TOUCHET DIVISION, WALLA WALLA PROJECT, OREGON–WASHINGTON

HEARING

BEFORE THE

SUBCOMMITTEE ON IRRIGATION AND RECLAMATION

OF THE

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

UNITED STATES SENATE

EIGHTY-NINTH CONGRESS

FIRST SESSION

ON

S. 1088

A BILL TO AUTHORIZE THE SECRETARY OF THE INTERIOR TO CONSTRUCT, OPERATE, AND MAINTAIN THE TOUCHET DIVISION, WALLA WALLA PROJECT, OREGON-WASHINGTON, AND FOR OTHER PURPOSES

APRIL 7, 1965

Printed for the use of the
Committee on Interior and Insular Affairs

U.S. GOVERNMENT PRINTING OFFICE
49-824 WASHINGTON : 1965

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

HENRY M. JACKSON, Washington, *Chairman*

CLINTON P. ANDERSON, New Mexico
ALAN BIBLE, Nevada
FRANK CHURCH, Idaho
ERNEST GRUENING, Alaska
FRANK E. MOSS, Utah
QUENTIN N. BURDICK, North Dakota
CARL HAYDEN, Arizona
GEORGE McGOVERN, South Dakota
GAYLORD NELSON, Wisconsin
LEE METCALF, Montana

THOMAS H. KUCHEL, California
GORDON ALLOTT, Colorado
LEN B. JORDAN, Idaho
MILWARD L. SIMPSON, Wyoming
PAUL J. FANNIN, Arizona

JERRY T. VERKLER, *Staff Director*
STEWART FRENCH, *Chief Counsel*
RICHARD W. C. FALKNOR, *Professional Staff Member*

SUBCOMMITTEE ON IRRIGATION AND RECLAMATION

CLINTON P. ANDERSON, New Mexico, *Chairman*

HENRY M. JACKSON, Washington
FRANK CHURCH, Idaho
FRANK E. MOSS, Utah
QUENTIN N. BURDICK, North Dakota
CARL HAYDEN, Arizona

THOMAS H. KUCHEL, California
GORDON ALLOTT, Colorado
LEN B. JORDAN, Idaho

CONTENTS

STATEMENTS

COMMUNICATIONS

ADDITIONAL INFORMATION

APPENDIX A

APPENDIX B

TOUCHET DIVISION, WALLA WALLA PROJECT, OREGON-WASHINGTON

WEDNESDAY, APRIL 7, 1965

U.S. SENATE,
SUBCOMMITTEE ON IRRIGATION AND RECLAMATION OF THE
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The committee met, pursuant to call, at 10 a.m., in room 3110, New Senate Office Building, Senator Clinton P. Anderson (chairman of the subcommittee) presiding.

Present: Senators Clinton P. Anderson, New Mexico, Henry M. Jackson, Washington, Frank E. Moss, Utah, Quentin N. Burdick, North Dakota, Gordon Allott, Colorado, and Len B. Jordan, Idaho.

Also present: Jerry T. Verkler, staff director; Stewart French, chief counsel; Richard W. C. Falknor, professional staff member; and Richard N. Little, minority counsel.

Senator ANDERSON. This is a public hearing by the Irrigation and Reclamation Subcommittee of the Senate Interior Committee on S. 1088, a bill for the construction and operation of the Touchet division, Walla Walla project, Oregon-Washington. S. 1088 is sponsored by the able chairman of the Interior Committee, Senator Jackson, and his colleague from the State of Washington, Senator Magnuson.

I will direct that the text of the bill, together with any reports the committee may receive from the executive agencies concerned, be made a part of the record at this point.

(The bill, and reports follow:)

[S. 1088, 89th Cong., 1st sess.]

A BILL To authorize the Secretary of the Interior to construct, operate, and maintain the Touchet division, Walla Walla project, Oregon-Washington, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) for purposes of supplying irrigation water initially for approximately ten thousand acres of land, providing municipal and industrial water, flood control, water quality control, the enhancement of fish and wildlife resources, and the enhancement of recreation opportunities, the Secretary of the Interior is authorized to construct, operate, and maintain the Touchet division of the Walla Walla project, Oregon-Washington, in accordance with the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto). The principal works of the division shall consist of the Dayton Dam and Reservoir, fish passage facilities, a diversion dam, and associated distribution and drainage facilities.

(b) The Secretary is authorized to construct the Dayton Dam and Reservoir to the physical limitations of the site and to recognize the cost of providing such additional capacity as a deferred obligation to be paid, in accordance with section 2 of this Act, at such time as the additional storage capacity is contracted for: *Provided,* That until such additional storage capacity is contracted for, operation and maintenance costs attributable to the excess capacity shall be funded and added to the construction costs allocated to deferred capacity.

SEC. 2. Irrigation repayment contracts shall provide for repayment of the obligation assumed thereunder with respect to any contract unit over a period of not more than fifty years, exclusive of any development period authorized by law. Construction costs allocated to irrigation beyond the ability of the irrigators to repay shall be returned to the reclamation fund from revenues derived by the Secretary from the disposition of power marketed through the Bonneville Power Administration from the McNary Dam project. Power and energy required for irrigation water pumping for the Touchet division shall be made available by the Secretary from the Federal Columbia River power system at charges determined by him.

SEC. 3. The Secretary is authorized, as a part of the Touchet division, to construct, operate, and maintain, or otherwise provide for basic public outdoor recreation facilities, to acquire or otherwise to include within the division area such adjacent lands or interests therein as are necessary for present or future public recreation use, to allocate water and reservoir capacity to recreation, and to provide for the public use and enjoyment of division lands, facilities, and water areas in a manner coordinated with other division functions. The Secretary is authorized to enter into agreements with Federal agencies, or State or local public bodies for the operation, maintenance, or additional development of division lands or facilities, or to dispose of division lands or facilities to Federal agencies or State or local public bodies by lease, transfer, conveyance, or exchange upon such terms and conditions as will best promote the development and operation of such lands and facilities in the public interest for recreation purposes. The costs of the aforesaid undertakings, together with the costs of the division allocated to fish and wildlife and related mitigation costs, shall be nonreimbursable.

SEC. 4. The interest rate used for purposes of computing interest during construction and interest on the unpaid balance of the obligation assumed by the municipal and industrial water users' organizations shall be determined by the Secretary of the Treasury, as of the beginning of the fiscal year in which construction is initiated, on the basis of the computed average interest rate payable by the Treasury upon its outstanding marketable public obligations which are neither due nor callable for redemption from fifteen years from date of issue, and by rounding such interest rate to the next lowest multiple of one-eighth of 1 per centum if the computed interest rate is not a multiple of one-eighth of 1 per centum.

SEC. 5. There is hereby authorized to be appropriated, out of any moneys in the Treasury not otherwise appropriated, not to exceed $15,700,000 to carry out the purposes of this Act.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 6, 1965.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: This is in response to your request for the views of the Department of the Interior on S. 1088, a bill to authorize the Secretary of the Interior to construct, operate, and maintain the Touchet division, Walla Walla project, Oregon-Washington, and for other purposes.

We recommend that the bill be enacted if amended as suggested hereafter.

The Touchet division of the Walla Walla project would be located in southeastern Washington. The principal facility of the division would be the Dayton Dam which would impound a reservoir of 52,600 acre-feet of water, the maximum feasible at the site. These waters would be used for irrigation, flood control, water quality control, and municipal and industrial supplies, recreation, and fish and wildlife enhancement.

The cost of the Touchet division, estimated at $15,709,000 (April 1962 prices), would be allocated among the foregoing purposes as follows:

Function:	*Cost*
Irrigation	$5, 347, 000
Flood control	738, 000
Water quality control	1, 351, 000
Municipal and industrial water	114, 000
Recreation	187, 000
Fish and wildlife enhancement	7, 972, 000
Total	15, 709, 000

Irrigation water would be supplied initially to approximately 9,960 acres of land, a full supply to 3,520 acres, and a supplemental supply to 6,440 acres that are now irrigated from diversion works on the Touchet River downstream from the damsite, but suffer from seasonal deficiencies in water supply. The lands proposed to be irrigated are of high quality and very well suited to sprinkler irrigation.

Assurance of a full irrigation water supply may be expected to produce a shift in irrigable land use from forage crops to row crops, such as vegetables, for canning and freezing. Water for irrigation will be diverted from the river below the dam into existing distribution systems owned by the irrigators. No distribution facilities are proposed to be constructed in connection with the project, therefore the words "distribution and" in lines 4 and 5, page 2, should be deleted from the bill. Since distribution of project irrigation water would be by gravity, reservation of irrigation pumping power from the Federal Columbia River power system is not required. Therefore, the last sentence of section 2 should also be deleted.

The bill would authorize construction of Dayton Reservoir to the maximum practical capacity of the site as proposed in our project report. This would result in an annual water yield in excess of immediate demands. This additional water supply can serve future irrigation or municipal water requirements. The potential irrigable lands in the valley far exceed the area which could be irrigated with that water. Based upon the supposition that the water will ultimately be used for irrigation, the deferred costs for unassigned space, amounting to $2,813,000 exclusive of funded operation and maintenance costs, have been allocated to irrigation, and are included in the $5,347,000 figure in the table of allocations above. Two million five hundred and thirty-four thousand dollars of the irrigation allocation represents costs associated with immediate irrigation uses.

All costs allocated to irrigation would be reimbursable. Paying in accordance with their ability, the water users would return $1,298,500 of the $2,534,000 of present-use irrigation costs over the 50-year repayment period established by the bill. The remainder of the present-use irrigation allocation ($1,235,500) would be repaid from revenues derived from the sale of Federal power marketed by the Bonneville Power Administration.

To reflect the consolidated payout system now in effect for the Federal Columbia River power system, irrigation financial assistance should be indicated as deriving from the system as a whole and not one of its elements. Therefore, the words "from the McNary Dam project" should be deleted from line 24, page 2.

Flood control operation will be based on snow forecast and joint use of 15,000 acre-feet of Dayton Reservoir storage capacity on a seasonal basis. The effectiveness of such an operation plan was most recently demonstrated in the December 1964 floods in the Pacific Northwest. Joint operation of the reservoir for flood control and conservation will require the establishment and operation of a hydrometeorologic network of snow courses, gages, and forecasting equipment. This network is included in the costs of the division allocated to flood control. Pursuant to reclamation law, the flood control allocation would be a nonreimbursable cost. Year-round water quality standards would be maintained by making minimum releases from Dayton Dam. Pursuant to a finding by the Public Health Service that the water quality control benefits would be widespread and national in scope the costs allocated to water quality control would also be nonreimbursable.

The city of Dayton, Wash., has indicated its intent to purchase 1,000 acre-feet of water annually from Dayton Reservoir for municipal and industrial purposes. Five hundred acre-feet would be used during the first 10 years of project operations and the full 1,000 acre-feet thereafter. Costs allocated to municipal and industrial water supply would be repaid with interest at the rate specified in section 4 of the bill in 50 years, subject to the deferral provisions of the Water Supply Act of 1958, as amended.

Dayton Reservoir is expected to be a popular recreation attraction. It would be the only sizable lake in the area. Recreation uses of the division land and water areas should include boating, swimming, water skiing, camping, picnicking, and hunting. Costs allocated to recreation have been treated in accordance with the administration's proposed Federal Water Project Recreation Act (S. 1229). Amendments to apply the precepts of that proposed legislation to the recreation aspects of the Touchet division appear later in this report.

Potential fish and wildlife benefits of special significance for migratory fish species exist at the Touchet division. The project plan of development seeks to capitalize upon the opportunities presented. The division will store enough water to enable releases to be made to reestablish anadromous fish runs in the Touchet

River. Temperature control over these releases, which is essential, would be maintained by building Dayton Dam with outlet works at several levels. Among the special facilities proposed to be built for anadromous fishery enhancement are a trap, hopper, and tramway to carry upstream migrants over the dam and a collector system for downstream migrants. In the way of local benefits the reservoir would create a lake sports fishery; also, waterfowl hunting opportunities are expected to materialize on project lands.

The interest rate is to be based on the computed average interest rate payable by the Treasury on its 15-year obligations, rounded to the next lowest multiple of one-eighth of 1 percent. Instead of weighting the interest charge downward in this fashion, it should more properly be adjusted to the nearest one-eighth of 1 percent. Accordingly, we recommend that part of line 8, following the comma after the word "issue" and commencing with the word "and", and all of lines 9, 10, and 11 on page 4 be deleted and that there be substituted instead the following ing phrase: "adjusted to the nearest one-eighth of one per centum".

In view of the fact that the fish and wildlife enhancement benefits will be manifested for the most part in increases in anadromous fish runs, and consequently be realized throughout the Columbia River system and at sea by commercial and sports fishermen, we are proposing that the separable project costs of creating this anadromous fish enhancement benefit be treated as Federal costs not reimbursable by the users of project water and facilities. Our suggested amendments regarding recreation and fish and wildlife enhancement so provide. Recreation and fish, other than anadromous fish, and wildlife enhancement benefits accruing in the project area and their associated separable costs would be treated in accordance with the precepts of the proposed Federal Water Project Recreation Act (S. 1229). To make applicable our proposal for treatment of costs of the Touchet division allocated to recreation and fish and wildlife enhancement, the following amendments should be made to the bill:

(1) Delete the word "basic" from line 6, page 3.

(2) Delete the words "additional development" in line 15, page 3, and substitute the word "replacement".

(3) Strike the last sentence of section 3.

(4) Renumber section 3 as subsection 3(a) and add new subsections reading as follows:

"(b) Joint costs allocated to recreation and fish and wildlife enhancement shall be nonreimbursable.

"(c) All costs allocated to the enhancement of anadromous fish species shall be nonreimbursable.

"(d)(1) Except as provided in subsection (c) of this section, if, before commencement of construction of the division, non-Federal public bodies agree to administer division land and water areas for recreation and fish and wildlife enhancement pursuant to a plan of development and to bear not less than one-half the separable costs of the division allocated to those purposes, and all the costs of operation, maintenance, and replacement of recreation and fish and wildlife enhancement lands and facilities, not more than one-half the separable capital costs allocated to recreation and fish and wildlife enhancement shall be nonreimbursable.

"(2) In the absence of such a preconstruction agreement recreation facilities and facilities and project modifications for fish and wildlife enhancement (other than minimum facilities for the public health and safety at reservoir access points and facilities for the enhancement of anadromous fish species) shall not be provided, and the allocation of division costs shall reflect only the number of visitor days and the value per visitor day estimated to result from such diminished recreation and fish and wildlife enhancement development without reference to lands which may be provided pursuant to subsection (f) of this section.

"(e) The non-Federal share of the separable investment costs of the division allocated to recreation and fish and wildlife enhancement shall be borne by non-Federal interests, under either or both of the following methods as may be determined appropriate by the Secretary: (i) payment, or provisions of lands, interests therein, or facilities for the division; or (ii) repayment, with interest, within 50 years of first use of division recreation or fish and wildlife enhancement facilities: *Provided*, That the source of repayment may be limited to entrance and user fees or charges collected at the division by non-Federal interests if the fee schedule and the portion of fees dedicated to repayment are established on a basis calculated to achieve repayment as aforesaid and if the fee schedule and the portion of fees dedicated to repayment are made subject to review and renegotiation at intervals of not more than five years.

"(f) In the absence of pre-construction agreements as specified in subsection 3(d)(1) lands may be acquired in connection with construction of the division to preserve the recreation and fish and wildlife enhancement potential of the division.

"(1) If non-Federal public bodies agree within ten years after initial division operation to administer division land and water areas for recreation and fish and wildlife enhancement pursuant to a plan of development and to bear not less than one-half the costs of lands acquired pursuant to this subsection and facilities and project modifications provided for those purposes and all costs of operation, maintenance and replacement of recreation and fish and wildlife enhancement facilities, not more than one-half the costs of such lands, facilities, and project modifications may be borne by the United States and such costs shall be nonreimbursable. Such agreement and subsequent development shall not be the basis for any reallocation of joint costs of the division to recreation or fish and wildlife enhancement.

"(2) If, within ten years after initial operation of the division, there is not executed an agreement as specified in paragraph (1) of this subsection, the Secretary may transfer the possession and control of any lands acquired pursuant to this subsection to any Federal agency or to any person or non-Federal body, for the purpose of recreation, fish and wildlife enhancement, or use as a summer residence, or for the operation on such lands of pleasure resorts for boating, fishing, or any similar purpose, or for any other purpose which would not conflict with the purposes for which the division was constructed: *Provided*, That no transfer authorized herein, except transfer by conveyance, at fair market value under the then existing conditions, shall be made without approval of the President of the United States.

"(g) As used in this Act, the term 'nonreimbursable' shall not be construed to prohibit the imposition of entrance, admission, and other recreation user fees or charges.

"(h) Costs of means and measures to prevent loss of and damage to fish and wildlife resources shall be treated as project costs and allocated among all division purposes."

On the basis of the foregoing proposed amendments, the recreation and fish and wildlife enhancement costs of the Touchet division would be assigned to the reimbursable or nonreimbursable category as follows:

Recreation:	
Reimbursable (50 percent of separable costs)	$78,000
Nonreimbursable (joint costs, plus 50 percent of separable costs)	109,000
Total	187,000
Fish and wildlife enhancement:	
Reimbursable (50 percent of separable costs attributable to benefits realized at the project)	632,000
Nonreimbursable (joint costs, separable costs attributable to enhancement of anadromous fish, and 50 percent of separable costs attributable to benefits realized at the project)	7,340,000
Total	7,972,000

Amend section 1 of the bill by adding a new subsection "(c)" to read as follows:

"(c) In order to assure a realization of the fish and wildlife enhancement benefits contemplated by this Act, the Secretary shall adopt appropriate measures to insure the maintenance of a streamflow between Dayton Dam and the mouth of the Walla Walla River that is not less than thirty cubic feet per second unless he determines that a water shortage or other emergencies exist or that lesser flows would be adequate for the maintenance of fish life."

