

Reclamation Service Ends Chaos

Order Comes To Valley's Irrigation

While the Bureau of Reclamation may have been a "Johnny-come-lately" in irrigation in the Yakima Valley, the federal department has developed into a pretty big "Johnny."

Thousands of acres were under irrigation in the valley when the Reclamation Service, predecessor of the Bureau of Reclamation, arrived on the scene in 1904 but many thousands of additional acres were there to be cultivated, if water could be delivered to them.

Survey Made

Reclamation engineers surveyed the situation and discovered that the area had tremendous potential but that the potential never would be realized unless something was done to control the water supply. Most of the districts drawing water from the Yakima and Naches rivers in those early days had filed on more water than they actually needed and, as a result, irrigating practices were wasteful.

The survey team recommended that the Reclamation Service enter the picture by building the Tieton Project, taking over the struggling Sunnyside Project, and by building dams to impound storage water on Bumping River and across the outlets of Kachess, Keechelus and Cle Elum lakes.

Approved

These proposals were tentatively approved in 1905 but, as a condition precedent, the federal government said all water rights along the Yakima and Naches rivers would have to be limited so there would be water enough to fully develop the entire area. The federal government also wanted the Reclamation Service to have control of storage water and to be responsible for the delivery of water to the various irrigation projects.

Water users saw the logic in the Reclamation Service's proposals and agreed to limit their water to more realistic figures. That put the federal government directly in the middle of the enormous project and today the Bureau of Reclamation controls nearly 100 per cent of the irrigation water in the valley and helped, through financing, the reclamation of approximately one-half the area under irrigation.

Work Started

When the Yakima Project was given the green light, the Reclamation Service started work on many fronts. There was the Sunnyside Project to be completed, the Tieton Project to be built, the dam on Bumping River to be erected, and dam work to be performed at the high lakes in the Cascade Mountains.

At the time the Reclamation Service took over the Sunnyside Project, Walter N. Granger and his various associates had spent \$1,700,000 building 42 miles of canals and 700 miles of laterals. Key to this project is the Sunnyside diversion dam which spans the Yakima River at the site of the diversion point for the Konnewick District. In return for this site the Konnewick District was assured 35 second feet of free water forever. This means that the Konnewick pays nothing — neither storage nor delivery fees — for its water. It also means that the 35 second feet to which it is entitled is a firm 35 second feet and is not subject to protraction in case of a water shortage.

Large District

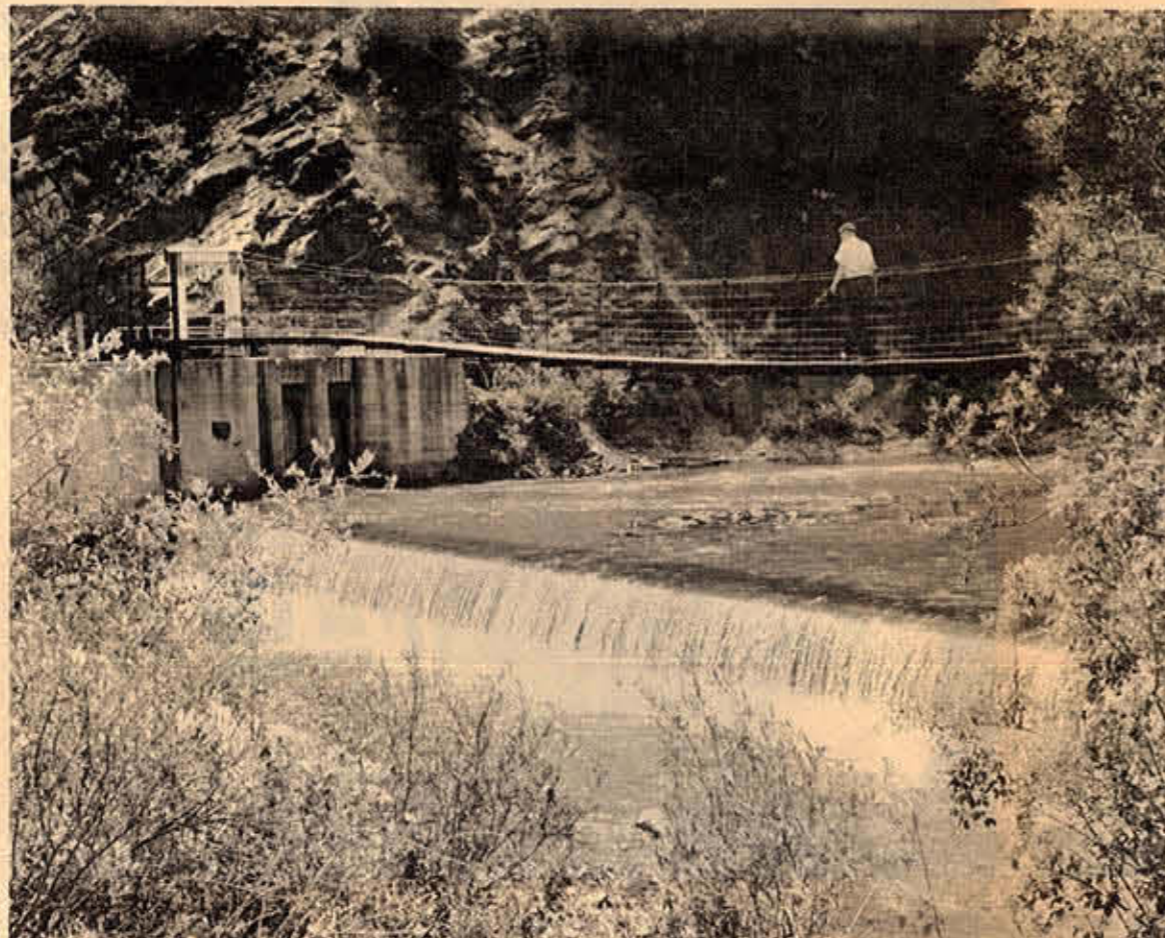
As the Sunnyside Project ultimately evolved, it contains approximately 103,000 acres in eight districts. They are the Grandview District with nearly 4,000 acres, Granger with 1,600 acres, Outlook with almost 5,000 acres, Prosser with a little more than 2,000 acres, Sunnyside Valley with more than 84,000 acres, Sunnyside with almost 5,000 acres, Snipes Mountain with almost 2,000 acres, and Zillah with about 100 acres.

