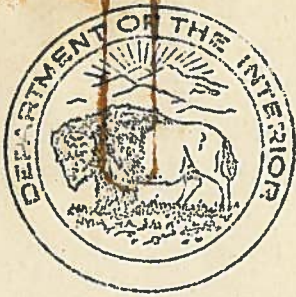


June 11, 1946

THIS REPLACES THE MIMEOGRAPHED NEWS RELEASE
WHICH WAS MAILED YOU JUNE 10 FOR RELEASE
THURSDAY - - JUNE 13.



DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION
Region I - Boise, Idaho

FOR RELEASE THURSDAY, JUNE 13, 1946

BOISE, Idaho. - Appointment of J. Lyle Cunningham of Boise and Harold T. Nelson of Yakima as Assistant Regional Directors in the Northwest office of the Bureau of Reclamation here was announced today by R. J. Newell, Regional Director.

Cunningham, who has been serving as an assistant to the director, moves up to his new position where he will take over duties in connection with administration and organization phases of the Bureau's activities. He will deal particularly with the fields of finance, personnel, supply, information, land acquisition, and progress control.

Mr. Nelson, who has been construction engineer of the Bureau's highly-successful Roza Division of the Yakima Project in south central Washington, will come to the Regional office this month. He will be responsible for all technical phases of the Bureau's activities in the fields of construction, project planning, operation and maintenance, and power.

In announcing Mr. Nelson's appointment, Mr. Newell said that H. W. Pease, now with the Branch of Project Planning in Boise, will be appointed to replace Nelson on the Yakima construction job. Pease is well known in the Yakima region, having served the Bureau there for a number of years.

Assistant Regional Director Nelson has been with the Bureau since January 1936, joining the organization as an employee in the Denver office. He went to Yakima in May 1937 as an Assistant Engineer and was promoted through the grades to the position of Construction Engineer for the Bureau's \$19,600,000 Roza Division.

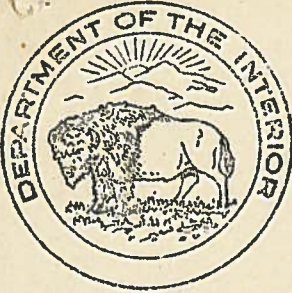
Mr. Nelson's experience also includes several years with the Kansas Highway Commission, the U.S. Bureau of Public Roads, National Park Service, and three years as instructor in Civil Engineering at Montana State College. He was born in Great Falls, Montana, and was graduated from the University of Idaho with a B. S. degree in civil engineering. He received an M. S. degree from Kansas State College. At Idaho, Mr. Nelson had the highest scholastic average of his class for his 4-year period.

Mr. Cunningham has served as Assistant to the Regional Director since January 1, 1945. He has been in the Federal service for seven years as an employee of the Department of the Interior. All of his experience has been in the field of public administration, including several years with the Department of Budget and Research, Los Angeles County.

In 1936 Cunningham received the award of the National Governmental Research Association for the most noteworthy piece of research in the field of Government for that year. He was born in Miami, Oklahoma, and was graduated from the Stanford University school of public administration in 1931.

Pease is a graduate of Dartmouth college and the Thayer School of Civil Engineering. His experience includes several years with the State Highway Departments of Washington and New Hampshire as well as employment with the Southern California Edison Company and other private companies. He came to the Bureau in 1935.

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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION
Region I - Boise, Idaho

FOR RELEASE AUGUST 1, 1946.

BOISE, Idaho. - After 35 years of service to the Bureau of Reclamation, C. C. "Cap" Fisher, Engineer-in-Charge of the Project Planning office in Salem, Oregon, retired on August 1, Regional Director R. J. Newell announced here today.

Fisher came to the Bureau of Reclamation in 1903 as one of the first employees in the Northwest. Since that date he has held a number of responsible positions in the organization and has made field surveys and studies leading to the authorization and construction of several now operating projects.