The fish enhancement benefits assigned to the Touchet River below Dayton Dam are contingent upon adequate project flow releases for fish life. This subsection is designed to prevent withdrawals of these releases for other uses. It directs the Secretary to take whatever measures he deems necessary to insure the maintenance of a streamflow of not less than 30 cubic feet per second in the Touchet River below Dayton Dam to its confluence with the Walla Walla River and downstream to the mouth of the Walla Walla River. The new subsection recognizes that there may be times when such releases cannot or should not be maintained for various reasons, including water shortages. In such cases, the Secretary will maintain lesser flows for the fish life as well as for other uses.

Since the Bureau's feasibility report was completed, the State of Washington has upgraded its highway design standards. The road which must be relocated around Dayton Reservoir, therefore, will be to a higher standard than the existing road. The incremental cost of that improvement, estimated at $128,000, would be nonreimbursable under provisions of the Flood Control Act of 1962.

Section 5 of the bill establishes a flat ceiling on the appropriations authorized for the project. To take account of fluctuation in construction costs, and to authorize appropriations for nonreimbusrable costs of operation and maintenance, this section should be changed to read as follows:

"SEC. 5. There are hereby authorized to be appropriated for construction of the new works involved in the Touchet division, $16,630,000 (January 1965 prices), plus or minus such amounts, if any, as may be required by reason of changes in the cost of construction work of the types involved therein as shown by engineering cost indexes and, in addition thereto, such sums as may be required to operate and maintain said unit."

A statement of personnel and other requirements that enactment of this legislation would entail is enclosed in accordance with provisions of Public Law 801, 84th Congress.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely yours,

KENNETH HOLUM,
Assistant Secretary of the Interior.

TOUCHET DIVISION, WALLA WALLA PROJECT, WASHINGTON-OREGON

Estimated additional man-years of civilian employment and expenditures for the 1st 5 fiscal years (as required by Public Law 801, 84th Cong.) [1]

	1st year [2]	2d year	3d year	4th year	5th year
Estimated additional man-years of civilian employment:					
Executive direction					
Administrative services and support:					
Administrative officer					
Clerical and stenographic		3.0	3.0	2	1.0
Total, administrative		3.0	3.0	2	1.0
Substantive (program):					
Engineering aids and technicians		6.0	6.0	6	2.0
Engineers					
Inspectors					
Other personnel					
Total, substantive		6.0	6.0	6	2.0
Total, positions		9.0	9.0	8	3.0
Total estimated additional man-years		4.8	8.2	6	1.5
Estimated additional expenditures:					
Personal services	$200,000	[3] $165,300	$266,860	$286.430	$103,460
All other		1,140,500	6,668,140	5,965,070	603,340
Total estimated expenditure	200,000	1,305,800	6,935,000	6,251,500	706,800

[1] Salaries based on scales effective July 1, 1964.
[2] 1st year activity will utilize general investigation personnel and details from other offices.
[3] Advance planning.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., April 7, 1965.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your request of February 18, 1965, for the views of the Bureau of the Budget on S. 1088, a bill to authorize the Secretary of the Interior to construct, operate, and maintain the Touchet division, Walla Walla project, Oregon-Washington, and for other purposes.

The purpose of the bill is clearly stated in its title.

The Department of the Interior, in a report being submitted to your committee, recommends enactment of the bill with certain perfecting amendments. Accordingly, the Bureau of the Budget would have no objection to the enactment of S. 1088, if amended as proposed by the Secretary of the Interior.

Sincerely yours,

PHILLIP S. HUGHES,
Assistant Director for Legislative Reference.

Senator ANDERSON. S. 1088 of this Congress is similar to S. 3084 of the last Congress, the 88th, which also was sponsored by the two Senators from Washington. Because the comments required by law from the States affected were not received for integration into the feasibility report before the adjournment of the 88th Congress, no action could be taken on the bill.

The subcommittee will have the benefit of a statement from the two sponsors of the bill, as well as those of the Bureau of Reclamation. Hence I shall not now elaborate on the provisions of the measure. I shall, however, point out that the benefit-cost ratio is 2.77 to 1. The entire project is scheduled to cost not more than $15,700,000.

An interesting feature of the project is the allocation of somewhat more than half of the cost principal to fish and wildlife enhancement, and to recreation. It is expected that a part of these costs of facilities yielding principally local benefits would be reimbursable in accordance with new policies now under consideration by the Congress in S. 1229.

Another feature which the committee will want to study is the proposal to have about a half of the proposed storage capacity of approximately 52,000 acre-feet for deferred development. I understand that it is estimated that the additional proposed capacity will be needed in 10 years.

Speaking of 10 years, I note that the bill does not contain our usual "surplus crop" amendment. I know the subcommittee will want to consider whether such an amendment should not be written into the bill for the 3,520 acres of land that will be brought under irrigation for the first time by the Touchet project.

I am happy to call as our first witness, the author of the bill and our committee chairman, Senator Jackson.

STATEMENT OF HON. HENRY M. JACKSON, A U.S. SENATOR FROM THE STATE OF WASHINGTON

Senator JACKSON. Mr. Chairman, I would like to make a brief statement in behalf of myself and my senior colleague, Warren G. Magnuson in connection with S. 1088, a bill to establish the Touchet division of the Walla Walla project in Washington and Oregon.

The Touchet division will be wholly within Washington, although the Walla Walla project extends into Oregon as well. It is a multipurpose development, located in the valley of the Touchet River, in south-central Washington. The Touchet is a tributary of the Walla Walla, which in turn flows into the Columbia.

The principal feature of the Touchet division would be Dayton Dam and Reservoir, on the East Fork of the river, some 6 miles upstream from the city of Dayton, the largest community in the valley. The dam would be an earthfill structure about 200 feet high, creating a 52,600 acre-foot reservoir.

Also proposed are fish passage facilities at the dam and at existing downstream dams, recreation developments at Dayton Reservoir, and minor drainage facilities where needed. The development plan does not contemplate construction of distribution works. Water users would continue to divert directly from the river through their individual systems.

Dayton Reservoir would regulate the presently undependable flows of the Touchet River so that irrigated lands in the valley, now about 6,440 acres, would receive a dependable adequate water supply and about 3,520 acres of dry-farmed land could receive a full supply of irrigation water.

In all, the project will permit efficient, stable production of specialty crops on approximately 10,000 acres in its initial stage. This would enable farmers to shift their crop pattern from dry-farmed wheat, the area's principal crop at present, to greater production of livestock feed, and diversified cash crops such as apples, asparagus, and sugarbeets.

As the chairman pointed out, the benefit-cost ratio is the favorable one of 2.77 to 1.

At this point, I should like to submit for the record a number of communications I have received from organizations and individuals in the area stating in their own words the compelling need for the project and its benefits to the economy of the entire region. I ask that these communications be printed at the conclusion of my oral testimony.

Senator ANDERSON. Without objection that will be done.

Senator JACKSON. I would particularly call to the committee's attention the cogent facts submitted with respect to the flood control benefits the project will provide. Flood control is only a relatively small part of the cost—some $738,000 out of $15,709,000 overall cost—but it is an extremely important aspect. This past winter the area suffered two highly destructive floods, causing many hundreds of thousands of dollars' worth of damage.

Mr. Chairman, I would like to submit for the record some of the news articles that are descriptive of the substantial damage that was incurred in the area as a result of the most recent flood.

Senator ANDERSON. Those will be received.

(The information referred to follows:)

[From the Dayton Chronicle, Dec. 31, 1964]

THREE MILLION DOLLAR FLOOD LOSS PROJECTED—TOUCHET, TUCANNON RIVERS RAMPAGE; TUESDAY, WEDNESDAY

Damages from flooding and water runoff last Tuesday and Wednesday, December 22–23, will exceed $3 million in Columbia County, according to preliminary estimates.

This early loss "guesstimate" includes: $250,000 loss to Dayton city-owned property and facilities; $50,000 loss in Starbuck; $750,000 damage to bridges and county road system; $2,500,000 damage in dryland crop fields to return them to condition for 1965 harvest, and $60,000 loss by public utility firms.

Not included in the preliminary figure are damages estimates to private property, the flood control project on the Touchet River through Dayton, irrigated and bottom land farming areas, and the permanent loss of topsoil throughout the county.

WARM TREND AND RAIN

The scene was set last week as the temperature rose to 58° on Tuesday, December 22, and the single day's rainfall was measured at 1.15 inches.

Freezing weather and a 5-inch snowfall and melting snow ran off still frozen ground to cause flooding throughout the county as rivers and creeks overflowed and became raging torrents of ilt-laden water.

Long-time residents of the community and county related that "this was the worst one we've ever had" and "I've never seen more water in the Touchet or Tucannon Rivers."

COUNTYWIDE DAMAGE

Columbia County's 500-mile road system suffered tremendous damage; the westerly section of Dayton was flooded as unfinished levees on the Touchet River broke under the impact of pounding floodwaters; the town of Starbuck was flooded by runoff waters from Kellogg Hollow and floodwater from the Tucannon River; the Tucannon River valley was cut and chewed by the gush of water; lowlands of the north Touchet south of Dayton were inundated; south Touchet overflowed; Patit Creek through Dayton washed into residential areas.

City of Dayton officials have made a preliminary damage estimate of about $250,000 to city-owned property and facilities only. This figure does not include the damage to the river levee project within the city or the loss suffered by private firms and individuals.

Included in the city total was an estimated $80,000 damage to park and golf course and a figure of $50,000 for repair of damaged streets and bridges and removal of debris.

WATER INTAKE DESTROYED

The water intake dam on the north Touchet for the water filter plant was washed out and the city is currently being supplied with water from the deep well on South Fourth Street. The Green Giant Co. canner well has been made available if needed. The bridge across the north Touchet to the waterplant was washed out. This structure is jointly owned by the city and Aurora Orchards.

[From the Dayton Chronicle, Dec. 31, 1964]

RED CROSS OFFERS AID—COUNTY NAMED DISASTER AREA; HELP PROVIDED

American Red Cross, working through the Columbia County chapter, was the first agency to name Columbia County a disaster area and to offer help to flood victims.

Disaster status for the county was declared Wednesday, December 23. Residents were notified by handbill which was circulated at noon Thursday, December 24. Disaster headquarters were established at the Dayton city hall under direction of Wayne Casseday, county chairman, and Mrs. Samuel Oliver, disaster chairman.

In Dayton and vicinity, 12 to 15 families have received aid from the Red Cross. About six families have been helped in Starbuck and several have been aided in the Tucannon district.

The Green Giant Co. labor camp has been offered as temporary housing if needed.

LIVESTOCK FEED SECURED

Several helicopter rescue flights have been arranged by the county chapter. Hay for livestock feed has also been arranged. Chairman Casseday said the feed arrived Tuesday from the Moses Lake area and is stockpiled at the county fairgrounds.

Donations of clothing and bedding have been channeled to the local churches with the Methodist and Congregational serving as clearinghouses for this activity.

Dayton Troop 332, Boy Scouts, has offered to assist individuals damaged by floods. Boys are available during remaining days of the holiday and on weekends by contacting Scoutmaster Owen Agenbroad.

The city hall office has been staffed during the past week by Mrs. Harold Boeger, Mrs. Arvil Ibach, and Rainbow Girls. Flood victims needing emergency food, clothing, medicine and shelter are asked to contact the disaster office.

[From the Walla Walla Union Bulletin, June 6, 1965]

JACKSON ON VISIT HERE—SENATOR SAYS TOUCHET DAM TO BOOST SALMON

(By Jim B. Schick)

A dam to be constructed on the Touchet River above Dayton will restore the salmon run on the river to a degree greater than in the time of Lewis and Clark, Senator Henry Jackson, Democrat, of Washington, said here Friday evening.

Senator Jackson is in Walla Walla to attend a meeting of the Whitman College board of overseers. He left Saturday for Seattle and will return to Washington, D.C., Sunday night.

The Touchet Dam, he said, is in direct contradiction to the age-old fish versus dams arguments and another point in the growing testimony that comprehensive development of the Nation's rivers can aid the fish, the Senator said.

The $16 million project which will provide water for about 10,000 acres of land in Columbia and Walla Walla Counties, is before the Senate Interior Committee, of which Senator Jackson is chairman, for authorization. He said the Senate will authorize the project this session and it will go before the House. "Construction of the dam could start in 1967," he said.

Senator Jackson said an estimated 40,000 salmon will be restored as a result of a program of water and temperature control by the dam. Of this number, he said, 30,000 will be caught, one-fourth by sportsmen and the balance by commercial fishermen on the lower Columbia and in the Pacific.

Chinook and coho salmon will be reintroduced into the river. The salmon runs have been wiped out by pollution and the low flows of the Touchet and Walla Walla Rivers, he said.

Turning to other matters Senator Jackson said Battelle Northwest is the seed that will help turn the Pacific Northwest into a major center of research and development and the "third area of excellence" in the United States.

Battelle, he said, was the first firm to move to Hanford in the current diversification program and has taken over the operation of the Hanford lab.

Industrial development, the Senator said, will come through research and development and the use of the talent and know-how.

He cited the Boeing Co. as a prime example, starting with the School of Aeronautics at the University of Washington and a research grant.

Diversification at Hanford is going well.

"A good beginning has been made," he said "and the real test will come from programs that have been applied and the firms that have already moved into the area."

With Battelle, second only to the Bell labs, in the area, the center of research will eventually develop new products.

He said that Hanford has already accomplished much work in the research field and made a substantial contribution to NASA.

Development of the Columbia and Snake Rivers is being accelerated to meet the power requirements of Bonneville Power Administration, Senator Jackson said. With a supplemental appropriation provided by Congress the first contracts on Lower Granite Dam on the Snake River will be awarded next month.

This will mean that Lower Monumental, Little Goose, and Lower Granite will be under construction at the same time, he said.

Senator JACKSON. Mr. Chairman and members of the subcommittee, Senator Magnuson's and my bill provides for the full development of the water and related land resources of that area and covers the major portion of the Touchet River Valley. In addition to the 10,000 acres to be irrigated in initial development, there is deferred storage space for an additional 7,000 acres or more.

The economy of the area is based primarily on agriculture, the greater part in wheat. However, as an indication of future possibilities, the vegetable canning and freezing industry is establishing itself wherever water is in assured supply. This industry recognizes that speciality crops can be and will be produced in the Touchet Valley.

There will be municipal and industrial water for the city of Dayton. Some of the city's present supply must be pumped from considerable depths, which is increasingly expensive, and there is no assurance that sufficient ground water will be available for future requirements.

There will be needed recreation development. The reservoir will form the only sizable lake in timbered surroundings in the entire Walla Walla River Basin, and will provide facilities for boating, swimming, sport fishing, water skiing as well as camping, picnicking, hiking, and the like.

Very importantly, the project will be of great benefit to the reestablishment and maintenance of anadromous fish runs in the Touchet and Walla Walla Rivers. The Fish and Wildlife Service lists hundreds of thousands of dollars worth of benefits.

In closing, I should like to draw the committee's attention to the fact that the bill provides for repayment, from McNary Dam revenues, of irrigation costs beyond the ability of the irrigators to repay.

In sum, Senator Magnuson and I believe the Touchet project a most feasible one, and commend it for the committee's favorable action.

(The communications referred to follow:)

PRESCOTT, WASH., *March 8, 1965.*

Senator HENRY M. JACKSON,
Chairman, Senate Interior and Insular Affairs Committee,
Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: We are writing you in support of the proposed construction of the multipurpose dam on the Touchet River. This is Senate bill 1088.

I am writing you as president of the Touchet Valley Irrigation District.

The Touchet Valley Irrigation District was formed in June of 1964, with the overwhelming vote of nearly 97 percent. The district comprises approximately 10,000 acres of land suitable for irrigation, and when water is available from the Touchet Valley Dam undoubtedly these acres will be increased. Already considerable interest has been shown by owners of land adjacent to the irrigation district.

This land is now primarily devoted to the growing of wheat and barley. Obvious advantage to the local grower, should Congress see fit to appropriate the money for this dam, is that diversified crops can be grown and that land now in production of wheat will be taken out of that production. Should these lands obtain the water they require, the crops grown on them could be processed locally by the existing canning companies in Walla Walla, Waitsburg, and Dayton, Wash. The income that this irrigable land could produce would, of course, be of enormous advantage to the many local farmers who would participate.

We would also suggest that this dam would, in a large measure, control the flooding of the Touchet River. On December 22, 1964, and again in January of 1965 the Touchet Valley suffered severe damage to both public and private property. Various estimates have been made by local authorities and interested Federal agencies, estimating the damage to be many millions of dollars. Much of the damage caused by the flooding, of course, can be restored by the construction of bridges and roads that were washed out. However, the damage to the farmer who has lost his topsoil can never be replaced.

As I said at the beginning, this, of course, will be a multipurpose dam. I have heretofore stressed the economic value to the farmer and the advantage of flood control to the people of this area. There is an additional benefit, should Congress see fit to appropriate the funds for the construction of this project, and that is recreation. The Blue Mountains of southeastern Washington are famous as a recreational area. The need for adequate recreational facilities for our growing population, of course, is obvious, and with the construction of the Touchet Valley project a recreational area serving the entire southeastern Washington area would be established. It is planned that ultimately both marinas and boating facilities would be established on the lake, and the dam to be constructed would provide a bypass for fish. This would also have great advantage to the salmon industry, to provide a continuing supply of salmon for this valuable industry in the Pacific Northwest.