Not all of this land, though, is under irrigation every year. The total in 1963, for example, was 80,000 acres. Some of the area is used for farmsteads, some for communities, some for highways and some lies fallow.

The Zillah's Irrigation District's 106 acres are a part of the Sunnyside Division that was formed primarily to provide water for lawns and gardens. While water is purchased from the Sunnyside Valley District, the Zillah district maintains its own pipelines and intakes.

End Of Line

The Sunnyside Division stretches from the diversion dam a few miles below Union Gap to the Benton City area. The Sunnyside Irrigation District, based at Benton City, is "end of line." All of the Sunnyside



FIRST TIETON DAM—The first dam to be built on the Tieton River was this diversion dam for the Tieton Project. Later dams were built at Clear Lake and McAllister Meadows but these later dams were for storage. Water diverted here through the gates on the far side of the river, reaches the Tieton-Cowiche area after going through a series of tunnels that were hacked through solid rock.

side's District's 4,630 acres are located north of the Yakima River. The district came into being on Oct. 8, 1912, but was not completed until four years later.

As soon as the Reclamation Service's involvement in irrigation in the Yakima Valley was approved, work was started on the Tieton Division on three fronts — a diversion dam on the Tieton River, the main canal to bring water from the dam to the project, and the project itself.

Road Built

First work on the "Canyon Division" was the construction of a road to the site of a diversion dam. Over this hand-made road were hauled 10,000 tons of supplies for the construction camp.

From the dam to the Valley Division, five tunnels, with a total length of more than two miles, had to be hacked through solid rock. This was in 1906, back in the days when men and muscle did the work of machines. Trail Creek tunnel was so difficult to build it was almost impossible to keep men on the job. Eventually hard rock miners had to be imported from Butte, Mont., to poke the holes through the rocks.

Financial Trouble

In spite of the difficulties, the Tieton Division was completed in 1912. Then new difficulties arose. The homesteaders encountered financial troubles and, in 1914, repayment methods were relaxed.

To give the Tieton Division a firm supply of water through periods of low water, the Reclamation Service decided to build a storage reservoir on the Tieton River. McAllister Meadows was surveyed from 1908 to 1914 but before work was started reclamation officials decided to erect a dam at Clear Lake.

Surveys showed that such a dam would impound 6,000 acre-feet of water but somebody made a mistake. When completed, the reservoir would hold only 2,000 acre-feet. The height of the dam was raised 18 feet but even then all the reservoir would hold was 5,300 acre-feet.

Retired

The Clear Lake Reservoir has been virtually retired and probably would have been abandoned by the Bureau of Reclamation had not the Forest Service offered in 1962 to repair the dam so the reservoir could be retained for its recreational value.

Work on the Bumping Lake Dam began in 1908 but before actual construction could be started a road had to be built. The snows came, though, and supplies had to be hauled in by pack train. A camp and corral, however, were set up by the damsite.

Dam Built

Work began on the dam in 1909. Before the pool could be filled, after the dam was completed, thousands of board feet of timber had to be removed. Since the area was so remote no buyers for the timber could be located all of the tree were burned.

