WATER 4 ACCOMPLISHMENTS 2021

iwjv.org/water

INTERMOUNTAIN WEST
JOINT VENTURE

WATER 4: CONSERVING WET MEADOWS AND WATER IN WAYS THAT MATTER TO PEOPLE

Water 4 is now in its fourth year and has grown from a Joint Venture (JV) initiative to a well-established and broadly recognized conservation approach for sustaining wetlands. What was once an initiative is on the radar at the highest levels of government and is increasingly bringing new investments from key agencies to support locally led conservation efforts. Yet, now more than ever, drought and climate change are fundamentally altering the valuable wetland and irrigated agricultural lands that are imperative to the future of migratory birds, wildlife and fisheries, and people.

ACCELERATING THE PACE AND SCALE OF CONSERVATION IN KEY LANDSCAPES

Water 4:

- **Produces groundbreaking science on wetland resiliency and migration of indicator bird species.**
- **Formulates new ways to bridge the science-to-implementation gap.**
- **Innovatively addresses field delivery capacity needs.**
- **Disseminates compelling multimedia communications.**
- **Builds new partnerships and fosters deeper relationships with existing partners.**

THE WATER 4 TOOLBOX

- Conservation Easements
- Modernization of Flood Irrigation Infrastructure
- Reconnecting Rivers to Floodplains
- Wet Meadow Restoration
- Low-Tech Restoration

WORKING ACROSS BOUNDARIES IN THE BEAR RIVER WATERSHED (ID, UT, WY)

FIELD DELIVERY CAPACITY

In 2020–2021, Water 4 worked with partners in the Bear River Watershed to establish a funding pool to hire an easement coordinator to fill a critical gap in support: someone to work across multiple state lines to facilitate watershed-scale conservation.

The Bear River Watershed Conservation Coordinator's role is to help synchronize land and habitat conservation in all three states across the watershed. The position is housed by Idaho's Sagebrush Steppe Land Trust but also fills an important niche for Utah's Bear River Land Conservancy.

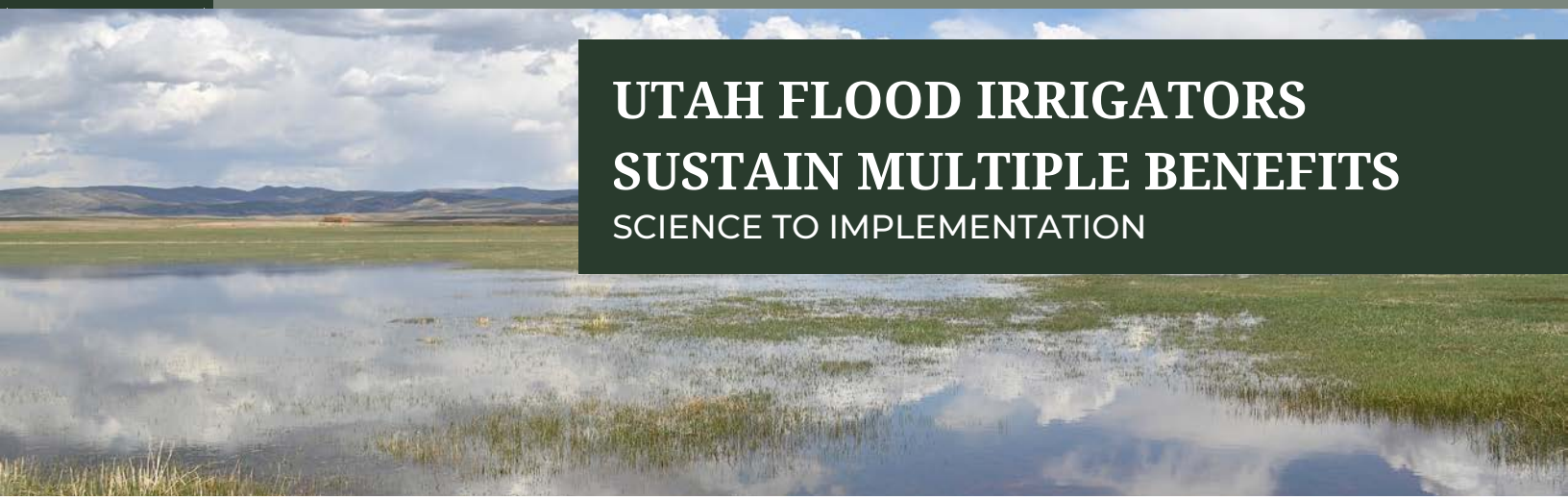
The IWJV Management Board supported the funding pool, which in turn built momentum for a successful National Fish and Wildlife Foundation (NFWF) grant to fund additional capacity.

