



Institute researches, resolves water conflicts

By ALIYA HALL
For the Capital Press

CORVALLIS, Ore. — Todd Jarvis, director of Oregon State University’s Institute for Water and Watersheds, got his first introduction to water issues at 8 years old when he visited a hot springs. He said that experience instilled in him the mystery of how water got hot and its source. Water is connected to everything. From health to science to agriculture, water makes people wealthy in terms beyond monetary, he said, and the institute was designed to support water resource research and



Todd Jarvis

institute has had many missions over the years — from researching water quality to outreach. Now, its focus is on nitrates in ground water, using water for environmental flows and projects dedicated to agricultural water. One of the biggest projects that Jarvis said the institute is focusing on is aquifer storage and recovery, which studies storing water below

technology. Established 56 years ago by the 1964 Federal Water Resources Research Act, the institute has had many missions over the years — from researching water quality to outreach. Now, its focus is on nitrates in ground water, using water for environmental flows and projects dedicated to agricultural water. One of the biggest projects that Jarvis said the institute is focusing on is aquifer storage and recovery, which studies storing water below ground in aquifers. While most regions are using it for drinking water, Jarvis said in Eastern Oregon farms want to expand aquifer recharge to agricultural uses. One group is even trying to repurpose an old dam that never held water into an aquifer storage and recovery facility. “A challenge in Oregon is we’ve built dams everywhere we could, but we need more storage,” Jarvis said. The institute also has an interest in water when it comes to growing food and working with energy sources, such as growing high-nutrition crops in the same place as solar panels.

“Many in the agricultural industry feel that when solar panels are placed it condemns the area to (only) solar panel use, and we’re trying to show that’s not the case; there’s multiple uses,” Jarvis said. There are multiple challenges associated with the research, but Jarvis said groups are working toward innovative solutions. At the 2018 Deschutes Basin Water Summit, he said, one of the board members from the northern basin, which is dealing with habitat conservation, said that if a solution can be found in the north end, then the south end won’t have any issues. “Instead of a fight over

water that’s dedicated to endangered species, it’s ‘let’s work with that so we can make our water situation and water environment better,’” Jarvis said. Another future challenge is regional governance over water sources and funding for experiments. Jarvis said that unlike other Western states, Oregon is a newcomer to investing in water development. He said Oregon relies heavily on federal funding, and it needs to be “more aggressive to invest in water development with our own funds.” One solution, he said, is having a fee associated with using water, and selling water to others. Jarvis first

heard the idea in Pendleton 10 years ago, but he said it should be “dusted off and looked at again.” Despite the challenges in water research, Jarvis said that there is still an element of exploration. “Most of my life was focusing on finding water for people to drink, and it was always rewarding to see a water district manager come up to a brand new well I drilled, take a glass of water, drink it and smile,” he said. “Everyone loves water and it’s fun to talk about. Oregon is known for being the knowledge center of water globally — the world looks to us in many fronts.”

Irrigation district launches \$900,000 head gate modernization

By DIANNA TROYER
For the Capital Press

A new \$900,000 head gate is modernizing the New Sweden Irrigation District in eastern Idaho. It replaces a 127-year-old structure that withstood a devastating flood when the Teton Dam burst in 1976. “The water washed away the ground around it, but the gate stood intact,” said Kail Sheppard, district manager. The sturdy concrete and rock gate with its four arched panels span 90 feet. For more than a century, members of Idaho’s oldest irrigation district have relied on it. Though it withstood a disaster, age has recently caused it to decline. “Last spring, we noticed mortar was beginning to deteriorate where a gate hinges into a pier,” Sheppard said. “It couldn’t be patched. High water would put too much pressure on that gate.” The new gate will have three 15-foot-square partially automated panels that will be lifted with electric motors. “Right now ... two guys use hand cranks to raise it,” Sheppard said. When engineers advised district members west and south of Idaho Falls to tear down the 127-year-old Great Western Canal head gate, they refused.



Dianna Troyer/For the Capital Press

Kail Sheppard, manager of the New Sweden Irrigation District, says members wanted to keep historic 127-year-old head gates. Mortar is beginning to deteriorate at one head gate, which prompted a modernization project and the erection of new gates 70 feet upstream. “Our members definitely want to keep it because it’s such a big part of our history,” said Sheppard. “We’re Idaho’s first irrigation district. Private irrigation companies are older, but as a district this is the oldest one in the state.” A new structure is being built about 70 feet upstream from the

original gate and should be completed by March 1, 2019. The main canal is 35 miles long, and the entire system has about 125 miles of waterways. “Our system provides irrigation for about 39,000 acres, with 28,000 acres within the district,” Sheppard said. “We carry water for small canal companies, too.” Members are financing the \$900,000 project with a loan. “We were able to get a good interest rate at a bank and plan to pay it off in five years,” he said. The project made Sheppard, 56, reflect on the district’s history and his family’s heritage. In the office, he can point to a map showing where his great grandfather from Sweden, Albert Hjelm, arrived in 1903 and eventually farmed west of Firth. Land in the district was developed when Chicago investors formed a private company, the Great Western Canal Company, and built the main head gate in 1891. They recruited Swedish farmers in the Midwest after a drought devastated their livelihoods. The company eventually defaulted on the loan that financed the project. In 1900, local farmers bought the system for \$65,000 and established the district. “At the time, they began making improvements to it,” Sheppard said. “We hope the new head gates last more than a century like the original ones have done.”

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