

John Day

LOCK AND DAM

COLUMBIA RIVER

OREGON---WASHINGTON



September 1958

About the Dam

JOHN DAY DAM, AN ESTIMATED \$350,000,000 MULTIPURPOSE PROJECT ON THE COLUMBIA RIVER, AT RIVER MILE 215.6, WILL BE SIMILAR IN DESIGN TO McNARY DAM AND SIMILAR TO McNARY DAM IN CONSTRUCTION SCHEDULE. THE FIRST STEP CONSTRUCTION CONTRACT WILL BE AWARDED UPON COMPLETION OF THE FIRST STEP COFFERDAM AND WILL COVER THE WASHINGTON SHORE ABUTMENT, NAVIGATION LOCK, FISH LADDER, AND 19 SPILLWAY BAYS. AS WAS IN EFFECT AT McNARY, THE FIRST STEP CONSTRUCTION WILL NOT INTERRUPT PRESENT NAVIGATION FACILITIES. WITH COMPLETION OF THE NAVIGATION LOCK AND START OF THE SECOND STEP CONSTRUCTION ON THE OREGON OR SOUTH SHORE OF THE RIVER, TRAFFIC WILL BE DIVERTED THROUGH THE NAVIGATION LOCK IN AN OPERATION SIMILAR TO THAT UTILIZED AT McNARY. IT IS ESTIMATED THAT 10 YEARS WILL BE REQUIRED FOR COMPLETION OF JOHN DAY DAM FROM THE START OF THE FIRST STEP COFFERDAM UNTIL THE FINAL INSTALLATION OF ITS 12 INITIAL UNITS.

INITIAL "POWER-ON-THE-LINE" FOR JOHN DAY DAM IS NOW SCHEDULED FOR EARLY IN JUNE 1966 ALTHOUGH A NUMBER OF FACTORS COULD CHANGE THIS SCHEDULE. THE JOHN DAY RESERVOIR WILL BE KNOWN AS LAKE UMATILLA AND WILL INUNDATE SUCH NAVIGATION HAZARDS AS SQUALLEY HOOK, JOHN DAY LOWER, MIDDLE AND UPPER RAPIDS, AND INDIAN RAPIDS. CLOSEST TOWNS IN THE PROXIMITY OF JOHN DAY ARE BIGGS JUNCTION AND RUFUS ON THE OREGON SHORE AND GOLDENDALE AND MARYHILL ON THE WASHINGTON SHORE. UPSTREAM ABOVE THE DAM SITE ARE THE TOWNS OF ARLINGTON, BLALOCK, AND BOARDMAN ON THE OREGON SHORE, WITH ROOSEVELT AND PLYMOUTH ON THE WASHINGTON SHORE.

Constructed Under Supervision of

U.S. ARMY

ENGINEER DISTRICT

WALLA WALLA, WASHINGTON

CORPS OF ENGINEERS

Statistics

GENERAL

STREAM	COLUMBIA RIVER
DRAINAGE AREA, SQUARE MILES	226,000
LENGTH OF DAM CREST, FEET	5,900
NORMAL HEIGHT HEAD TO TAIL-WATER, FEET	105
NORMAL POOL ELEVATION	265
MINIMUM POOL ELEVATION	257
POOL RESERVOIR LENGTH, MILES	76.4
FLOOD STORAGE, ACRE FEET	500,000

