Township, Range	T40N R39E
D.	Latitude, Longitude	48°57' 117°47'
E.	Stream Name	Big Sheep Creek
F.	Major Basin Name	Big Sheep
G.	River Mile	0.0/4.3



LOCATIONS FOR USGS 1:250,000 MAP SERIES

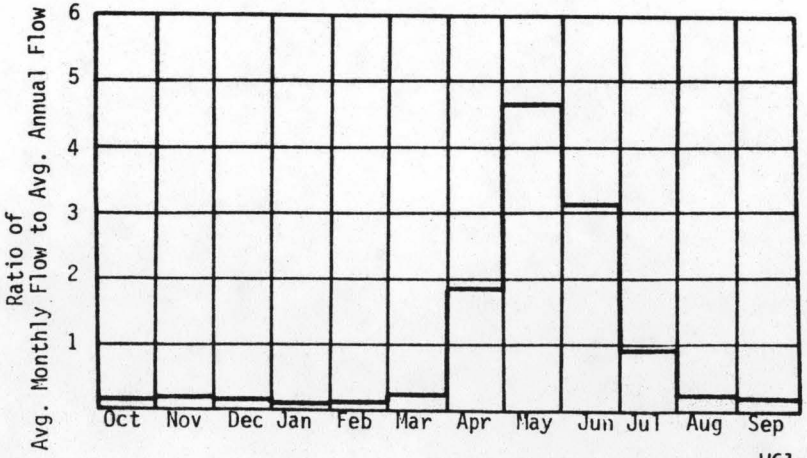
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

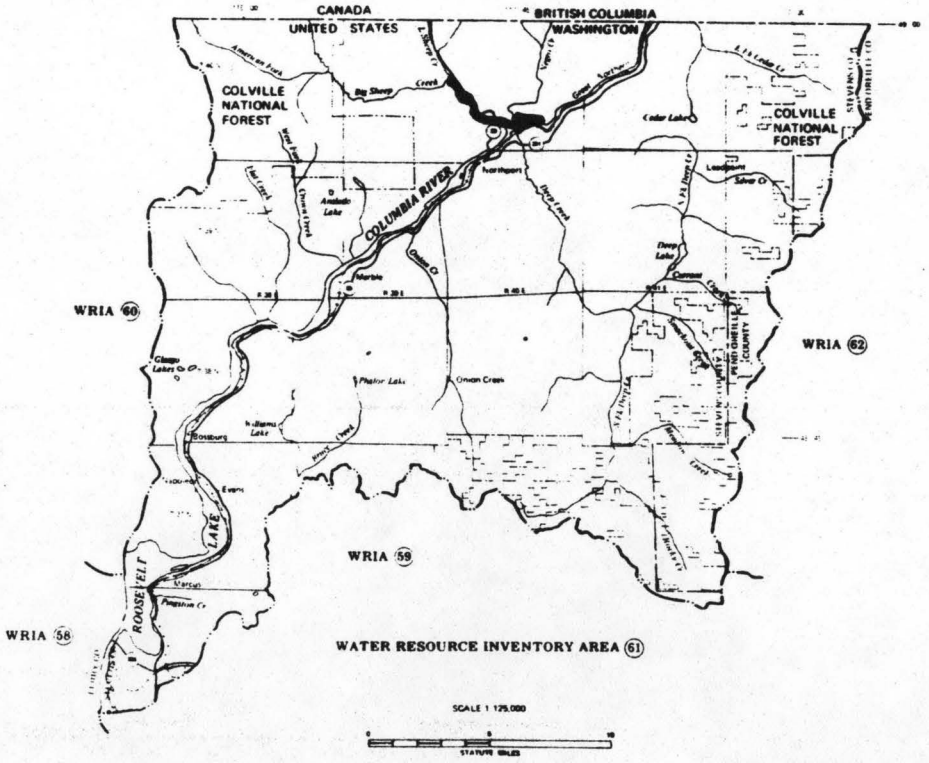
A.	Upstream Elevation of Reach	1820	Ft. MSL
B.	Downstream Elevation of Reach	1289	Ft. MSL
C.	Total Available Head in Reach	531	Ft.
D.	Average Slope in Reach	123	Ft./Mi.
E.	Drainage Area above Reach Mouth	225	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.9	0.81	7.05	1.00
80	33.3	1.50	12.6	0.96
50	74.2	3.34	22.2	0.76
30	184	8.28	39.9	0.55
10	842	37.8	86.2	0.26

