BRUCES EDDY PROJECT

North Fork Clearwater River - Idaho

Power - Flood Control

Navigation - Recreation

SEE INSIDE FOR DETAIL

"One of the nations best remaining projects"

General Itschner - 1958

THE UNCONTROLLED CLEARWATER

THE BRUCES EDDY STORY

By A. B. Curtis, Mayor of Orofino

The Bruces Eddy project site is located on the North Fork of the Clearwater River 1.9 miles above Ahsahka, Idaho, which is at the confluence of the North Fork and the main stem of the Clearwater River. The Corps of Engineers studied the Bruces Eddy project in 1953 and the project was recommended in the report entitled "Review Report on Columbia River and Tributaries, Middle Snake River Basin, Lewiston to Pittsburg Landing, Idaho, Oregon, and Washington" presented in Senate Document 51, 84th Congress, First Session. A public hearing was held on the Bruces Eddy project on November 20, 1953.

Subsequently the site was given consideration by private utility companies. A Federal Power Commission preliminary permit for investigation of the possibilities of the Bruces Eddy site for hydro-electric power was issued to the Pacific Northwest Power Company, a combination of four private utility companies, in August 1954 and extended in February 1956. Office studies and limited foundation explorations of the development were initiated by the permittee but were later discontinued. The preliminary permit expired in July 1957.

Generally unknown to many people, the Bruces Eddy site for a dam has considerable history. In 1887 Bruce Lipscomb of the Northern Pacific Railroad engineering party doing location work down the North Fork of the Clearwater River noted Bruces Eddy to be a very fine site for power development. Undoubtedly, Bruces Eddy was named after Bruce Lipscomb although there does not appear to be any more reliable information on the naming of Bruces Eddy than the stories which have been handed down from the old Northern Pacific engineers. The Lewiston Morning Tribune, in its issue dated May 20, 1906, refferred to the Bruces Eddy site as a very important potential power development location. In 1920 the Grangeville Light and Power

Company investigated the Bruces Eddy site, but nothing more developed than some planning and design. In 1924 the U. S. Geological Survey made reference to the site in its notes as an important power site.

The Columbia River floods of 1948 and the Vanport Disaster focused more attention upon the Clearwater and Salmon rivers, since these were the only untamed major streams in the Columbia River Basin. General Foote of the Army Corps of Engineers, when division engineer of the North Pacific Division of the Army Engineers at Portland, Oregon, stated that the Clearwater River was most susceptible to control. General Itschner, while chief of the Army Engineers in Washingtion, visited the site in 1958 and stated that it was the most important develoments and upstream storage project needing control, and he further stated that it was one of the nation's best remaining sites.

One peculiarity of the Bruces Eddy project is that Congress has appropriated money for studies prior to authorization. Nearly three million dollars have been spent at the location for studies and design with the work now being essentially complete so that construction could commence with authorization and appropriation for construction. Local people have, for many years, felt that there should be some private development in the project so that the local tax base would benefit the county schools and local governments. With the project about to be introduced in the present session of Congress it appears that it will be a federal development with tax benefits coming indirectly.

The drainage area above Bruces Eddy dam site is 2,440 square miles. The mean annual runoff for the 32 year period from 1927 to 1958 is 4,082,000 acre feet which is equivalent to 31.4 inches over the entire drainage area. The upper portion of the North Fork of the Clearwater River near the Montana line, however, is an area of heavy snow packs and annual precipitation in this area, commonly

referred to as the Bitterroot Mountains, exceeds 70 inches in many areas. The maximum annual runoff of 6,680,000 acre feet occurred in water-year 1928 and the minimum annual runoff was 2,157,000 acre feet in 1944. The annual discharge pattern of the North Fork of the Clearwater River is fairly regular in that highs occur from April through June as the result of the melting of the accumulated snow pack. During the remaining months the flow is generally quite low with the lowest flow occurring during late summer months or extreme cold periods of winter months. The lowest recorded flow of 250 cfs at the river gauge near the dam site occurred in January of 1937. Occasionally an early winter rainstorm accompanied by warm temperature will produce a large flood. The largest known flood, primarily resulting from rain runoff and having a peak discharge of 100,000 cfs, occurred in December 1934. The second largest peak discharge of 62,700 cfs occurred April 18, 1938.

