



DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION

For Release WEDNESDAY, JULY 16, 1941

Determination of the three blocks of lands which most appropriately could be irrigated first in the area encompassed by the Columbia Basin Project was reported today by Commissioner John C. Page, Bureau of Reclamation, to Secretary of the Interior Harold L. Ickes.

The three blocks, one in each of the irrigation districts which have been organized to cover project lands, will be developed substantially concurrently, subject, of course, to appropriations by the Congress adequate to fulfill the plan. The three blocks would be irrigated before a second block is started in any of the three districts, according to the plan.

The combined area of these initial developments is 60,600 acres. Eventually it is contemplated to irrigate and develop in connection with the Grand Coulee Dam-Columbia Basin project 1,200,000 acres of land now dry and virtually unused. A quarter of a century may be required to complete this development, but in the end, about 350,000 persons are expected to be added to the population of the area as a result of irrigation of the land.

Selection of these first blocks grows out of the Columbia Basin Joint Investigations, sponsored by the Bureau of Reclamation, and participated in

by more than 40 agencies which are interested in the area and in the problems connected with its development.

The project lands lie between Pasco and Ephrata, Washington, in the big bend of the Columbia River. The three districts are the Quincy-Columbia Basin Irrigation District on the west, the East Columbia Basin Irrigation District, and the South Columbia Basin Irrigation District.

The area is so large, being as big as Delaware, that it has been determined to be desirable to begin the development at several points in various areas of the project to avoid uneconomic development of village, school, highway, and railroad patterns. For example, if all the early development should be made at the extreme of either side of the project, it is probable that urban and other developments would occur there to the great disadvantage for all time of the settlers on the later blocks at the far extremities of the project area, who might be forced to drive 60 miles for a Saturday night haircut.

The initial blocks, as selected, are 27,000 acres in the Quincy-Columbia District, which will be served by the West Main Canal; 27,400 acres in the East District, which will be served by the East Main Canal, and 15,300 acres in the South District which will be served through the Pasco pumping canal. The attached map will give more detailed information as to the locations of the blocks. Other irrigation blocks, when later designated, will be shown on subsequent editions of this map.

Commissioner Page called attention to the requirements of the law which will not permit the expenditure of any funds for irrigation developments on the Columbia Basin project until repayment contracts have been executed with the irrigation districts. Negotiations affecting these contracts are under way and early action will permit construction to begin.

"Progress on the negotiations indicates that the way will be cleared for work on the construction of the pumping plant, and the dams and equalizing reservoir in the Grand Coulee during the fiscal year, 1942," Mr. Page said. "Authority has been granted to use \$2,000,000 of the appropriation made for Grand Coulee Dam in the Interior Department Appropriation Act to initiate this construction, if obstacles are removed.

"It is our hope that the way will be cleared so that construction can be advanced to bring water to the first blocks of the Columbia Basin lands in 1944 or not later than 1945."

The Commissioner cautioned against speculation in the lands, saying that the Government was bending every effort to see that actual settlers obtained their land at fair values. Impartial appraisals of most of the land have been completed by the Government. Information concerning the appraisals is available free on application to the Bureau of Reclamation, Coulee Dam, Washington.

U. S. DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Coulee Dam, Washington.

FOR RELEASE: Immediately

Discussions which will pave the way for construction of canals to irrigate a million acres of land from Grand Coulee Dam, part of the Columbia Basin Reclamation project in Washington, will be opened during the week of March 12, Commissioner Harry W. Bashore of the Bureau of Reclamation announced today.

Repayment contracts will be discussed with directors of three irrigation districts concerned. The meetings will be called by Regional Director Frank A. Banks, with Regional Counsel H. R. Stinson, recently named to that post, assisting him. Time and places of the conferences will be announced later by Mr. Banks.

Commissioner Bashore also announced that several preliminary determinations that are basic to the terms of the repayment contract have been made by the Secretary of the Interior. Principal among these determinations is that \$85 per irrigable acre shall be the average amount of irrigation construction costs to be paid by the water users, based on net irrigable acreage in the project. This will mean that the total amount for construction to be paid by the water users will be approximately \$85,000,000.

Three other related and important determinations were made at the same time. These were: (1) that repayment contracts would be drafted to permit of the maximum development period of 10 years for each block of irrigation land, (2) that the repayment contracts would provide for the maximum repayment period of 40 years for each block of irrigation land exclusive of the development period, and (3) that the contracts would provide for the adjustment of the annual payments on a basis that reflect the current years farm income as compared with what might be regarded as the normal farm income for that year.