SPILLWAY

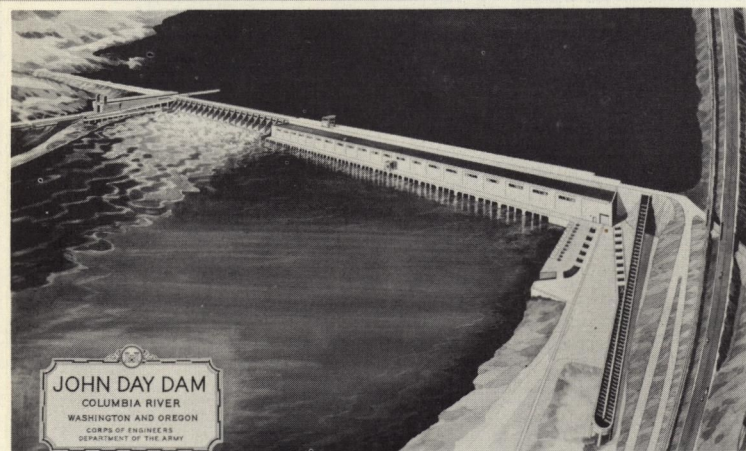
NUMBER OF SPILLWAY BAYS	20
SPILLWAY GATE SIZE, FEET	50 x 58.5
LENGTH OF SPILLWAY SECTION, FEET	1,252
DAM DECK ELEVATION	281

POWERHOUSE

NUMBER OF UNITS, INITIAL	12
NUMBER OF UNITS, ULTIMATE	20
UNIT CAPACITY EACH, KW	108,700
UNIT CAPACITY, INITIAL, KW	1,304,400
UNIT CAPACITY, ULTIMATE, KW	2,174,000

NAVIGATION LOCK

LOCK TYPE	SINGLE LIFT
LENGTH OF LOCK, FEET	675
LOCK WIDTH, FEET	86
MAXIMUM LIFT, FEET	113

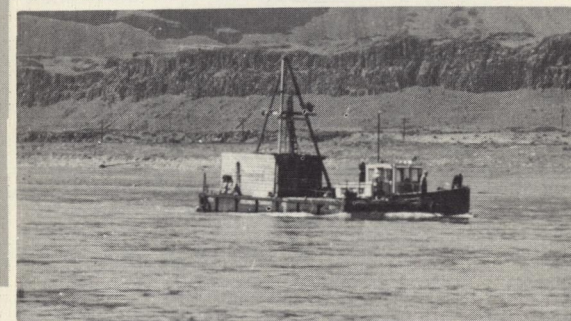


ARTISTS CONCEPTION OF
JOHN DAY DAM

History

JOHN DAY LOCK AND DAM TAKES ITS NAME FROM THE JOHN DAY RIVER WHICH FLOWS INTO THE COLUMBIA A FEW MILES ABOVE THE DAM SITE. THE JOHN DAY RIVER, IN TURN, IS NAMED AFTER AN EARLY-DAY TRAPPER AND HUNTER WHO WAS A MEMBER OF THE JOHN JACOB ASTOR, PACIFIC FUR EXPEDITION OF 1810. THOUGH JOHN DAY'S ONLY CLAIM TO FAME IS THAT HE WAS WITH THE EARLY PARTY OF AMERICANS THAT ATTEMPTED A PERMANENT SETTLEMENT IN OREGON, A RIVER, A CITY, AND AN ENTIRE REGION OF THE STATE OF OREGON BEARS HIS NAME.

JOHN DAY LOCK AND DAM WAS AUTHORIZED BY THE 81ST CONGRESS UNDER THE FLOOD CONTROL ACT OF 1950. ORIGINALLY THE DAM'S RESERVOIR WAS PLANNED TO PROVIDE 2,000,000 ACRE FEET OF FLOOD STORAGE WITH A FLUCTUATION OF 37 FEET IN POOL ELEVATION. LATER THIS REQUIREMENT WAS REDUCED TO 500,000 ACRE FEET FOR STORAGE FACILITIES. WITH THE POOL FLUCTUATION TO BE BETWEEN ELEVATION 257 MSL MINIMUM AND 268 MSL MAXIMUM.