We thus respectfully submit that this project can be supported on the grounds that we have outlined above. The local farmer would benefit by saving continued erosion of his land and by making available additional crops that cannot now be produced. The crops would be processed locally, furnishing additional

income and employment to many people of the area. The severe damage suffered in the recent floods would indicate that the project is necessary from that point of view. And, lastly, the construction of the project would provide recreational facilities for many people of the area.

Respectfully,

MERLE BROWN,
President, Touchet Valley Irrigation District.

CHAMBER OF COMMERCE,
Dayton, Wash., February 8, 1965.

Senator HENRY M. JACKSON,
Senate Office Building,
Washington, D.C.

DEAR SENATOR JACKSON: Present status in the Senate of the Touchet division of the Walla Walla project was discussed today by the board of directors of Dayton Chamber of Commerce during their regular session.

We know of your sincere interest in this flood control-irrigation-recreation project by the Bureau of Reclamation, particularly since the city of Dayton, the town of Waitsburg, and the entire Touchet River valley have suffered so heavily from the two recent floods.

Because of our vital interest in this project, we ask that you keep the Touchet division project uppermost in your mind and introduce legislation in the Senate at the most opportune moment.

Your efforts will be sincerely appreciated. Thank you.

Sincerely,

C. A. SHARPE, *Secretary-Treasurer.*

WEST SIDE IRRIGATION DISTRICT NO. 5,
Touchet, Wash., March 31, 1965.

Senator HENRY M. JACKSON,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: I am writing you in support of the "Dayton project" in Columbia and Walla Walla Counties, Wash., soon to be considered by the Senate Interior Committee.

I represent the West Side Irrigation District No. 5, organized in 1919 to irrigate approximately 1,300 acres near Touchet, Wash., on the lower reaches of the Touchet River.

The major crops raised in this district are alfalfa (for hay and seed), sugarbeets, pasture grass, used in beef and dairy, and cannery crops, mainly asparagus and sweet corn. Cereal grains, when grown, are used as rotation crops and account for less than 3 percent of acreage in crops.

Supplemented water for irrigation has long been recognized and even more so today. During the period this district has been in operation great strides in increasing efficiency of crop production has been made but the end is in sight unless sufficient water can be made available when needed. You will note that the crops raised in this district are not "surplus."

Water resource development is needed for irrigation, industrial purposes, water quality control (the Touchet River gets pretty bad in late summer), fish, wildlife, and recreation. (I am also an ardent fisherman.) And last but not least, flood control.

Last December 21, 1964, a disastrous flood on the Touchet River caused untold flood damage to farmlands within the district and caused $10,000 damage to the facilities of the irrigation district.

It is the history of the Touchet River and of the farmers in this irrigation district to see water, literally thousands of acre-feet go downstream in winter and spring runoff only to have a meager amount to irrigate with in July and August, a very critical time for the crops being grown.

The directors of the irrigation district have been behind the Dayton project from the very start. They are willing and the landowners are 100 percent ready to enter into an agreement for the delivery of as much of the stored water as will be necessary to insure a full water supply when needed.

Sincerely yours,

MELVILLE W. CUMMINS, *Secretary.*

CITY OF WAITSBURG,
Waitsburg, Wash., March 10, 1965.

Hon. HENRY M. JACKSON,
Senator, U.S. Senate,
Washington, D.C.

DEAR MR. JACKSON: We note that a hearing is to be held on the Touchet River Dam on March 18, 1965. It is our sincere hope the outcome will be favorable and this project can be started in the very near future.

You are no doubt aware of the very serious floods that struck our city and the whole Touchet Valley on December 21 and 22, 1964; and again on January 29, 1965. The U.S. Corps of Engineers preliminary estimate of the damage to public and private property, in the city of Waitsburg alone, amounted to nearly $375,000. This is nearly $375 per capita.

We are very grateful for the assistance given us under the disaster program, Public Law 875 and Public Law 99, but our local government and citizens will still have to spend many thousands of dollars to repair the damages.

Although the Touchet Dam probably will not be the entire answer to the flood problems, we feel that it will be a long step forward toward preventing a repeat performance of the past winter's destruction.

We are of course very interested in the irrigation and recreation phase of the project also, but we feel that the increasing flood threat due to the intense logging operations in the Touchet watersheds make it imperative that immediate steps be taken to lessen the danger.

Although we are sure you will give this measure your wholehearted support, we feel that by contacting you in this way, you may be able to persuade some of your colleagues to support the measure also.

Thanking you for all past favors and hoping for the success of this measure, we remain,

Yours truly,

ALBERT LAND, *Mayor,*
HAROLD BLOOR, *Councilman.*
ROY B. REED, *Councilman.*
KENNETH ZUGER, *Councilman.*
ROY LEID, *Councilman.*
ERNEST ROHDE, *Councilman.*

WAITSBURG COMMERCIAL CLUB, INC.,
Waitsburg, Wash., March 10, 1965.

Hon. HENRY M. JACKSON,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: It is our understanding that the proposed Touchet Valley irrigation project is to be presented before a Senate hearing on March 18, 1965.

This project is of vital interest and importance to our area. From the standpoint of flood control it is without a doubt our community would have escaped the nearly $380,000 damages it sustained to public and private property from the two floods this past winter. From the point of irrigation we all visualize the growing of new row crops which will enable our local Green Giant cannery and its freezing plant to process these new food items. This will certainly add greatly to the economy of our area and will undoubtedly result in putting new life into all of the communities embracing this wonderful Touchet Valley.

Members of this organization urgently request that you do everything in your power to bring the Touchet Valley irrigation project to a quick reality.

Thank you very much.

Sincerely,

IVAN K. KEVE, *Secretary.*

DAYTON, WASH., *March 17, 1965.*

SENATE INTERIOR SUBCOMMITTEE ON IRRIGATION AND RECLAMATION,
New Senate Office Building, Washington, D.C.

GENTLEMEN: As one who has spent his lifetime in the Dayton area, and now owning and operating a farm located approximately one-half mile downstream from the proposed damsite, I am extremely interested in the Touchet division, Walla Walla project.

During the 19 years that I have been on this particular farm, there have been several floods, but none to compare with the two occurring in December 1964 and January 1965.

Directly across the Touchet River from my property a house belonging to the Aurora Orchard Co. was washed several hundred feet, destroying almost all the personal possessions of the Oscar Torgesons. Although they could rescue but a very small portion of their household goods, the Torgesons were thankful to escape with their lives.

Immediately downstream from my holdings, all the buildings on the Robert Erbes farmstead were washed away, and the debris scattered for a great distance downstream. The safe containing the business papers from this home was found at the Dayton golf course some 4 miles away; other items were carried further. The total loss suffered by this family has been conservatively estimated to be a minimum of over $40,000.

While no other homes in the area were completely washed away, many were filled with water, debris, sand, and silt, almost to the point beyond repair. The total loss of all types of property due to these floods is estimated in the millions of dollars.

Those of us who have operated land along this river have tried many ways to protect our investments, including such measures as streambank revetments, tree plantings, and diking, yet losses from flooding continue. In the four decades I can remember, too often farmers have had to stand helplessly by to see swept away before our eyes irreplaceable farm land, fruit trees, crops, bridges, and irrigation works as well as buildings.

It is our opinion that the flood control benefits alone, over the ensuing years would justify the construction expenditures of this project, but there are many other advantages, a most important one being irrigation.

An extremely high percentage of the farmers now irrigating from the Touchet have water rights that may be cut off in the dry season. We who have this type of water permit find it most exasperating to know that we can grow a fine crop, only to be limited with the knowledge that there is not sufficient water available. The proposed dam would not only furnish ample water for existing users, but would open new avenues of operation to several thousand additional acres, now closed to irrigation, thus bringing a wider diversification of crops to the area.

In view of these, and many other obvious advantages of the proposed dam, may I urge your approval of the Touchet project.

Sincerely,

VERNON MARLL.

BILL'S THRIFT STORE,
Dayton, Wash., January 7, 1965.

Hon. HENRY M. JACKSON,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: The big flood for us is over for the time being, let's hope we have no more chinook winds and rains for a while.

As we have found out being declared a disaster area is no honor but we feel now would be the opportune time to request the reclamation service to expedite the Touchet Valley irrigation project.

This project would have averted this disaster and saved upward to a million dollars in damage to the citizens of our area.

A dollar savings could also be made and the workload relieved for the Corps of Army Engineers on the rebuilding of the dikes and control of the river.

Would urge you to do what you can to push this project through as quickly as possible.

Yours truly,

WM. L. DAVIS.

WAITSBURG, WASH., *March 15, 1965.*

Senator HENRY JACKSON,
Chairman, Senate Interior and Insular Affairs Committee,
Washington, D.C.

DEAR SENATOR: Enclosed is clipping from March 14 Walla Walla Union Bulletin with picture of an oddity resulting from the 1964–65 floods in this region. It has no direct bearing on the matters respecting the Touchet Valley irrigation

and flood control dam (over a range of low hill ssome 15 miles away), only as it shows flood results as they affect rail transportation in southeast Washington.

The writer of this letter was for 66 years an applegrower in the Touchet Valley until forced to retire because of age 2 years ago.

He went through four cycles of water shortage during that period, nearly losing his orchard from drought in one of these. He was one of the two original applicants to the Bureau of Reclamation for water storage on the Touchet River.

He saw at least 20 of his fellow orchardists in the valley fold up because of lack of water. His own survival was only by grace of God, the Federal land bank, and his own stubbornness. The orchard area in the valley decreased from almost 1,000 acres to about 215. The payroll employment from fruit decreased from seasonal highs of 500 or more to around 100.

If, and when, water storage assures water to 9,000 acres, little of this will go back to fruit, but much will go to asparagus and canning vegetables. Yearly and seasonal employment will be greatly bettered for present low-income residents. Overflow population from other overcrowded areas can aid in breaking up large wheat tracts producing surplus grain, into small irrigated tracts with canning products and farm flocks and herds of sheep, cattle, turkeys, chickens, and pigs.

As a former 16-hour-a-day farmer, and as a present-day believer in a near future phenomenal growth of opportunities to our citizenry in irrigation supplanting surplus-producing dryfarming, I respectfully request your favorable consideration of the Touchet Dam.

Sincerely yours,

LOREN F. DUMAS.

[From the Walla Walla Union-Bulletin, Mar. 14, 1965]

RELIEF STATION RAIL LINE IS HIT HEAVILY BY FLOOD

DAYTON.—The Union Pacific Railroad tracks to Relief Station in Kellogg Hollow are washed out in many places. Some of the trackage is suspended in the air from washouts. Other sections have been broken and are lying in the deep ditch which drains Kellogg Hollow.

Four boxcars are at the Relief siding and cannot be taken out. They were loaded with grain and ready for shipment when the flood came. They had to be unloaded by the Columbia County Grain Growers, according to Merl Rogg, local manager.

The railroad takes a dim outlook on restoring this section of trackage which is a branch line out of Starbuck. The company has a large work crew stationed at Starbuck with work train of several cars. The crew has been working, since the flood, on the branch line to Pomeroy which was extensively damaged by the rampaging Pataha Creek.

All future shipments out of Relief will be made by truck. This was a problem until the roads in the area were repaired after the heavy flood damage. According to Rogg, the Relief elevator will be cleared in time to receive the 1965 crops.

Every gulch leading into the hollow was overflowing. The waters washed out many of the culverts and scattered rocks and debris over the low lands bordering the ditch. The new black top surface was damaged in several places.

The Relief Station was on the main U.P. line to Spokane at one time and got its name from the relief crew and engine used as a booster on the heavy grade to Alto, another siding with a grain warehouse.

The trackage from Relief to Alto was removed years ago after the high Joso Bridge over the Snake River at Lyons Ferry was built and the shops at Starbuck were moved to Reith.

The old depot at Starbuck was recently pushed down and burned, removing another landmark of historical value. This old building served as a rest place during the train stops. Starbuck was a division point and two passenger trains met there daily to change crews and engines. Passengers from both trains met in the waiting rooms of the depot to exchange views of the country beyond or to swap yarns about their native lands or homesteads.

Many had visions about the sagebrush and jackrabbit country and most of these have come true with the development of the surrounding hills and through the patience of the early homesteaders who did much to develop the area.

WALLA WALLA, WASH., *April 5, 1965.*

Hon. HENRY M. JACKSON,
Chairman, Interior and Insular Affairs Committee,
U.S. Senate, Washington, D.C.:

Understand your committee will hold hearings April 7, 1965, on the Touchet division, Walla Walla project, pursuant to resolutions already in your hands. Inland Empire Waterways Association and Northwest Rivers & Harbors Congress desire their strong support of the project be made a part of the record. We respectfully solicit your committee's favorable consideration of the project which is so vital to the economy of the region.

Regards,

HERBERT G. WEST,
Executive Vice President,
Inland Empire Waterways Association.

OLYMPIA, WASH., *April 7, 1965.*

Hon. HENRY M. JACKSON,
Chairman, Senate Committee on Interior and Insular Aflairs,
Senate Office Building, Washington, D.C.

This is to indicate the support of the State of Washington for S. 1088. This measure authorizes the Touchet division, Walla Walla project. The Touchet project has an excellent benefit-to-cost ratio of 2.77 to 1 and an excellent addition to our water resource development program.

It is my hope that the committee will act favorably on this legislation at its April 7 hearing.

DANIEL J. EVANS, *Governor.*

DAYTON, WASH., *April 6, 1965.*

BUREAU OF RECLAMATION,
Interior Building, Washington, D.C.
(Attention H. T. Nelson, Regional Director, Region 1)

Port District Columbia County willing to assume responsibility for construction and maintenance of recreational facilities at Touchet Valley Dam site.

H. N. WOOLSON, *Attorney.*

Senator ANDERSON. Most of the valley, as you say, is now being farmed, about 7,000 acres, and you only bring in 3,000 acres at this time.

Senator JACKSON. Yes.

Senator ANDERSON. And this land would pass from wheat to specialty crops, and it wouldn't add to the wheat surplus.

Senator JACKSON. It would encourage the removal of wheat from production. There is no reason, however, why we shouldn't be consistent and apply the surplus crop amendment, except that our policy as to the supplemental water supply should be clarified here.

Senator ANDERSON. The question is how it balances out. If it is going to produce less wheat than it is now producing, it is to the advantage of the agricultural industry of the country.

Senator JACKSON. There is no question that it will encourage the removal of wheat from production.

Senator ANDERSON. We will ask the staff to study the applicability of the surplus crop amendment in this case. If it isn't pertinent, we should have the salient facts in the full committee.

Senator JACKSON. Mrs. Catherine May, the Congresswoman from the Fourth District, where this proposed project would be sited, is unable to be here because of previous commitments in the House of Representatives. She has a statement in support of the project which she would like included in the record.

Senator ANDERSON. Without objection that will be done.
(The statement referred to follows:)

STATEMENT OF HON. CATHERINE MAY, A U.S. REPRESENTATIVE IN CONGRESS FROM THE FOURTH CONGRESSIONAL DISTRICT OF THE STATE OF WASHINGTON

Mr. Chairman and distinguished committee members, I am pleased to submit this statement in support of S. 1088, to authorize the Touchet division of the Walla Walla project. I am sponsor of similar legislation in the House of Representatives, H.R. 1795.

The Touchet division is a sound and necessary project and has wide support throughout this area of my district. The Bureau of Reclamation feasibility report on this plan of development shows that benefits will exceed costs in the ratio of 2.77 to 1.

As the committee is aware, this is a proposed multiple-purpose development in the valley of the Touchet River, a northern tributary of the Walla Walla River in the State of Washington. The Touchet River, I might add, was the cause of a great deal of flood damage to the city of Dayton and rural residents during the floods in the Pacific Northwest last December and January, and local residents point out that construction of the Dayton Dam, an important feature of the Touchet division project, will help prevent such flood damage in the future.

Dayton Dam and Reservoir on the East Fork of the Touchet River, 6 miles upstream from the city of Dayton, would be an earthfill structure about 200 feet high, creating a 52,600-acre-foot reservoir. Also proposed are fish passage facilities at the dam and at existing downstream dams, recreation developments at Dayton Reservoir, and minor drainage facilities where needed.

Dayton Reservoir would regulate the presently undependable flows of the Touchet River so that about 6,440 acres of irrigated lands in the valley would receive an adequate water supply and about 3,520 acres of dry-farm land could receive a full supply of irrigation water. This would enable farmers to shift their cropping pattern from dry-farmed wheat to greater production of livestock feed and diversified cash crops such as apples, asparagus, and sugarbeets.

In addition to the flood control benefits of Dayton Dam and Reservoir, which was previously discussed, the dam and reservoir would provide municipal and industrial water for the city of Dayton, water quality control in the lower Touchet Valley, fish and wildlife enhancement, and recreational opportunities.

I am pleased, Mr. Chairman, that the subcommittee is today considering S. 1088, and I am hopeful the bill will be approved. Thank you for the opportunity to advise the subcommittee of my support of this worthwhile and urgently needed project.

Senator ANDERSON. Do any members of the committee have any questions of Senator Jackson?
Mr. Stamm.