Announcing these preliminary determinations, Mr. Bashore pointed out that there were several matters bearing on the repayment obligations of each of the three irrigation districts in the project yet to be determined. Among these are the determinations of the total amount each district is to assume and the manner in which the obligation is to be distributed among the irrigable lands of each district. It is expected that determinations on these matters will be made early this summer after drafting the repayment contract has progressed further.

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DEPARTMENT OF THE INTERIOR

H O L D F O R R E L E A S E

Note to Editors: This release can be used to supplement wire-service stories from Washington, D. C., or Boise, Idaho. Please do not release this statement until the wire story is received. Weekly newspapers receiving this release will be notified by telephone by the Bureau of Reclamation at Coulee Dam when it can be used.

BUREAU OF RECLAMATION
COULEE DAM, WASHINGTON

The cost of building Grand Coulee Dam and the remainder of the half-billion-dollar Columbia Basin Project will be repaid almost dollar for dollar under a program laid before Congress today by Secretary of the Interior Harold L. Ickes. He said that income from the sale of power at Grand Coulee will pay back three-fourths of the construction cost of the entire project, and that the balance of repayment on reimbursable construction costs will come from water users on more than a million acres of land to be irrigated in the State of Washington when the project is completed.

The proposed repayment program was outlined in a report prepared by three agencies of the Department of the Interior, the Bureau of Reclamation, the Bonneville Power Administration, and the Division of Power.

"This report," said Secretary Ickes, "is an evaluation of the Columbia Basin development program as a business proposition. It is a dollar-and-cents allocation of what the completed project will cost and how those costs will be repaid.

"The real value of this great development, however, cannot be measured in terms of construction costs and repayment revenues. Its real value will be measured in terms of better homes, better jobs and better living for thousands of people, in terms of increased agricultural and industrial production, and in further development of natural resources to the benefit of the region and the whole Nation."

Secretary Ickes said that completion of the project will insure a balanced development of an area the size of Delaware, make 17,000 irrigated farms available for returning veterans and others, provide jobs for between 15,000 and 25,000 men on construction in the immediate postwar period, and generally serve to stabilize the agricultural and industrial economy of the

region to care for an increasing population.

The report to the Secretary was submitted jointly by Commissioner of Reclamation Harry W. Bashore and Administrator Paul J. Raver of the Bonneville Power Administration. It was based on a study made to determine costs of construction for developments both planned and completed in the huge project, and also to ascertain the amount of revenue each part of the development could be expected to yield toward repayment of such costs.

When the development program is completed, water will be available for irrigating 1,029,000 acres of arid and semi-arid land in central Washington, and the Coulee Dam power plant will be the largest in the world, with a generating capacity of more than 1,800,000 kilowatts.

Total cost of the project works for developing the land and water resources of the Columbia Basin is estimated at \$487,000,000 in the report. All but \$1,000,000 of these construction costs will be directly repaid out of revenues from the sale of power and irrigation water. The expenditure on which no direct repayment to the Government is expected is for the construction of works for flood control and to improve the navigability of the river.

Key structure in the development program is Grand Coulee Dam, completed by the Bureau of Reclamation in 1941 to control the flow of the Columbia River and put the water to use for irrigation and power generation. At the present time the power plant at the dam, although only partially completed, is one of the major sources of electric energy for booming west coast war industries. The power is marketed through transmission facilities of the Bonneville Power Administration.

The report estimates that the total cost of building Grand Coulee dam and its 151-mile-long reservoir will be \$126,400,000 when completed. Construction cost of the power plant and its facilities is estimated at \$79,900,000 and of the irrigation system, \$280,782,180. All estimates of construction costs are based on 1940 prices.

Of the estimated total cost for the completed project, the sum of \$175,005,533 had been expended in construction costs up to June 30, 1944, the report stated, the bulk of it for construction of the dam and reservoir and the power plant and related facilities.

The major portion of the remaining expenditure necessary to complete development of the project will be for construction of the irrigation system and the installation of additional power plant capacity.

The work of developing the area for irrigation will begin as soon as war conditions permit, according to Commissioner Bashore, and will provide jobs and farm opportunities for thousands of servicemen, war workers, and others in the postwar period. The program will involve construction of canals and other facilities for making Columbia River water available for

irrigating an area now largely barren, and transforming such land into productive family-size farms.

The power plant at Grand Coulee will also be enlarged to meet increased demands of industry in the Pacific Northwest, greatly expanded during the war. The present installed capacity of the plant as now operating is 818,000 kilowatts and together with the plant at Bonneville dam, it provides power for processing about one-third of the Nation's total output of pig aluminum, in addition to furnishing power to many other industries such as shipyards, chemical, and metallurgical plants.