"It is with sincere regret that we have agreed to Mr. Fisher's request to exercise his retirement privileges," Regional Director Newell said. "He has played an important role in the development of land and water resources of Idaho, Oregon, and Washington. His engineering studies and reports have been the basis upon which a number of Northwest projects have been authorized and built."

Fisher's career with the Bureau of Reclamation has been varied and colorful. It includes surveys and planning work on the Minidoka Project in Idaho, the Deschutes, Baker, and Grand Ronde Projects in Oregon, and the Old Palouse Project in Washington, now part of the Columbia Basin Project; construction work on the Minidoka and Boise Projects in Idaho; and operation and maintenance work on the Boise Project.

The Salem engineer served for two years as an irrigation consultant to the Russian government and in the same capacity to the Virgin Islands. For three years he was employed by the Mexican government in irrigation engineering, being caught there in a revolution in 1929.

Mr. Fisher reported to the Bureau in Boise where he was assigned to survey work on the Minidoka Project. In the winter of 1903 he was transferred to the Salt River Project in Arizona, returning in the spring of 1905 to Minidoka as construction engineer in charge of one division of canal and lateral work. From there he moved in 1906 to the Boise Project on construction of the New York Canal. He later became first assistant to the project manager, a position he held until the fall of 1918.

After assignments in Montana and Arizona, Mr. Fisher was employed in surveys and core drilling for Boulder Canyon Dam. He surveyed most of the reservoir, returning to Central Oregon in 1922 on the Deschutes Project. His experience also includes work on the Baker Project, now Lower Powder River, which led to the building of Thief Valley Reservoir. After several years in foreign service he returned to the Bureau in the spring of 1934 on survey work on the Deschutes Project. His studies and report on this project later led to the construction of the North Unit to which the first water was delivered this year.

Mr. Fisher, who was named engineer in charge of the Salem office in 1940, has not announced his plans for the future except to say that he intends "to take it easy." He expects to move to California within a year or two.

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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION
Region I - Boise, Idaho

FOR RELEASE FRIDAY, AUGUST 2, 1946

BOISE, Idaho. - Appointment of Lee McAllister as engineer in charge of the Project Planning office in Salem, Oregon, was announced here today by R. J. Newell, Regional Director of the Bureau of Reclamation. McAllister succeeds C. C. Fisher who retired on August 1.

As head of the Salem office, Mr. McAllister will be in charge of surveys and investigations of potential irrigation and multiple-purpose projects in the Willamette Valley and Central Oregon and in Western Washington. This will include approximately ten potential projects which are under study in that area.

In announcing the appointment, Regional Director Newell said that Mr. McAllister is well suited to take over the new position. In addition to extensive engineering experience, he is familiar with the Northwest and conditions here, having lived for most of his life in Oregon.

Mr. McAllister joined the Bureau of Reclamation in 1941 as an engineer on the Central Valley Project in California. He was transferred to the Salem planning office in 1944 and has served as assistant to the engineer in charge since that date.

He was graduated from Oregon State College with a BS degree in civil engineering in 1924. Prior to that time he was employed by the Oregon State Engineer's office as a hydrographer and instrument man, later as field assistant, specializing in field surveys for adjudication of water rights.

Upon graduation, Mr. McAllister went to the Jordan Valley Irrigation District at Danner, Oregon, where he was engineer in charge of design and construction of irrigation works.

In 1925 he accepted a position with the W. H. Grabenhorst Company where he was in charge of laying out the subdivision of the city of Salem.

In 1931 Mr. McAllister was named Assistant State Engineer for Oregon, a position which he held until accepting appointment with the Bureau of Reclamation in 1941. As Assistant State Engineer he was in charge of dams and hydraulic structures, water supply reports, and reports on the feasibility of irrigation and drainage districts.

He served in the aviation section of the Signal Corps during the first world war, being discharged in 1919. He was born in Salem and attended Willamette University Academy.