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 256 cfs





W61-1418

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-470-000-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Stevens
C.	Township, Range	T40N R39E
D.	Latitude, Longitude	49°58' 117°50'
E.	Stream Name	Big Sheep Creek
F.	Major Basin Name	Big Sheep
G.	River Mile	4.3/9.7

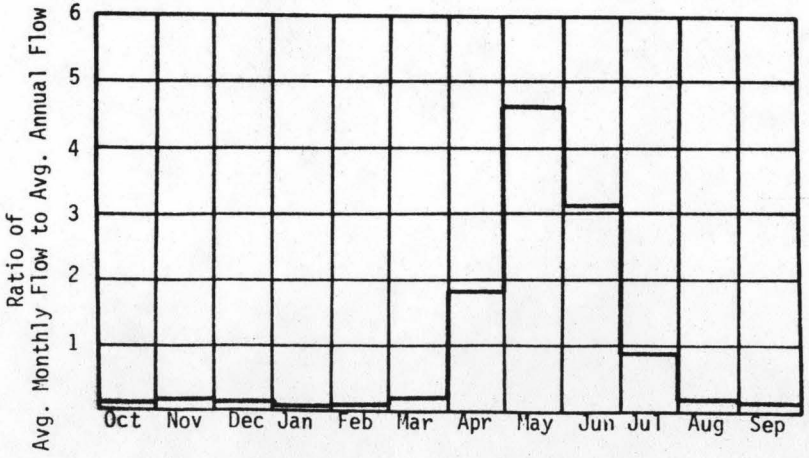
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

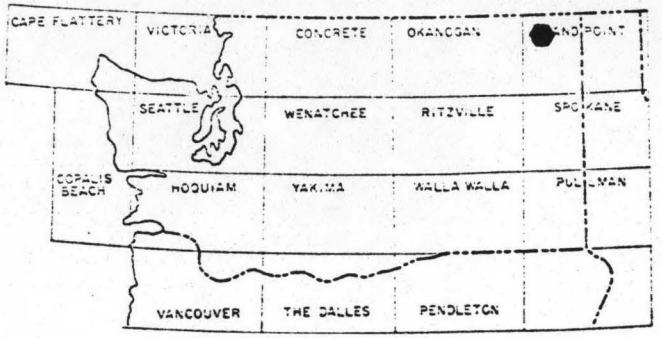
A.	Upstream Elevation of Reach	2120	Ft. MSL
B.	Downstream Elevation of Reach	1820	Ft. MSL
C.	Total Available Head in Reach	300 + 66 = 366	Ft.
D.	Average Slope in Reach	68	Ft./Mi.
E.	Drainage Area above Reach Mouth	181	Sq.Mi.
F.	Inflow Classification	Natural	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