When filled, the pool covered 1,350 acres. There was a small lake at the site, covering 650 acres, before the dam was constructed. The dam is 45 feet high and 3,400 feet long.

Work also was in progress on dams on the high lakes north and west of Ellensburg.

Rights Given

In 1903 the Cascade Canal Co. of Ellensburg built a low crib dam at Lake Kachess. In 1906 the Reclamation Service took over this dam and granted the

Cascade company perpetual rights to 16,800 acre feet of storage. Little work was done on the dam, however, until 1912 when a permanent structure was installed.

The new structure was built 1,700 feet below the normal outlet to the lake and the dam succeeded in raising the level of the lake 40 feet above the normal level.

During this early period, the dam at Keechelus was built across the Yakima River at the outlet of the lake and the dam the Union Gap Irrigation Co. had installed at Lake Cle Elum and which had been partially blown up by Granger's engineers, was repaired. This temporary dam remained in existence until 1933 when a permanent structure was installed.

Rimrock Dam

Following preliminary surveys at McAllister Meadows in 1908-14, plans for Rimrock Dam were ready in 1916 and work was started in 1917. The following year the site of the dam was moved a short distance down stream but, before the work could be continued, the work of Interior ordered construction stopped.

Work was resumed in 1921 and the dam was finished in 1925. Rimrock, a popular recreation area, is located 30 miles from Yakima. The reservoir is nine miles long and covers 2,700 acres.

Separate Divisions

The Yakima Project's storage capacity is so widespread and in so many parts, a separate division was organized to handle the work. The Storage Division consists of Bumping Reservoir with 33,700 acre-feet, Kachess Reservoir with 239,000 acre-feet, Keechelus Reservoir with 157,800 acre-feet, Clear Lake with 5,300 acre-feet, Rimrock Reservoir with 198,000 acre-feet, and Cle Elum Reservoir with 436,900 acre-feet.

The water is distributed through river channels to the headworks of 16 irrigation districts and 15 individual water users. Project lands range in elevation from 2,200 feet in the Kittitas Division to 400 feet in the Kennewick Division.

While the Kittitas Reclamation District and the Kittitas Division of the Yakima Project are separate and distinct entities, they are, in some respects,

the same thing; they cover the same area and are concerned with much the same problems.

The division was formed by the Bureau of Reclamation as a part of the Yakima Project and is concerned primarily with dams, canals, and laterals, and with supplies of water for the district. The district, meanwhile, is the organization of water users. The division is a federal entity and the district is strictly local.

The history of one, though, comes close to being the history of the other.

Early Plans

Plans for irrigating the Kittitas Valley date back to 1889. The Middle Kittitas Irrigation District was organized in 1891 to build a highline canal above the Cascade Canal and work actually was started. The project, though, had to be abandoned for lack of financing.

The following year the Kittitas Valley Canal Co. was formed to build a canal heading in the Yakima River near Easton but this project, like its predecessor, was abandoned.

In 1909 and 1910 the Reclamation Service made a survey of the previous surveys and in 1911 the Kittitas Reclamation District was organized under state law. The district determined that to build a highline canal to bring water to land above the Cascade Canal would cost in the vicinity of \$5,000,000. Even though the amount was large, a special election was called and the farmers voted in favor of a bond issue.

Between 1912 and 1918 several attempts were made to sell the bonds but no purchasers could be found even though the district had an agreement with the Yakima Project for the purchase of storage water in Lake Kachess and Lake Keechelus.

Help Sought

In 1919 directors of the district asked the federal government to construct the Kittitas Division and in 1921 farmers in the area approved a contract with the government for 260,000 acre feet of stored water at a cost of \$1,710,000.

Four years later the district and the federal government entered into a contract for the construction of the project at an estimated cost of \$9,000,000. At the same time the unsold bonds

authorized in 1911 were canceled.

Construction began in April, 1926, and was completed on Jan. 1, 1934. Total cost was \$9,002,653. The system includes a diversion dam at Easton and 328 miles of canals and laterals. Water is supplied solely from the storage capacity of the Yakima Project. The project envisioned the irrigation of 70,186 acres.

Other Ditches

At the time of construction 45,000 acres were being supplied with water by the Cascade, West Side and Town ditches. In addition, 30,000 acres were being irrigated from creeks. The new district did not include the acres under Cascade, West Side and Town ditches but did include the 30,000 acres otherwise irrigated.

The main canal of the system runs for 26.22 miles before it forms two branches. The North Branch Canal is 52 miles long and the South Branch is 14.15 miles long. The entire project Easton to 15 miles southeast of Ellensburg in what is known as Badger Pocket. The valley, though, is actually only 25 miles long and 14 miles wide at its widest point.

