

Growers have been moving away from flooding since late 1960s

IRRIGATION from Page 1

Unlikely partnerships of agricultural landowners, conservationists, government officials and water managers are behind efforts to keep farmers flooding fields in Idaho, Oregon, Washington and California. During the past year, Colson estimates the movement has maintained flood irrigation on roughly 4,000 acres across the West.

"For 15 or 20 years or more, the conservation community has been telling people how wasteful flood irrigation is and convert to sprinkler," Colson said.

Farmers have relied on flood irrigation — using gravity to spread surface water across fields — for thousands of years.

Since the late 1960s, however, growers have been moving away from flooding in favor of more efficient sprinklers. On average, 120,000 acres in 11 Western states were converted from flood irrigation to sprinklers annually between 1995 to 2010, according to a study of U.S. Geological Survey water-use data.

Unintended consequences

Conservation funding sources, such as the Environmental Quality Incentives Program under the USDA Natural Resources Conservation Service, have long supported sprinkler conversions with water-efficiency grants.

But the pursuit of efficiency has had unintended consequences. Migratory wading birds feed in flood-irrigated fields, which have provided an artificial alternative to the natural marshes lost to river damming. And Western aquifer levels have dropped in correlation with the disappearance of flood irrigation — historically a major source of incidental aquifer recharge.

In Idaho's Eastern Snake Plain, for example, officials say the aquifer has been dropping by 200,000 acre-feet per year on average, due to increased groundwater use and reduced flood irrigation.

Zola Ryan, NRCS district conservationist in Harney County, Ore., says her agency's goals of improving irrigation efficiency and preserving flood irrigation needn't be at odds.

Ryan explained efficient sprinklers are ideal for irriga-



John O'Connell/Capital Press

Amey Verbeten, front, and Sara Lien, both with Friends of the Teton River, join Driggs, Idaho, grower Wyatt Penfold on a tour of a former marsh that has been dry in recent years due to declining groundwater levels. They're all part of a program to use flood irrigation to replenish a declining aquifer, and help wildlife.

tors using groundwater, and watering where benefits of flooding aren't as pronounced.

"There is a place and time for flood irrigation and a place and time for sprinkler irrigation," Ryan said.

The projects

Colson and his colleagues have been working to understand — and ultimately address — the reasons growers opt to stop flood irrigating.

Often, the problem is the cost of replacing dilapidated head gates or improving canals. Some producers say flood irrigation is simply too labor intensive.

"We're working with some vendors to develop automated infrastructure, where they can sit in their truck and use their cellphone and open the valves (to flood irrigate)," Colson said.

In Eastern Oregon, Ryan explained many growers quit flood irrigating in the early 1980s, after widespread flooding damaged canals. New wells and sprinklers are becoming increasingly common, she said.

However, NRCS has since 2014 set aside \$300,000 a year for a special EQIP program to preserve flood irrigation for benefits to migratory birds in Oregon's Harney and Lake counties. A half-dozen projects are in the planning stages, Ryan said.

Lake County rancher Joe Villagrana will finish NRCS-funded improvements to retain flood-irrigation later this month. But he's been

working with partners to upgrade his flood-irrigation infrastructure for most of a decade, initially with help from Ducks Unlimited. Villagrana said he'll soon have the ability to evenly flood irrigate 2,200 acres of meadow grass pasture, and both grass production and water fowl numbers have already risen dramatically on his land.

Without the help, "I probably wouldn't have done near what I've done, and I would have done it over 20 years," Villagrana said.

In Northern California, Ducks Unlimited regional biologist John Ranlett has tapped U.S. Fish and Wildlife Service funds to help several ranches install pipelines to better deliver water for flood irrigation. Ranlett has also overseen the replacements of weirs — shallow dams across rivers that regulate water levels entering flood-irrigation canals.

"If their infrastructure starts to fail, they're going to lose the ability to irrigate," Ranlett said. "Then all of a sudden you lose habitat."

The birds

A couple of years ago, Tim Brockish considered installing an irrigation pivot that would replace failing flood-irrigation infrastructure serving a 40-acre field he owns near Rexburg, Idaho.

Then he learned about the plight of the white-faced ibis — a migratory wading bird known as a "marker bird" by people in the Rexburg area, as

its presence marks flood-irrigated fields.

