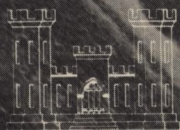




McNARY DAM

COLUMBIA RIVER
OREGON AND WASHINGTON



CONSTRUCTED UNDER SUPERVISION
CORPS OF ENGINEERS
US ARMY
WALLA WALLA DISTRICT

APRIL 1954

LOCATION

McNary Lock and Dam is located on the Columbia River, 292 miles above its mouth, in Umatilla County, Oregon and Benton County, Washington. It is adjacent to U. S. Highway 730 two miles upstream from the town of Umatilla, Oregon.

HISTORY AND PURPOSE

McNary Lock and Dam is named in honor of the late U. S. Senator, Charles L. McNary. It was authorized on March 2, 1945 and construction work was begun in May of 1947. The Reservoir was raised to its maximum elevation for the first time in December of 1953 and the first McNary power was fed into the Northwest power pool in the same month. Completion of the powerhouse with its 14 units and total capacity of 980,000 kw is scheduled for 1956. Two generators were in operation by the close of 1953 and one additional generator is scheduled to go on the line every 90 days after January 1954 until full capacity is reached.

McNary Lock and Dam is one unit of the main control plan for the comprehensive development of the water resources of the Columbia River and its tributaries. It is a navigation project having multi-purpose aspects such as power production and incidental irrigation and recreation benefits. Ample fish facilities permitting the passage of anadromous fish to the waters above the dam have been provided for and counting stations for recording same installed.

The full project cost is estimated at \$286,650,000 with all work performed under the direct supervision of the Walla Walla District, Corps of Engineers, U. S. Army. Approximately 244,000 acres of land in Oregon and Washington will ultimately be feasible for irrigation by pumping from the McNary Reservoir, with direct benefits resulting from the reduced pumping lift.

McNary Reservoir provides slackwater navigation for 70 miles of Columbia River and lower Snake River and numerous dock-age and moorage points are available along its shore for both pleasure and commercial crafts.