The report also allocated estimated construction costs on the basis of the particular purposes to be served by the development, as follows: for irrigation \$341,900,000; development of commercial power \$113,800,000; river regulation \$30,300,000; navigation and flood control \$1,000,000.

These construction costs, excepting that for flood control, together with the costs of operating expenses and replacements, will be repaid out of revenues from the sale of commercial power, use of power on the project, and payments by water users to apply on the construction cost of the irrigation system.

Approximately \$348,000,000 of the capital investment will be repaid out of commercial power revenues from the Grand Coulee plant. This is equivalent to approximately 72 percent of the total construction cost of the entire project, according to Administrator Raver of the Bonneville Power Administration, although costs presently allocated to commercial power represent only about one-fourth of that total investment. An additional \$50,500,000 of the construction costs will be repaid from revenues for the use of power on the project for irrigation purposes.

This revenue from power sales will greatly reduce the amount which water users will be required to pay toward construction costs of the irrigation system. The report estimates that these payments by water users will total \$87,500,000, based on an average payment of \$85 per acre during the 40-year repayment period. Operation and maintenance costs for the irrigation system will also be borne by the water users.

Under terms of the report the Federal Government will be repaid all its reimbursable investment in the Columbia Basin Project within 75 years, and during that period the project will be maintained so that it will be in excellent operating condition after the capital cost is repaid. The report states that the existing rates of the Bonneville Power Administration, although the lowest wholesale rates in the Nation, are expected to produce revenues sufficient to return the power investment with interest, and to repay all irrigation and other reimbursable costs of the project which cannot be repaid otherwise, as well as meeting all estimated obligations in connection with the Bonneville-Grand Coulee transmission system.

It is also planned to set aside out of power revenues during the repayment period a special fund equivalent to the interest on the power investment, although the law does not require that returns from power revenue be sufficient to cover both interest and principal on the power investment, in addition to the other costs allocated to be paid by such revenues.

This special fund, which the report estimates may total \$70,800,000 over the repayment period, will be available in part for reduction in water and power rates at Grand Coulee if such reductions are warranted by final determinations of construction costs, and also in part for assistance to other irrigation and power projects that may be undertaken in the Columbia River Basin.

Secretary Ickes said that the Pacific Northwest will be a natural area of expansion after the war if employment and settlement opportunities are provided, and that development of the Columbia basin will afford many such opportunities. He pointed out that the population of Washington and Oregon had increased by more than 440,000 persons between 1940 and 1944, a gain of 18.4 percent for Washington and 11.4 percent for Oregon as compared to a gain of less than one percent for the Nation as a whole during the same period.

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DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Coulee Dam, Wash.

For release Thursday, April 12, 1945

Keeping apace with demands from war plants in the Pacific Northwest, the Grand Coulee Dam powerplant turned out more than 540,000 kilowatt-hours of electric energy during March and brought its total output since the beginning of operations in March, 1941, to nearly 14,000,000,000 kilowatt-hours, Frank A. Banks, regional director of the Bureau of Reclamation, reported today at Grand Coulee.

Although Grand Coulee Dam is far from reaching its ultimate capacity, it holds the unchallenged record for producing the largest quantity of hydro power in a single month. This mark of 621,000,000 kilowatt-hours was set in March, 1944.

Banks said that the phenomenal wartime growth of Grand Coulee Dam's power output can be traced by comparing the performance of the plant on two dates—March 21, 1941, its first day of operation, when it turned out 90,000 kilowatt-hours in a 24-hour-period, and January 5, 1945, when its 24-hour-total was 21,800,000 kilowatt-hours, or 242 times greater than the initial attainment.

The engineer also stated that the past four years have shown a steady growth in Grand Coulee Dam's contribution to war industries consuming huge blocks of electrical energy. In 1941, the production of the powerplant on the Columbia River was approximately 209,980,000 kilowatt-hours; 1942, 1,942,000,000 kilowatt-hours; 1943, 4,115,000,000 kilowatt-hours; 1944, 6,051,000,000 kilowatt-hours; and the first three months of 1945, 1,560,000,000 kilowatt-hours.

At present, only one of the two immense powerhouses at the dam has been equipped with generators and the total installed capacity of this section is 818,000 kilowatts. Eventually the combined capacity of both powerhouses will be 1,890,000 kilowatts, or more than double today's. Banks explained that the dam will have ample capacity to serve pumps in the irrigation plan for the Columbia Basin Project of 1,029,000 acres of land in south-central Washington and to care for expanding industrial and domestic needs of the Pacific Northwest in the postwar years.

Although exact figures on power production at Grand Coulee Dam cannot be released, Banks cited the following table of approximate figures in showing the plant's growth and wartime performance.