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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION
Region I - Boise, Idaho

FOR RELEASE after 1:30 P.M., DECEMBER 12, 1946:

YAKIMA, Wash. - Irrigation and multiple-purpose projects costing more than a billion dollars are under investigation or consideration by the Bureau of Reclamation in the State of Washington, Regional Director R. J. Newell today told the Washington State Reclamation Association, holding its annual meeting here.

He said the program, if carried out in full, would bring under irrigation more than 1½ million acres of new land -- nearly triple the present irrigated acreage. Thus, the development would add the equivalent of more than three Yakima Valleys to the wealth of the state. Supplemental water supplies would be provided for irrigated land now suffering periodic shortages.

On multiple-purpose and power projects constructed by the Bureau and other agencies, more than 5,000,000 additional kilowatts of installed hydroelectric capacity would be provided to meet growing demands of the Pacific Northwest. This is approximately three times the existing generating installation in the state. Several projects would have major navigation and flood control benefits.

Under the Reclamation law, Mr. Newell declared, all of the investment in works constructed by the Bureau of Reclamation, except a small allocation to flood control, navigation, and fish and wildlife, would be returned to the Federal Treasury through payments by water users and from power revenues.

In moving forward in this program the Reclamation Bureau is currently investigating nine multiple-purpose and irrigation projects in Washington. Two are in the advanced stage of planning, the 21,000-acre Kennewick Division of the Yakima Project, and the 4,800-acre East Unit of the Greater Wenatchee Project.

A study to determine ways and means of providing a supplemental water supply for the Yakima Valley will be undertaken in the spring. The Green-Puyallup Project has been under study and a detailed investigation of the Sequim Project has been recommended.

"The Bureau is conducting its project planning investigations in this state as part of the basin-wide study it is making of the entire drainage area of the Columbia River and its tributaries," Newell said.

"The great value of the run-off of our streams demands an orderly program of development so that the Pacific Northwest will not be robbed of riches inherent in water through piecemeal construction of individual projects without consideration of the region as a whole. Mistakes today might penalize us forever."

The comprehensive report, Newell explained, will be released in two or three months. In preparing the document, he said, the Bureau is tying together all of its investigations, some dating back 25 years, and coordinating them with the pertinent findings of other agencies. The completed survey will view the water resources of the Columbia River Basin in their entirety and "will chart a logical course for their development to the end of providing maximum benefits at minimum cost. Each structure, built in accordance with the comprehensive Bureau plan, will have full utility in the ultimate stage of development."

In regard to Congressional appropriations for the state, Newell said that Washington had fared very well. Nearly one-fourth of the Federal investment in irrigation in all multiple-purpose projects in the 17 Western States has been made in this state. The total is \$223,000,000. When all projects now in operation, under construction, or authorized in this state are completed, the Federal investment will total \$757,000,000.

Newell drew attention to the outstanding record of the Yakima Project in regard to crop production and repayment of its construction cost obligation.

"In the last 36 years," he said, "the project has produced three-quarter billion dollars in crops - 18 times the Federal investment in the irrigation works. The gross value from last year's production alone was nearly double the total construction cost of the project. The Yakima Project has a splendid repayment record. It has already repaid \$10,212,000 of its \$25,000,000 contract obligation to the Federal Treasury, or 41 percent, practically every dollar that has become due."

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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION
Region 1 - Boise, Idaho

FOR IMMEDIATE RELEASE:

BOISE, Idaho - How an advancement in Federal Reclamation - the lifting of an irrigation water supply more than twice as high as ever before will be pioneered on The Dalles Project, along the Columbia River in Oregon, is described in the August issue of the Reclamation Era, official publication of the Bureau of Reclamation.

Written by C. E. Mohler, engineer in the Bureau's project planning office in Salem, Oregon, the story explains that the water is to be lifted as much as 800 feet, from the Columbia to hillside orchards, under the irrigation plan approved by Secretary of the Interior J. A. Krug. The project, Mohler states, is the first to be approved on the recommendation that sprinkling facilities be provided for all irrigable lands.