"With so many lines through the Bear River, and multiple agencies and jurisdictions that split it into pieces, it's important to make sure that we're working together across those boundaries and to be looking at the landscape and the watershed as a whole."

Matt Coombs, Bear River Watershed Conservation Coordinator

READ MORE ABOUT MATT AND HIS WORK AT IWJV.ORG

The Bear River flows out of Utah's Uinta Mountains, through western Wyoming, and into Idaho before returning to Utah and emptying into the Great Salt Lake.



UTAH FLOOD IRRIGATORS SUSTAIN MULTIPLE BENEFITS

SCIENCE TO IMPLEMENTATION

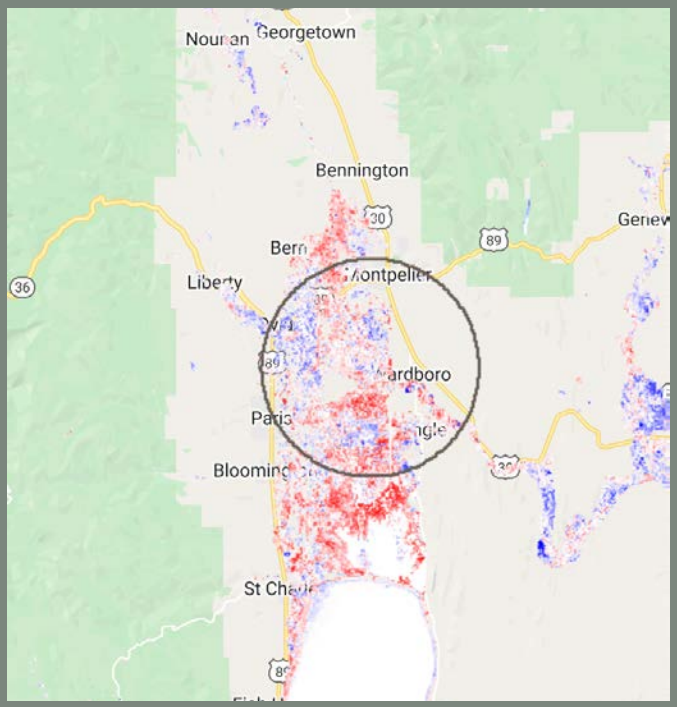
In 2021, Water 4 worked with the Utah Association of Conservation Districts to create a shared funding pool for a partner position to help support the implementation of Natural Resources Conservation Service (NRCS) programs across sagebrush and Water 4 priorities.

The Utah NRCS used IWJV data about sandhill crane migration, greater sage-grouse habitat, and wetland resiliency to successfully request Environmental Quality Incentives Program (EQIP) funds to support flood irrigators in Rich County in partnership with the Rich County Conservation District partner position.

WETLAND EVALUATION TOOL

The new Wetland Evaluation Tool (WET) can help land managers create a landscape-scale picture of important areas to target for land and water conservation. Combined with local knowledge, the tool can help land managers create a landscape-scale picture of important areas to target for land and water conservation.

The application is supported by Google Earth Engine and will be available in mid-2022.



Wetland resilience measured as annual surface water trend (1984–2020) overlapping mean sandhill crane nesting and early colt-rearing conditions (April–June). Areas in red are trending drier and areas in blue wetter.

SUPPORTING FLOOD IRRIGATORS & HABITAT IN COLORADO

FIELD DELIVERY CAPACITY

The IWJV's wetland resiliency science was used to support a Targeted Conservation Program (TCP) funding flood irrigation infrastructure projects in the Upper Rio Grande watershed over a three-year period (2019–2022).