Brockish explained that one of the world's largest ibis breeding colonies utilizes nearby Mud Lake and Market Lake, and the birds forage in flooded fields by day. The supply of flooded fields, however, is running thin, causing problems for the ibis and other migratory birds in one of the continent's most critical "staging areas."

More than a decade ago, experts discovered migratory birds were stopping for a few weeks along the Snake Plain in Idaho and in Eastern Oregon, Eastern Washington and Northern California to feed on insects and grass seed from flood-irrigated fields before heading north to breeding grounds in Canada and Alaska. Malnourished birds often won't breed.

Ultimately, Brockish chose wildlife over improved irrigation efficiency, partnering with the Teton Regional Land Trust to upgrade his flood system. He obtained a U.S. Fish and Wildlife Service grant to replace metal head gates, rebuild canals and build a dike to hold flood-irrigation water longer on the field.

Sal Palazzolo, private lands program manager at the Idaho Department of Fish and Game, said preserving the staging area is a goal of both his agency and Ducks Unlimited, which have a plan to help water fowl by working with the state's managed aquifer recharge program. Managed recharge involves intentionally injecting surface water into

the aquifer to rebuild groundwater levels.

IDFG and Ducks Unlimited have asked the Idaho Department of Water Resources to design its recharge sites to be more like marshes, spilling shallow water over hundreds of acres rather than deep water over a smaller area.

"We're definitely looking into that," said Wes Hipke, IDWR's recharge coordinator, who also sees the potential to combine resources with wildlife organizations on future recharge efforts. "It's going to have to be on a case-by-case basis."

IDWR has also agreed to study the potential for a managed aquifer recharge site at the Market Lake Wildlife Management Area.

Palazzolo said efforts are underway to establish a separate EQIP fund in Idaho for flood irrigation projects, and NRCS is mulling an Eastern Idaho water grant under the Regional Conservation Partnership Program that would cover flood-irrigation infrastructure.

Teton Valley experiment

Like many producers in his area, Teton County Farm Bureau Federation President Stephen Bagley stopped flood irrigating his ranch in the southern end of Idaho's Teton Valley during the 1960s.

Now, Bagley is a leader of a coalition working to restore flood irrigation to the valley as a means of resolving a water shortfall that's becoming increasingly critical.

Groundwater levels have dropped 55 feet in the valley since the 1970s — before flood irrigation was phased out in favor of sprinklers and neighborhoods sprang up on farmland. Miles of unlined canals went unused that had previously recharged the aquifer with water losses exceeding 40 percent.

As a result, surface irrigation rights that once remained in priority through late July have lately been shut off at the beginning of the month.

In December of 2015 irrigators hoping to improve their own water outlook partnered with Farm Bureau, local cities and counties, Friends of the Teton River, Teton County Soil and Water Conservation District, Water District 1, the Henry's Fork Foundation and others to form the Teton Water Users Association.

The association is pursu-

ing funds to rebuild flood-irrigation infrastructure, which irrigators will use to flood pastures within their existing water rights during peak spring flows. When flows subside, they'll resume using only efficient sprinklers. The water they bank through canals and flood irrigation should emerge from springs about three months later, when it's needed most, extending the irrigation season, cooling the river for native Yellowstone cutthroat trout and replenishing dried marshes.

"Hopefully, I'll have another week or two of irrigation because they won't have to call for my water as fast," Bagley said.

Driggs, Idaho, grower Wyatt Penfold said operating margins are razor thin in the valley, and saving a couple weeks of costly storage water from reservoirs would be a huge benefit.

"The only way to keep the lifestyle we're all used to is to work together," Penfold said.

Rob Van Kirk, senior scientist with the Henry's Fork Foundation, has modeled the Teton Valley hydrology, calculating the association must increase annual aquifer recharge by 30,000 acre-feet to meet its goal of restoring water levels to 1975 conditions. The association will soon conduct an assessment of priority sites on which to restore flood irrigation.

Sarah Lien, an attorney for Friends of the Teton River, said the program's ultimate goal is to apply about 260 cubic feet per second of water from April 15 through June 15.

"If we're successful, we're talking about 40 cfs increases in the Teton River," Lien said. "It's really new water."

The project has been awarded a \$50,000 U.S. Bureau of Reclamation WaterSMART grant to cover preliminary planning. They also have a pending \$250,000 grant application with the Idaho Water Resource Board, which would provide matching funds to tap additional federal grants.