STATEMENT OF G. G. STAMM, ASSISTANT COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR; ACCOMPANIED BY J. KARL LEE, CHIEF, DIVISION OF PROJECT DEVELOPMENT, BUREAU OF RECLAMATION; AND H. T. NELSON, REGIONAL DIRECTOR, BUREAU OF RECLAMATION, BOISE, IDAHO

Mr. STAMM. Mr. Chairman, I would like to bring Karl Lee, Assistant Chief of our Project Development Division, and Mr. Harold Nelson, regional director of the Boise office to the table with me.

Mr. Chairman, it is a pleasure to appear before you in support of a worthy multiple-purpose reclamation development. The Walla Walla project will encompass several divisions which together will control and utilize the water resources of the entire river basin which straddles the State boundary between Oregon and Washington. The Touchet division will put the waters of Touchet River to use for irrigation, municipal and industrial water supply, flood control, water

quality control, fish and wildlife enhancement, and recreation. This division is entirely in the State of Washington. There is a map at the side incidentally, if you wish to refer to it.

Senator JACKSON. What are the other projects in the Walla Walla district?

Mr. NELSON. There will be the Milton-Freewater division and Marcus-Whitman division.

Senator ANDERSON. In Oregon.

Mr. NELSON. In Oregon and Washington, and will include service to lands both in Oregon and in Washington on the Walla Walla River Basin in the Gardena area——

Senator JACKSON. Kindly point to the Gardena area.

Mr. NELSON. It is down here this particular area, opposite Touchet.

Senator JACKSON. Will you please identify it further for the record?

Mr. NELSON. Yes. It is on the lower end of the Walla Walla River south of Touchet and the upper end of the project would be in the State of Oregon in the upper end of the river basin.

Senator ANDERSON. Where is the land that will be irrigated?

Mr. NELSON. The area to be irrigated is not shown on th s map for the other two divisions. The part to be irrigated by the Touchet division will be the land illustrated in yellow and green.

Senator JACKSON. Along the river.

Mr. NELSON. Along the river.

Mr. STAMM. Isn't it true that all of the colored lands are involved? The yellow is the new land. The green is land that is now irrigated, but will receive a supplemental water supply, so all of the colored land shown on the map is land that will be benefited by the Touchet division that we are considering this morning?

Mr. NELSON. Yes. The Touchet division is along the Touchet River. The chairman asked the question about the other divisions in the Walla Walla River Basin.

Senator JACKSON. This is the first one?

Mr. NELSON. That is correct.

Senator JACKSON. The first division of the Walla Walla project to be undertaken?

Mr. NELSON. That is correct.

Senator JACKSON. But the others will be in Oregon?

Mr. NELSON. And Washington.

Senator JACKSON. In both?

Mr. NELSON. That is correct. This Touchet division fits very well into the overall plan.

Senator ANDERSON. Those two then are Marcus-Whitman and Milton-Freewater, is that right?

Mr. NELSON. That is correct.

Senator ANDERSON. The only two?

Mr. NELSON. Possibly one on Mill Creek above the city of Walla Walla.

Mr. STAMM. The Touchet River now is completely uncontrolled. Every year, in the pattern of all tributary streams in the Pacific Northwest, the river floods its valley in the spring, and by late summer the flow is insufficient to meet the requirements for water.

Although some irrigation development was started a century ago, today only 5,000 to 6,000 acres are irrigated, and much of this land does not have a full water supply. Irrigation from the river has been

primarily by simple gravity diversion, but in recent years pumping has increased. Water rights on the river have been adjudicated and a complex system of priorities has been established.

It is proposed to build Dayton Dam on Touchet River a few miles upstream from Dayton, Wash. The dam would be a rolled earthfill structure about 200 feet high. It would create a reservoir of 52,600 acre-feet, of which 2,700 acre-feet would be dead storage, 1,700 acre-feet would be inactive storage, 33,200 acre-feet would be conservation storage, and 15,000 acre-feet would be joint storage to be operated on a seasonal and forecast basis for flood control and conservation.

Reservoir right-of-way required for all project purposes totals about 1,470 acres, all now in private ownership. Of this total, only two 20-acre tracts would be acquired specifically for recreation use at an estimated total cost of $6,000. The balance of recreation-use land requirements as well as fish and wildlife requirements would be satisfied within the area to be acquired for operation of the reservoir, about 390 acres of the reservoir basin are now cultivated, and 15 farmsteads would be inundated. A country road, and power and telephone lines would be relocated.

Senator ANDERSON. Would you mind going back to the previous paragraph.

Mr. STAMM. No, sir.

Senator ANDERSON. You have 2,700 acre-feet dead storage, 1,700 acre-feet inactive storage, and 33,000 acre-feet would be for conservation storage.

Mr. STAMM. Irrigation use primarily.

Senator ANDERSON. I just wondered about the term. What is the difference between the conservation storage and storage behind the dam at Glen Canyon? What kind of storage is that?

Mr. STAMM. When we allocate space to a reservoir to various functions the portion of the reservoir space that is allocated to irrigation and to municipal and industrial use is included in the conservation pool separated from any exclusive space that might be there for power, or for fish and wildlife, or for flood control.

It is a common term that we have coined maybe within our shop to represent the space for agricultural and municipal and industrial water.

Senator ANDERSON. It may be a common term, but it is uncommon to me.

Mr. STAMM. It is common within our shop.

Senator ANDERSON. The rest is going to be joint storage to be operated on a seasonal and forecast basis.

Mr. STAMM. Yes.

Senator ANDERSON. Joint storage with what?

Mr. STAMM. Flood control and conservation. In other words, when you can forecast the runoff that is likely to come from snowmelt you can determine on a day-by-day and week-by-week basis in the spring how much space you need to hold vacant in the reservoir to accommodate the inflows from snow runoff, and the objective is to watch this sufficiently closely that by the end of the flood season, or the snow runoff season, say July 1, you have coasted up to a full reservoir.

You can do that when the inflow is from snowpack. If the reservoir is in an area where the inflow is from rains you can't forecast the rains and you have to retain a certain amount of vacant space in the reser-

voir exclusively for flood control to catch the peak flow from rain runoff whenever it might come during the year.

Senator ANDERSON. Thank you.

Mr. STAMM. Facilities for fish enhancement would consist of a trap below the dam, and a hopper and tramway to carry upstream migrants over the dam. Selective level outlets in the dam and a collector system for downstream migrants are also to be provided specifically for fish. The entire reservoir area would be fenced. Recreation facilities would include boat ramps and docks, sanitary facilities, access roads and parking areas, and overnight camp units.

Construction cost estimates include costs of drainage ditches which may be needed, but construction is to be deferred until the need is evident.

Joint operation of the reservoir will require facilities and operation of a hydrometeorologic network of snow courses, gages, and forecasting equipment.

Water would be released from the reservoir into the natural stream channel, from which it would be diverted by the irrigators and the city of Dayton through their own facilities, some by gravity and some by pumping.

Irrigation water would be served initially to some 9,960 acres of land; 3,520 acres requiring a full supply, and 6,440 acres requiring only supplemental water. These lands are located in a narrow band along the Touchet River. About 2,000 acres of the service lands are in two older existing irrigation districts.

The remainder are in the newly formed Touchet Valley Irrigation District. The lands are admirably suited to sprinkler irrigation, being about 61 percent class 1. Ownerships are generally in small tracts, and no difficulty is anticipated in complying with the excess land provisions of reclamation law.

Senator ANDERSON. How are these lands irrigated now? Flow from the stream?

Mr. STAMM. Yes. They divert directly from the stream, some by gravity diversion, some by pumping, but because the stream is uncontrolled the flow of the stream diminishes by midsummer and fall so that there is no water for irrigation.

Senator ANDERSON. These pumps are a sprinkler system?

Mr. STAMM. Yes. Much of the land proposed to be irrigated is now used for dryfarming or forage crops. Under project conditions row crops would become important, dry farm wheat acreage would be replaced by other crops, and the acreage of specialty crops, mainly vegetables for canning and freezing, would increase. The production of livestock also would increase. Irrigation benefits, estimated from farm budgets, have been computed as $549,560 annually.

Dayton Reservoir has been designed to include a resident sport fishery and to provide water releases to reestablish anadromous fish runs in Touchet River. Restoration of anadromous fish runs and creation of a fishery in the reservoir would produce benefits from commercial and sports fishery of $648,100 annually.

Incidentally, Mr. James McBroom, of the Fish and Wildlife Service, will testify later and give you some details on these allocations.

Increased waterfowl hunting on the reservoir would produce benefits of $21,600 annually.

The city of Dayton, Wash., has indicated its interest in participating in the project by purchasing 1,000 acre-feet of water annually from Dayton Reservoir.

Senator ANDERSON. How large is Dayton?

Mr. STAMM. About 25,000 people, I believe.

Senator JACKSON. No. It is about 3,000. Walla Walla is 25,000.

Senator ANDERSON. It is a question of whether you get it from the chamber of commerce or the census.

Senator JACKSON. We will have the correct figure put in, but it is a little over a thousand people.

Mr. STAMM. Thank you, Senator Jackson. The 1961 population for Dayton was 3,000.

Dayton's estimated use for this purpose is 500 acre-feet for the first 10 years, and the full 1,000 acre-feet thereafter. Annual benefits computed for this function are $11,400, equivalent to the cost of purchasing firm irrigation water rights.

Flood control is an important project purpose. The reservoir operation plan is based on runoff forecast and joint use of storage space for flood control on a seasonal basis. Unpredictable rain floods having high peak and low volume runoff frequently occur in the basin. These could generally be controlled in Dayton Reservoir. The performance of reclamation reservoirs during the December 1964 and January 1965 floods proved the effectiveness of joint use of storage capacity for flood control.

The December floods in the Touchet River Basin were especially destructive. The estimated peak flood at the Dayton Dam site of 5,200 cubic feet per second was approximately 3½ times any previous recorded flow. Many homes were damaged or destroyed in the narrow river valley. Irrigation and municipal water diversion facilities, highways, and bridges were extensively damaged. Silt and debris deposition in urban and rural areas was widespread. The total estimated damage along the main stream of the river was about $1,300,000.

Mr. Nelson brought with him some pictures of the flood situation in which I think the committee would be interested. He has in particular pictures here of a before-and-after situation, of a man's farmstead immediately before the river broke out of its banks, and another picture taken from the same point a couple weeks later after the flood had subsided, and the stream was back in its channel. You will note that the buildings are completely gone, not just moved off the foundation, but gone. I asked, "Where did they go?" and Mr. Nelson answered, "I don't know," just demolished and carried away in debris.

Harold, why don't you make those pictures available?

Senator JACKSON. We can pass those around. Give Senator Jordan one.

Senator ANDERSON. This seems a rather narrow valley, is it not?

Senator JACKSON. Yes; this valley is relatively narrow.

Mr. STAMM. Those two are the before-and-after pictures, Senator Anderson.

Senator ANDERSON. The trees along with it?

Mr. NELSON. Yes. He had an orchard on the farm for many years, and that was extensively damaged, also.

Mr. STAMM. In fact, in many cases the trees were taken out. Under the flood control operating plan, the proposed Dayton Reservoir would have completely controlled the flood runoff at the site and reduced the damages by $1 million. The January floods were less severe than the December floods and damage was confined primarily to inundation of farmlands, roads, and bridges, the destruction of Dayton City's temporary water intake, and washout of a section of the Northern Pacific Railroad. Estimated damages would have been reduced by $290,000 had the proposed Dayton Reservoir been in operation.

Senator ANDERSON. Does the railroad make any contribution to the flood control project?

Mr. STAMM. No, sir.

Senator ANDERSON. There is no benefit to it?

Mr. STAMM. There is a benefit, but we haven't found a way to assess it.

Senator ANDERSON. You do find a way, do you not?

Mr. STAMM. I do not know of any case where we assess a railroad unless it is in a conservation district and they pay on an ad valorem tax basis. If they are in a conservation district and part of the revenues are collected through an ad valorem tax, then the railroads and all other owners of real and personal property would pay, but not in the absence of the conservation district, and there is none in existence in this area nor any place in the State of Washington. I believe on the Rio Grande, however, there is a conservation district so all of the property owners in that area do contribute.

Damages totaling $1,290,000 would have been prevented had Dayton Reservoir been in operation during the recent floods. This exceeds by one-half million dollars the total allocation to flood control.

The entire river basin was declared an emergency flood disaster area. The present flood control allocation of $738,000 was based on benefits derived prior to the December-January disaster, and the Corps of Army Engineers has not had time to update flood control benefits. Such a reevaluation will be made after authorization is granted.

Senator JACKSON. Is it not quite possible that the previous allocation may not be adequate?

Mr. STAMM. That is our feeling.

Senator JACKSON. Based on the damage alone here of $1,300,000.

Mr. STAMM. Yes, sir. We certainly anticipate that the reevaluation will increase the allocation.

Senator ANDERSON. Did you say that you would not have a reevaluation unless the project was authorized?

Mr. STAMM. No, sir. I said that such reevaluation will be made after authorization. I intended to amend that. We will make the reevaluation whether or not the project is authorized.

Senator JACKSON. How long will that be?

Mr. NELSON. The Corps of Engineers has been covered up by the situation all over the Northwest States. They just simply have not had the time and staff.

Senator ANDERSON. Well, there are certain wheels that are squeaking. This is one of them, is it not?

Mr. NELSON. Yes, sir.

Senator ANDERSON. I believe a reevaluation should be made promptly.

Mr. NELSON. They are working on it, but it is going to take a little time.

Senator JACKSON. I do not see why it cannot be expedited. The Congress must know what should properly be allocated to the flood control functions. There should now be enough data available for this reevaluation.

Mr. STAMM. We will do what we can to expedite the reevaluation. However, there is a tendency for the corps to reevaluate its own projects first. It is a problem of assigning priorities.

Senator JACKSON. We must ask them to give this one priority. It is essential that both the House and the Senate be properly informed on the correct allocation of costs.

(The information requested follows:)

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
May 27, 1965.

Hon. HENRY M. JACKSON,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: You will recall that during the hearings before the Senate Committee on Interior and Insular Affairs on S. 1088, Touchet division, Walla Walla project, Oregon, there was some discussion of the effect of the floods of December 1964 and January 1965 on the computation of flood damages and flood control benefits.

We are now in receipt of data from the Corps of Engineers reporting on its reevaluation of the flood control benefits for the proposed Dayton Dam and Reservoir. The average annual flood control benefits now are estimated to be $49,500, as compared with the $42,150 used in our report. The effect of reflecting this difference in the cost allocation is to increase the flood control allocation by about $55,000 and to decrease the total of the allocations to other functions (irrigation, municipal and industrial water, water quality control, fish and wildlife, and recreation) by the same amount. Thus, the increase in the flood control allocation has very minor effects upon the allocations to other functions. For instance, the allocation to fish and wildlife would be reduced by about $26,000, from $7,972,000 to $7,946,000, and the percentage of the total cost allocated to that purpose would be reduced only a fraction of 1 percent.

Despite the fact that stream runoff from the floods of last winter established new high-flow records in many sections of the Pacific Northwest, and that the damages caused by those floods were more extensive than any previous floods, it was found on the basis of probability studies that floods of such magnitude would be very infrequent. Due to the infrequency of such floods, the effect of a single such event upon the average annual flood damages is comparatively small, and this is reflected in the cost allocation.

Sincerely yours,

N. B. BENNETT, Jr., *Acting Commissioner.*

U.S. DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
Washington, D.C., July 9, 1965.

Hon. HENRY M. JACKSON,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: During discussions on June 30 with members of your staff regarding the Touchet division, Walla Walla project, Washington, we were requested to provide you with our latest cost allocation on this project. The enclosed tabulations summarize our latest analyses. Total estimated project costs are now $16,630,000 (January 1965 prices) as compared to $15,709,000 used in the feasibility report.

Sincerely yours,

FLOYD E. DOMINY, *Commissioner.*

Enclosure.

Cost allocations

[In thousands of dollars]

	Feasibility report	January 1965 prices
Function:		
Irrigation	5,347	5,612
Municipal and industrial	114	110
Flood control	738	808
Water quality	1,351	1,428
Fish and wildlife	7,792	8,357
Recreation	187	187
Highway improvement	0	128
Total costs	15,709	16,630
Reimbursable costs:		
Irrigation	5,347	5,612
Municipal and industrial	114	110
Fish and wildlife	632	656
Recreation	78	81
Total	6,171	6,459
Nonreimbursable costs:		
Flood control	738	808
Water quality	1,351	1,428
Highway improvement	0	128
Recreation	109	106
Fish and wildlife:		
Anadromous	6,014	6,295
Other	1,326	1,406
Total	9,538	10,171
Total costs	15,709	16,630

Mr. STAMM. Local flood control improvements by the Corps of Engineers have been authorized for the city of Dayton, so no benefits at that point were claimed for Dayton Reservoir. For the remainder of the valley, particularly at Waitsburg, the Corps of Engineers previously calculated average annual benefits at $42,150.

Dayton Reservoir would be a popular recreation attraction, as it would be the only sizable lake in the general area. The reservoir might be used for boating, swimming, water skiing, camping, picnicking, and hunting. The National Park Service prepared the recreation plan and computed the net annual benefits at $19,400.

The Public Health Service recommended minimum flow releases from Dayton Dam to maintain year-round water quality standards. The computed benefit due to such releases would be $94,600 annually.

Dayton Reservoir is designed to the maximum practical capacity of the site. This results in the average annual water yield through storage regulation exceeding the requirements by about 23,700 acre-feet annually. This additional water supply can serve future irrigation or municipal water requirements.

The potential irrigable lands in the valley far exceed the area which could be irrigated with that water.