The story continues as follows:

Various plans for irrigation of orchards in the vicinity of The Dalles were rejected in the past because of insufficient water supply or excessive costs. In fact, without two important and rather recent technological developments, irrigation of the total area would still be infeasible. The first of these two is the abundance of seasonal power from the large-scale hydroelectric plants at Bonneville and Grand Coulee Dams. It is this power, available at low cost, that will lift the water levels previously unattainable economically.

The second development is creditable to the manufacturers of pipes,

sprinklers, and auxiliary equipment. Without these devices for applying irrigation water in the form of artificial rain, it is doubtful that the steep hillsides of the area would ever be irrigated successfully. Such terrain is definitely not adapted to the traditional method of delivering water through canals and farm ditches.

Many of the lands to be irrigated lie on high, rolling hills with occasional steep, rock slopes and deep drainageways. The fairly level bottom lands along the creeks are bordered by terraces with moderate slopes. Steep and strongly rolling uplands lie above the terraces.

Soils of the area are derived from weathered rock and shale underlying the hills. They are light brown in color with surface textures ranging from very fine sandy loam to silt loam. Except for insufficient moisture, the area is ideally adapted to orchard crops. Soils are sufficiently deep and of good texture. The steep slopes prevent accumulation of cold air with attendant frost damage. A dry, sunny ripening and harvesting period can be expected in almost all years. Fruit orchards as a result occupy most of the tillable acreage. Cherries, peaches, and apricots are the major fruit crops. The acreage in cherries has remained nearly constant in recent years at 57 percent of the project area, but peaches have increased in acreage while apricots have decreased. Other fruit crops are of slight and diminishing importance.

Orchard operators and others in the area have long recognized that rainfall is inadequate for full production. Available water supplies have been adequate for irrigation of only a small acreage, however. In 1946 only some 1,500 acres received any irrigation water.

Although temperatures and the deep soils are favorable for orchards, low rainfall permits only wide spacing of trees and practically prohibits the use of fertilizers and cover crops. The orchards are clean cultivated to conserve

moisture; as a result, much soil is lost through erosion on the steep slopes. Some of the steeper drains are mulched with straw to prevent gullyng. Cherries must be pruned heavily at present, as there is much dead wood and little new growth without adequate moisture. Apricots and peaches are pruned severely in order to obtain fruit of adequate size. With such severe pruning, yields of all three fruits are necessarily lower than they need be if water were available.

Irrigation of the area should reverse the recent downward trend in crop yields and assure continued fruit production. Low yields resulting from extreme water shortages would be eliminated.

The most immediate and noticeable local benefit of project irrigation would be the increase in annual gross crop value over nonirrigated conditions. This benefit is estimated at \$831,000 or an average of \$183 for each of the 4,530 acres. Increased net farm income is estimated at \$318,200 per year, or \$70.24 per acre before deductions for value of the operators' labor, water charges, and interest on additional investment.

Much of the increased production and resulting increase in income would be derived from the use of cover crops, for which past moisture supplies have been inadequate. Cover cropping prevents gullyng and sheet erosion which remove valuable top soil from the orchards. Cover-crop residues increase organic content of the soil and improve its workability. The use of commercial fertilizers, which are desirable and profitable with high-value orchard crops, could be adopted.

The erosion hazard, partly overcome by covercropping, and the necessity of pumping the water supply through pipes over the rough terrain lead to adoption of the sprinkler method of irrigation.

The system has been designed to supply one cubic foot per second continuous flow for each 108 irrigable acres. This capacity is sufficient to apply 4 inches

of water to all project lands during the peak demand period between July 1 and 20.

The method of operation on individual farms will be, of course, left to the choice of the farm operator. A very satisfactory arrangement now practiced in the area, however, is to move lateral pipes with their sprinklers twice a day, in the morning and in the evening. Both moves can then be made by daylight, irrigation is continuous, and there is ample time for other farm work through the day.