For years, flood irrigators in Colorado's San Luis Valley had asked for funding support from NRCS for updating dilapidated infrastructure. However, due to efficiency rankings, their projects would frequently be outranked by projects converting irrigation systems to sprinkler or pivot. This TCP specifically directs support to agricultural practices like flood irrigation that provide benefits to migratory birds and other wildlife. In 2021, **$150,000** was awarded to projects benefiting San Luis Valley producers via this TCP.

PARTNERSHIP WITH NRCS EMPHASIZES FUNDING & CAPACITY

In 2020, Colorado NRCS and the IWJV entered into an Interagency Agreement to hire a soil technician in the Alamosa NRCS field office to enhance outreach, complete contracts, and put funding to work on the ground. With the release of the IWJV's Wetland Evaluation Tool (WET), the technician will apply this science to help evaluate the outcomes of investments from the TCP.

Hallie Flynn, Alamosa NRCS Soil Conservationist/Civil Engineering Technician

THE POWER OF PARTNERSHIPS IN THE MIDDLE RIO GRANDE

SHARING SCIENCE WITH THE FIELD

Climate change means New Mexico and much of the West face a drier and hotter future. In the Middle Rio Grande Valley, wetland and riparian areas—including those found on private agricultural land—provide immense socioeconomic and ecological values. The sustainability of these places hinges on the balance of water allocations that preserve both agricultural and wetland-riparian function.

USING SCIENCE TO MITIGATE DROUGHT

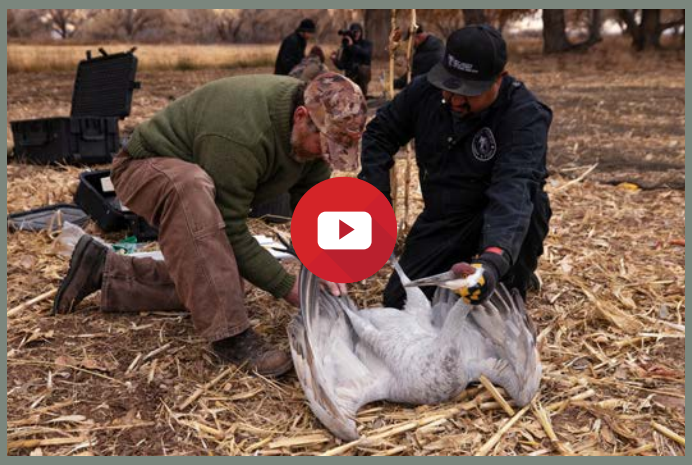
Science and data-driven tools from the IWJV are helping partners in the Middle Rio Grande Valley request funding to support collaborative conservation efforts that identify and prioritize strategic water allocation that benefits both migratory birds and people.

This support includes:

- Sandhill Crane Research
- Wetland Resiliency Data
- Wetland Evaluation Tool

and more!

WATCH: "THE SOLUTION SEEKERS"



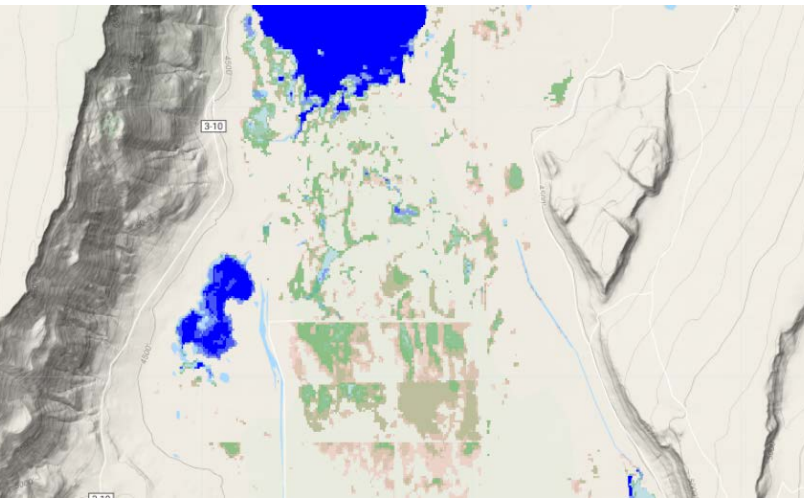
The water crisis in New Mexico's Middle Rio Grande Valley is a microcosm of the long-term drought playing out across the West. So, too, are the ways in which people are coming together to meet conservation challenges head-on.