Future needs of the city of Dayton and other municipalities may also require some of this water. Based upon the supposition that the water will ultimately be used for irrigation, the benefits of such deferred use storage would be $473,000 annually.

The estimated cost of constructing the Touchet division is $15,709,000, at April 1962 prices. This cost is allocated by the separable

costs-remaining benefits method among project functions as follows:

Function:	Cost
Irrigation	$5,347,000
Flood control	738,000
Municipal and industrial water	114,000
Water quality control	1,351,000
Fish and wildlife enhancement	7,972,000
Recreation	187,000
Total	15,709,000

The costs allocated to irrigation would be reimbursable. The water users in the initial development would pay in accordance with their ability, in 50 years, $1,298,500.

Senator ANDERSON. Had you gone before the Bureau of the Budget on this project?

They say in here, "The Bureau of the Budget questions the appropriateness of such a large allocation to Fish and Wildlife." Do you question it?

Mr. STAMM. No; the Department supports the allocation and that is one of the principal reasons that Mr. McBroom, of the Fish and Wildlife Service, is here.

Senator ANDERSON. He had a warm session with this committee. I hope he is prepared for another one.

Mr. STAMM. I think he thrives on sessions like that.

Senator ANDERSON. The Bureau of the Budget is a rather important adjunct in these irrigation projects. I know from past experience it is very difficult to get a project approved when the Bureau of the Budget does not approve it, because they speak for the President. I just wondered if you made any effort to go back and look at these. They say, "Therefore, if the project is authorized, and before funds are requested to start construction"—you know the Department has requested them. No agency can ask for funds if the Bureau of the Budget does not approve the project—"before funds are requested to start construction, we recommend a study of the Fish and Wildlife aspects of the project be made to determine whether a substantial reduction in this allocation should be made."

Mr. STAMM. This report from the Bureau of the Budget just became available to us late yesterday, and we will carry out the requests and make the reevaluation, and, of course, in connection with the reevaluation of a flood damages and benefits——

Senator ANDERSON. If they were raised, the fish and wildlife might be reduced.

Mr. STAMM. Yes, sir.

Senator ANDERSON. Some of the complaints have been that what you need you put in for fish and wildlife. Mr. McBroom, there is nothing personal about it, but we have seen where they would have to have $4 or $5 million and they put the $4 or $5 million in fish and wildlife.

Senator JACKSON. We have been discussing this in connection with S. 1229. Mr. Lee is quite familiar with those discussions.

Mr. STAMM. I know you have.

Senator ALLOTT. And others.

Senator ANDERSON. I just wanted to be sure that you recognized the fact that your presenting these figures is not going to be the end of it because there will be some questions on fish and wildlife.

Mr. STAMM. I am sure there will be, and we are already making some reevaluation so we will have the full picture to present.

The costs allocated to irrigation would be reimbursable. The water users in the initial development would pay in accordance with their ability, in 50 years, $1,298,500.

Senator ANDERSON. Less than 10 percent of the project is paid for by the irrigators?

Mr. STAMM. Yes, sir, but that is about 24 percent of the irrigation allocation.

Senator ALLOTT. There is no hydroelectric power in these projects?

Mr. STAMM. No.

Senator JACKSON. There is no production of power. But there are power revenues from McNary Dam making available at least $700,000. I don't have the figure right in front of me.

Mr. STAMM. It is more than that.

Senator JACKSON. McNary power revenues?

Mr. STAMM. Yes.

Senator JACKSON. I have the figure—$935,500 in power revenues. Is that right?

Mr. STAMM. That is right, based on the prices we are talking about so far; the April 1962 prices.

Three levels of charges, based on existing water supplies were computed as follows: $5.40 per acre for those areas having no present irrigation supply; $3.80 per acre for those areas having a partial but seriously deficient supply; $1 per acre for those areas having a reasonably good supply with shortages in mid and late season. A development period of 10 years is recommended for the lands which have no existing water supply rights. Those which have a partial but seriously deficient water right will be permitted a 3-year development period.

The remainder of the irrigation allocation—$1,235,500—associated with the initial development, would be repaid from revenues derived from the sale of Federal power marketed by the Bonneville Power Administration, and the sale of municipal and industrial water.

The difference between this figure and the one you quoted——

Senator JACKSON. Includes the municipal water.

Mr. STAMM. Yes, sir.

The deferred costs for unassigned space, excluding funded operation and maintenance costs for 10 years amounts to $2,813,000, all of which is tentatively allocated to irrigation. If the deferred use storage is not contracted for within the repayment period, the cost allocated to that function also would be repaid from power revenues. However, we feel the potential irrigation requirements in the general area that could be served economically from Dayton Reservoir are greatly in excess of the future supplies that could be developed. Five potential areas have been identified in our studies where the deferred-use storage could be used effectively.

Senator JACKSON. Mr. Chairman, if I may interrupt. Why could not some of the water from the deferred use area of the dam be made available initially to irrigate the land in the area? What is the answer? There is more land available for irrigation than there will be water available, as I understand it, in the storage facility. You have brought in a little over 3,000 acres of new lands. Why cannot that figure be increased?

Mr. STAMM. I think very definitely it will be in the comparatively near future, but there are certain things that need to be accomplished in the way of completion of studies to classify the land, to show that the land is suitable and the additions are feasible; the lands must become included in an irrigation district and the landowners must be willing to contract with the United States.

Senator ANDERSON. These lands you are talking about are just above Walla Walla, that long strip along there?

Mr. STAMM. There are some benchlands that lie generally north of all of those colored lands shown in the long strip that can be reached. They are good quality lands, they can be reached with a comparatively low lift, and they may come in at a future time. There is quite a large area near Eureka that may come in.

Senator ANDERSON. There are more than 3,000 acres, are there not?

Mr. STAMM. How many acres are in that area, Harold?

Mr. NELSON. There are 10,000 acres of good land along the Touchet River with a pump lift less than 200 feet.

Senator ANDERSON. That one big tract up there is over 10,000 acres?

Senator JACKSON. In the northwest corner.

Mr. NELSON. That is right, but the 10,000 acres I referred to are up and down the river.

Senator ANDERSON. Those 10,000 acres there would be very expensive, would they not?

Mr. NELSON. Yes, sir.

Senator ANDERSON. $3,000 an acre or something like that?

Mr. NELSON. Not that much—10,000 acres below a 200-foot pumplift, and I believe they could be reached for less than $1,000 per acre.

Senator ALLOTT. May I ask a question?

Mr. NELSON. This project was formulated on the basis of the water users paying their own cost of their own distribution system. There is no distribution system provided; only the basic water supply.

Senator ANDERSON. We have had some projects that have included the water distribution system, have we not?

Mr. NELSON. Yes, sir. We do have others.

Senator ANDERSON. You are talking about pumping out of the river there, are you?

Mr. NELSON. That is the only way those lands could be served, by pumping.

Senator ANDERSON. Individually?

Mr. NELSON. There would undoubtedly be a project-type system for the larger blocks.

Senator ANDERSON. Certainly. You never saw an area like that irrigated individually.

Mr. NELSON. That is correct.

Senator ANDERSON. So what do you think a charge against that might be?

Mr. NELSON. I believe in a case like that it could be developed for less than $1,000 an acre, but the water charges, of course, would be higher because of the need to supply a distribution system. This project covers only the lands that form an irrigation district, the Touchet Valley Irrigation District. They are only the ones that are in existing irrigation districts now.

Senator ANDERSON. The map there shows another parcel of land running down north of Walla Walla. How much area is concerned there, another 10,000 acres?

Mr. NELSON. That is the dry creek area, about 3,000 acres. We have a listing of five areas: Lamar-Eureka, 22,000 acres; Gardena-Bench, 5,000 acres; east-west side relifts, 1,160 acres; Touchet Valley, 3,300; for a total of over 3,000 acres.

Senator ANDERSON. In other words, then, the 3,000 acres you are talking about that might be added does not involve these big tracts at all.

Mr. NELSON. That is correct.

Senator ANDERSON. What is the possibility of developing that?

Senator JACKSON. Over and above what you have for this project.

Mr. NELSON. We have about 30,000 acres of identified land and water enough to serve about 7,000 acres over and above the present proposal of the use of water.

Senator ANDERSON. Over and above the 10,000 or 11,000 acres you have another 7,000 acres?

Mr. NELSON. Yes; water for 7,000 acres.

Senator JACKSON. In other words, under the present plan, it is a little over 6,000 of supplemental irrigation water, and a little over 3,000 of new acreage, bring the total of supplemental and new acreage to 10,000. Then you say that there will be water available for 7,000 additional acres?

Mr. NELSON. That is correct.

Senator JACKSON. Of new land to be irrigated?

Mr. NELSON. That is correct.

Senator ANDERSON. And that is only 7,000 acres out of 30,000 acres that might be irrigated if you had the water?

Mr. NELSON. That is correct. We have no doubt that by the time the project is built and in operation there will be requests for the remaining unallocated water.

Senator ANDERSON. What is the cost of irrigating 3,000 acres? These are all parcels of narrow land so they would have a pretty high cost.

Mr. NELSON. The present investment cost of the Government is about $265 an acre for storage facilities.

Senator ANDERSON. What would be the present investment cost? There is nothing there now, so what is the present investment cost?

Mr. NELSON. I mean if this project is authorized the investment cost would be $265 an acre for land to be served; namely, the 9,960 acres.

Senator ANDERSON. Is that in addition to the distribution system?

Mr. NELSON. No, sir.

Senator ANDERSON. Then it is going to be a lot more than that. Would you not do the same thing you have done in other projects?

Mr. NELSON. Yes.

Mr. STAMM. In this case where the owners are strung out in a long shoestring valley, they are providing their own facilities whether they are diverting directly by gravity or by pumping, and any distribution facilities they require they also are providing themselves. Many of them already have some diversion and distribution facilities because they have been irrigating, but with an inadequate water supply. All we are providing is the storage, the regulation of the stream, the

release of the water at the dam, so that it will be available for them to divert throughout the season.

Senator JACKSON. How much will the irrigation district invest in a distribution system? Do you have any estimate?

Mr. STAMM. I think the irrigation district itself will not invest in the distribution system. These will be investments of individual landowners. The district will assume the obligation to pay the United States for the storage.

Senator ANDERSON. That is the most expensive way to do it, is it not? Let the individual do it?

Mr. STAMM. In a long shoestring valley, it is pretty expensive to have a canal the full length of the valley, and I presume we made comparable studies to show a single main canal down the valley—well, it would have to be down both sides of the valley—was less desirable. Probably studies have been made to determine that individual diversions are more economical under the circumstances.

Senator ANDERSON. Will all these green areas be served the same way?

Mr. STAMM. Yes, sir; the yellow and the green area.

Senator ANDERSON. They are going to have to put in their own pumping systems.

Mr. STAMM. Yes. Many of them have them now or they have a gravity diversion.

Senator JACKSON. On the new land, however, the owners will have to be accommodated through a distribution system, away from the riverbed itself.

Mr. NELSON. All of the lands in the present proposed service area for the new irrigation district have their own arrangements to get water without construction on the part of the Government. I think there are cases where two or three individual water users will get together and put in a community-type system serving more than one farm.

Senator ANDERSON. There is some evidence to show that 2,000 acres is about right for pumping operations. You go through lots of different places in California, where they always put at least 2,000 acres under one pump, and they have tried to pump it and it does not work out very well, so where would you get 2,000 or 3,000 acres to pump?

Mr. NELSON. Your statement is correct, Mr. Chairman, on community-type operations, although there are a great many small operations where the individual farmer is able to pump economically at a relatively low lift, provide his own sprinkler system, sprinkle the land, and it has been the pattern of development here.

Senator ANDERSON. Your testimony is that in this particular area it will be more economical to pump from the river and sprinkle by each individual doing it himself rather than trying to build a long canal?

Mr. NELSON. That is correct, for this particular development.

Senator ANDERSON. Thank you.

Mr. STAMM. In addition to the opportunities to expand the area to be served for irrigation purposes, there are also potential future municipal and industrial requirements in the Walla Walla Basin that could be met through water exchange agreements, but this possibility has not been investigated in our studies to date.

Costs allocated to municipal and industrial water supply—$114,000 plus $7,000 interest during construction—would be repaid with interest subject to the provisions of the Water Supply Act of 1958. The repayment rate is expected to be $10 per acre-foot, plus annual operation and maintenance costs, for municipal and industrial water. The city of Dayton will divert directly from the river, using its own facilities.

Incidentally, this is a case where municipal and industrial water will help to meet the irrigation allocations in part. The payments from the municipal and industrial water users will actually pay off that allocation of cost plus interest within about 20 years. The payments thereafter will help to repay the irrigation allocation.

The costs allocated to recreation and fish and wildlife enhancement total $8,159,000. With the exception that the share of the costs properly assignable to anadromous fishery enhancement are considered nonreimbursable, the provisions of the current administration policy on cost sharing for recreation and fish and wildlife enhancement as set forth in S. 1229, have been applied to this allocation.

We find that $7,449,000 would be nonreimbursable and the remainder of the allocation, $710,000 plus $43,000 interest during construction, would be reimbursable with interest. The amendments to S. 1088 proposed in the Secretary's letter report to the chairman of the committee are designed to bring that measure in conformance with this policy.

We just received, and I just got a copy this morning before we left the office, a telegram from Mr. H. N. Wilson, attorney for the Columbia County Port District, which says: "Port District, Columbia County. Willing to assume responsibility for construction and maintenance of recreational facilities at Touchet Valley Dam site." Prior to the receipt of this, we had not had an opportunity to get an expression from local interests as to their willingness to assume the non-Federal obligation under the policy set forth in S. 1229.

Senator ANDERSON. What does the telegram mean? Does it mean that they would take over the recreational facilities and have the lease of fisheries, boating, and other such responsibilities?

Mr. STAMM. And also take over the responsibility to repay the United States for the portion of the enhancement costs that are, under this policy, to be borne by non-Federal interests.

Senator ANDERSON. Would you translate it into money?

Mr. LEE. It will be $710,000.

Senator ANDERSON. Of the $8 million?

Mr. LEE. Yes, sir.

Senator JACKSON. The local interests would pay how much?

Mr. LEE. $710,000, with interest.

Senator ANDERSON. $710,000; they get the boating rights and fishing rights and things of that nature along the area?

Mr. LEE. Well, they would have the responsibility for operating and maintaining the facilities at the reservoir.

Senator ANDERSON. Sometimes they lease boating concessions and have marinas. People have boats. People fish.

Mr. LEE. Yes, sir, they would do all these things, but any contract in the Bureau of Reclamation negotiated with anyone would insist on public entry and not limited entry to any specific group. This would be a public facility for the public use.

Senator ANDERSON. Without limiting the lake?

Mr. LEE. Yes, sir.

Senator ANDERSON. Then why are the Navajos trying to get a concession?

Mr. LEE. I think they want to operate the facility.

Senator ANDERSON. On a free basis?

Mr. LEE. No, not a free basis.

Senator ANDERSON. That is what I thought. What are we talking about then?

Mr. LEE. I understood your question to suggest that perhaps these people would have the exclusive use for their group.

Mr. STAMM. They will build facilities and they can charge for the use of facilities; yes, sir.

Senator ANDERSON. Certainly.

Senator JACKSON. For the facilities that they build.

Mr. STAMM. Yes.

Senator JACKSON. But there still would be access to facilities that have been installed by local interests? In this case, it is a government entity you are talking about.

Senator ANDERSON. You can get to the recreation area as long as you pay for it?

Mr. LEE. Yes, sir.

Mr. STAMM. This has been our general policy even heretofore. If a man wanted to walk in and enjoy the scenery and look at the lake and so on, there is nothing to restrict him from so doing, but if he wanted to launch his boat by use of a ramp that had been constructed by a concessionaire, he could be charged for the use of the ramp.

Senator ANDERSON. Properly so.

Mr. STAMM. Pursuant to a finding by the Public Health Service that the benefits would be considered as "widespread" and "national in scope," the costs allocated to water quality control would be nonreimbursable. The costs allocated to flood control also would be nonreimbursable.

Senator JACKSON. What do you mean by water quality control? Could you explain that?

Mr. STAMM. Yes. Mr. Lee, would you tell them what specifically would be accomplished here?

Mr. LEE. The 1961 Amendments to the Pollution Control Act provide for the recognition of water quality control as a project function and requires that the construction agency consult with the Department of Health, Education, and Welfare whenever it considers the development of a storage facility. The Department of HEW in turn evaluates the need for additional water releases to dilute existing pollution and to improve water quality conditions, and it assigns a benefit that would be associated with varying amounts of water. To the extent this proposed use is consistent with the rest of the functions included in the project and justified by the benefits, we recognize water quality control as a project function. Having done that, we recognized the benefits to be gained with a certain amount of water to maintain minimum streamflows and this is reflected in the cost allocation.

Senator ANDERSON. What does the streamflow have to do with water quality?

Mr. LEE. Generally speaking, the larger the amount of water and the higher the dilution, the higher the quality.

Mr. NELSON. It also improves the oxygen content of the water.

Mr. STAMM. Since the Bureau's feasibility report was completed, the State of Washington has upgraded its highway design standards. The road which must be relocated around Dayton Reservoir, therefore, will be to a higher standard than the existing road, and the incremental cost of that improvement, estimated at $128,000, under provisions of the Flood Control Act of 1962, would be nonreimbursable. Based on January 1965, price levels, and including the $128,000 additional highway relocation costs, the total division estimated cost is $16,630,000.