From his service outlet, generally at the low point of the farm, the operator would arrange his own system for applying water to the fields. Farm mains should usually be run down slopes with the sprinkler laterals as level as practicable. In orchards, the sprinkler heads are mounted in the area between adjacent trees on risers, short enough to throw water under the low-lying branches. The sprinkler which the growers will probably purchase has a capacity of 5 to $7\frac{1}{2}$ gallons per minute, and requires a minimum operating pressure equivalent to 70 feet depth of water. Designs provide for an additional 15 feet of pressure to overcome friction losses in the farm system. Each service outlet would be supplied with a meter for measuring deliveries and with a pressure-reducing valve to provide the most advantageous sprinkler pressures up to the maximum available in the system.

Welded steel pipe has been chosen as the most economical pipe for the project distribution system. The high pressures necessary (up to almost 950 feet head) exclude most other types. Besides having low first cost, steel pipe is installed easily and requires little maintenance.

All pipe, except the small standard weights, is to be coated and wrapped on the outside. Pipe over 10 inches in diameter will also be coated with coal-tar enamel inside. As the soils in the area are neither alkaline nor acid, this treatment is estimated to provide a useful life of the pipe in excess of 50 years. All field pipe connections are to be welded, except for sleeve type couplings, installed at

about 760-foot intervals to allow for pipe expansion and ease of installation and maintenance.

The first mile and a half of pipe line from the pumps to an equalizing reservoir, would be 36-inches in diameter with a wall thickness of eleven-sixteenths and a carrying capacity of 42 cubic feet per second. The next section would be of 30" pipe with 1/2" wall and continue to the reservoir without reduction in diameter but with wall thickness gradually decreasing to 7 gage. The pipe lines would be buried wherever possible with a minimum of two feet to cover.

The pump-reservoir and main distribution lines are to be sectionalized by gate valves so that a line can be repaired without shutting down the entire system. To reduce high stresses caused by a sudden halting of the flow of water, these valves would be of a slow-closing type. Combination air-release and vacuum valves would be placed at all high points of the line, at all abrupt breaks in slope, and immediately below gate valves to permit escape of entrapped air when the system is operating and to eliminate collapsing stresses when it is emptied suddenly. Blow-off valves would be installed at all low points and just above sectionalizing gate valves to drain the line for repairs or to protect it from freezing after the end of the irrigation season.

Lateral pipe lines are laid out to serve as large an area as possible and thus reduce the size of the main line beyond the lateral connection. The laterals would follow the ground profile and be buried at least two feet. Service connections would be made to the laterals at the lowest point of the farm to be irrigated. Each farm would receive one or more service outlets, except for areas of less than one acre, which would share an outlet. Blow-offs, air and vacuum valves, and shut-off valves would be installed wherever required in the laterals.

An equalizing reservoir lined with concrete would be provided to maintain more uniform pressures and aid in operating the pumps. The reservoir would have a

capacity of 1.5 acre-feet (about 490,000 gallons). Water surface of the reservoir when full would be 886 feet above the average river level at the pumping plant. Automatic float-control valves at the reservoir would start and stop the pumps by means of a 28,500-foot electric control line. An independent automatic signaling system would further provide against overflow.

Preliminary studies have shown that two pumping plants should be provided, a deep-well turbine plant to lift water from the river and a multistage centrifugal pumping plant to force the water to the high-lying project lands. Each pumping plant would be separately housed.

The river pumping plant is designed for the wide fluctuations in river elevations. The plant would consist of three 6,300-gallons per minute, 45-foot head, motor-driven, deep-well turbine pumps with 20" discharge pipes, screened at the intake to protect fish life.

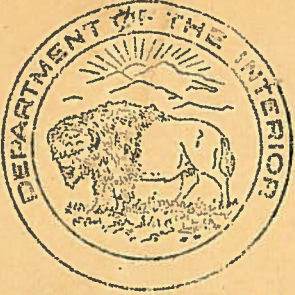
The main pumping plant would contain three 14-cubic feet per second, 900-foot head, horizontal, multistage, centrifugal pumps with bases and couplings. Prime movers would be three 2,000-horsepower, 1,800 revolutions per minute synchronous motors with exciters. Mechanical equipment would be 20" discharge pipes with 4-way fittings, three 14", 400-pound, gear operated, gate valves; three 14", 400-pound, tilting-disk, check valves; and one 14" Pelton surge suppressor.

