

# Water Review

*A Perspective On Western Water Issues Prepared By The Family Farm Alliance And Its Members*

IDAHO

## The Minidoka Project

Water Users, USBR Seek Multi-Million Dollar Fix to Aging Spillway

### BACKGROUND

The Minidoka Project, identified in 1902 as one of the most promising irrigation developments in the entire West, has its roots in a decision by the Secretary of the Interior to withdraw 130,000 acres of land from homestead filings on the north and south side of the Snake River to be set aside for the project. Crews began surveying on the Minidoka Dam site in March of 1903. After 100 years of continued use, the concrete dam spillway is reaching the end of its functional and economic lifespan. The rehabilitation of the Minidoka Dam spillway is typical of the numerous water infrastructure projects that are aging and require repair throughout the Western United States.

### PROJECT DESCRIPTION

Minidoka Project lands extend discontinuously from the town of Ashton, in eastern Idaho along the Snake River, about 300 miles downstream to the town of Bliss in south-central Idaho. The Minidoka and Palisades Projects that serve this area collectively furnish irrigation water from reservoirs that have a combined active storage capacity of more than 4 million acre-feet.

The project works consist of Minidoka Dam and Power Plant and Lake Walcott, Jackson Lake Dam and Jackson Lake, American Falls Dam and Reservoir, Island Park Dam and Reservoir, Grassy Lake Dam and Grassy Lake, Palisades Dam, two diversion dams, canals, laterals, drains, and some 177 water supply wells.

Various components of the Project are operated by the Minidoka Irrigation District, Burley Irrigation District, American Falls Reservoir District No. 2, Fremont-Madison Irrigation District, and the A&B Irrigation District. All storage and power facilities are operated by the U.S. Bureau of Reclamation.

### MINIDOKA SIGNIFICANCE

“Minidoka farmers turned empty desert into productive fields within only a few years,” says Randy Bingham, general manager of Burley Irrigation District. “The history of the Minidoka Project, however, is more than a parade of statistics. It is more than the alteration



U.S. Bureau of Reclamation

***Minidoka Dam and Reservoir in Idaho***

of an ecosystem. Ultimately, it is the story of the men and women who settled the land.”

The Project provides water for livestock, sugar beets, cereal grains, beans, seeds, potatoes, and other vegetables. In generally, livestock brings in roughly one-half of total Project revenues, while potatoes and

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## OPTIONS EVALUATED BY USBR IN MINIDOKA REPAIRS

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beets normally contribute one-third, and cereals and beans one-fifth to one-sixth.

The Project also creates significant amounts of hydroelectricity as a byproduct.

Another byproduct of the Project is the 500,000 acre-feet of water lost annually from the reservoirs and canal systems into the Snake River Aquifer. These "losses" have helped make the aquifer a source of domestic drinking water and irrigation supplies.

### ISSUES

The Minidoka Dam and Spillway was built between 1905 and 1907, and the spillway pillars were built in the fall of 1909. The integrity of the concrete mix used at that time was inconsistent.

During the winter of 1926-27, the full reservoir behind the dam froze over. The ice pressure on the spillway broke, and the spillway crest actually moved about six inches in three locations. In the late summer of 1927, holes were drilled in the 2,200 foot spillway, and rebar was driven into the concrete to hold the structure in place. Since that time, the reservoir has not been allowed to fill during winter months.

The gated spillway structure has been evaluated by the Bureau of Reclamation, which has recommended that it be replaced, since the entire structure is at risk of failure.

The dam directly provides water for over 4,000 family landowners on about 120,000 acres of irrigated land. The facility also regulates other users that impact 500,000 acres and 15,000 farm units.

Should the dam fail during growing season, irrigation supplies

would be interrupted, potentially leading to crop damage and economic losses in the hundreds of millions of dollars. A failure during spring and winter months would likely cause considerable flood damage and possible loss of life downstream.

### SOLUTIONS

Because the consequences of even partial spillway failure during an irrigation season would be unacceptable, spillway rehabilitation efforts are now under way.

An appraisal-level study of possible alternatives has been completed. Alternatives under consideration include:

- Encapsulating the old spillway.
- Constructing a new spillway weir downstream.
- Installing new radial gate sections.
- Installing inflatable rubber dams. Initially, it appears that the rubber dam alternative and the construction of a new

spillway section downstream will provide the most cost-effective solution.

Preliminary cost estimates for spillway rehabilitation materials approach \$17 million, with a total project cost estimated at \$35 million.

Local water users will be responsible for about half of the total cost.

Reclamation's budget plans include starting work on compliance with National Environmental Policy Act (NEPA) in fiscal year 2007.

Design, permitting and a three-year construction period will result in a completion date in fiscal year 2012.

The expected project timeframe will give the local districts about eight years to collect funds from district patrons to meet their financial obligations for the spillway rehabilitation.



**TO LEARN MORE:** Please contact the Burley Irrigation District by telephone at (208) 678-2511 or e-mail at [bid@atcnet.net](mailto:bid@atcnet.net).

### FAMILY FARM ALLIANCE

P.O. Box 216  
Klamath Falls, Oregon 97601