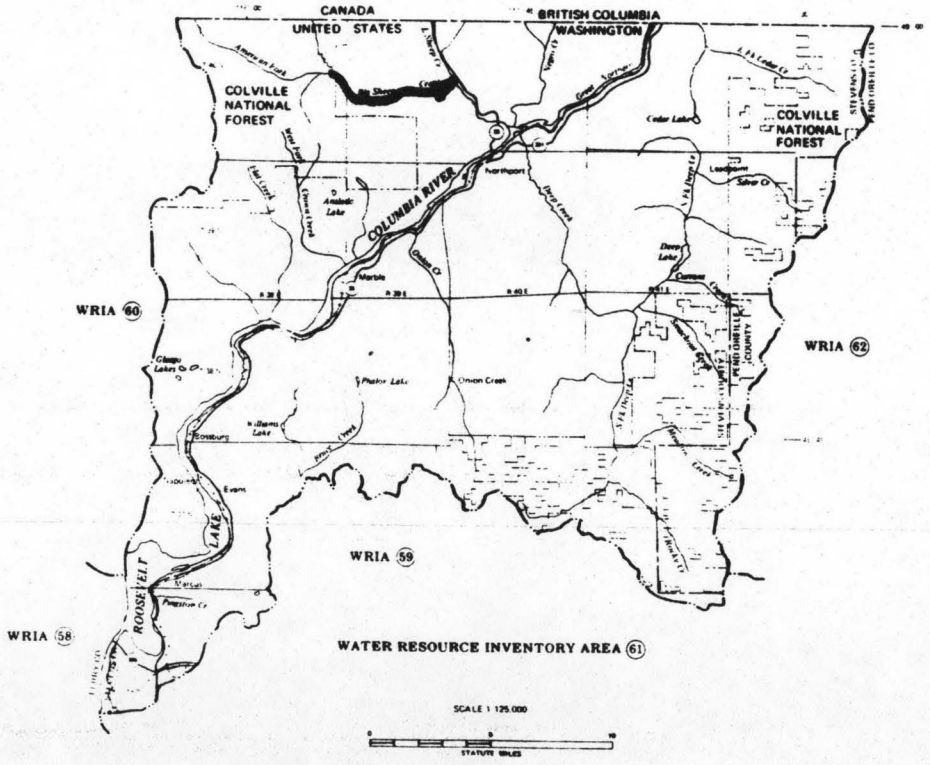
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17.9	0.55	7.86	1.00
80	33.3	1.03	8.67	0.96
50	74.2	2.30	15.3	0.76
30	184	5.71	27.5	0.55
10	842	26.1	59.4	0.26

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 204 cfs





LOCATIONS FOR USGS 1:250,000 MAP SERIES



REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-480-001-000-R0001

I. LOCATION

A.	State	Washington
B.	County	Pend Oreille
C.	Township, Range	T39N R44E
D.	Latitude, Longitude	48°54' 117°20'
E.	Stream Name	Sullivan Creek
F.	Major Basin Name	Pend Oreille
G.	River Mile	0.0/3.8

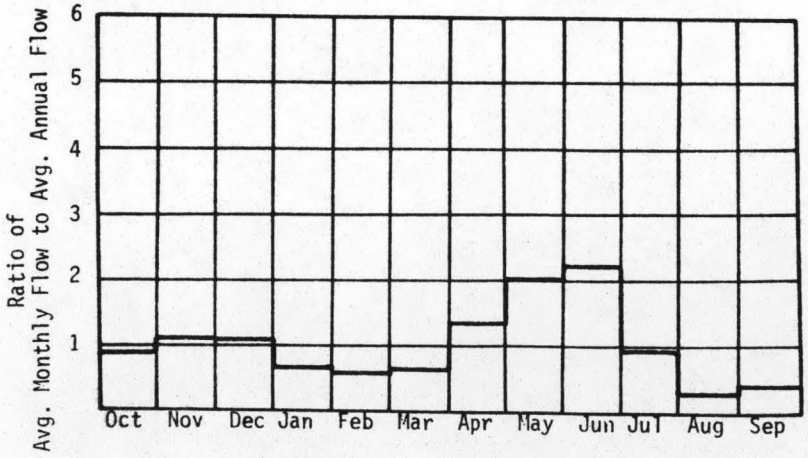
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