CORE
DRILL
BARGE

Recreation

THE 76.4 MILE RESERVOIR TO BE CREATED BY JOHN DAY LOCK AND DAM AND TO BE KNOWN AS LAKE UMATILLA, WILL EXTEND FROM THE DAM SITE UPSTREAM TO McNARY DAM. NUMEROUS TOWNS AND PORT SITES WILL BE RELOCATED OR ESTABLISHED WITHIN THE RESERVOIR, INCLUDING SUCH RELOCATED TOWNS AS ARLINGTON, ROOSEVELT AND BOARDMAN. BOAT LAUNCHING SITES WILL BE PROVIDED ON BOTH THE OREGON AND WASHINGTON SHORE LINE AND BOAT HAVENS WITH PROTECTIVE HARBOR AND MOORING SPOTS ARE BEING PLANNED. U.S. HIGHWAY NO. 30 WILL SKIRT LAKE UMATILLA FOR MOST OF ITS ENTIRE LENGTH ON THE OREGON SHORE, AND ON THE WASHINGTON SHORE, STATE HIGHWAY NO. 8 CONNECTING MARYHILL WITH PLYMOUTH, WASHINGTON, IS BEING IMPROVED.

Location

JOHN DAY LOCK AND DAM IS LOCATED AT RIVER MILE 215.6, A LITTLE OVER TWO MILES DOWNSTREAM FROM THE CONFLUENCE OF THE JOHN DAY AND THE COLUMBIA RIVERS. THE NORTH OR WASHINGTON SHORE OF THE DAM SITE IS REACHED BY TURNING UPSTREAM ON U.S. HIGHWAY 97 AT MARYHILL AND PROCEEDING EAST FOR ABOUT FOUR MILES. FROM THE OREGON SHORE THE DAM SITE IS 27 MILES ABOVE THE DALLES ON U.S. HIGHWAY 30.

TUG
AND
BARGE
IN
JOHN DAY
RAPIDS



Navigation

THE JOHN DAY DAM RESERVOIR WILL BE KNOWN AS LAKE UMATILLA AND WILL COMPLETE THE 325 MILE SLACK WATER PATHWAY UP THE COLUMBIA RIVER FROM THE PACIFIC OCEAN TO ABOVE PASCO-KENNEWICK AND UP THE SNAKE RIVER TO THE ICE HARBOR DAM SITE. COMPLETION OF ICE HARBOR AND THE THREE REMAINING AUTHORIZED DAMS ON THE SNAKE RIVER; LOWER MONUMENTAL, LITTLE GOOSE, AND LOWER GRANITE, WILL ADD AN ADDITIONAL 140 MILES TO THIS WATERWAY AND MAKE SLACK WATER NAVIGATION POSSIBLE UP THE SNAKE RIVER TO ABOVE LEWISTON, IDAHO, AND CLARKSTON, WASHINGTON. THIS SLACK WATER NAVIGATION SYSTEM OF RESERVOIRS FROM THE PACIFIC OCEAN INTO THE VERY HEART OF THE INLAND EMPIRE, AS ALREADY CREATED BY THE EXISTING DAMS OF BONNEVILLE, THE DALLES, AND McNARY, HAS HAD ITS EFFECT UPON THE ECONOMY OF THE REGION. TWENTY-TWO RIVER PORT AUTHORITIES ARE NOW IN EXISTENCE AND WITH THE COMPLETION OF JOHN DAY AND THE FOUR SNAKE RIVER DAMS, MANY MORE PORT AUTHORITIES WILL UNDOUBTEDLY BE FORMED. ANNUAL RIVER TONNAGE CLEARING THE NAVIGATION LOCK AT BONNEVILLE DAM AND DESTINED FOR UPSTREAM RIVER PORTS HAS REACHED A HIGH OF 653,000 TONS, WITH THE DOWNSTREAM TONNAGE EXCEEDING 856,000 TONS. GASOLINE, DIESEL OIL, FUEL OIL, AND MISCELLANEOUS PETROLEUM PRODUCTS ALONG WITH CEMENT, LUMBER AND CONSTRUCTION STEEL MAKE UP THE MAJOR UPSTREAM TONNAGE. AVIATION GAS, FROM THE SOUTHERN OIL FIELD PIPELINE HEADS, AND WHEAT MAKE UP MOST OF THE DOWNSTREAM TONNAGE.



U. S. ARMY
CORPS OF ENGINEERS
WELCOMES YOU

ARMY - W.W. DIST. - WASH