Grand Coulee Dam Power Output—Kilowatt Hours

	1941	1942	1943	1944	1945
Jan.	- -	75,000,000	245,000,000	600,000,000	460,000,000
Feb.	- -	77,000,000	235,000,000	560,000,000	560,000,000
Mar.	790,000*	160,000,000	260,000,000	621,000,000	540,000,000
Apr.	1,700,000	95,000,000	250,000,000	530,000,000	
May	490,000	105,000,000	255,000,000	440,000,000	
June	5,900,000	115,000,000	270,000,000	415,000,000	
July	12,000,000	150,000,000	280,000,000	450,000,000	
Aug.	15,000,000	230,000,000	350,000,000	495,000,000	
Sept.	13,600,000	260,000,000	445,000,000	460,000,000	
Oct.	45,500,000	280,000,000	465,000,000	460,000,000	
Nov.	52,000,000	200,000,000	500,000,000	490,000,000	
Dec.	63,000,000	195,000,000	560,000,000	530,000,000	
Total	209,980,000	1,942,000,000	4,115,000,000	6,051,000,000	1,560,000,000

* First unit began operating March 21, 1941.

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DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Coulee Dam, Wash.

ADVANCE—for release to p.m.'s of Tuesday, July 23, 1946.

PASCO IRRIGATION SYSTEM CONTRACTS LIST

COULEE DAM, Wash., Tuesday, July 23, 1946.—The award of two contracts totaling \$902,760 for construction of a pumping plant and canal system to carry irrigation water to 5,397 acres of Columbia Basin Project land near Pasco in southeastern Washington next year, was announced today by Secretary of the Interior J. A. Krug.

The James Construction Company, Seattle, was awarded the pumping plant contract on its low bid of \$188,537. J. A. Terteling & Sons, Inc., Boise, Idaho, won a \$714,223 contract to construct approximately 23 miles of laterals and wasteways. The Boise firm also holds a \$1,548,000 contract for constructing 5.6 miles of the Main Canal, between Coulee City and Long Lake, approximately 100 miles to the north. The Main Canal is part of the principal irrigation network which ultimately will be extended to the Pasco area.

Commissioner of Reclamation Michael W. Straus pointed out that, with the completion of contracts now awarded, the Pasco lands will be the first in the million-acre project to receive irrigation water from the Bureau, although they will not be reached by the principal main canal system for many years.

The pumping plant, which will be salvaged when the main canal system reaches the area, will be built on the east bank of the Columbia River, approximately 14 miles northwest of Pasco. The pumps, being built by the Worthington Pump & Machinery Corporation, Harrison, N. J., will force Columbia River water through a five-foot pipe to headworks of the main lateral. The vertical lift will be 177 feet. The main lateral will be 9.4 miles long. Canals will be lined with concrete, asphalt or mortar. Seven relift pumps will be installed along the distribution system to carry water to higher elevations.

The 5,397 acres to be irrigated in the Pasco area next year already have been divided into 79 family-size farms varying in size from 42 to 141 acres, and averaging approximately 70 irrigable acres, according to W. W. Johnston, project development supervisor for the Bureau of Reclamation. Boundaries were determined principally by topography and potential productivity of the lands, he said.

With work on the principal irrigation system getting under way, the Bureau of Reclamation expects to serve several hundred thousand additional acres with water in 1950-51 for settlement by veterans and others seeking new homes on irrigated land of the West.



DEPARTMENT OF THE INTERIOR

C.B.P. 211

INFORMATION SERVICE

BUREAU OF RECLAMATION

COLUMBIA BASIN PROJECT COULEE DAM, WASH.

For release Thursday, September 12, 1946.

PASCO, WASH., Sept. 12, 1946.--Contractors for the Bureau of Reclamation are making steady progress in excavating for canals and other structures of the 5,397-acre Pasco unit of the million-acre Columbia Basin Irrigation Project.

In two months, J. A. Terteling & Sons, Inc., Boise, Idaho, have completed approximately $1\frac{1}{2}$ miles of channel for the 9.4-mile main lateral in Franklin County, have trenched 3,000 feet for a 15-inch concrete pipe sublateral, and have cleared sagebrush from the rights-of-way for the remaining 13 miles of canals and wasteways in the irrigation system. The main lateral will be 23 feet wide at the top, and 5 feet wide at the bottom. The Boise firm, operating under a \$714,000 contract, now employs 50 men.

The James Construction Company, Seattle, in the past 30 days, has completed 75 percent of heavy excavation for a pumping plant on the east bank of the Columbia River 14 miles northwest of Pasco. The plant, being built under a \$188,537 contract, will pump nearly 500 gallons of water per second to the head-works of the main lateral--a vertical lift of 167 feet.