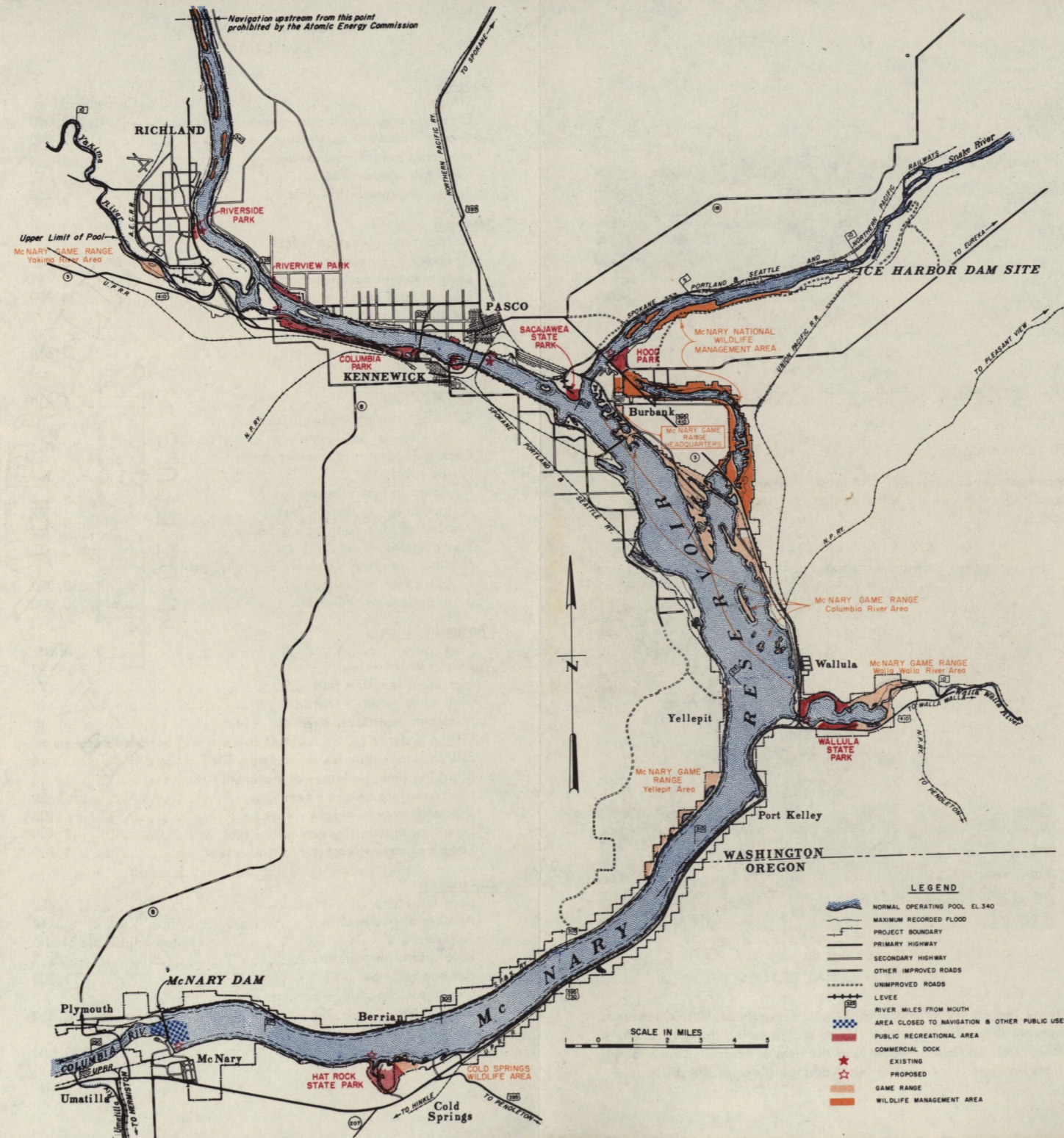
THE RESERVOIR AREA

McNary Reservoir area is 61 miles in length and has a surface area of 38,800 acres. In addition to affording excellent opportunities for pleasure boating, hunting, fishing and other recreational activities, numerous port sites are available along its shore suitable to both industrial and commercial development. Major areas allotted to recreation wildlife and commercial purposes are shown on the accompanying map. For information on these uses or any other feature of the McNary project inquiry should be made of the District Engineer, Walla Walla District, U. S. Army, Corps of Engineers, City-County Airport, Walla Walla, Washington.

HIGHWAY DISTANCES

TO McNARY LOCK AND DAM

Portland	190 Miles
Spokane	193 Miles
Pasco	42 Miles
Walla Walla	54 Miles
Pendleton	35 Miles
Yakima	129 Miles
Seattle	270 Miles
Umatilla	2 Miles



RULES GOVERNING PUBLIC USE OF RESERVOIR AREA

Public use of the reservoir and the lands within the project boundary is governed by certain rules and regulations as prescribed by the Secretary of the Army or by state and local agencies managing recreational areas. These rules and regulations are established in the interest of the safety and general welfare of the public and the protection of Government property. Briefly they provide that:

1. Use of the reservoir area by the general public for picnicking, camping, swimming, bathing, boating, hunting, and fishing, with certain limitations or exceptions, is permitted and encouraged.
2. Recreational use of the area is subject to all applicable Federal, state, and local laws and sanitary regulations.
3. Picnicking, swimming and bathing are permitted except in prohibited areas.
4. Camping is permitted for short periods at designated areas. A permit will be required if camping is desired for a period of 2 weeks or longer. Camp fires must be extinguished and the area left neat and clean after use.
5. Boating is permitted on the reservoir. All boats will be operated in a safe manner and in accordance with the regulations of the U. S. Coast Guard.
6. Hunting and fishing are permitted in accordance with all applicable Federal, state and local laws for the protection of game and fish except in public parks and other prohibited areas. Hunting shall be by shotgun only. A permit must be obtained from the District Engineer or his authorized representative to construct a duck blind on the water in the reservoir area or upon reservoir land.
7. Pedestrian access is permitted along the shores of the reservoir except in designated areas. Automobile access is permitted over open public and reservoir roads and access for launching of boats is permitted in public areas served by such roads.
8. The destruction, injury, defacement, or removal of public property or of vegetation, rock, or minerals, except as specifically authorized, is prohibited.
9. Disposal of refuse, garbage, rubbish, or waste of any kind shall be by removal, burning, or burying, or as otherwise directed.
10. The construction of or placement of docks, houseboats and other structures in the water or on Government owned property requires a lease, license or permit. Private notices or advertisements are prohibited in the area.
11. Special events such as water carnivals, boat regattas, music festivals, dramatic presentations, or other special recreational programs of interest to the general public are permitted in areas designated by the District Engineer or his authorized representative.
12. Loaded firearms and explosives are prohibited in the area except that shotguns are permitted for lawful hunting in season.