Water Released

In 1930 there were 10,906 acres under irrigation. By 1933 the acreage had been increased to 44,578 and in 1934, the first year of operation following completion of the project, the average had jumped to 52,071. While 70,000 acres were the goal, the project never has gone beyond 54,500 acres. Between 1940 and 1943 the land in the district was

reclassified and the potential acreage reduced to 57,400 acres and in 1944 the district released 30,000 feet of storage water.

In 1924, when the Reclamation Service was making some of its surveys, officials learned that much of the land under irrigation by means of the Cascade, West Side, and Town ditches had a high water table which was increased by irrigation. Some swamp land had developed and there was danger with increased irrigation.

Drainage Problem

The bureau suggested that natural creek channels be cleared, straightened and deepened and that in some instances drainage canals be constructed. None of this suggested work has been accomplished except on an individual, piecemeal basis. No drainage districts have been formed. However, it has been estimated that production on between 35,000 and 40,000 acres could be increased with proper drainage.

The Roza Division struggled existence. It was in the planning stage for years and some of the preliminary plans called for diverting water from the Tieton and Naches rivers.

As a step towards the construction of the project the Yakima-Benton Irrigation District was organized in 1920 but nothing was accomplished until 1935 when the project was authorized by the federal government.

Roza Delayed

Delays, however, were attendant to the project even after it was authorized and it was not until 1961—more than 25 years later—that the project was turned over to the Roza Irrigation

District, descendant of the Yakima-Benton district.

First contracts for the Roza were let by the Bureau of Reclamation in 1936 and by 1941 work had progressed far enough to irrigate 3,000 acres. Then progress slowed again, this time because of World War II, but by 1946 water had been brought to all the land that could be served by gravity. Four years later the project reached full utilization.

The Roza is unique in that it also generates 11,250 kilowatts of power to run the pumps needed to bring water to roughly one-third of the irrigable acres. The water used for power, however, is returned to the river for irrigation purposes.

Power Plant

The power plant generating this power was completed in 1958. The plant is located several miles downstream from the Roza diversion dam in the Yakima River Canyon. Water from the dam is carried through two tunnels at the end of which is the power plant.

was in the taking stage in the 1880's and a Delhaven Irrigation District was formed to take water from the Yakima River.

Talk, however, never irrigated any land and the district was dissolved in 1895 and its rights and interests transferred to the Northern Pacific Railway. There matters stood for several years but in 1909 the railway finally brought water to approximately 2,000 acres through arrangements with the Columbia Irrigation District.

The Northern Pacific operated the district for about 10 years and then transferred its interests to the Highland Water

Users Association which operated the Kennewick Highlands District.

Division Formed

In 1931 the Kennewick Division of the Yakima Project was formed and the Kennewick District, the only district in the division, was organized. Water, at first, was delivered through the Kennewick Canal of the Columbia District.

Work on the Kennewick Division was started by the Bureau of Reclamation in 1952 and first water was delivered in 1956. Water for the district is taken from the Prosser Dam on the Yakima River and is carried 10.6 miles downstream on the north side of the river to the Chandler Power Plant. At Chandler the water is lifted 100 feet across the river to the main irrigation canal on the south side.

At Chandler, the water does two things—it generates 12,000 kilowatts of electricity which is sold to help pay for the project and it operates hydro pumps to lift the irrigation water.

Old Unit

From the standpoint of irrigation, the Kennewick, with its predecessors, is one of the oldest in the area but from a standpoint of affiliation with the Bureau of Reclamation, it is the youngest district on the Yakima Project.

However, it may not hold this distinction long. Under study are plans to install a third pump at Chandler to irrigate an additional 6,700 acres. This work, if completed, will result in what will be called the Kennewick Extension.

A SPECIALIZED SOURCE of FARM CREDIT




**DEPENDABLE CREDIT FOR
Orchardists - Stockmen - Farmers**


**FOUNDED BY FARMERS...
FOR FARMERS!**

**PAY ONLY SIMPLE INTEREST...
ON THE OUTSTANDING BALANCE!**

**PCA KNOWS LOCAL CONDITIONS...
OFFERS TAILOR-MADE LOANS!**

**FINANCE EVERYTHING THE...
PRODUCTION CREDIT WAY!**



**PAY LESS
FOR
PRODUCTION
CREDIT
FINANCING**



CENTRAL WASHINGTON PRODUCTION CREDIT Assn.

402 N. 2nd St. P.O. BOX 198, YAKIMA, WN. GL 3-4781

**GET THE SEEDS
AND STOP THE WEEDS!**
with a
YAK WEED TRAP



★ Simple ★ Practical ★ Economical

Delivers the water clean! Nothing added.
No clogged valves. No plugged sprinklers.
Assures better crops. Is self cleaning.

Pat. No. 2,745,554 and 2,995,552
YAKIMA MACHINE & FOUNDRY CO.
712 South 1st Street