With respect to an application for appropriate water rights under the laws of the State of Washington, we have been assured by the director of the department of conservation that such application will be recognized for all of the projects' beneficial uses. This is important inasmuch as the stream was adjudicated, I think in 1929, and we wanted assurance that these uses would be recognized under appropriate applications.

Senator ANDERSON. Do you have something in writing on that?

Mr. STAMM. Yes, sir, we have a letter from the director of the department.

Senator ANDERSON. Do you want to put it in the record at this point?

Mr. STAMM. We will be glad to put it in the record.

(The letter referred to follows:)

OLYMPIA, WASH., *March 25, 1965.*

Mr. HAROLD T. NELSON,
Regional Director, Bureau of Reclamation,
U.S. Department of the Interior, Boise, Idaho.

DEAR MR. NELSON: You have inquired as to whether or not the State can and will recognize fish and wildlife enhancement as a beneficial use of water insofar as it would apply to the development of the Touchet division of the Walla Walla project.

We consider that such use can be recognized and regulated if proper applications to appropriate are submitted and permits obtained as would be required for other beneficial uses such as irrigation and municipal supply.

Without such a confirmed right we could not regulate in favor of such use.

Very truly yours,

ROY MUNDY,
Director, Department of Conservation.

Mr. STAMM. The Touchet division is a thoroughly justified and feasible multiplepurpose reclamation development. It is economically justified in our proposed report by a ratio of benefits to costs of 2.77 to 1. With current costs, which I have just outlined, and a 3⅛ percent interest rate, the benefit-cost ratio would be 2.58 to 1. The potential waters users are completely in accord with the plan of development and are prepared to contract for water service. I earnestly recommend this committee act favorably on S. 1088 with the amendments propose by the Secretary.

Senator ANDERSON. What would happen if the fish and wildlife allocation were reduced to what might appear to some as a reasonable figure? Would the irrigation benefits justify the charge in this project?

Senator JACKSON. The benefit-cost ratio, I understood, of the irrigation function alone is 2.74 to 1. Is that correct?

Mr. STAMM. We have rather hurriedly reviewed the benefit-cost ratio under several assumptions, and I will ask Mr. Lee to give you the benefit of this preliminary review.

Senator ANDERSON. With the fish and wildlife out, what is the benefit-cost ratio?

Mr. LEE. 2.51 to 1, Senator.

Senator ANDERSON. That is with the entire fish and wildlife allocation out?

Mr. LEE. With the entire fish and wildlife allocation and entire recreational allocation out, with all other functions in, the ratio would be 2.51 to 1. If we took everything out of this project except just irrigation, as I recall——

Senator JACKSON. It is 2.74.

Mr. LEE. 2.74 to 1, if we would revise the project to eliminate all of the facilities and space for all other functions except that just required for initial phase irrigation.

Senator ANDERSON. It is strange because, with the fish and wildlife in there, the cost-benefit ratio is only 2.77 to 1. How do you get 2.74?

Mr. LEE. This is because the initial irrigation project will use unappropriated natural flow in the early part of the spring and we also make use for irrigation of all the return flows, so the actual amount of storage that would be required to serve an acre of land in the initial development is relatively less than the average amount of storage required to serve an average acre of land for the total project.

Senator ANDERSON. But that is what you are providing for. You are not providing just for the minimum amount of storage to serve the project, are you?

Mr. LEE. If we were to exclude the benefits for the other functions, we would also exclude the storage required for these functions.

Senator ANDERSON. You are going to take care of the fish and wildlife.

Mr. LEE. We have planned the dam to take care of the fish and wildlife; yes, sir. This is not an incidental benefit to fish and wildlife. We will provide storage space in the reservoir for downstream fish and wildlife and for the resident fishery.

Mr. STAMM. Let me modify your answer just a little here. We have planned the dam large enough to fully control the stream, at least fully to any practical extent. If we had any larger reservoir, we would have carryover storage of 8 years or more, so we planned it to the largest practical size recognizing the stability of the inflows and the characteristics of the stream. Then within that capacity we have specifically allocated some space to the fish and wildlife function.

Senator ANDERSON. I think that is proper.

Mr. STAMM. And having planned it to control the stream, we do have this additional capacity that we have just been talking about that we can use for future irrigation and expect that the use will come about very shortly.

Senator ANDERSON. Senator Jackson.

Senator JACKSON. No; I have no more questions at this time.

Senator ANDERSON. Senator Burdick.

Senator BURDICK. No questions.

Senator ANDERSON. Does that complete your statement?

Mr. STAMM. Yes, sir.

Senator ANDERSON. Thank you very much.
Mr. STAMM. Thank you.
Senator ANDERSON. Mr. McBroom.
Senator JACKSON. How about Commissioner Pautzke?

STATEMENT OF JAMES T. McBROOM, ASSISTANT DIRECTOR, TECHNICAL SERVICE, BUREAU OF SPORTS FISHERIES AND WILDLIFE, DEPARTMENT OF THE INTERIOR; ACCOMPANIED BY CLARENCE F. PAUTZKE, COMMISSIONER OF FISH AND WILDLIFE; RALPH C. BAKER, ASSISTANT DIRECTOR, BUREAU OF COMMERCIAL FISHERIES; AND WILLIAM M. WHITE, CHIEF, DIVISION OF RIVER BASIN STUDIES, BUREAU OF SPORT FISHERIES AND WILDLIFE

Mr. McBROOM. Commissioner Clarence Pautzke, of the Fish and Wildlife Service. If I may, Mr. Chairman, I would also like to have Mr. Ralph Baker, the Assistant Director of the Bureau of Commercial Fisheries, and Mr. William White, of the Bureau of Sport Fisheries, join me at the table.

Senator ANDERSON. Go right ahead.

Mr. McBROOM. Thank you, Mr. Chairman. The Fish and Wildlife Service endorses the authorization of the Touchet division of the Walla Walla project, and recommends the approval of S. 1088 in accordance with the report of our Department on this legislation.

This proposal has built into it the enhancement and improvement of fish and wildlife resources, particularly the enhancement and improvement of the Columbia River salmon fishery.

This famous resource has for 30 years been jeopardized and threatened by dams which have cut off from it first one, then another, and then another and another of the reaches of the river and its tributaries. In addition, other activities of man such as pollution, logging, have harmed the resource.

This committee is, I am sure, familiar with the longstanding fish versus dams controversy of the Pacific Northwest and the Columbia River Basin.

The Touchet division is a refreshing reversal in the dreary pattern of hazard from dams for the fish and the fisherman. Here is a fine example of modern resource planning at its best—a proposed project which is planned for construction under reclamation law to provide benefits to the people and the Nation from irrigation, flood control, and provision of municipal and industrial water, and, in the same project, provides an urgently needed lift to the hard-pressed salmon resources of the Columbia. This would be a welcome benefit to the thousands of people who depend on the Columbia River salmon for sport and livelihood.

Touchet River, a tributary of the Walla Walla River, which flows into the Columbia, has no salmon in it now. It used to have, but they were wiped out by pollution, unscreened diversions, and low flows in the Touchet and Walla Walla Rivers. Steelhead trout, a kind of sea-run rainbow, continued to survive because its migrations occur when riverflows are high.

Under the plan for the Touchet division, chinook and coho salmon will be reintroduced into the Touchet River. The fishery conservation measures built into the project plan will make possible a signifi-

cant contribution of salmon to the Columbia River fishery, perhaps as much or more than the Touchet River contributed to that fishery before the day of Lewis and Clark.

It is our estimate that after reintroduction of salmon to the Touchet River, made possible by this project, about 40,000 of these splendid fish will become established as the total salmon run of the river each year. About 30,000 will be caught, one-fourth by anglers and the rest by the commercial fishermen. Only about 1 percent will be taken in the Touchet and Walla Walla Rivers; about a fourth, we estimate, will be taken in the lower Columbia River below the vicinity of McNary Dam. The rest will be caught in the Pacific Ocean.

All of this will be made possible by the provision of water storage, built into the plan for the project reservoir of water for salmon. Water will be provided for the fish when they are in the reservoir itself; more importantly, water storage will provide for minimum flows downstream of 30 cubic feet per second.

In addition, the project will provide benefits to sport fishing in the reservoir itself and immediately below it for rainbow trout, Dolly Varden, mountain whitefish, smallmouth bass, and catfish. The project will also provide increased opportunities for waterfowl hunting.

The total annual benefits reported by the Fish and Wildlife Service, computed in the standard way, followed in reporting on many projects which have been before this committee since 1948, are about $650,000 annually.

However, in the cost allocation, the Bureau of Reclamation utilized only $464,000 as annual fish and wildlife benefits. This lower figure represents the annual equivalent of the costs of a theoretical single-purpose project for fish and wildlife which would yield similar benefits.

This again is a standard procedure utilized by the Bureau of Reclamation, the Corps of Engineers, and the Department of Agriculture in their cost allocation computations. It limits the benefit figure used in the cost allocation process to any purpose—irrigation, flood control, power, and so forth, to the lower of (1) the calculated benefits or (2) the annual equivalent of an alternative justifiable expenditure for a project to serve only that one purpose.

The Department has recommended a departure from the reimbursement principles of S. 1229 on this project because of the nature of the anadromous fish resource. Such a departure was suggested in the Department's testimony on S. 1229, and in the legislative reports of the Department of the Interior and the Bureau of the Budget on that measure.

Under the normal ground rules of S. 1229, about $1,860,000 of the allocation to the salmon fishery enhancement purpose would have been reimbursable by non-Federal interests—in this case, presumably by the Washington and Oregon State fish and game agencies.

One of the important principles of the reimbursement provisions of S. 1229 is that non-Federal agencies may collect fees from those who use the recreation and fish and wildlife opportunities created by a project as the primary source of funds with which to reimburse the Federal Government.

In the case of the increased salmon numbers to be provided by the Touchet division, the collection of user fees is clearly not practicable. I have noted that 70 percent of the increased catch of salmon attributable to the Touchet division is expected to occur in the Pacific Ocean,

where it will join the international salmon which is subject to international treaties and other Federal interests, and nearly all of the remaining 30 percent will be in the lower Columbia River.

In both areas, the Touchet River salmon will intermingle with salmon produced in other places. Consequently, it is not feasible or practical to expect anglers or commercial fishermen to pay user fees to catch Touchet River salmon. It is to be noted that the Governors of Washington and Oregon, in commenting on the Touchet report, recommended that these costs be nonreimbursable, as we do.

In passing, it is pointed out that the Federal Government has, for many years, provided substantial funds for salmon facilities in the Columbia River on a nonreimbursable basis to conserve the resource in the face of dams and other hazards.

Consistent with the principles of S. 1229, the Department recommends that $632,000, representing half the separable costs of fish and wildlife features of the project, other than those for salmon, be made reimbursable.

We appreciate very much the opportunity to present this statement in behalf of a fine project for fish and wildlife resources.

Thank you, Mr. Chairman.

Senator ANDERSON. So it is your testimony that this development of fish and wildlife is for more than the little areas around the Touchet River?

Mr. MCBROOM. Yes, sir, indeed, it is. It is for a national and an international resource.

Senator ANDERSON. Do you make any reimbursable charges in any other area where the salmon go out to sea?

Mr. MCBROOM. No, sir.

Senator ANDERSON. You say you could not do it here because it is not practical?

Mr. MCBROOM. No; sir, I know of no other places where user charges are made for salmon in a project like this.

Senator ANDERSON. Then it is completely within the national policy?

Mr. MCBROOM. Yes, sir; as far as I know.

Senator ANDERSON. Any questions?

Senator JACKSON. I wonder if you would explain a little more in detail the situation as it existed years ago when salmon could migrate up the Walla Walla and the Touchet Rivers? Tell us of the situation as it is now, and how you are going to correct it? I think the problem that is difficult for Senators to see clearly is the value of this allocation to fish and wildlife resource.

Mr. MCBROOM. Yes, sir.

Senator JACKSON. We have on the Columbia River now a series of dams, is that correct?

Mr. MCBROOM. Right.

Senator JACKSON. And the fish ladders in those dams represent nonreimbursable costs, is that correct?

Mr. MCBROOM. Yes, sir.

Senator JACKSON. These protect the salmon fisheries. The trouble is that above those dams and in the tributaries of the river you do not have the ability to expand the spawning areas. Is that right?

Mr. MCBROOM. In some areas this is true.

Senator JACKSON. And this is one?

Mr. MCBROOM. That is right.

Senator JACKSON. Can you go on from there? In other words, we have this pattern starting at Bonneville and right on up from one dam to the next which have fish ladders to preserve the run of the salmon. These are Corps of Engineers dams, and are nonreimbursable. This runs into a lot of money because it is done to support an international salmon market, which involves our fishing treaty with Canada, but it is primarily our responsibility.

Mr. MCBROOM. Senator Jackson, as you know, Commissioner Pautzke is a resident of Washington, and is intimately familiar with this.

Let me make one comment, if I may, Mr. Chairman, and then refer to the Commissioner or perhaps Mr. Baker. On the Touchet River, historical records on the size of the fish run are difficult to come by. As far as we know, there have been no salmon in this river for 50 years. They have disappeared by a combination of low flows in the river, pollution, and stream diversion. The Bureau of Reclamation has testified to the fact that this is an uncontrolled river and I suspect that the low flows during periods of migration and spawning have been about as important as any other reason for the fact that the area was cut off from the salmon. In addition to this, the normal pattern that we have seen throughout the Nation in the last half century of increased demands on our waters and of increased pollution of them as well as diversions for other purposes has resulted in the demise of the salmon in the Touchet River that we are confident used to be there.

The statement suggests that here is an example of what we think is modern resource planning at its best. Here is an opportunity which presents itself to the Congress and to the executive branch to combine projects which will give a good lift to that hard-pressed salmon resource and also provide very good benefits for irrigation and municipal water and flood control. So it seems to us that this is the kind of thing that the Congress would find attractive in being able to combine more than one purpose in a single project, and we feel it is economy to do it.

Senator ANDERSON. When would the salmon normally move up the river?

Mr. PAUTZKE. There are a number of different races, but these fish will come up during the summer period, Mr. Chairman, entering the river in June, July, and August. This is the group of fish that will be moving into this area and which moved into this area in past times.

Senator ANDERSON. It has been and is low water now. What will it be when the project is completed?

Mr. MCBROOM. There will be a minimum flow of 30 feet per second provided by the project.

Senator ANDERSON. That is sufficient?

Mr. MCBROOM. Yes, sir.

Senator ANDERSON. That is provided for in the cost of this dam?

Mr. MCBROOM. Yes, sir.

Mr. PAUTZKE. The minimum you are talking about is in the Touchet River. There is a lot more water in the Columbia, but these fish cannot now enter the tributary.

Senator JACKSON. In other words, the salmon are in the Columbia River and what you are trying to do is to get them into the Walla

Walla River and up into the Touchet and on up to the headwaters to spawn so that they can increase their numbers. What you are saying is, and this is what I think we need to get in the record, that you will be able to add 40,000 salmon?

Mr. McBroom. Yes, sir.

Senator Jackson. Per year?

Mr. McBroom. Yes, sir.

Senator Jackson. That additional amount will be added to the salmon run by reason of this project?

Mr. Pautzke. Yes, sir. Our technology on salmon has greatly increased in the last few years.

Senator Anderson. What has been your experience with the other projects in the Northwest? Have they shown increases in salmon?

Mr. Pautzke. Yes, sir, we have data here to show that. Even in the face of a number of very drastic obstructions there we have been able to maintain the runs of fish.

Senator Anderson. We understand if you do have obstructions, it is worthwhile to put money in to preserve the run of fish. How do you know no salmon will swim upstream at the present time?

Mr. Pautzke. Yes, sir; we know this already, Mr. Chairman.

Senator Anderson. You spoke also of pollution. Will this clear up the pollution?

Mr. Pautzke. In this area here when Mr. McBroom was talking about pollution, he was talking also about the depletion of oxygen as a result of high temperatures when the flows were reduced. A uniform flow of water of 30 feet per second would allow this temperature block to be removed and these fish would move upstream.

Senator Anderson. When you speak of pollution, you are talking about temperatures, not filth?

Mr. McBroom. We are talking about all kinds of pollution. It can be thermal pollution and other pollution.

Mr. Pautzke. Dilution of the pollution is one means of allowing the fish to surmount this obstacle.

Senator Anderson. If this project were put through, the fish will make use of the Touchet River?

Mr. Pautzke. We have the ability to restore the runs and we have the fish of the proper species to make migrations of this length. These fish will be planted back into the river to start runs. The fish come back to the stream in which they are planted and thereby reestablish the run to that river.

Senator Anderson. The Dayton Dam and Reservoir site, as shown on the map, is a useful site for that purpose?

Mr. Pautzke. Yes, sir; that is right. We will have a storage of water there which will allow the stream to be alive where it is now practically dry during the period when the salmon would make this migration.

Senator Anderson. There was water in the stream at one time?

Mr. Pautzke. Yes, sir.

Senator Anderson. Why is it dry now?

Mr. Pautzke. It is dry now because of irrigation and a number of other effects of civilization such as logging, which caused the rapid runoff of water. I would say the most common cause is the use made by irrigation and by municipalities.

Senator Anderson. Won't they still be irrigating?

Mr. PAUTZKE. Yes, sir; but we are being assured of a water supply here from Dayton Reservoir which will give us a minimum low flow of 30 feet per second going down that river.

Senator ANDERSON. Whatever water rights you acquire are within that 30 feet per second?

Mr. PAUTZKE. Yes, sir; we are assured of 30 feet per second under this program.