WATCH FOR RESTRICTED BOUNDARIES

VISITORS ARE WELCOME

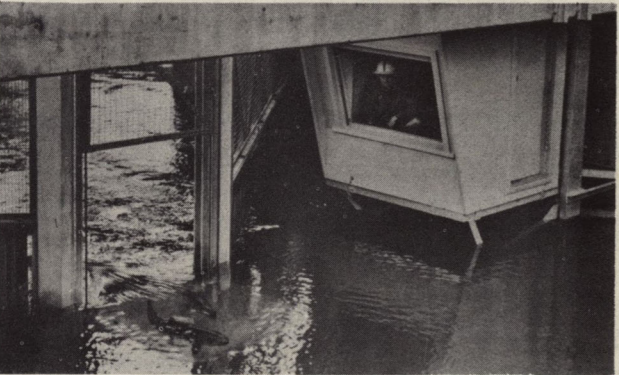
The Corps of Engineers welcomes you to McNary Dam and Reservoir.

IT IS YOUR PROJECT.

ENJOY YOUR VISIT - PLAY SAFELY

Obey the regulations. They have been established to insure your safety, and to preserve the public use values of the project area.

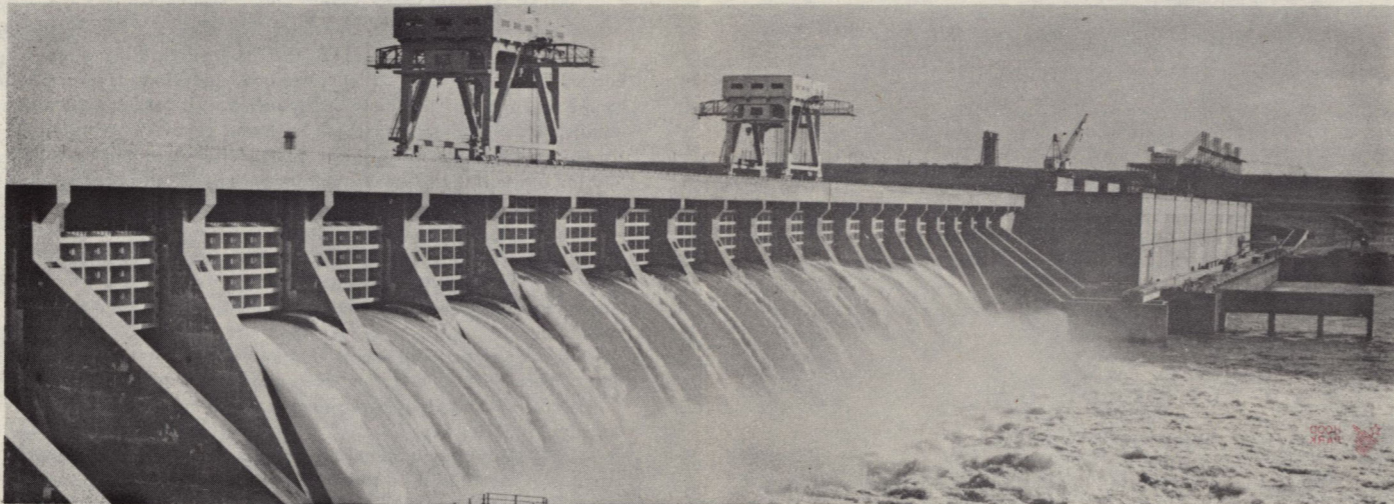
Please use the facilities provided for your comfort and convenience. There are roads, parking areas, viewpoints, walkways, sanitary facilities, inspection galleries, viewing windows and explanatory displays at appropriate places in and about the dam. The reservoir is readily accessible at numerous points from the major highways paralleling the shore line. Public parks are being developed by state and local agencies at desirable locations within or adjacent to the project boundary.