If materials are available, the Pasco unit will be completed in time to permit distribution of first irrigation water late in 1947 or early in 1948. The Pasco laterals eventually will be served by the project's main irrigation system on which construction is under way 100 miles to the north.

The Bureau of Reclamation already has divided acreage in the Pasco unit into 79 family-size farms averaging approximately 70 irrigable acres. Virtually all this land is privately-owned. The fully-developed Columbia Basin Project, served by the main irrigation system, is expected to provide 12,000 to 15,000 farms for veterans and other settlers.

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DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Coulee Dam, Wash.

For release to Sunday editions of October 27, 1946.

COULEE DAM, WASH., Saturday, October 26, 1946.— The construction program on the Bureau of Reclamation's million-acre Columbia Basin Irrigation Project in Eastern Washington will be expanded as a result of President Truman's relaxation of restrictions on expenditures by the agency, the Bureau announced today.

Approximately \$25,000,000 in dams, canals, siphons, and heavy machinery are in the Bureau's "pending" files, and awards of contracts covering these items will be made "as rapidly as feasible and within the limits of the Bureau to meet progress payments as authorized work proceeds," commented District Engineer Frank A. Banks.

A self-liquidating multiple-purpose development, the Columbia Basin Project ultimately will serve 12,000 to 15,000 irrigated farms of veterans and other settlers. Work on some irrigation structures in the Basin began last summer.

The construction moratorium, called nearly three months ago, did not affect work on several key structures in the multi-million-dollar irrigation system, such as the 10,000-foot South Dam, the gigantic Bacon Tunnel, a portion of the West Canal, the river-size Main Canal, and the Pasco Pumping Plant and distribution system.

Contractors in the Basin have more than 600 men employed on a 90-mile front extending from Coulee City, at the north, to the vicinity of Pasco, near the southerly tip of the Basin.

These contractors predict that payrolls will be doubled by next summer. This estimate of 1,200 workers does not include employees who would be hired under contracts yet to be granted by the Bureau.

In the Pasco area, where a pumping plant and lateral system are being built, 5,400 fertile acres will receive water in 1947-48, the Bureau reports. This acreage will be divided into approximately 80 family-size farm units.

Among the jobs on which the Bureau has opened bids, but has not announced contracts, are: (figures represent low bids)

Potholes Dam, \$9,359,011; Long Lake Dam, \$1,770,592; aggregates at Adrian, Wash., for concrete structures, \$373,612; portion of the East Low Canal, \$3,977,136; six 65,000-horsepower electric motors for the Grand Coulee Dam Pumping Plant to serve the irrigation system, \$2,475,548; discharge pipes for Pumping Plant, \$1,271,854; and three turbines and generators for the now-vacant East Powerhouse, \$5,581, 517.

Construction and equipment contracts approved by Reclamation Commissioner Michael W. Straus for the Columbia Basin Project since V-J Day have totaled more than \$20,000,000, of which more than \$13,000,000 were for siphons, canals, pumping plants, the South Dam, near Coulee City, and other structures in the vast water-distribution system in the Big Bend region of the Columbia River.

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UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Coulee Dam, Wash.

ADVANCE FOR RELEASE AFTER 12 NOON, SATURDAY, DECEMBER 28, 1946.

The Government will not attempt to tell Columbia Basin Project settlers what crops they can grow on project lands, a Bureau of Reclamation spokesman said today in explaining the Bureau's development farm program to the Soil Conservation section, Northwest Scientific Association, at its 20th annual meeting in Spokane.

J. L. Toevs, chief of the project's land development section at Ephrata, said that several development farms are to be established in the project area in advance of settlement. Through these farms, the Government hopes to assist settlers by demonstrating what crops are best suited to project soils and weather conditions, and what irrigation farming methods can be followed for best results.

The demonstration farms also will be of great value to business men who already are showing interest in establishing agricultural processing plants in the project area for sugar beets, potatoes, frozen foods, certified seeds, and grape juices, Toevs pointed out.

He said development farms will be established near Moses Lake and Pasco, Wash., and possibly in the Quincy and Winchester districts. The 80-acre Moses Lake farm is scheduled for operation in 1947, he added. The land has been leveled, a well is being drilled, and construction of farm buildings will begin soon.

Toevs, former superintendent of the Aberdeen, Idaho, branch experiment station, said the Columbia Basin Project development farm program is necessary because soils and lengths of growing seasons vary greatly throughout the project area extending more than 100 miles north and south, and up to 68 miles east and west.