A video from Water 4 shows partners in New Mexico's Middle Rio Grande Valley using science to inform conservation that will help mitigate a drier future and drive benefits to people and wildlife.

Watch it at iwjv.org.

WETLAND RESERVE EASEMENTS INFORMED BY SCIENCE IN CALIFORNIA

California NRCS and the IWJV are working to strategically conserve valuable wetland habitats on private lands in northeastern California that sustain Pacific Flyway waterfowl, shorebird, and waterbird populations through the Agricultural Conservation Easement Program-Wetland Reserve Easement (ACEP-WRE).



IDENTIFYING CRITICAL MIGRATORY BIRD HABITAT USING IWJV SCIENCE

The Wetland Evaluation Tool (WET, pictured above) was used to evaluate the stability of wetlands protected by NRCS through the ACEP-WRE in northeastern California. California ACEP-WREs are protecting wetland resources that are resilient to the drying induced by climate change and human water use. WET is informing NRCS in making new strategic investments under ACEP-WRE to protect wetlands with a high degree of surface water stability and persistence.

BOOSTING WRE ENROLLMENT WITH WATER 4 COMMUNICATIONS

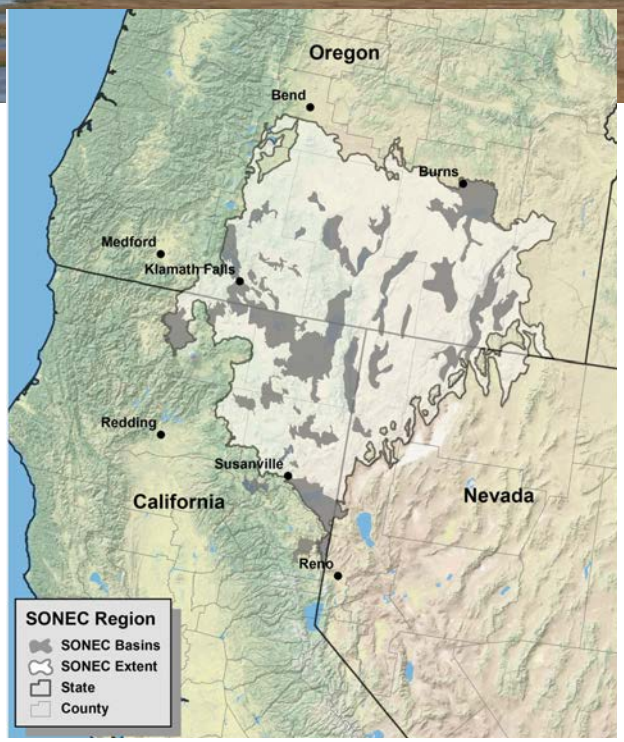
California NRCS and the IWJV are co-creating communications products with the goal of increasing interest and enrollment in strategic conservation easements that protect agricultural and wetland values. The NRCS envisions targeted communications resulting in higher participation in ACEP-WRE—and more strategic use of program funds—to conserve these important wetlands.

CONSERVING WORKING WET MEADOWS IN OREGON

FIELD DELIVERY CAPACITY

SOUTHERN OREGON–NORTHEASTERN CALIFORNIA (SONEC) REGION

The Southern Oregon–Northeastern California (SONEC) region is one of the IWJV's highest-priority landscapes for conservation for a number of reasons. Its rich mosaic of wetlands and wet meadows created by irrigated pasturelands provide critical migration and breeding habitat for myriad North American waterbird species. New analysis of wetland habitat trends across SONEC and the Central Valley regions of the Pacific Flyway is informing new wetland conservation efforts and providing a framework for evaluating projects.



OWEB FOCUSED INVESTMENT PARTNERSHIP GRANT

The IWJV is working with the Harney Basin Wetlands Collaborative on a $10 million Oregon Watershed Enhancement Board (OWEB) Focused Investment Partnership grant. The IWJV will help monitor and evaluate the outcomes of the wetland projects funded through this grant.