Power for pumping would be obtained from the Bonneville Power administration. Project requirements coincide with the peak power production months when total power demand is at a seasonal low. Ample power is available during this period, and the law grants preference to power needs of public bodies. The Bonneville Power Administration has agreed in principle, contingent upon available funds and materials, to construct the necessary transmission line from their substation west of The Dalles to the pumping plant. The Administration would also provide the

the necessary substation for reducing voltage at the pumping plants.

Construction cost of The Dalles project, West Unit, has been estimated at \$2,300,000. Operation and maintenance costs, including power costs and a reserve fund for replacements, are estimated at about \$66,000 per year. Average annual costs over the 40-year repayment period without interest are about \$123,500 or \$27.30 per acre on the 4,530 acres. Payment of this cost for water out of \$70 average per acre increased net farm income leaves \$42.70, about half of which would provide a return of 5 percent of the increased farm investment. The other half would give farm operators a relatively high wage for the additional labor required with irrigation. The irrigators should therefore have no difficulty in repaying construction costs, if a flexible repayment contract based on crop income is adopted to insure against undue hardship in low income years.

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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION
Region I - Boise, Idaho

FOR RELEASE to AM's of Friday, January 10, 1947

BOISE, Idaho.-- The Bureau of Reclamation awarded major contracts totaling \$50,000,000 in the Pacific Northwest during calendar year 1946 - one of the largest work programs ever undertaken by the organization in a single year - Acting Regional Director J. Lyle Cunningham said today.

Funds available for expenditure in the region during this period exceeded \$60,000,000, which includes current and prior years Congressional appropriations, he said. At the end of the year, work was proceeding on most of the contracts let in 1946.

Major activities included starting construction of irrigation facilities on the million-acre Columbia Basin Project, completion of the 45,000-acre gravity unit of the Roza Division of the Yakima Project, and initiation of construction of the 27,000-acre pumping unit, beginning of construction of Cascade Dam of the Boise Project in southwestern Idaho, virtual completion of the embankment for Anderson Ranch Dam of the Boise Project, initial delivery of water to the 50,000-acre North Unit of the Deschutes Project, completion of the 3500-acre Post Falls unit of the Rathdrum Prairie Project in northern Idaho, pre-construction work looking to early building of Palisades Dam in southeastern Idaho and Hungry Horse Dam in northwestern Montana, production of more than 4 billion kilowatt-hours of hydroelectric power at Grand Coulee Dam and in nine other Federal powerplants, and production of huge quantities of food and other crops on 14 irrigation projects.

The dollar value of construction contracts awarded by the Bureau in 1946

by projects was: Columbia Basin, \$42,897,141; Roza Division of the Yakima Project, \$1,191,505; Hungry Horse Project, \$1,453,098; Boise Project, \$4,125,476; Deschutes Project, \$602,832; Palisades Project, \$102,342; and Missoula Valley Project, \$232,707.

Preliminary reports point to approximately the same gross crop values on Reclamation projects in the Northwest in 1946 as those recorded in 1945, which totaled \$190,000,000. There were 2,097,000 acres of irrigable land on projects in 1946.

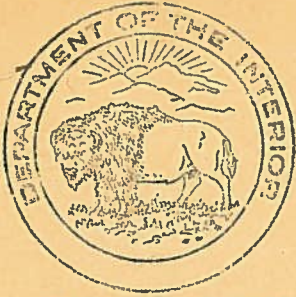
Plans were virtually completed for opening to homestead entry early in 1947 twenty-eight farm units on the Roza Division of the Yakima projects and 43 units on the Minidoka Project in southeastern Idaho. Qualified veterans will be given preference.