WASHINGTON SHORE FISH COUNTING STATION

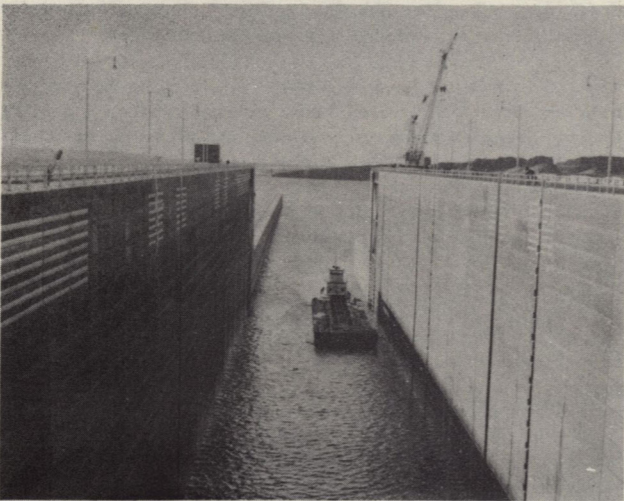
Appropriate facilities have been provided to permit the upstream passage of migratory fish. These include a fishladder on each shore and a fish lock near the Washington end of the Spillway. A collection system across the downstream face of the powerhouse is designed to attract fish to the ladder on the Oregon shore. The operation of the fish lock is similar in principle to that of the navigation lock, the fish are brought to the higher level of the water in the reservoir by raising the water level within the lock. Fish using the fishladders climb the series of small water falls by their own efforts to the higher level.

Facilities are also provided at the reservoir end of each ladder for the accurate counting of the numbers of each species of fish passing the dam. Windows in the wall of the Oregon shore ladder, inclosed within a darkened room, have been installed to permit observation of fish ascending the ladder. A pressure fish lock has been installed for experimental and study purposes.



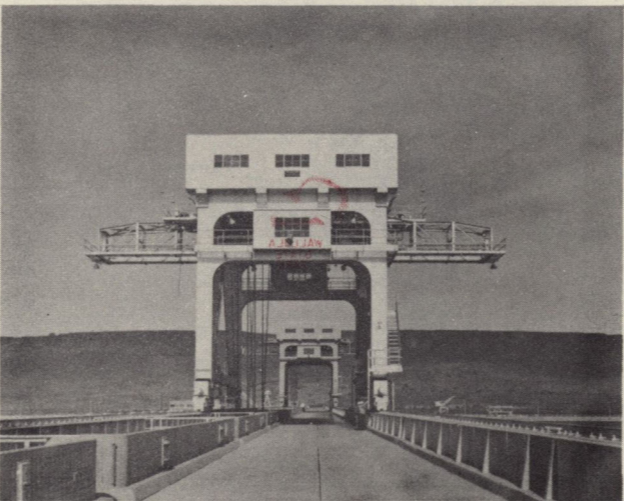
VIEW OF SPILLWAY DAM AND POWERHOUSE

The dam includes a gate-controlled spillway section 1310 feet long, a powerhouse section 1422 feet long, the navigation lock, two concrete gravity non-overflow sections located between the powerhouse and spillway dam and the spillway dam and navigation lock, and two earth abutments. Total combined length of the completed structure is 7300 feet.



LOADED BARGE AND TUG PASSING THROUGH McNARY LOCK

The navigation lock chamber is 86 feet wide, 675 feet long and provides the world's highest single lift of 92 feet. Visitors can watch the lock operation from the top of the lock wall and obtain good views of the project from either the observation room or the balcony on the second floor of the lock control building.