While originally the Bruces Eddy dam was planned as an earth and rock structure, subsequent studies and planning now indicate that it will be of concrete. This will be one of the major developments of the state of Idaho in the entire state's history, with estimated cost of $186,000,000 and it is estimated that approximately seven years will be required to complete the project. At a structural height of 673 feet and a length of 3,200 feet the dam will be one of the largest, of its type, in the nation. The amount of concrete to be used in the construction will be approximately 6,000,000 cubic yards. Plans call for an initial installation of three generators of 115,000 kilowatt capacity with the ultimate generation of 690,000 kilowatts with six generators. This fine block of power is an important contribution to the Columbia River Basin's potential which is figured to be 42% of the nation's hydro capacity.

The Bruces Eddy reservoir will have a normal pool elevation of 1,600 feet above sea level and a minimum pool elevation of 1,445 feet above sea level. The gross

capacity for water storage will be 3,453,000 acre feet with a useable capacity of 2,000,000 acre feet. The reservoir length will be something in excess of 53 miles and at normal pool elevation will cover an area of 16,970 acres. The reservoir at minimum pool elevation will cover a surface area of 9,000 acres.

Proponents of the project claim that the Bruces Eddy dam will create a man-made lake of great beauty for our state and will enhance fishing, water sports, boating and other recreation tremendously. The stocking of the pool with fish is planned. People of the Orofino area feel that the Lewis and Clark Highway will compliment the outdoor recreation life afforded by the Bruces Eddy pool and that many tourists through the summer season will be encouraged to spend a few days in the new man-made lake area for pleasure.

At least 16,970 gross acres to be flooded will affect 4,963 acres of small private ownership, 3,369 acres of large private ownership, 2,626 acres of State of Idaho ownership, 629 acres of U. S. Forest Service ownership and 2,275 acres of other Federal ownership, for a total of 13,862 acres. Present road right-of-way to be flooded totals 75 acres and the original river channel acreage is 3,033 acres, for a total of 16,970 acres. This ownership pattern in relation to the shore line shows the properties to be as follows: small private 49-1/5 miles, large private 49-1/5 miles, State of Idaho 44 miles, U. S. Forest Service 18-1/5 miles and other Federal ownership 22-2/5 miles. This is a total of 183 miles of shore line, much of which will be suitable for pleasure and recreation. With proper development this will greatly enhance a very fine industry in this yet undeveloped region.

The lands surrounding the Bruces Eddy project support principally large areas of vast timberlands to which access is presently very difficult but which are within an economic trucking distance to the reservoir and are heavily wooded with merchantable timber. These timbered areas are capable of maintaining indefinitely

a high level production on a sustained yield basis. The location of processing would be the mills downstream within the main river valley. Because access to this tributary area is very difficult, movement of logs to the mills would be most economically accomplished by water routes. To maintain rapid and economical movement past the dam, an endless conveyor, or so called "bull chain", or other suitable facility would be required. It is contemplated that the original installation would be constructed by the Federal government. Planning may change the method of passing logs as the project gets underway but log handling facilities will be provided so that the valuable forest lands of the area will not suffer by reason of inadequate forest product transportation facilities.

The principal objection to the Bruces Eddy project stems from some ill-advised wildlife organizations who claim that Idaho's famous elk herd will be destroyed. Several surveys have been made by the recognized authorities handling wildlife management and only 5,329 were counted in the entire 2½ million acre North Fork drainage. In 1956 the population of elk in Idaho was estimated at 80,000, and since 1956 there has been a steady growth. Studies of the area show that over 96% of the North Fork elk are at least 20 miles above the upstream high-pool level of the Bruces Eddy project and that very few elk frequent the area which will be flooded. More recently, wildlife objection has been somewhat tempered and many feel that there is much more to be gained through recreation for many people than would be lost by the losing of perhaps a few elk should they be denied winter range. For those who know the area best, the opinion is that there would be no serious effect whatsoever to any wildlife that now, or in the forseeable future, will use the area for their habitat. There are presently no recreation activities, hunting lodges, dude ranches, packer or guide activities even near the Bruces Eddy project, and this fact alone must be significant in the contention that the Bruces Eddy pool area is one of lesser importance for Idaho's famous

elk herd.

In conclusion, the Bruces Eddy project is considered as a multi-purpose development with benefits to power generation, flood control, navigation and recreation. The benefit to cost ratio is presently planned at 1.7 to 1 and at one time was reported to be 2.14 to 1. As more is known on navigation benefits and flood control quite likely the benefit to cost ration will be even greater than the 2.14 to 1. Regional development depends very much upon navigation and there are as yet unknown resources and development which could make the Bruces Eddy project one of the most important multi-purpose projects of the nation.

