

# History of Large-Scale Western Water Projects

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Early in U.S. history, public policy was fashioned to encourage settlement of the West. Laws such as the Homestead Act of 1862 and the Desert Lands Act of 1877 were framed to transfer lands acquired by the federal government to individual settlers. These acts and their accompanying policies were intended to foster the spread of small farms in the sparsely inhabited states and territories; however, lack of water was an impediment to developing extensive tracts of agricultural land. Although there were early efforts by private irrigation companies to develop projects, these companies lacked the resources to successfully develop and operate large-scale projects.

Large-scale water development projects in the West were largely fostered by the passage of the Reclamation Act in 1902, which provided funding for the construction and maintenance of western irrigation projects. For administration of the program, the Act created the Bureau of Reclamation (Reclamation, originally called the Reclamation Service). Other institutions—including the U.S. Army Corps of Engineers and state and local agencies—also constructed large-scale water infrastructure, but Reclamation projects outnumber all other such projects in the West.

With passage of the Reclamation Act, Reclamation was charged with making the desert bloom, to encourage settlement of the arid West, which then comprised thirteen states and three territories. In its first annual report (1903), Reclamation had this to say about the prior lack of planning for water supplies and water rights when subdividing public lands for homesteading: “To remedy this evil so that the remaining public lands



Campaign poster from 1933. President Franklin Roosevelt authorized the Central Valley Project in 1935. Image courtesy of California Department of Water Resources.

will furnish the greatest possible number of homes, is an object worthy of the sustained effort of enlightened and patriotic citizens...There remain, however, vast areas of public lands which can be made available for homestead settlement, but

only by reservoirs and mainline canals impracticable for private enterprise. These irrigation works should be built by the National Government. The lands reclaimed by them should be reserved for actual settlers...”.

The first federal project constructed under Reclamation Act authority was the Newlands Project, which entailed building a small dam on the outlet of Lake Tahoe in California along with storage and distribution works in Nevada, to irrigate lands in Nevada. The project was named after Nevada Senator Francis Newlands who was a staunch supporter of a federal reclamation program. Other projects soon followed, including the Yuma Project on the Colorado River (authorized in 1904) and the Klamath Project on the California-Oregon border (1905).

Additional public policy purposes were subsequently attributed to Reclamation programs. The goal of rural electrification was soon incorporated in project planning, followed by extensive development of hydroelectric power resources, such as in Washington’s Columbia River Basin, to provide inexpensive electricity to municipalities and to encourage industrial development. Creating public works jobs during the Great Depression, in coordination with the Works Projects Administration, was an explicit purpose behind authorization of such major undertakings as Hoover Dam on the Colorado River (constructed 1931 to 1935), Grand Coulee Dam on the Columbia River (1933 to 1942), and Shasta Dam of California’s Central Valley Project (1938 to 1945). Shasta Dam was originally planned as a state facility, but was picked up by the federal government when the Depression rendered California unable to issue bonds for its construction.

A few nonfederal large-scale water projects were constructed during this time. The largest of these were built to serve cities whose growth outstripped their local surface water sources. In northern California, East Bay Municipal Utility District's Mokelumne River Aqueduct was completed in 1929 to serve water to Oakland and Alameda County, while San Francisco's Hetch Hetchy Aqueduct (completed in 1934) brought water from Yosemite National Park. In Southern California, the Los Angeles Department of Water and Power finished construction in 1913 on the Los Angeles Aqueduct, bringing water from the Owens River. The Metropolitan Water District of Southern California supplemented Southern California's water supply by constructing the Colorado River Aqueduct (completed in 1941).

The post-World War II years saw a surge in Reclamation project construction, with such construction initially envisioned as an economic stimulus useful in achieving the transition to peacetime, and later as a natural accompaniment to the post-war economic boom. Senate Resolution 205 in 1943 explicitly recognized the relationship between public works development and economic stimulus, authorizing the Committee on Irrigation and Reclamation to investigate opportunities for developing reclamation projects in California to combat expected post-war unemployment. Reclamation, in a 1944 report prepared for the committee in response to this authorization, noted that:

"On the day when World War II ends.... California will be face to face with the problem of conversion from a wartime to a peacetime economy....Care must be taken not to lose sight of the long range objective, namely the maximum utilization of California's natural resources to promote the continued growth and prosperity of the state....The construction necessary to harness the streams of California would provide immediate, though temporary, employment for a great number of people in California, directly, and for thousands of others in the United States, indirectly. Once the works were built, the new undeveloped water, power and land

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*"There remain vast areas of public lands which can be made available for homestead settlement, but only by reservoirs and mainline canals."*

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### **Roosevelt Sets the Stage**

On Dec. 3, 1901, in his first State of the Union message, President Theodore Roosevelt spoke about the need to "regulate and conserve the waters of the arid region," setting the stage for the Reclamation Act that would be passed the following year. Among his statements:

*"It is as right for the National Government to make the streams and rivers of the arid region useful by engineering works for water storage as to make useful the rivers and harbors of the humid region by engineering works of another kind."*

*"In the arid region it is water, not land, which measures production. The western half of the United States would sustain a population greater than that of our whole country today if the waters that now run to waste were saved and used for irrigation."*

of the state would be available for the expansion of agriculture and industry...."

California's post-war economic boom and population growth did in fact spur development of its State Water Project (SWP), whose main facilities were under construction in the 1960s. With some 660 miles of aqueduct, 20 dams, and 26 power and pumping plants, the SWP is comparable in size to the largest Reclamation projects,

but unlike those projects it was constructed to serve primarily urban needs.

Throughout the West, construction of new Reclamation projects and expansion of facilities at existing ones continued into the 1970s, then slowed in response to several factors, including the nascent environmental movement, reduced federal financial support for water projects, and the build-out of the most feasible projects and dam sites. Changing societal values were reflected in the enactment of federal legislation such as the National Environmental Policy Act in 1969, the Federal Water Pollution Control Act (Clean Water Act) in 1972, and the Endangered Species Act in 1973. The last of the traditional large-scale Reclamation projects to receive congressional authorization was the Central Arizona Project, authorized in 1968, with construction beginning in 1973.

By 1987, Reclamation was undertaking a strategic planning process to identify a "new direction" for itself. In that process, it noted that:

"The Bureau's primary role as the developer of large federally financed agricultural projects is drawing to a close....The goal has been attained—the arid West essentially has been reclaimed.... Major agricultural water and power projects are becoming increasingly difficult to justify from an economic, budgetary, and environmental perspective."

The face of the West has changed dramatically since the 1902 inception of a federal effort to develop irrigation projects to encourage settlement of the arid West. Demographers say that the West is now the most urbanized region of the nation (based on the percentage of the population living in cities), as well as the region experiencing the greatest population growth. With these changing circumstances, some of Reclamation's agricultural projects, such as Arizona's Salt River Project, have become primary providers of urban water and power services.

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