The yearly frost-free period has varied from 208 to 123 days at the 26 temperature recording stations established by the Bureau of Reclamation in the project area in 1940, Toevs explained.

Weather and soil variations indicate that a great variety of crops may be grown in the project, he said.

Washington State College, through its agricultural experiment stations, and the Bureau of Plant Industry are assisting the Bureau of Reclamation in its development program for the million-acre Columbia Basin Project, Toevs commented, adding that much of the technical and fundamental research will be done at the Prosser, Wash., experiment station.

"The Bureau of Reclamation will develop the farms, furnish water and farm equipment, and operate the farms," Toevs said. "Washington State College and the Bureau of Plant Industry will be principally responsible for the research program."

Experiments will include testing water and fertilizer requirements of the various soils in the project area; methods of applying water, including sprinkler irrigation; means of preventing wind and water erosion; and the adaptability of crops grown in other sections of the country as well as outstanding varieties common to the Pacific Northwest.

DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Coulee Dam, Wash.

ADVANCE—For release to PM's of Friday, March 7, 1947.

BUREAU RELEASES 1946 WEATHER SUMMARY FOR COLUMBIA BASIN PROJECT

COULEE DAM, WASH., Friday, March 7, 1947.— Precipitation throughout the vast Columbia Basin Irrigation Project of Eastern Washington in 1946 averaged only 6.4 inches, the Bureau of Reclamation reported today.

Since the Bureau began gathering weather data on the project six years ago, annual precipitation has averaged 7.8 inches and ranged from 9.5 inches in 1941 to 5.4 inches in 1943. In contrast, Seattle, Wash., averages 34 inches of precipitation annually; Chicago, 32.8 inches; New York City, 42.9; and New Orleans, 57.4.

To bring life-giving water to this region's fertile soils, the Bureau of Reclamation is constructing a gigantic irrigation system. It is designed to transform 1,000,000 parched acres into 12,000 to 15,000 irrigated farms for veterans and other qualified settlers.

Northern Part Has Greatest Range

The most precipitation recorded on the project in 1946 was 6.7 inches at a station five miles south of Quincy, in the northwestern portion of the project. Least precipitation, recorded only 19 miles to the northeast, at Ephrata, was 6.1 inches.

The northern part of the 80-mile long project also experienced the greatest range of temperatures last year. The station south of Quincy recorded the highest temperature of 107 degrees. It also reported the lowest reading of five above zero. This minimum also was recorded at a station just northwest of Quincy and one near Stratford.

Average mean temperature for the project in 1946 was 51.2 degrees, compared with a 51.6 average for the six years records have been kept by the Bureau of Reclamation.

Growing Season Estimated

The 1946 growing season averaged 156 days—14 days shorter than the previous five-year average of 170 days. A maximum period of 192 days between

killing frosts was recorded at the western end of the Wahluke Slope, south of the Saddle Mountains. This station averaged 206-day growing seasons over the previous five years. The shortest growing season recorded on the project last year was 131 days in a valley on the Royal Slope of the Frenchman Hills.

The Bureau of Reclamation maintains 27 weather stations in the Columbia Basin Project, but has paid weather observers at only three. All data on sunshine, evaporation, wind velocity, and wind direction are gathered by these three stations. They are located five miles south of Quincy; five miles east of Othello, in the east-central part of the project; and near Mesa, in the southern part of the project.

Many Days of Sunshine Recorded

Only 44 cloudy days were noted in 1946 by the Bureau's weather observer near Mesa. He reported 128 clear days, and 193 partly cloudy days. The observer near Othello listed 181 clear days, 108 partly cloudy, and 76 cloudy. The observer near Quincy reported 155 clear days, 72 partly cloudy, and 138 cloudy.

Evaporation, measured in open tanks, totaled 59.37 inches in 1946, compared with an average of 58.60 inches for the previous five years.

Wind velocity averaged only 1.7 miles an hour. There were many calm days. Windiest days were in winter and early spring. Prevailing wind direction was west to east.

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DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Coulee Dam, Wash.

ADVANCE—For release to A.M.'s of March 14, 1947.

LANDOWNERS MAY LOSE WATER RIGHTS IN BASIN, BUREAU OF RECLAMATION WARNS

COULEE DAM, WASH.— Approximately 2,000 persons residing in all parts of the United States and owning land in the million-acre Columbia Basin Project of Eastern Washington will forever lose their right to make their property eligible for irrigation unless they sign recordable contracts with the Bureau of Reclamation during the next few months, Bureau officials cautioned today.

More than 4,000 landowners already have signed the contracts.