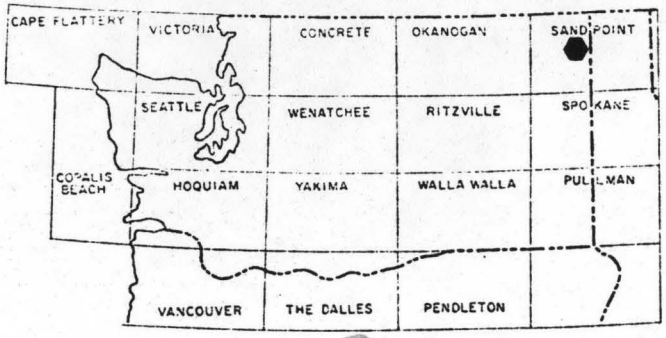
A.	Upstream Elevation of Reach	2440	Ft. MSL
B.	Downstream Elevation of Reach	1990	Ft. MSL
C.	Total Available Head in Reach	450	Ft.
D.	Average Slope in Reach	118	Ft./Mi.
E.	Drainage Area above Reach Mouth	147	Sq.Mi.
F.	Inflow Classification	Regulated	

III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

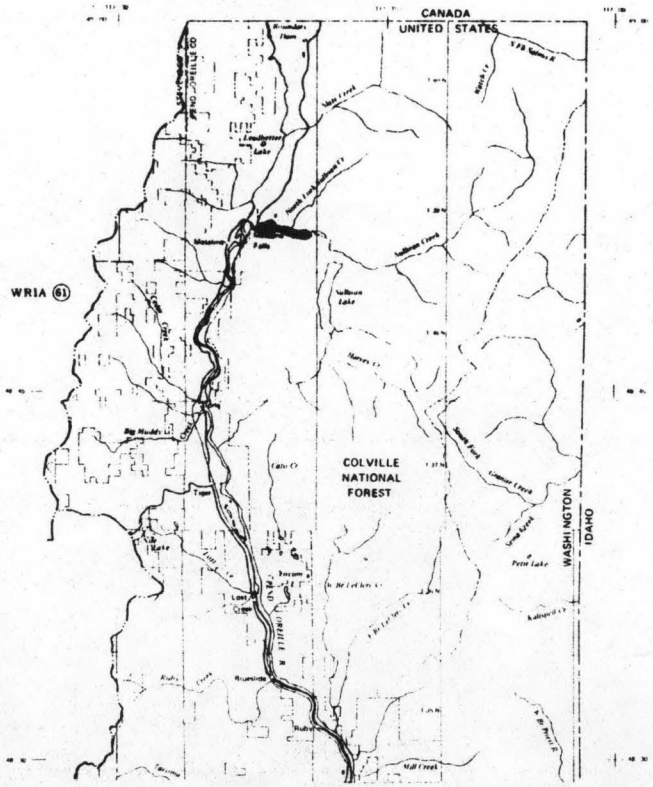
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25.5	0.97	8.50	1.00
80	41.2	1.57	13.2	0.96
50	82.3	3.13	22.0	0.80
30	163	6.19	32.6	0.60
10	563	21.4	58.2	0.31

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 196 cfs





LOCATIONS FOR USGS 1:2[illegible] MAP SERIES



W62-1420

REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 01-500-480-001-000-R0002

I. LOCATION

A.	State	Washington
B.	County	Pend Oreille
C.	Township, Range	T39N R44E
D.	Latitude, Longitude	48°54' 117°15'
E.	Stream Name	Sullivan Creek
F.	Major Basin Name	Pend Oreille
G.	River Mile	4.4/8.8

