



## From Arrowrock to Anderson Ranch: Creating Storage for the Future in Idaho's Treasure Valley

By Daren Coon

An individual needs to look at marginal proposals when discussing water storage. As Idaho's population grows, those proposals become less marginal and much more viable. Irrigation leaders in the region have had the foresight to look 50 to 100 years into the future and have seen the need to create more water storage along the Boise River—not only for irrigation, but also for domestic consumption, industry, and flood control. Since 1989, the Nampa and Meridian Irrigation District (NMID) has promoted the creation of additional storage along the Boise River.

### Our Forefathers' Foresight

Since the late 1800s, leaders in the Treasure Valley have continually sought to secure and enhance water supplies for the region. Prior to World War II, the U.S. Bureau of Reclamation crafted an elaborate plan to bring water from the Payette Division of the Boise Project via tunnels and open channels to what would become Anderson Ranch Dam. This water could then be transferred from Anderson

to other reservoirs. Although that larger plan did not come to fruition, Anderson Ranch Dam did. More recently, the Idaho Water Resources Board, with the support of NMID, investigated the potential for the development of the Twin Springs Dam, which was to be located on the middle fork of the Boise River as part of Reclamation's Boise Project. Twin Springs lost momentum, however, due to environmental and other reasons, and attention shifted to other locations along the Boise River.

### Raising the Dam

Another proposal to create more water storage was to raise the height of Arrowrock Dam. The 350-foot concrete structure was built to confine the Boise River above the city of Boise in 1915 and serves as one of the main reservoirs supplying the Treasure Valley. This idea is akin to taking a fairly good tooth, grinding it down, putting a cap over it and building it up. What kind of longevity can you expect from that kind of work?

To answer that question, Congress authorized funding to conduct a feasibility study regarding raising the height of Arrowrock within the Water Resources Development

Act (WRDA) of 1999, which called for a flood control study—that section of the WRDA was later amended (section 4038 of WRDA 2007) to add water supply and ecosystem restoration to the study.

In 2009, the Idaho Water Resources Board (IWRB) and the U.S. Army Corps of Engineers signed off on an interim feasibility study to evaluate public safety concerns related to flooding and the potential for more water storage along the Boise River. The interim study indicated that raising Arrowrock would be the best option to address flood and water supply risks. The remainder of the study looked at hydrology and the estimated costs on a dam height increase of up to 74 feet.

The cost-benefit ratio was not in favor of raising the dam. On May 18, 2016, the Army Corps study team presented its findings to the IWRB Water Storage Committee; unfortunately, by putting the study obligation on the back of the Army Corps, Congress inadvertently dug a pitfall for the project. The Corps' main concern is flood control, with additional storage a secondary concern. Reclamation, which deals in water storage and delivery, was more likely to have placed a higher value on the benefits of stored water for irrigation and residential delivery, along with flood control.

## Looking Upriver

Some of us in the district knew that the Arrowrock proposal was not likely to succeed. Even if there was a glimmer of hope for the study to come out in favor of raising the dam, the project would have been multiple decades from completion. Consequently, at the same time we were discussing the Arrowrock idea, we were also discussing raising the height of Anderson Ranch Dam, which was completed in 1950 and holds a maximum capacity of 493,000 acre-feet of water.

In 2006, Reclamation issued the Boise/Payette Water Supply Assessment, which included raising Anderson Ranch Dam as an alternative to raising Arrowrock Dam. Reclamation is currently undertaking a feasibility study of raising the dam—not for flood control purposes, but for additional storage.

For all intents and purposes, raising Anderson Ranch is more viable than raising Arrowrock. While the amount of water gained from raising Anderson Ranch is really small compared to Arrowrock, the price points are very good—somewhere around \$3,000 an acre-foot. A modest rise in height of 6 feet would create about 39,000 acre-feet of storage. The reservoir fills often enough that all the additional storage would be beneficial to the valley: A thousand acre-feet of water serves a lot of households and people. At that scale, the cost-benefit ratio becomes practical.

## Current Activities

NMID, fellow districts in the Treasure Valley, and the IWRB are in active pursuit of the Anderson project. Fortunately, Reclamation has already done a lot of work on the project, so there is already a great deal of scientific and engineering information available. To move forward with the next level of study, we need to reach a 50 percent participation level from interested parties to share the costs.

We are currently just 7 or 9 percent short of reaching this goal. Reclamation is reaching out to potentially interested parties in the valley. We aim to reach that goal by late September. With the backing of NMID, which is the largest district in the state, and the city of Meridian, there is momentum in the right direction.

## The Cost of Inaction

With the population of the Treasure Valley expected to grow by 2 million people in the next 100 years, the cost of inaction is profound. The ability to sustain a population of that size must be addressed prior to the need becoming critical. How long can you put off doing something before you find yourself in dire straits?

Without additional storage, the valley will have to pump more groundwater, which is a limited resource. The dams of the Boise River were built at a time when science was not focused on climate and how things would change over the centuries. Relative to today's conditions and climate, those dams were constructed at a time when there was a lot of water.

Currently, we need more storage to accommodate two things: (1) climate change and (2) population growth. To do nothing would lead to disaster.

NMID, its fellow irrigation districts in the valley, and the IWRB spent years looking at Twin Springs. We have also spent years hoping for positive feedback regarding raising Arrowrock. The Arrowrock idea had quite a bit of momentum, but the Army Corps conducted its assessment and determined (within the agency's frame of reference) that the costs of construction outweighed the benefits of flood control and water supply.

During the time that these ideas were being considered and rejected, however, we were continuing to look at all our options. As a result, we look forward to working with Reclamation to move on with the study of raising Anderson Ranch Dam and move down the path to construction.

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