Gentlemen:

My name is A. B. Curtis, Mayor of the City of Orofino, Idaho, which office I have held since 1951. I am also a long-time resident of the area, having come to Orofino in October of 1912. I am chairman of the Water Resources Committee of the Orofino Chamber of Commerce and a director for Idaho of the Inland Empire Waterways Association at Walla Walla, Washington. I have been active for many years in the management work of our forest resources, and since 1927 have been continuously employed in forestry activities in the watershed of the North Fork of the Clearwater River. It has been my pleasure to learn at first-hand the terrain, the forest and its problems.

Today I appear in behalf of the people and many organizations of the area who are vitally interested in the Bruces Eddy project and the economics of the region. I speak in favor of the Bruces Eddy project and urge the necessary legislation for an immediate start of the project. The people of the area are in desperate need of the full development of the resources of the region, of which water is an important part. Our community and the surrounding area is, as you know, a chronic depressed area, and our faltering economy is in dire need of help to provide the means of a better economy. We feel that we have the right to ask for an opportunity to become a better part of a fine state and great nation. The Bruces Eddy project will permit a higher degree of opportunity to better economic well-being. Our region is one abounding in resources as yet not working in teamwork and is out of balance in its effort to effect a stable economy. The Bruces Eddy project

will do much to provide employment in the few years ahead and will, likewise, contribute greatly toward a better plan for economic stability.

FLOOD CONTROL

The North Fork of the Clearwater River is a major water producing area of the Columbia River basin. With the Clearwater River totally uncontrolled, a plan for control of spring runoff has on the loose a wild river that threatens economic development in the valley below. It was the Vanport Disaster on the lower Columbia River which focused attention on the Clearwater River when many millions of dollars, as well as human lives, were lost.

The 1948 flood appears to be the disaster which started reviews of the flooding rivers to seek greater control so badly needed in the fast-growing Northwest. That year the Clearwater River discharge was 177,000 cfs, 100,000 of which came from the North Fork. Eleven percent of the flooding Columbia River at The Dalles, Oregon during the spring flood of 1948 was contributed by the Clearwater. This is good reason for the frequent statement that the Clearwater River is the offender.

NAVIGATION

Inland navigation from the Pacific to Lewiston, Idaho will be benefitted by the upstream storage that Bruces Eddy affords. The lower Snake River dams from Pasco to Lewiston are well advanced in the construction period and the importance of Bruces Eddy which complements these projects cannot be neglected.

Vast forest resources of state, private and federal lands around and above the proposed Bruces Eddy pool will be under better cropping and management plans with the water transportation facilities that the Bruces Eddy project will afford.

Present forest stands of the area are in some instances difficult to harvest economically and need transportation facilities to better reach the competitive market. It is for this reason that local people are concerned with routes of travel into the pool area and bridges to permit crossings at logical locations. This is important so the forest land, the companion resource, can be successfully managed.

Also of importance to the successful harvest of the tree crop is shore line property, which approximates 183 miles. Tentatively, 98.4 miles will be private ownership, 44 miles State of Idaho, 40.6 miles U.S. (U.S.F.S. and B.L.M.). Shore line ownership status should remain in the present ownership pattern and the approximate 300 feet acquisition of additional acreage around the perimeter of the proposed pool should be limited to those shore line properties now in public ownership. This will afford the logical use of the pool for milling and transportation of forest products from planned points of development, and will also give some tax benefit to support governmental units.

Finally, log and forest product passing facilities at the dam site are important. Several means of transportation from the dam site to downstream points of manufacturing, or use, may be selected by the industries who produce in the region.

RECREATION

Recreation is a hoped for by-product of the Bruces Eddy project. Tourism and its related activities will do much to stimulate new income into the area. Water sports, fishing and other outdoor activities have developed throughout the nation where man-made lakes have resulted from dam construction. The people of our region are in hopes of the full development of this resource for many more people than now enjoy the Clearwater River country.

Opposition to the Bruces Eddy project has been expressed by some ill-informed wildlife enthusiasts who have been led to believe that the Idaho elk herd will be lost. The recent "Report on Fish & Wildlife Resources Affected by Bruces Eddy Dam and Reservoir Project North Fork Clearwater River Idaho", dated August 1962 is a sample of misleading propaganda for public consumption.

Such misleading and ill-intended reports are very detrimental to the full-use concept of our resources. There certainly is no finer example for complete use than the North Fork of the Clearwater River basin where we can grow trees, harvest our forest products and have a great outdoor activity including fishing and hunting.