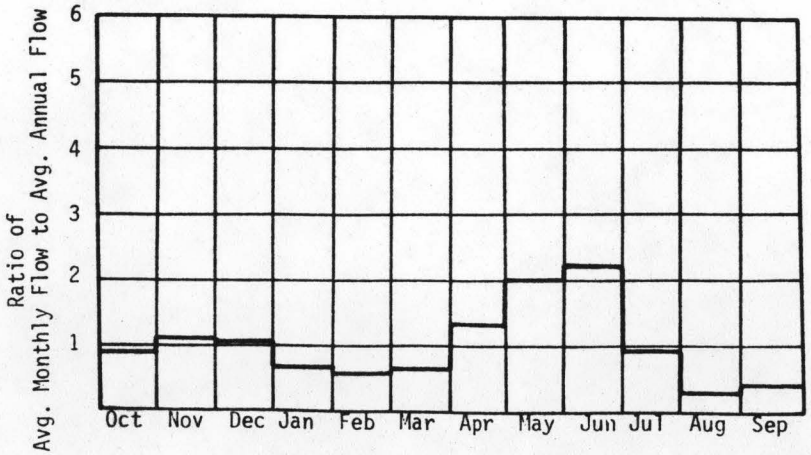
II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A.	Upstream Elevation of Reach	2830	Ft. MSL
B.	Downstream Elevation of Reach	2514	Ft. MSL
C.	Total Available Head in Reach	316 + 66 = 382	Ft.
D.	Average Slope in Reach	72	Ft./Mi.
E.	Drainage Area above Reach Mouth	129	Sq.Mi.
F.	Inflow Classification	Natural	

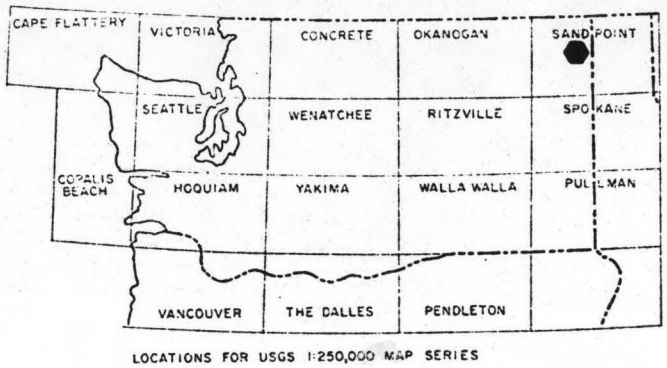
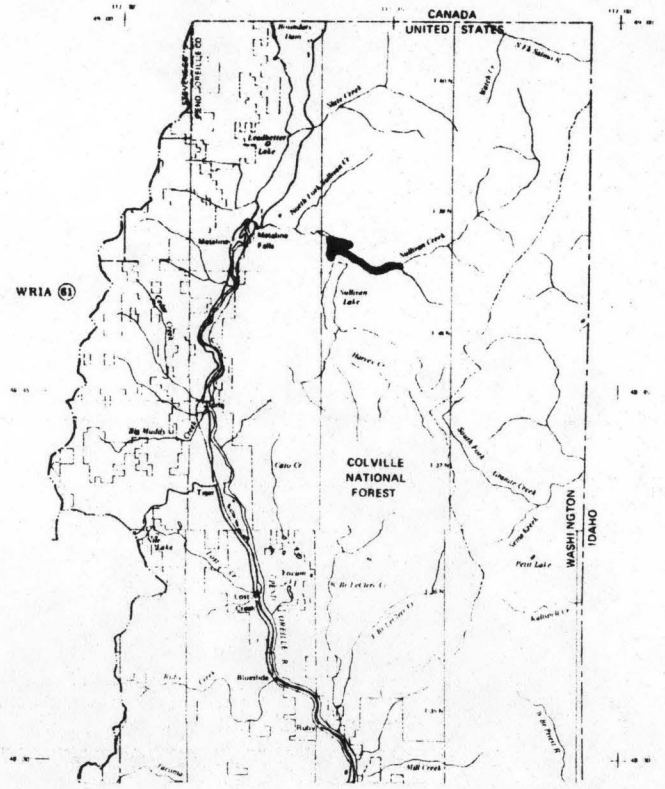
III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18.5	0.60	5.23	1.00
80	29.8	0.96	8.10	0.96
50	59.6	1.93	13.5	0.80
30	118	3.81	20.0	0.60
10	408	13.2	35.8	0.31

IV. TYPICAL ANNUAL HYDROGRAPH QMR = 142 cfs



W62-1421



LOCATIONS FOR USGS 1:250,000 MAP SERIES