



USDA, Wilson



## Benefits of the Yakima Project

The Yakima Project has been a driving force in the economic status of the valley for almost a century. The project irrigates crops, generates power, reduces flood damage, and supports area recreation.

## What's the Yearly Value?

- Irrigated crops: \$1.3 billion
- Livestock industry: \$494 million
- Power generated: \$3.4 million
- Flood damage prevented: \$40 million
- Recreation: over 1.64 million visits - \$55 million



Kachess Lake in late summer



The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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# RECLAMATION

*Managing Water in the West*

## The Story of the Yakima Project

### WASHINGTON



U.S. Department of the Interior  
Bureau of Reclamation



## From a Desert to an Orchard

Delicious apples. Award-winning wines. Trellises of hops. Fields of cool mint. What was sagebrush-covered land only a few generations ago is now one of the richest agricultural areas in the Nation. How did this desert blossom into a fruitbowl?

Nature blessed the Yakima Valley with a mild climate and rich soils, but less than 7 inches of annual rainfall kept the land arid. Wild game, fertile land, and grass for cattle lured settlers to the valley in about 1860. They quickly recognized the value of water in the many rivers and streams that tumbled from the slopes of the Cascades. In 1864, the valley's first irrigation ditch delivered creek water to a vegetable garden above a Catholic mission. The transformation had begun.



Sorting apples in an early orchard

## An Agricultural Boom

Private water companies irrigated potatoes, wheat, hops, and alfalfa on ever-larger tracts of land in the 1870s and 1880s. Then, in 1886, the Northern Pacific Railroad rumbled into the valley. Local farmers began shipping crops to distant markets. Agriculture boomed and so did irrigation. By 1900, over 120,000 acres used irrigation water. There were more fertile lands to irrigate, but the natural flow in the river was insufficient.

## Half a Century in the Making

Congress passed the Reclamation Act in 1902 to help develop the arid West. Reclamation began creating water storage and irrigation networks by looking into locally supported projects. The Yakima Valley citizens wanted more dependable water supplies to help them further develop the valley's agriculture. In 1903, they petitioned the Secretary of the Interior for help. This marked the beginning of the Yakima Project.

Between 1905 and 1958, Reclamation built several river diversions and canals. The project includes six reservoirs that catch and hold over a million acre-feet of spring runoff in the Cascade Mountains. In a normal water year, this provides a reliable water supply for Yakima Valley farmers for the entire growing season.

## Building on Natural Lakes

Four of Reclamation's Yakima Project reservoirs were built at existing mountain lakes. Cle Elum Dam closed a 60,000-year-old break in a natural glacial dam. Bumping Lake, Kachess, and Keechelus Dams store additional water in natural lakes. These reservoirs help reduce downstream flood damage.

## A Shift in Irrigation

As the irrigated lands matured, the earlier staples of potatoes and wheat became less profitable. Farmers began growing fruits, such as apples and grapes. Soon, the valley's rolling pastures and farms became a forest of orchards and trellises, with dairy farms and grazing sheep scattered throughout.



Cattle grazing near hops trellises

## Keeping the Dams Safe

The project's major dams were built between 1910 and 1933. As they age, Reclamation keeps a watchful eye through the Safety of Dams program to ensure the dams meet modern safety standards. In the last 30 years, Reclamation has modified Bumping Lake, Cle Elum, Clear Creek, Kachess, and Keechelus Dams under this program.



Kachess Dam and Lake

## Paying for the Project

The Chandler and Roza hydroelectric powerplants use project water to generate power. The Bonneville Power Administration sells this power to help repay the costs of building the project. Water users, organized into several irrigation districts, also help pay these costs. Ultimately, water users and revenues from power generation will repay about 97 percent of the total construction costs.





### Protecting Fish and Wildlife

Congress created the Yakima River Basin Water Enhancement Project to make the Yakima Project more friendly to the environment. Over several decades, fish passage in the Yakima Valley has evolved from an art to a science. Reclamation builds fish ladders and fish screens to help protect salmon, steelhead, and bull trout. Under the Water Enhancement Project, Reclamation purchases or leases water from willing sellers to leave in the rivers for fish and wildlife.

### Bumping Lake Dam

Constructed: 1909 1910  
 Height: 61 feet  
 Crest Length: 3,425 feet  
 Water Storage (Bumping Lake):  
 33,700 acre feet

### Cle Elum Dam

Constructed: 1931 1933  
 Height: 165 feet  
 Crest Length: 1,800 feet  
 Water Storage (Cle Elum Lake):  
 436,900 acre feet

### Clear Creek Dam

Constructed: 1914 1915  
 Height: 83 feet  
 Crest Length: 404 feet  
 Water Storage (Clear Creek):  
 5,300 acre feet

### Kachess Dam

Constructed: 1910 1912  
 Height: 115 feet  
 Crest Length: 1,400 feet  
 Water Storage (Kachess Lake):  
 239,000 acre feet

### Keechelus Dam

Constructed: 1913 1917  
 Height: 128 feet  
 Crest Length: 6,550 feet  
 Water Storage (Keechelus Lake):  
 158,000 acre feet

### Tieton Dam

Constructed: 1917 1925  
 Height: 319 feet  
 Crest Length: 920 feet  
 Water Storage (Rimrock Lake):  
 198,000 acre feet

1 acre-foot of water is enough water to cover 1 acre of land 1 foot deep in water, or 325,850 gallons.



### Fishing Opportunities

Fishing occurs both in the project reservoirs and in the Yakima River downstream from the reservoirs. Anglers catch trout and kokanee in the mountain lakes and reservoirs. They catch trout, salmon, and small mouth bass in the Yakima River.



### Recreation: Something for Everyone

Surrounded by thick, evergreen forests, the project's reservoirs nestle jewel like into the rugged Cascade terrain. The major reservoirs are surrounded by the Mt. Baker Snoqualmie and Wenatchee National Forests.

Each year, almost two million recreation enthusiasts converge on the project's reservoirs for camping, hiking, swimming, boating, rafting, and fishing. The water has also created habitat for resident and migratory birds such as ducks, geese, cranes, eagles, and osprey.



### Almost Anything Will Grow

With a little water, almost anything will grow in the Yakima Valley. Project lands boast some 60 different crops, including wheat, alfalfa, hops, peppermint, spearmint, asparagus, sweet corn, grapes, apples, cherries, pears, and peaches.



The wide variety of fruit, vegetables, seeds, field crops, and cereal grains make the Yakima Valley one of the top agricultural producers in the country. Yakima County ranks first in the United States in apple, mint, and hops production.



### Water for Residents

Yakima Project water finds its way to serve nearly everyone in the valley. More than 250,000 people receive some type of water service from the project. The Wapato Irrigation Project, operated by the Bureau of Indian Affairs, is one of the largest groups receiving water. The project irrigates over 130,000 acres on Yakama Nation lands south of Yakima.



### Spinoff Industries

The project is an economic giant. Irrigated agriculture has created spinoff industries, such as canneries, wineries, creameries, fruit packing plants, and juice factories to process locally grown crops.



### Generating Power

The powerplants at Chandler and Roza generate a combined 105 million kilowatt hours of electricity per year. This is enough electricity to supply almost 8,000 typical homes.