Wildlife reports indicate much larger elk population figures than official counts. The Middle Fork and South Fork of the Clearwater River have a much greater elk population than the 5,329 actually counted by helicopter in the North Fork of the Clearwater drainage. A recent report of the Idaho Fish & Game Department reported approximately 80,000 elk in Idaho. Some people imply that they would be lost. Such a fallacy! Never until the studies of Bruces Eddy did wildlife clubs have interest in the North Fork of the Clearwater River. The North Fork has always been an important timber producing area and is well managed by state, federal and private owners. There are no dude ranches or hunting and big game activities in the area that will be affected by the Bruces Eddy dam. Over 95% of the reported 5,329 elk in the basin are from 20 to 50 miles upstream, far above the maximum pool elevation of 1,600 feet. Big game surveys have reported only a few scattered animals in the lower portions of the North Fork, and in recent counts no elk have been seen to range or migrate into the area.

Emphasis should be made on the point that the Bruces Eddy pool area is quite industrialized and has many logging and forest products camps. There are

BRUCES EDDY DAM

Relocations minor - no towns or settlements, highways, railroads, mills or development. Pool area principally forest land.

North Fork Clearwater River

Drainage Area		2,440 Sq. Miles
Annual Runoff -	Minimum	2,157,000 Acre Ft.
	Mean	4,082,000 Acre Ft.
	Maximum	6,680,000 Acre Ft.
Flow -	Minimum	250 cfs
	Mean	5,638 cfs
	Maximum	100,000 cfs

Bruces Eddy Dam

Height of Dam (Structural)		673 Ft.
Length of Dam		3,200 Ft.
Power Generation - 3 initial units		345,000 KW
Ultimate		690,000 KW
Concrete	(Approx.)	6,000,000 Cu. Yd.
Construction Time		7 Yrs.

Bruces Eddy Reservoir

Normal Pool Elevation	1,600 Ft. M.S.L.
Minimum Pool Elevation	1,445 Ft. M.S.L.
Gross Capacity	3,453,000 Acre Ft.
Useable Capacity	2,000,000 Acre Ft.
Reservoir Length	53 Miles
Reservoir Shore Line	183 Miles
Reservoir Area at 1,600 Ft.	16,970 Acres
Reservoir Area at 1,445 Ft.	9,000 Acres