Senator ANDERSON. You are going to get that from the State?

Mr. MCBROOM. Yes, sir. Representations have been made to the State.

Senator ANDERSON. You put it in a letter, did you not?

Mr. STAMM. Yes, sir.

Senator ANDERSON. That is sufficient to keep the flow?

Mr. PAUTZKE. Yes, sir; to keep the stream alive.

Senator ANDERSON. And that would take care of the pollution and take care of the demand for an active stream in which they could swim?

Mr. PAUTZKE. I think, Mr. Chairman, you should be aware, too, that there is a very vigorous program going on for the control of pollution at the present time throughout the State of Washington.

Senator JACKSON. Please explain the planting, Mr. Pautzke. How you will get the salmon started up the Walla Walla and the Touchet Rivers?

Mr. PAUTZKE. Starting from the Columbia River, Mr. Chairman, the first of the lower dams will be the Bonneville. Then you have The Dalles, the John Day, which is under process of being constructed, and the McNary. Actually, the Walla Walla River empties into the backwaters of the McNary Dam and the Touchet River empties into the Walla Walla. By propagation and the identification of races of fish, we have been able to show that certain races of fish are able to ascend these dams and substantial distances upstream. These salmon do not feed when they enter the river. They simply utilize the energy that is in their bodies. Salmon only spawn once. Certain fish, because of their long run hereditary background, are able to make these long treks. We have some going up the Snake River as far as 800 miles, all on this energy that is contained in their bodies. We have observed and isolated these different races. We know with regard to silver salmon and chinook salmon that we can take the eggs from these fishes, go up into the Touchet River below the Dayton Dam, and stock the stream with these fish. We can develop a spawning channel, which, when stocked, will produce strong and active fry. They will descend on down the river. They generally migrate during the spring freshets.

The mature fish return to spawn in their home stream. We have marked large numbers of immature salmon and they come back to a particular stream, not where they may have originated in the first place, but where they were planted, and this is one of the important breakthroughs that enable us to rehabilitate runs that have been destroyed. Once we release the fish and favorable factors in the water supply enable these fish to come back up to the Dayton Dam and Reservoir site, we will then have our stocks of fish coming back to us and we will continue to take eggs then from that stock that has survived. Maybe some of the stock won't be able to make a go of it, but we will get enough through that we can start to develop a brood stock. By

building our own breeding stock this run of fish will be able to cope with the situations found in the river systems. We are fortunate the downstream migrant fish will have the benefit of run of the river dams. The dams are spilling and will enable them to go over the dams. At some of the higher obstructions, these fish get lost in the backwaters and without an overflow going over the top of the dam, the fish must sound sometimes down to 70, 80, 90 feet, and certain species of fish will not sound and we lose those races of fish. That is what happened in the Columbia River on some of the very high dams.

Quality is a valuable asset and I would almost compare this water to some of the fine water that you have down in your State. This water has a high alkaline content and has a tremendous capacity to produce fish. You can take some of these water areas found on the west side and we find they do not have the same capacity for producing fish. Drop for drop, Touchet water will probably produce as much as 10 drops of some of less alkaline water. The waters of the Touchet and Walla Walla Rivers do have the capacity to produce fish and I would look for a tremendous accelerating rise as soon as we accomplish these factors here that we have done in other areas.

Senator ANDERSON. How many years have you been serving fish and wildlife?

Mr. PAUTZKE. Thirty-five years.

Senator ANDERSON. I am just trying to qualify you as an expert witness. You graduated from the University of Washington School of Fisheries?

Mr. PAUTZKE. Yes, sir.

Senator ANDERSON. You have spent your whole life with this one subject.

I appreciate very much what you had to say because this is a question some of us on the committee cannot answer. You can say, in your opinion, based on your long experience, that the salmon will come back once they have been properly planted and properly taken care of, and with the improvements to the water provided by this project. It is a very important contribution to the testimony.

Senator JACKSON. Mr. Chairman, I wonder if it might not be helpful if they could place in the record the story of the salmon rehabilitation on the Columbia River as a result of the steps taken, both the development of fish ladders and, of course, our series of fish hatcheries that were constructed and are being operated in concert with the States of Oregon and Washington, and the Fish and Wildlife Service? If we can get the story in the record of what has been done on the Columbia and then what these improvements on the Touchet River will do, I think it will complete the picture.

Mr. PAUTZKE. Mr. Baker has those figures at his fingertips, and they should be placed on the record. The Bureau of Commercial Fisheries has been marking 10 million fish a year, young salmon, on the Columbia River, on the lower river. It is fantastic, the return that has been showing up, and where it has showed up. All the way from California up to Pelican, Alaska, these people have been fishing these fish. It is a fantastic story.

Senator ANDERSON. That is a good statement because that indicates this project is not solely concerned with just one river. It supplies salmon for all parts of the area. Suppose you give us, Mr. McBroom, a reasonably short statement for the record on the experience of the salmon fisheries.

Mr. McBroom. We shall be happy to do that.
(The matter follows:)

PROTECTION AND IMPROVEMENT OF ANADROMOUS FISHERIES IN THE COLUMBIA RIVER BASIN

The act of May 11, 1938 (52 Stat. 345), as amended August 8, 1946 (60 Stat. 932, 16 U.S.C. 755–757) recognized the Federal responsibility for anadromous fishery conservation and development in the Columbia River Basin and authorized the Columbia River fishery development program at Federal cost. Funds have been appropriated by the Congress each year since 1946 for the implementation of this program. Investigations, planning, and construction related to anadromous fishery enhancement have been carried out since 1949 by both the Fish and Wildlife Service and the State fish and game agencies with funds provided under these appropriations. No distinction has been made between sport fisheries and commercial fisheries under the authorization and appropriations, and the effort has resulted in substantial benefits to both fisheries over the years. The attached statement which was submitted to the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs in connection with the hearing of April 7, 1965 on S. 1088 briefly describes the accomplishments under this program.

STATEMENT OF BUREAU OF COMMERCIAL FISHERIES, U.S. FISH AND WILDLIFE SERVICE

The Columbia River fishery development program was initiated by the Federal Government in 1949 as a cooperative program with the State fishery agencies of Idaho, Oregon, and Washington. Both Bureaus of the U.S. Fish and Wildlife Service participate, with administration provided by the Bureau of Commercial Fisheries. Authorization for this program is contained in the act of May 10, 1939 (52 Stat. 345), as amended August 8, 1946 (60 Stat. 932, 16 U.S.C. 755–757).

The program has as its objective the full development of the anadromous fisheries of the Columbia River Basin as mitigation for losses to the fisheries resulting form the construction of dams by the Federal Government. The very existence of sea-run populations of salmon and trout has been threatened with extinction by extensive water developments in the Columbia Basin. These developments have blocked access to over 50 percent of the original stream areas available to salmon and have destroyed much of the natural habitat in the remaining areas. Water pollution, irrigation, logging and mining operations and other inroads of civilization also have decimated the salmon and steelhead runs.

The Columbia River runs contribute substantially to the commercial and sport fisheries along the Pacific coast from California to Alaska. They are the mainstay of the commercial and much of the sport fisheries in the Columbia Basin. The annual value of these fisheries presently is estimated at $18 million.

Under the fishery restoration program, 21 hatcheries have been constructed and placed in operation, and 74 fishways have been completed over previously impassable falls and other barriers, thus making many additional miles of spawning stream available to salmon and steelhead trout. In addition, 965 fish screen have been installed, preventing losses of many thousands of downstream migrant salmon and steelhead in irrigation diversions. By the end of 1964 some 1,700 miles of streams had been made more readily available to migratory fish by clearing logjams from streams, blasting falls, and removing impassable logging dams no longer in use.

About 15 years, ago, the fall Chinook salmon run in the Columbia River began to decline markedly. This predominantly lower river run now gives indications of increasing again due, in large measure, to the contribution made by the hatchery program. In 1964, 116,113 fall Chinook were counted at Bonneville Dam on the Columbia River. This was the largest number counted since 1959, when 189,115 were tabulated. The egg take from the 1964 run was sufficient to fill to capacity the 16 program hatcheries rearing this species. In each of the past 3 years the silver salmon runs have exceeded the 27-year average for this species. The 1964 count of 53,602 at Bonneville Dam was 3 times the previous annual tally of silver salmon. This species is likewise dependent to a considerable degree upon the hatchery program.

Since 1961 several million young fall chinook hatchery fish have been marked and released each year. The marked fish now being recovered as adults in the commercial and sport fisheries along the Pacific coast and in the Columbia River

Basin will enable us to determine the contribution of the program hatcheries to the total catch and escapement. The marking program also will identify the more successful as well as the less effective hatcheries, thus permitting corrective measures to be undertaken at less productive hatcheries. Mark recoveries from 1961 and 1962 brood stock have been most promising and preliminary returns indicate that hatcheries are responsible in large measure for the fall chinook salmon caught by the commercial and sport fishermen.

In contrast to fall chinook salmon, the spring and summer runs of this species travel far up the Columbia to spawn in relatively cold headwater streams. These runs have been maintained in recent years at a fairly constant level, primarily by preserving their migration routes between the ocean and their natural spawning areas. In 1964 the total count of spring and summer chinook salmon at Bonneville Dam was 178,306, thus exceeding the average count of 147,152 for the past 27 years. The runs of steelhead in the Columbia Basin also are being maintained, although they were relatively weak in 1964. The count of steelhead trout at Bonneville Dam last year was 117,250 as compared with the average of 143,286 for the past 27 years. An important factor in the preservation of these upriver races of salmon and steelhead is the proper design and operation of fish passage devices at dams and other water development projects. This is an important facet of the Columbia River fishery development program.

Separable Costs for Anadromous Fishery Enhancement

Touchet division, Walla Walla project

DESCRIPTION OF SEPARABLE COSTS

Item	*Cost*
Fish ladder, diversion dam	$9,000
Fish passage facilities	1,994,000
Added cost of outlet facilities	695,000
Added cost of Dayton Reservoir	1,769,000
Total	4,467,000

DISTRIBUTION OF SEPARABLE COSTS BETWEEN COMMERCIAL AND SPORT FISHERY

Fishery	*Cost*
Sport	$3,720,000
Commercial	747,000
Total	4,467,000

Distribution made between two types of fishery on basis of anticipated benefits to each. Of the total anadromous fishery enhancement benefits, over three-fourths will be realized by sport fishermen and less than one-fourth will be realized by commercial fishermen.

About 70 percent of both the sport and commercial fishery for anadromous fish will take place in the Pacific Ocean and about 30 percent in the lower Columbia River. A portion of the commercial fishing in the ocean will occur in international waters and will be subject to international treaty.

The additional anadromous fish produced as a result of the project will be intermingled with existing anadromous fish in the lower Columbia River and in the open ocean. It will not be possible to distinguish the project produced fish from the other fish in the population.

Sport fishermen from Oregon, Washingron, California, and Alaska are expected to catch fish produced by the project. Commercial fishermen from Oregon, Washington, California, Alaska, Canada, and possibly other nations are expected to catch fish produced by the project.

Fishermen from various States and from other nations are expected to catch anadromous fish produced by the project, and it will not be possible to identify either the fish or the fishermen. It would not be possible for the fish and game agencies of Washington and Oregon to assign user fees to the various fishermen benefiting from the anadromous fishery enhancement as a basis for cost sharing the separable costs. In view of the above, it would seem reasonable to treat the separable costs of $4,467,000 assignable to anadromous fishery enhancement as a nonreimbursable Federal cost.

Effect of a 50-percent cost sharing, fish and game agencies of Oregon and Washington—separable costs allocated to anadromous fishery enhancement

Purpose	Cost	Federal share nonreimbursable	Non-Federal share reimbursable
Total fishery	$4,467,000	$2,233,500	$2,233,500
Sport only	3,720,000	1,860,000	1,860,000
Commercial only	747,000	373,500	373,500

Mr. PAUTZKE. I have seen this river when it was under heavy flood conditions and what the gentlemen from Reclamation said is absolutely true. When the flash floods take place here, severe erosion takes place.

Senator JACKSON. I think the point that needs to be made about this project is to distinguish it from other fish and wildlife benefits that occur in other projects. It is my understanding that in this project we are talking about an international fish, an anadromous fish, and, of course, we are referring to salmon, that return to the place from whence they were spawned. This fish travels through not only the waters of several States, but goes into international waters. In other projects we are talking about local fish for local use for the people who utilize the resort and recreational area. Is this, Mr. McBroom, a fair distinction here?

Mr. McBROOM. This is correct, although there are——

Senator JACKSON. There are local benefits, I understand.

Mr. McBROOM. Local benefits and there are other projects, of course, which have affected anadromous fish and will in the future.

Senator ANDERSON. Mr. McBroom, the Bureau of the Budget has made a suggestion about restudying the fish and wildlife allocation. I would hope that you would get together with the Bureau of Reclamation and see if you have any reason to change any of your figures on it, so we could at least say to the Bureau of the Budget, "The study has been made that you requested."

Mr. McBROOM. Yes, sir; we shall do that.

Senator ANDERSON. Senator Burdick.

Senator BURDICK. Yes; I have a question.

Mr. McBroom, this committee has under consideration S. 1229 to establish some uniform standards for cost allocation of fish and wildlife and recreation, and reimbursable features.

Mr. McBROOM. Yes, sir.

Senator BURDICK. That is to bring about uniformity in this area, and in this project you make an exception.

Mr. McBROOM. Yes, sir.

Senator BURDICK. Do you think these exceptions might lead to other exceptions along the way if we see fit to adopt S. 1229?

Mr. McBROOM. I don't think this is necessarily a precedent for any and all exceptions to S. 1229, Senator Burdick. I would judge that the exceptions will be advanced on their own merits. As I recall the testimony here of the Deputy Director of the Bureau of the Budget on S. 1229, he indicated that the executive agencies shouldn't be put in any kind of a rigid straitjacket nor should the Congress, that

where exceptions were justified clearly, the executive agency should present them to Congress for the final decision, and certainly I think that is a proper way to do it, so that the Congress in its own wisdom can make the determination whether these exceptions are justified.

At the same time, I don't believe that this vitiates the beneficial effects of S. 1229, which would be welcome as standard guidelines for everybody.

Senator BURDICK. Then the basis for the exception is that the product here—namely, fish—becomes a national resource?

Mr. MCBROOM. Anadromous salmon; yes, sir.

Senator BURDICK. Also the problem, as indicated in the statement, is that the beneficiaries of this project from a salmon fishery standpoint are far removed from the project and there is no way to identify them or collect fees from them for the Touchet River fish. I just want the record to show a logical, sound distinction of why we are making exceptions.

Mr. MCBROOM. Yes, sir. I believe this is a logical and sound basis for making an exception.

Senator ANDERSON. Have you indicated what those exceptions are in your testimony?

Mr. MCBROOM. Yes, sir. I have indicated that by the strict letter of S. 1229 an additional $1,860,000 would have been allocated to salmon fishery enhancement purposes on a reimbursable rather than a nonreimbursable basis.

Senator JACKSON. You are really talking about $1,860,000 here that would be on the other side of the ledger if the provisions of S. 1229 apply.

Mr. MCBROOM. That is right; which the Department is advancing as a nonreimbursable allocation for salmon, which under the strict interpretation of S. 1229 would be reimbursable.

Senator ANDERSON. But you are not making it reimbursable because you cannot catch the person who ought to do the reimbursing?

Mr. MCBROOM. That is right. There is no practical way of identifying the beneficiaries of the Touchet River salmon because when the fish get down to the Lower Columbia River or the ocean, they are intermingling with salmon from any other area.

Senator ANDERSON. It is your testimony that 70 percent of them are caught in the Pacific Ocean?

Mr. MCBROOM. Yes, sir; they will be.

Senator ANDERSON. Therefore, you could not identify from whence they came?

Mr. MCBROOM. No, sir.

Senator ANDERSON. These fisheries are located just outside the river entry there?

Mr. MCBROOM. No, sir; they are located all the way up and down the Pacific coast to Alaska. As Senator Jackson pointed out, another factor here is that they enter into the international fish stock, subject to treaty.

Senator ANDERSON. Senator Burdick's point is if you are going to make exceptions every time a project comes up, you can make exceptions for everything that comes here, I should think.

Mr. MCBROOM. I think this is possible, although I doubt that this committee would put up with it for one thing, and I doubt that the Bureau of the Budget would, either.

Senator ANDERSON. This is a true exception, as you see it?
Mr. MCBROOM. Yes; indeed, I do, sir.
Senator ANDERSON. Any questions?
Senator BURDICK. That is all.
Senator ANDERSON. Any more questions?
Senator JACKSON. No more questions.
Senator ANDERSON. Thank you very much.
Mr. MCBROOM. Thank you.
Senator ANDERSON. Mr. Welsh, do you have a statement?

STATEMENT OF WILLIAM E. WELSH, EXECUTIVE DIRECTOR, NATIONAL RECLAMATION ASSOCIATION, WASHINGTON, D.C.

Mr. WELSH. I do have a statement, sir, which I would like to present on behalf of the National Reclamation Association.

My name is William E. Welsh. I am executive director of the National Reclamation Association.

My purpose in appearing before the committee today is to present a statement on behalf of the National Reclamation Association in support of the bill, S. 1088, to authorize the Touchet division, Walla Walla reclamation project, in Washington and Oregon.

The part of the project which would be authorized by this legislation, however, is located within the State of Washington. It embodies lands lying along the Touchet River in the southwestern portion of the State. The principal feature of the project is the Dayton Dam and Reservoir which would have a storage capacity of approximately 53,000 acre-feet. It would provide irrigation water for a total of approximately 9,900 acres.