Thoralf Torkelson, Project Land Officer, pointed out that April 9, 1946, was the initial deadline for signing recordable contracts to qualify irrigable land in the Basin for water, but that an extension of time was granted by Secretary of the Interior J. A. Krug under terms of the Columbia Basin Project Act. This time extension was included in the law because Congress recognized the difficulty of reaching all landowners to obtain their signatures on the recordable contracts.

Special Affidavits Required

However, said Torkelson, persons who have been submitting contracts following the April 9, 1946, initial deadline are being required to furnish supporting affidavits before their contracts are accepted by the Bureau. He also added that the time extension is fixed definitely by law and cannot be relaxed.

"Unless landowners act quickly they will find that their holdings, under present ownership, no longer will be eligible for water from the irrigation system being built in the Basin," Torkelson said. "Their last chance is approaching. There will be no more extensions.

"Persons who delay too long will see themselves in this position: 1. Their land, as long as they hold it, will not be eligible for water; 2. It nevertheless will be assessed regularly for all charges arising from building, operating, and maintaining the irrigation system—even though not receiving a single drop of water from the irrigation works."

Following are the "absolute" deadlines under which recordable contracts, accompanied by the necessary supporting affidavits, can be submitted to the Bureau of Reclamation at Coulee Dam, Wash.

Quincy District--June 13, 1947; South District--August 23, 1947; and East District--October 28, 1947.

Delays Should be Avoided

"Experience has shown that it is unwise for landowners to wait until just before these absolute deadlines to file the affidavit-supported recordable contracts," Torkelson continued. "Some affidavits may prove faulty, signatures of several owners may be needed on a single contract, contracts may be addressed incorrectly or fail to contain essential information. These developments, which always must be expected, may cause delays that will result in disappointment for landowners who continue to put off the signing of the contracts."

Recordable contracts, which are required for every parcel of land before it can receive water from the extensive Columbia Basin Project irrigation system, are considered the "bill of rights" for the project. They protect prospective settlers from inflationary prices, permit division of large holdings into family-size farms for the benefit of a large number of persons instead of a limited few, and they guarantee delivery of irrigation water to irrigable land.

Torkelson also added that persons who have been postponing the signing of recordable contracts in the hope that they will receive higher prices from prospective settlers "simply are placing their land in jeopardy."

Government to Sell at Dry-land Prices

"The Government will have large quantities of eligible land available for purchase at appraised dry-land values. This land will be served with water, whereas land not protected with recordable contracts will be by-passed when irrigation structures are installed."

The Land Officer also explained that even if unprotected property is sold by the present owner, its new owner would not be qualified to receive water for it if he delays signing a recordable contract past the "absolute deadline" fixed for the various districts.

"Under such conditions," Torkelson commented, "the land first would have to be sold the government at appraised dry-land value, divided into family-size farm units, and resold to qualified settlers. Otherwise, the land would not receive water."

Persons whose land is not protected by recordable contracts should write the Bureau of Reclamation at Coulee Dam, Wash., immediately, obtain contract and affidavit forms, and submit them as early as possible, Torkelson advised.

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DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Coulee Dam, Wash.

For immediate release.

AGRICULTURE OFFICIAL DESCRIBES BENEFITS OF PREDEVELOPMENT FARMS

COULEE DAM, WASH., Monday, March 24, 1947.--How predevelopment farms planned for the Columbia Basin Irrigation Project in Eastern Washington will help settlers determine in advance what kinds and varieties of crops are most likely to succeed is explained in an article written for the March issue of the Reclamation Era by H. P. Singleton, superintendent of the Irrigation Branch Experiment Station, Prosser, Wash.

The Era, which is circulated widely in the United States, is the official publication of the Bureau of Reclamation.

Mr. Singleton said the two Columbia Basin farms already designated as predevelopment units will be developed jointly by the Bureau of Reclamation, the Department of Agriculture, and Washington State College. An 81-acre farm, near Moses Lake, probably will be planted this spring. It will be irrigated from a well. A second farm, covering 48 acres, has been plotted for the Pasco Unit, which will receive its first water late this summer or in the spring of 1948. The Pasco Unit will receive water by pumping from the Columbia River.

"On these two tracts, exploratory work will be carried out in all kinds of crops that might possibly be grown," Singleton says in the Era article. "This will be in addition to the more customary type of studies on irrigation and fertility requirements, control of insects and diseases, control of salinity, use of crop rotation and crop utilization.

"Started before actual irrigation development in the Basin, this is a new type of program, in that it will attempt to solve in advance many of the problems that would otherwise occur as new farm families settle on the lands. The advantage in putting irrigated farms on an immediate paying basis is obvious.