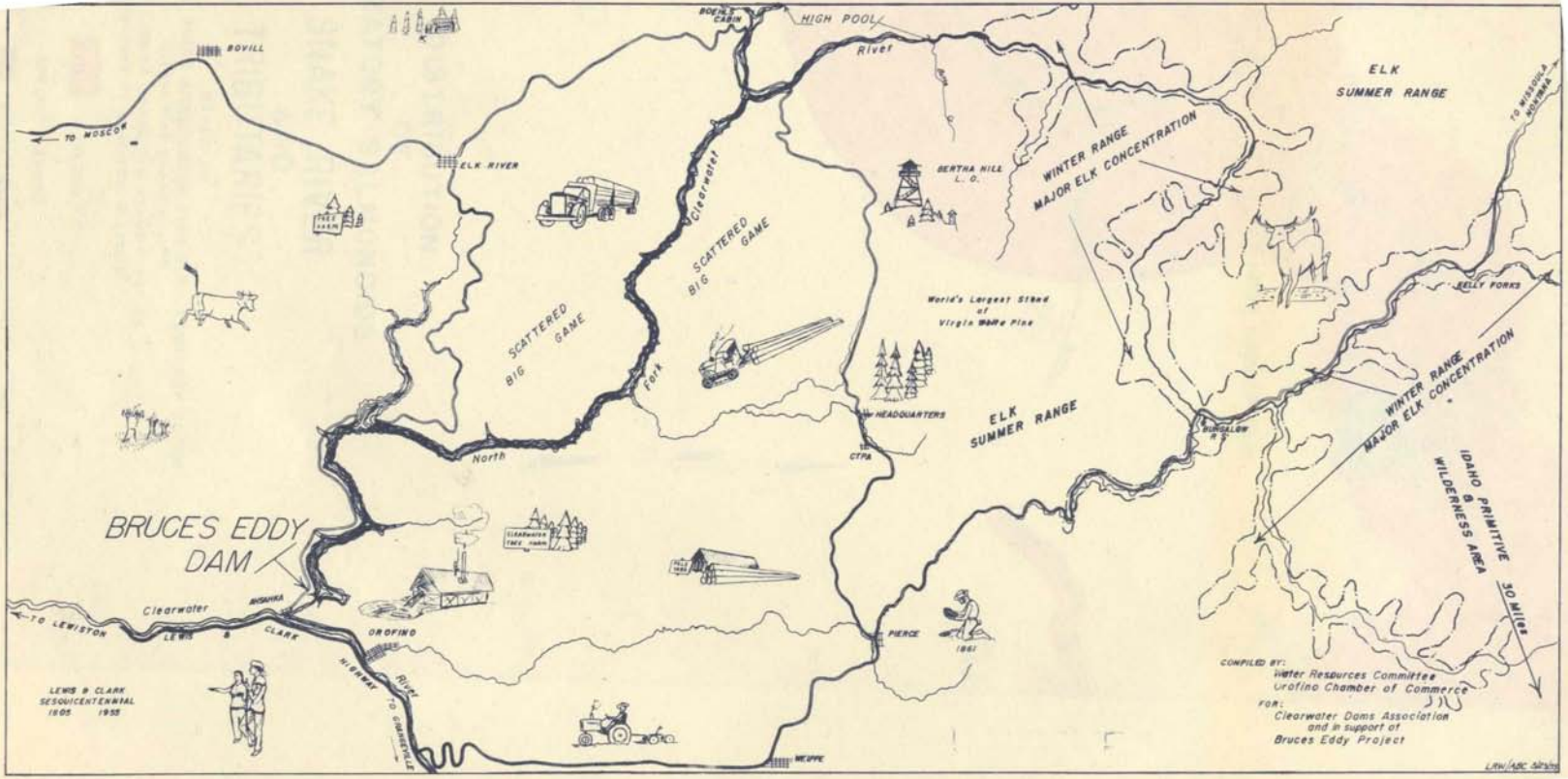
Cost

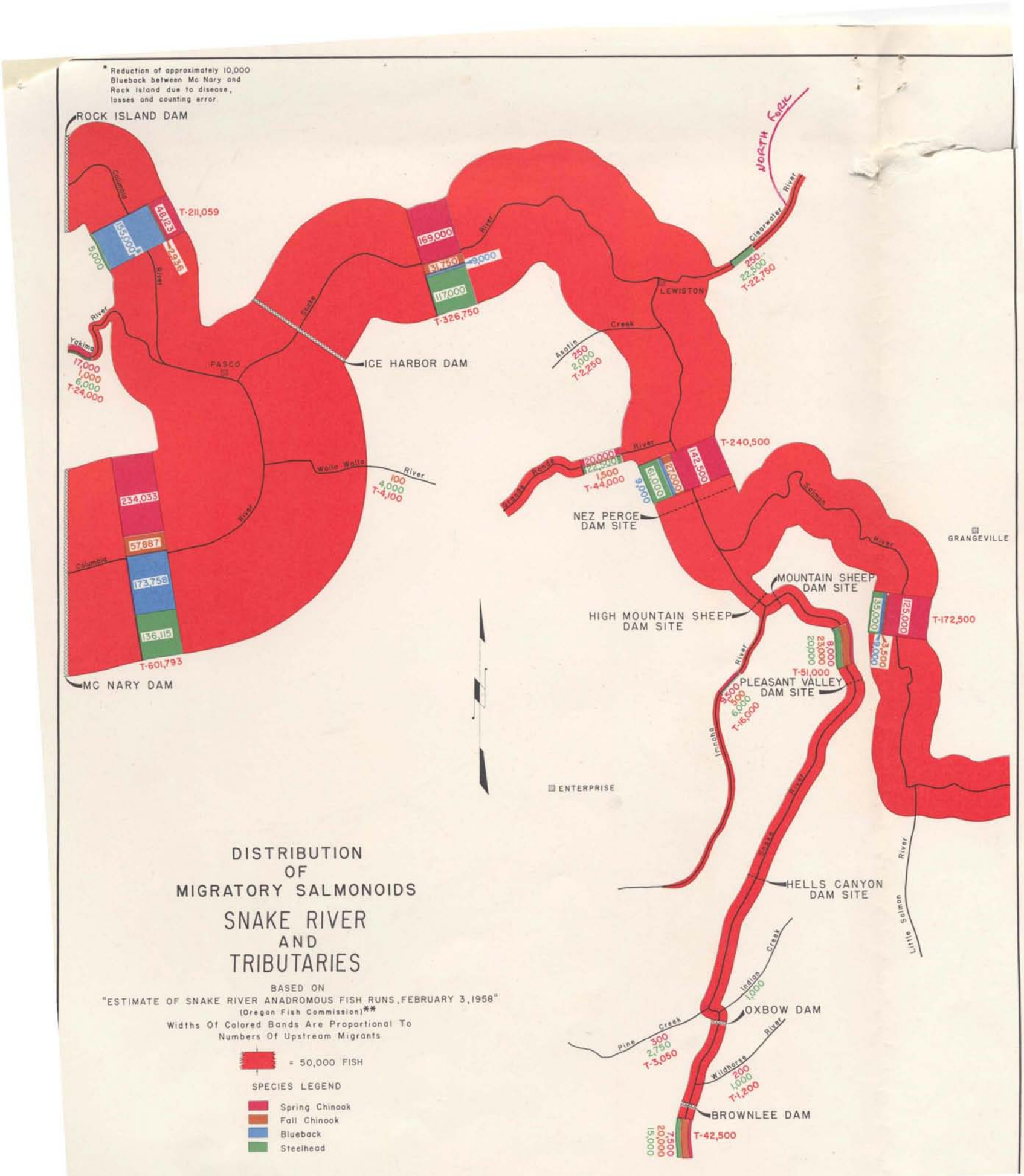
Approximately $186,000,000

9/1/62

~~$~~ 210 000 000

11/1/64


BOVILL
TO MOSCOW
ELK RIVER
BOEING CABIN
HIGH POOL
River
Clearwater
SCATTERED BIG GAME
SCATTERED BIG GAME
North Fork
BERTHA HILL L.O.
WINTER RANGE MAJOR ELK CONCENTRATION
ELK SUMMER RANGE
TO MISSOULA MONTANA
KELLY FORKS
World's Largest Stand of Virgin White Pine
HEADQUARTERS
CTPA
ELK SUMMER RANGE
SHEEP CREEK
WINTER RANGE MAJOR ELK CONCENTRATION
IDAHO PRIMITIVE & WILDERNESS AREA
30 MILES
BRUCES EDDY DAM
Clearwater
NISHKA
TO LEWISTON
LEWIS & CLARK
OROFINO
PIERCE
1861
HIGHWAY
TO GRANGEVILLE
WEIPPE
LEWIS & CLARK SESQUICENTENNIAL 1805 1955
COMPILED BY:
Water Resources Committee
Orofino Chamber of Commerce
FOR:
Clearwater Dams Association
and in support of
Bruces Eddy Project


* Reduction of approximately 10,000 Blueback between Mc Nary and Rock Island due to disease, losses and counting error.
ROCK ISLAND DAM
T-211,059
48,123
135,000*
2,936
5,000
Columbia River
Yakima River
17,000
1,000
6,000
T-24,000
PASCO
Snake River
ICE HARBOR DAM