About one-third or 3,500 acres are already in irrigation but are short of water during the summer months or late growing season and hence very much in need of a supplemental water supply. Most of the lands covered by this project are now growing wheat, a crop that is one of the most bothersome of all surplus crops.

The construction of this project would, without doubt, result in taking a large part of this land out of wheat and putting it into more diversified farming, including those crops for which there is an urgent demand.

The total cost of the project has been estimated by the Bureau of Reclamation to be slightly under $16 million. Of this amount a little more than $5 million has been allocated to irrigation, and it is estimated that the irrigators will be able to repay approximately $1,300,000, and the balance allocated to irrigation of approximately $1,200,000 will be repaid by municipal and industrial water users and from power revenues from the Federal Columbia River power system.

Having observed, personally and on numerous occasions, the adjoining irrigated areas, there is no question in my mind but that this project will prove to be very successful in every way.

I am happy indeed to be able to present this statement on behalf of the National Reclamation Association in support of this project.

Senator ANDERSON. Thank you.

Are there other witnesses?

The committee is adjourned.

(Whereupon, at 11:40 a.m., the committee adjourned, subject to call of the Chair.)

APPENDIXES

APPENDIX A

Evaluations of Fish and Wildlife Benefits and Related Cost Allocations on Reclamation Projects

Uniform procedures are used by the Department of the Interior in evaluating fish and wildlife benefits and in allocating costs on all multiple-purpose reclamation projects. The magnitude of the cost allocations to fish and wildlife conservation is governed to a large extent by the monetary value assigned to the fish and wildlife benefits. The fish and wildlife benefits of these projects are evaluated by the Bureau of Sport Fisheries and Wildlife and included in its reports to the Bureau of Reclamation. The Bureau of Reclamation then uses the evaluated fish and wildlife benefits, together with the evaluated benefits to other project purposes, in determining allocations of project costs. Described below is the procedure used by the Bureau of Sport Fisheries and Wildlife in evaluating these benefits and the procedure used by the Bureau of Reclamation in allocating the costs of multiple-purpose projects.

EVALUATION OF FISH AND WILDLIFE BENEFITS

The Bureau of Sport Fisheries and Wildlife investigates and reports on proposed water-use projects under authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). Section 2(f) of this act requires that reports submitted to the Congress recommending water-use projects or units for authorization include an estimation of the fish and wildlife benefits and losses and the part of the cost of joint-use facilities allocated to fish and wildlife.

The evaluations of fish and wildlife benefits must be based to a large degree upon judgment as are the evaluations of irrigation benefits, hydroelectric power benefits, flood control benefits, and other project benefits. Each type of benefit is evaluated by technicians best qualified in the particular field. Technicians in the Bureau of Sport Fisheries and Wildlife are considered most qualified to determine evaluations of fish and wildlife benefits. They have developed evaluation procedures which are used by that Bureau in a consistent manner in its appraisals of the various water-use projects. Although the size of the evaluated benefits varies from project to project, this is due to differences in the fish and wildlife potentials of each project rather than to inconsistencies in the application of the general evaluation procedures.

BASIS OF BENEFITS

Basically, the fish and wildlife benefits of a project are dependent upon the quality and quantity of the fish and wildlife resources present without the project, the volume of sport fishing and hunting anticipated with the project, and the expected production of commercial fish and fur animals. When a project is constructed in an area already rich in fish and wildlife resources, the resources generally do not benefit and may be harmed by project development. On the other hand, if a project is constructed in an area which has sparse fish and wildlife resources, the resources are frequently benefited by project construction. For example, a project impounding a particularly desirable and heavily used trout stream in the mountains may very well result in greater losses from a sport-fishing standpoint than can be compensated for by the lower quality reservoir fishery which it may create, while a project impounding a lightly fished warm-water stream in the plains country may provide much greater reservoir fishing opportunities than will be lost through inundation of the stream.

The Bureau of Sport Fisheries and Wildlife conducts individual studies of each water-use project which it evaluates. During these studies estimates are made

as to the number of recreational days of fishing and hunting which will occur each year in the project area with and without the project in operation. If these studies indicate that there will be a greater amount of this activity of at least as high a quality than there was before, the project is considered beneficial from fishing and hunting standpoint. In evaluating these benefits, the increased number of man-days of fishing and hunting expected each year is multiplied by a unit value assigned to each man-day of the particular type of sport involved. The unit values assigned to each man-day of fishing or hunting represent a judgment approximation of the net value to the sportsman from these activities. Prior to 1961, reports submitted to the Congress by this Department used unit values based on money expended by the average sportsman for goods and services used in connection with his fishing or hunting trips. These unit values are generally smallest for the more common types of fishing or hunting, such as bluegill fishing or rabbit hunting, and largest for the least common types, such as salmon fishing or moose hunting. The values ranged from as little as $0.50 to as much as $20 or more per day. They were based upon detailed studies of sportsmen's expenditures at the local, State, and national level. Among such studies was the national survey of fishing and hunting in 1955 which revealed that the average fisherman throughout the Nation spent $4.82 per day and the average hunter spent $5.53 per day in connection with their sports.

Since 1961 reports submitted to the Congress have included evaluations of fishing and hunting benefits based on a somewhat different procedure. Under this procedure, the unit value per man-day is based on a schedule of judgment values reflecting the net value of these sports to the participant ranging from a low of $0.50 a day for warm water fishing to a high of $6 a day for big game hunting. The procedure was revised slightly and incorporated into supplement No. 1 to Senate Document 97, 87th Congress. The range of values developed in 1961 was unchanged.

Insofar as sport fishing and hunting are concerned, the project showing the greatest increase in man-days of this type of recreation will have the greatest fish and wildlife benefits. If a relatively small number of people fish or hunt in a project area prior to construction and a relatively large number are expected to participate in these sports after construction, a large total value is assigned to the fishing and hunting benefits. Conversely, if a relatively large number of people fish and hunt in a project area prior to construction and this number is not expected to increase or to increase but slightly after construction, little or no benefits are assigned to the project. Where a project is expected to result in less fishing and hunting in an area, losses rather than benefits would be attributable to the project and measures would be recommended to mitigate such losses.

Commercial fish and fur production are evaluated on the basis of market prices. If this production is expected to increase as a result of project construction, benefits are assigned to the project. These benefits are evaluated by multiplying the increased poundage of commercial fish or the number of fur pelts by the average market prices per unit for the species involved. If the project is expected to result in the same or less commercial fish or fur production, no benefits and perhaps losses would be attributable to the project.

Although fish and wildlife benefits generally have been evaluated on the basis of appropriate unit values as described above, there have been several projects in recent years where an overall value has been assigned without the use of such values. In these instances, the Bureau of Sport Fisheries and Wildlife has assigned a monetary value to the fish and wildlife benefits of the project equal to the cost of providing comparable benefits by nonproject means. The least costly single-purpose fish and wildlife project considered to be justified was used in deriving this dollar value. This alternative-cost approach is somewhat comparable to the method used in determining hydroelectric power benefits. Although the method is no longer used in evaluating the general fish and wildlife benefits of a water-use project, it is used in evaluating the benefits of wildlife refuges or production areas when such areas are included in a project. This alternative-cost method was used to evaluate the fish and wildlife benefits in the Department's report on the Waurika reclamation project in Oklahoma.

WILDLIFE REFUGES AND PRODUCTION AREAS

Since wildlife refuges and wildlife production areas are primarily important from a resource conservation standpoint rather than from the local fishing and hunting opportunities offered, such areas are not evaluated on the basis of recreational use. These areas are evaluated on the basis of judgment by comparing the

costs of their establishment with the importance of the wildlife resources which they conserve. Although wildlife refuges are not justified on the basis of a monetary benefit-cost ratio, their costs are examined closely and a determination is made that the particular refuge represents the least costly method for accomplishing the desired wildlife program. Once this decision has been made, the benefits from the refuge are considered to be at least equal to its cost. Such a procedure was used in evaluating the wildlife refuge portion of the midstate reclamation project. When wildlife production areas or wildlife refuges are included in reclamation projects, they are sometimes assigned a monetary benefit based on the alternative cost of providing such wildlife benefits of nonproject means. The alternative consists of the least costly single-purpose fish and wildlife project which is considered feasible and which would provide fish and wildlife benefits comparable to those provided by the reclamation project. The cost of this alternative project is then used as a measure of the benefits of the wildlife production or refuge area included within the reclamation project. This method was used to evaluate the waterfowl habitat developments included in the Department's report on the Garrison diversion unit.

USE OF BENEFITS

The Bureau of Sport Fisheries and Wildlife includes in its project reports to the Bureau of Reclamation its finding as to the value of the fish and wildlife benefits expected to be provided each year over the life of the project. This evaluated benefit is then used by the Bureau of Reclamation in the economic justification for the project in the benefit-cost ratio. It also is used as a basis for allocating a share of the cost to fish and wildlife conservation and improvement. At the time the Bureau of Sport Fisheries and Wildlife prepares its benefit evaluations, it has no knowledge as to the total amount of project costs or the proportion of such costs which might be allocated to fish and wildlife conservation on the basis of these benefits.

ALLOCATIONS OF COSTS TO FISH AND WILDLIFE CONSERVATION AND RECLAMATION PROJECTS

The Bureau of Reclamation is responsible for determining the share of the project construction costs which properly should be allocated to the various project purposes, including fish and wildlife conservation. The size of the allocation to fish and wildlife depends to a large extent on the size of the evaluated benefits which have been determined by the Bureau of Sport Fisheries and Wildlife. Generally, the larger the fish and wildlife benefit the larger is the allocation to that purpose. Although there are several acceptable methods of cost allocation, the method used most frequently by the Bureau of Reclamation and by the Corps of Engineers is the separable costs-remaining benefits method. Under this procedure the project construction costs are allocated among the various project purposes generally in proportion to the evaluated benefits assigned to each purpose. The separable costs relating to one purpose only are assigned directly to that purpose. The separable costs to all purposes are totaled and deducted from the overall project construction costs. The costs which remain are termed "joint project costs" and are allocated among all of the project purposes in an equitable manner.

Although the joint project costs are allocated among the various purposes in proportion to their benefits, several adjustments are made in the benefit figures prior to the allocation. First the benefit figure for each purpose is compared with its alternative cost. If the alternative cost of providing the same benefit by a nonproject means is lower than the value assigned to the benefit, then this figure rather than the benefit figure is used in the cost allocation process. The benefit figure for each purpose, or the alternative cost figure for that purpose (whichever is less), is then reduced by subtracting from it the separable costs which are chargeable to that purpose alone. The figure which remains is termed the remaining benefit and is then used as the basis for the final allocation of joint project costs. These joint costs are then allocated among all of the project purposes in direct proportion to the remaining benefit figure shown for each purpose. The share of the joint project costs allocated to each purpose is then added to the separable cost for that purpose to obtain the total allocation. This total allocation then reflects both the separable costs and the share of the joint project costs assigned to each project purpose. The total of these costs for all purposes is equal to the overall project cost.

When requested by the Bureau of Reclamation, the Bureau of Sport Fisheries and Wildlife assists in the determination of the alternative justifiable expenditure for use as a limitation on fish and wildlife benefits in the cost allocation process. This justifiable expenditure represents the cost of a single-purpose fish and wildlife project considered to be justified which would provide benefits comparable to those expected from the water-use project under study. As discussed above, this same cost was formerly used on occasion by the Bureau of Sport Fisheries and Wildlife in assigning an overall value to the fish and wildlife benefits of a project and is still used by that Bureau in evaluating benefits of wildlife refuges and production areas.

Attached is a short table explaining by example the separable costs-remaining benefits method of cost allocation.

[Attachment]

TABLE II.—*Separable costs-remaining benefits method of cost allocation (project A)*

Items	Function				
	Irrigation	Power	Flood control	Fish and wildlife	
Cost to be allocated					[1] $2,986,796
1. Annual benefits	$2,299,000	$2,501,773	$2,374,000	$50,000	
2. Alternate annual cost	$1,731,530	$2,817,734	$1,829,500	$75,000	
3. Justifiable expenditure	$1,731,530	$2,501,773	$1,829,500	$50,000	$6,112,803
4. Separable costs	$250,000	$1,146,876	$61,645	$5,000	$1,463,521
5. Remaining benefits	$1,481,530	$1,354,897	$1,767,855	$45,000	$4,649,282
6. Proportion (percent)	31.86	29.14	38.02	0.98	100
7. Allocation of remaining joint cost	$485,315	$443,882	$579,150	$14,928	$1,523,275
8. Total allocation	$735,315	$1,590,758	$640,795	$19,928	$2,986,796

[1] This is composed of the following costs:

Items	Total	Annual
Construction	$62,407,000	$2,425,457
Interest during construction	4,614,400	179,339
Operation and maintenance		190,000
Replacements		192,000
Total		2,986,796

Line 3 is the lower of the annual benefit or the annual cost.
Line 4 is the amount that can be saved by the elimination of any function.
Line 5 is line 3 less line 4.
Line 6 is calculated by dividing remaining benefit for each function by total remaining benefit.
Line 7 is calculated by allocating the remaining joint cost ($1,778,275) on the basis of the percentage n ine 6.
Line 8 equals the summation of lines 4 and 7.

Fish and wildlife cost allocation indexed to January 1965 prices

[In thousands]

Item	Reported costs	January 1965 costs
Separable costs	$5,730	$5,941
Anadromous fish	4,467	4,628
Fish passage facilities at Dayton	1,994	2,066
Fish ladders at existing diversion	9	9
3,400 acre-feet of active storage	1,769	1,833
Outlet facilities	695	720
Resident fish and wildlife	1,263	1,313
Shoreline facilities for anglers	188	198
4,000 acre-feet of inactive storage	1,075	1,115
Joint costs	2,242	2,416
Total, fish and wildlife allocation	7,972	8,357
Anadromous fish, separable costs:		
Sport	3,720	3,841
Commercial	747	787
Total separable costs (anadromous fish)	4,467	4,628

APPENDIX B

Authority for Allocation of Project Costs to Highway Improvement

HIGHWAY RELOCATION

The cost of relocating the present road traversing the reservoir area has been increased to a total cost of $1,062,000, including engineering and overhead. Increases are due to cost indexing and redesign to meet the May 1964 revision of State highway design standards. Designs and estimates are on the basis of "current standards for current traffic" as authorized under the 1962 amendment to the Flood Control Act (76 Stat. 1196).

The total cost presented in the feasibility report indexed to January 1965 is $934,000, including engineering and overhead. This was both the "cost of replacement in kind" and to "current standards for current traffic," on the basis of then-existing highway standards.

Under the 1962 Flood Control Act the nonreimbursable portion of the highway cost would now be $1,062,000 to $934,000, and $128,000.

The pertinent section of the law provides as follows:

"Public Law 87–874 '(76 Stat. 1173)

* * * * * * *

"Sec. 208. Section 207 of the Flood Control Act of 1960 (74 Stat. 501) is amended to read as follows:

* * * * * * *

" '(c) For water resources projects to be constructed in the future, when the taking by the Federal Government of an existing public road necessitates replacement, the substitute provided will, as nearly as practicable, serve in the same manner and reasonably as well as the existing road. The head of the Agency concerned is authorized to construct such substitute roads to design standards comparable to those of the State, or, where applicable State standards do not exist, those of the owning political division in which the road is located, for roads of the same classification as the road being replaced. The traffic existing at the time of the taking shall be used in the determination of the classification. In any case where a State or political subdivision thereof requests that such a substitute road be constructed to a higher standard than that provided in the preceding provisions of this subsection, and pays, prior to commencement of such construction, the additional costs involved due to such higher standard, such Agency

head is authorized to construct such road to such higher standard. Federal costs under the provisions of this subsection shall be part of the nonreimbursable project costs.' "

* * * * * * *

Municipal and industrial water rates recommended for projects pending authorization and selected authorized projects

Project	Water rate per acre foot [1]	Federal facilities provided		
		Storage	Conveyance	Pumping
Central Valley project, California, Auburn-Folsom south unit:				
Forest Hill divide area	$85.00	Yes	Yes	No.
Folsom-Malby area	32.00	Yes	Yes	Yes.
Folsom south canal area	14.00	Yes	Yes	No.
Auburn or Folsom Reservoir [2]	9.00	Yes	No	No.
Columbus Bend project, Texas	10.85	Yes	No	No.
Walla Walla project, Oregon-Washington: Touchet division	10.15	Yes	No	No.
Tualatin project, Oregon	5.50	Yes	No	No.
Southern Nevada water supply project, Nevada	19.65	Yes [3]	Yes	Yes.
Central Arizona project, Arizona	38.00	Yes	Yes	Yes.
Missouri River Basin project: Garrison diversion unit, North Dakota	19.15	Yes	Yes	Yes.
Fryingpan-Arkansas project, Colorado	[4] 5.40	Yes	No	No.
San Angelo project, Texas	17.00	Yes	No	No.
Norman project, Oklahoma	31.00	Yes	Yes	Yes.
Cachuma project, California	35.00	Yes	Yes	No.

[1] Water rate, paid to the United States, at point of delivery; or average cost in cases where a repayment contract is used.

[2] No presently known demand at this point of delivery from the unit's water supply; but possible to develop later.

[3] A charge for storage in Lake Mead is included in rate, and terminal storage is provided.

[4] The $5.40 rate assumes delivery at the reservoir; if the United States constructs the pumping and conveyance facilities to deliver the water to the municipal systems, the average rate would need to be about $34 per acre-foot.