Investigation of 60 potential irrigation and multiple-purpose projects was advanced during the year. Reports will be submitted to Congress seeking authorization for construction of those projects found feasible from an engineering and economic standpoint. A report was completed on the water supply for the Palisades Project, involving far-reaching water conservation measures in the Snake River Basin.

One project was authorized for construction during the year, namely, the 3300-acre Lewiston Orchards Project near Lewiston, Idaho, which involves the rehabilitation of an existing system.

Construction during the year brought the work completed by the Bureau in the Pacific Northwest to the following stages:

Reservoir capacity, 11,731,507 acre-feet; length of canals and laterals, 4,946 miles; number of tunnels, 86; length of tunnels, 153,813 feet; number of storage dams, 30; number of diversion dams, 19; number of canal structures, 83,562; number of bridges, 3,557; number of powerplants, 10; capacity of powerplants, 693,300 kilowatts; number of pumping plants, 43; cubic yards of concrete placed, 13,419,460; number of barrels of cement used, 14,951,145; and cubic yards of material excavated, 157,703,957.



DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

BUREAU OF RECLAMATION
Region I - Boise, Idaho

FOR RELEASE TO AM's OF JANUARY 23, 1947.

BOISE, Idaho. - Every acre-foot of water delivered to the 25,000-acre Tieton Division of the Yakima Project since 1912 by the Bureau of Reclamation has been worth an average of \$55.24 in crops, C'deVere Fairchild, Yakima Valley farmer, declares in an article in the January issue of "The Reclamation Era,"

"Saying it another way every second-foot of water running for 24 hours has brought crop returns averaging \$109.56," Fairchild states. "Every year of the 34-year period the average annual crop returns - \$3,880,771 - have exceeded the total construction of the Tieton Division."

The Tieton Division on February 14 will become the first Federal Reclamation Project completely to repay its construction cost obligation. The Federal investment in the division is \$3,579,000. A gala celebration, to be attended by Secretary of the Interior J. A. Krug, is being planned by the Yakima-Tieton Irrigation District in cooperation with the Yakima Chamber of Commerce.

The writer declares that "controlled water, judiciously applied to fertile soil in a favorable climate, is the most valuable commodity on the face of the earth."

Fairchild, who participated in the Alaska gold rush, provides a graphic comparison between the value of the wealth taken from the Klondike and the value of water in the Yakima Valley.

"During the three years of 1943, 1944, and 1945, the valley raised crops valued at \$320,193,500, an amount greatly in excess of the Klondike production

in its entire lifetime," he explains. "During the last 20 years, from 1926 to 1945, inclusive, the productive valuation of the Yakima Valley was \$900,000,000, or more than three times the total Klondike production.

"Since we know that these irrigated areas will continue to produce through the centuries to come, it must be obvious to even the most casual observer that the recurring 'pay-streak' which is created in irrigated land by making available flood waters stored in Bureau of Reclamation reservoirs has and will continue to yield great wealth in the Yakima Valley, compared to which the gold of the Klondike is insignificant."

On the basis of a table prepared by Mr. Fairchild, which is included in the article, he states that during the 34 years of operation each and every acre of the Tieton Division which was irrigated in the last 34 years produced crops valued at \$5,185. In other terms, every 20-acre tract (the average size of Tieton farms) has produced \$103,700 in crops.

The article explains that while the gross crop returns from the Tieton Division admittedly are very high compared with average returns from Bureau projects in the 17 Western states, the figures nevertheless provide an impressive indication of the true value of water in western streams and of what the Nation is wasting in dollars and cents by not fully utilizing the run-off available.

"In comparing the economic worth of the Klondike glacial drift with the Yakima River, I want to emphasize that there was but one 'pay-streak' deposited by the glacier," Fairchild concludes. "When that was mined the final chapter had been written, whereas the Yakima River and its tributaries every year deposit a 'pay-streak' over the 400,000 acres of the Yakima Valley and in all probability they will continue to do so for centuries to come."