169,000
51,750
9,000
117,000
T-326,750
Asotin Creek
250
2,000
T-2,250
LEWISTON
NORTH FORK
Clearwater River
250
22,500
T-22,750
20,000
12,500
1,500
T-44,000
Grande Ronde River
9,000
51,000
27,000
142,500
T-240,500
NEZ PERCE DAM SITE
Salmon River
GRANGEVILLE
MOUNTAIN SHEEP DAM SITE
HIGH MOUNTAIN SHEEP DAM SITE
35,000
125,000
T-172,500
20,000
23,000
8,000
T-51,000
PLEASANT VALLEY DAM SITE
3,500
3,500
6,000
T-16,000
Imnaha River
ENTERPRISE
Walla Walla River
100
4,000
T-4,100
234,033
57,887
173,758
136,115
T-601,793
MC NARY DAM
Snake River
HELLS CANYON DAM SITE
Little Salmon River
Indian Creek
1,000
OXBOW DAM
Pine Creek
300
2,750
T-3,050
Wildhorse River
200
1,000
T-1,200
BROWNLEE DAM
15,000
20,000
7,500
T-42,500
DISTRIBUTION OF MIGRATORY SALMONOIDS
SNAKE RIVER AND TRIBUTARIES
BASED ON
"ESTIMATE OF SNAKE RIVER ANADROMOUS FISH RUNS, FEBRUARY 3, 1958"
(Oregon Fish Commission)**
Widths Of Colored Bands Are Proportional To Numbers Of Upstream Migrants
= 50,000 FISH
SPECIES LEGEND
Spring Chinook
Fall Chinook
Blueback
Steelhead
**Compiled From Reports From State And Federal Agencies