"The surface water every year is gone sooner and we're more reliant on groundwater," said Driggs, Idaho, Mayor Hyrum Johnson, who considers the association to be a template for other Western water users to follow. "I believe this organization is a great example of the way that water rights can be managed proactively around the state."

'I see (Save Family Farming) as filling a niche'

FIGHT from Page 1

reviewing complaints by Save Family Farming and some federal lawmakers that What's Upstream violated state and federal lobbying laws.

After supporting and critiquing the project for five years, the EPA distanced itself from What's Upstream last spring under congressional criticism. The campaign lives on through a website and social media, even as the EPA's inspector general audits how some \$655,000 in EPA funds were spent.

Baron said that Save Family Farming will continue to push for EPA administrators to be held accountable, but also will respond to other attacks against agriculture.

Other groups, such as the Washington Farm Bureau and Washington State Dairy Federation, already lobby policymakers, so Save Family Farming will focus on informing the public, especially environmentally conscious millennials with unfavorable impressions of agriculture, he said.

"We believe there is a huge need for that, and we don't believe that's being effectively addressed right now," Baron said. "I think there are too many people susceptible to that message, who don't understand what farming is all about."

Hinkle approached Save Family Farming about representing it. Hinkle has registered to lobby in Olympia for Save Family Farming, but he and Baron said Hinkle's job primarily will be to meet with producers, agriculture organizations and farm suppliers.

"I see (Save Family Farming) as filling a niche in the agricultural advocacy world that isn't being filled so well," Hinkle said. "Agriculture has been under attack in some

way since I got into politics in 1992.

"I think the What's Upstream campaign has shown people that there is a concerted attack," he said. "The next step is for people to see it's not an isolated situation."

Hinkle, a Republican who lives in Cle Elum, represented all or parts of Lincoln, Grant and Kittitas counties in the Legislature.

He was previously a Kittitas County commissioner. After a decade in the Legislature, he didn't run for re-election in 2012.

After leaving the Legislature, he was the director of an association of rental property owners for three years and for the past year has been a contract lobbyist for several groups.

Maui County's GMO ban remains overturned

GMO from Page 1

Prohibiting states and local governments from regulating crops that were once considered plant pests would have a "backwards effect" because they can still regulate conventional crops that "raise fewer concerns," the 9th Circuit held.

"Such a holding would have far-reaching practical effects. Because a large percentage of commercial crops grown in the United States are GE crops, states and counties across the nation would be prevented from regulating an enormous swath of agriculture. We do not believe that Congress so intended," the ruling said.

Even so, state and local GMO bans cannot apply to biotech crops that remain regulated by USDA, since the agency retains jurisdiction over them until they're commercialized, the 9th Circuit said.

While the 9th Circuit ruled in favor of biotech critics on federal pre-emption, Maui County's GMO ban remains overturned under its recent ruling. The appellate court found that the ordinance was still pre-empted by Hawaii's comprehensive state laws and rules that deal with the same subject matter of potentially harmful plants.

"By banning commercialized GE plants, the ordinance impermissibly intrudes into this area of exclusive state regulation and thus is beyond the county's authority" under Hawaiian law, the 9th Circuit said.

The 9th Circuit's opinion is significant for nine Western states under its jurisdiction because counties in Oregon, Washington and California have GMO bans.

If the appellate court had found that federal law pre-empted local biotech regulations, those ordinances would have been affected.



"It's a relief. Certainly, this is not a worst-case scenario," said Paul Achitoff, attorney for the Earthjustice law firm that represented biotech critics in the case.

Even so, Achitoff said he's disappointed the 9th Circuit ruled that state law pre-empted the Maui ordinance, which he characterized as "a loss for Hawaii's people."

Local ordinances are necessary in Hawaii, where biotech breeding takes place, because state regulations predate GMOs and are essentially a "vacuum," he said. "The state has not been protecting people in that respect."



The Monsanto Co., a biotech developer that sued to overturn the law, said it's proud to be part of the farming community in Hawaii, where it has 1,000 employees, and understands that it has a "responsibility to farm sustainably and to work collaboratively," according to an emailed statement.

"We're listening and we've heard the concerns some people have about GMOs and today's farming practices. Our commitment to ongoing dialogue with our neighbors doesn't stop today," the statement said.



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