THE SPILLWAY CRANES

These two gantry cranes each with a capacity of 400,000 pounds operate the spillway gates - lifting and lowering the gate sections to control the flow of water over the dam and carrying them to and from the gate repair pits at the Washington end of the spillway.

McNARY LOCK AND DAM
PROJECT DATA

General

Stream	Columbia River
Drainage area above dam - square miles	214,000
Overall length of dam - feet	7,300
Maximum height - headwater to tail water - feet	92
Scheduled completion date	1956

Reservoir

Normal pool elevation - feet above mean sea level	340
Length normal pool - miles	61
Normal pool area - acres	38,800
Length of shoreline at normal pool - miles	242
Levee construction - miles	16.8

Spillway Dam

Length - feet	1,310
Spillway crest elevation - feet above mean sea level	291
Deck elevation - feet above mean sea level	361
Maximum height - lowest foundation to deck - feet	197
Number of split-leaf type gates	22
Size of gates - feet	50 by 52
Maximum spillway capacity at normal pool in cubic feet per second	1,368,000
in gallons per minute	614,000,000

Navigation Lock

Type	Single lift
Maximum lift - feet	92
Net clear length - feet	675
Net clear width - feet	86
Minimum depth over miter sill - feet	12
Filling system	Wall culverts and bottom lateral ports
Filling time - minutes at maximum lift	16
Emptying time - minutes at maximum lift	16
Upstream gate height - feet	23
Downstream gate height - feet	106
Length of upstream guard wall - feet	1,400
Length of downstream guard wall - feet	1,500

Powerhouse

Length - feet	1,422
Number of power units	14
Turbines	Kaplan adjustable blade
Revolutions per minute	85.7
Horsepower - per unit	111,300
Generator capacity - per unit - kilowatts	70,000
Installed capacity - 14 units - kilowatts	980,000

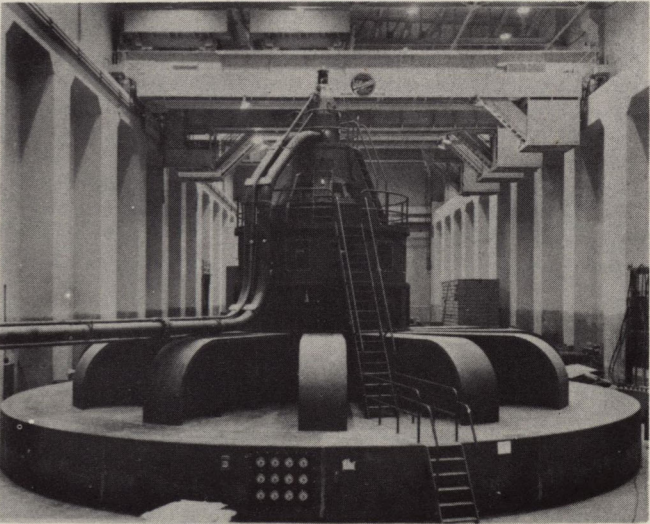
PROJECT DATA (Cont'd)

Abutment Embankments

Length, Washington shore - feet	1,620
Length, Oregon shore - feet	2,465
Crest elevation - feet above mean sea level	365
Width of crest - feet	30

Fish Facilities

Ladders	2
Width - feet	30
Slope	1 on 20
Fish lock	1
Size of chamber - feet	20 by 30
Counting Stations	2
Pressure fish lock	1
Size of chamber - feet	8 by 12
Fishway Pumphouse	1
Number of pumps	3
Capacity - each pump - c.f.s.	2,500
Output of motors - each in h.p.	2,800
Revolutions per minute	66.7



70,000 KW GENERATOR UNIT IN POWERHOUSE

The completed powerhouse will contain 14 of these units with a total rated capacity of nearly a million kilowatts. This is enough power to supply the needs of a city of 750,000 people - - larger than metropolitan Seattle. Besides this view of the generators, the visitors balcony in the powerhouse also enables the public to observe, through large sound-proof viewing windows, the operation of equipment in the control room. Below the balcony is a reception room with wall displays telling the construction story, and other interesting facts about the project.