"It is planned to continue the experimental farms in operation through the first few years after settlers arrive, to help them during their adjustment period. As new areas are scheduled for irrigation, other predevelopment farms will be established."

The Department of Agriculture official said the Washington Agricultural Experiment Stations have two of the main types of soils of the Basin available

at the Prosser Branch. These are the "Sagemoor" and the "Ritzville" types. Research on the Sagemoor type dates to 1919.

At Hermiston, Ore., a field station of the Bureau of Plant Industry is studying a soil of the Ephrata series, one of the lightest soil types among those to be irrigated in the Columbia Basin.

Another article in the March issue of The Reclamation Era describes the giant "Monighan" walking dragline, which is being operated by J. A. Terteling & Sons in their \$1,548,000 contract on the Main Canal, near Coulee City. Wash.

The March Era also features the Department of Agriculture's 1947 acreage goals and their meaning to reclamationists of the West; ditchbank pasturing as a weed-control measure; history of the Yakima-Tieton Project, the first to repay completely its construction costs to the Reclamation Fund; and protective painting techniques developed by Bureau scientists. Another feature of particular interest to farmers is the Era article by Ambassador Paul V. McNutt, which tells of the nation-wide food-production campaign in the Philippines and the essential part played by irrigation in the Islands.

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GRAND COULEE MAN WINS HOUSE-MOVING CONTRACT

COULEE DAM, WASH., Monday, March 24, 1947.—Roy C. Bates of Grand Coulee, Wash., has been granted a \$29,099 contract by the Bureau of Reclamation for dismantling and moving 110 temporary-type dwellings from the Vancouver (Wash.) war-housing project to Coulee Dam. The structures will be used to help alleviate a critical housing shortage here. Bates' contract also covers delivery of 2 dwellings to Yakima and 2 to Sunnyside, Wash.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
Coulee Dam, Wn.

CBP 339

For immediate release

BUREAU SEEKS BIDS ON SPILLWAY-REPAIR WORK TO GRAND COULEE DAM

COULEE DAM, Wash., Monday, November 15, 1948.--The Bureau of Reclamation today called for bids on repairing the spillway bucket to the Grand Coulee Dam, man's largest concrete river barrier. The job also will include dredging of the Columbia River channel below the dam, repairs to the spillway face, and related activities.

Work will involve use of a floating caisson, a barge-equipped floating chamber that will be lowered over the spillway bucket to permit men to make repairs below the surface of the Columbia.

The spillway bucket of the giant dam was damaged through erosion caused by boulders and other foreign materials entering the bucket during construction and later, and being continually agitated by the water action in the bucket. Although the erosion has not been sufficient to endanger the stability of the 21,000,000-ton structure, Bureau of Reclamation engineers believe that the repairs should begin as early as possible to avoid further damage.

Opening of bids is scheduled for 10 o'clock the morning of December 21 at Coulee Dam. If a contract is awarded, the successful bidder would have 470 days--nearly 1½ years--to complete the work. The contractor would be required to repair at least 150 feet of the 1,650-foot-long spillway bucket.

The bid-call covers a large number of preliminary operations by the contractor before actually operating the caisson on the spillway. Among these are 163,000 tons of dredging, repair of flood-damaged equipment used in maneuvering the caisson, and work on the caisson itself and on the circular dry-dock in which it was fabricated.

Because of the many preparatory steps, repair work involving use of the caisson will not begin until the low-water season in the fall of 1949. During the present low-water season, the contractor would be required to replace concrete which has been damaged on the downstream face of the spillway. This work, however, is considered a minor undertaking in comparison with the bucket repairs.

Long the subject of engineering studies, the huge floating caisson was built by the Bureau of Reclamation, and rests in a circular drydock on the river's edge downstream from the dam. A channel leads from the drydock to the river. Shaped to fit the curved spillway bucket, the caisson is 115 feet long, 57 feet wide, and 97 feet high. It has four access tubes leading from above the surface of the water to the working chamber below. These tubes carry service lines and also will be used to transport men and materials.

Because of its design, the caisson will permit men to work under normal atmospheric conditions while making repairs below the river's surface.

Although the caisson was completed last year and was floated in its drydock, it never has been maneuvered on the Columbia. When the caisson is ready for its first trip to the spillway, a huge segment of the concrete drydock will be broken free and dropped into the channel, exposing two massive steel gates which will be opened to permit the caisson to be moved into the river.

An extensive system of cables, handled by "puller machines" on the banks of the river and on the two powerhouses of the dam will be used in maneuvering the caisson to the spillway.

Bureau engineers said that a working model of the caisson at Coulee Dam will be demonstrated for prospective bidders if they request.