DELIVERING EQIP TO LANDOWNERS

Partner biologists in Lake and Harney counties continue delivering strategic NRCS EQIP programs to conserve and enhance wet meadows that sustain spring-migrating waterbirds. These projects upgrade flood-irrigation infrastructure to improve water management and waterbird habitat. To date, these programs have planned enhancements on a combined **39,373** acres across both counties.

AN RCPP IN THE KLAMATH BASIN

In 2021, Ducks Unlimited, the U.S. Fish and Wildlife Service (USFWS), and the IWJV were awarded $3.8 million through the NRCS Regional Conservation Partnership Program (RCPP) for the **Klamath Basin Farming and Wetland Collaborative RCPP**. This partnership-driven project is aimed at helping offset wetland habitat losses from drying due to the elimination of programs on the Klamath Basin National Wildlife Refuge Complex and private lands. Private lands sustain some of the last remaining managed wetlands in the Klamath Basin. Programs funded by the RCPP—like Walking Wetlands—will enable these private lands to continue maintaining the limited wetland habitats available to Pacific Flyway birds. *This RCPP is the first phase of a larger effort recognizing USFWS contributions in the Klamath Basin.*

RCPP BY THE NUMBERS

$3.8 million in project funding.

1,400 acres of proposed private-land project work.

74 percent of wetlands in this region are located on private land.

6 million Pacific Flyway birds rely on this work.

2 NRCS program options for producers through the Klamath Basin Farming and Wetland Collaborative RCPP.

"The Klamath Basin Farming and Wetland Collaborative RCPP is an essential strategic conservation tool recognizing the dependence of waterfowl on both wetlands and Klamath Basin working lands. This innovative partnership brings together both wildlife and agricultural partners to support waterfowl in this critically important part of the Pacific Flyway."

Jeff McCreary, Western Region Operations Director for Ducks Unlimited

EXPLORING PARTNERSHIPS BETWEEN NGOS AND MONTANA NRCS

The IWJV is growing its relationship with the NRCS and other partners through facilitating NRCS investments in capacity and on-the-ground conservation work. In Montana, the IWJV and partners are leveraging funds from Montana NRCS with private funding to address science-to-implementation needs across the state. Future coordination of efforts among Montana NRCS and NGO partners will help the IWJV identify areas of overlap and harness the unique powers each entity brings to the table.

BRIDGING THE GAP BETWEEN NRCS AND THE BLACKFOOT WATERSHED

In 2021, the IWJV provided partnership support to and explored opportunities between the Blackfoot Challenge, the Big Blackfoot Chapter of Trout Unlimited (BBCTU), and Montana NRCS to continue supporting ranchers in the Blackfoot Valley—and the wildlife habitat they provide.

TELLING THE STORY OF SUCCESSFUL COLLABORATIVE CONSERVATION

The IWJV produced communications that spotlight the conservation successes of partnerships in western Montana.

- *A Cure for the Creek*: This storymap documents the BBCTU restoration of the section of an important Blackfoot River tributary running through rancher Jamie Stitt's land.
- *Beyond the Banks*: An article explores the decades-long partnership around keeping water in the Big Hole River—for fish and for ranchers.

Both pieces were shared widely by IWJV partners around the Intermountain West.

PUTTING DATA TO WORK WITH IWJV SCIENCE

SCIENCE SUPPORT

ADDRESSING SEMI-PERMANENT WETLAND LOSS IN SONEC

The IWJV and Central Valley Joint Venture (CVJV) completed the first-ever cross-JV science collaboration to evaluate climate change effects on wetlands and waterbirds in the Central Valley and SONEC. Key findings showed that increased drought severity is driving the pervasive loss of semi-permanent wetlands. Diving ducks, black terns, and grebes experience the most significant risk due to habitat decline because of their heavy reliance on semi-permanent wetlands (see Figure). Dabbling duck brood-rearing and molting habitats were also impacted. The new information is informing conservation planning efforts and will be incorporated into a broader effort supporting integrated wetland management in the Pacific Flyway.

Read more: [https://doi.org/10.3389/fevo.2022.844278.](https://doi.org/10.3389/fevo.2022.844278)

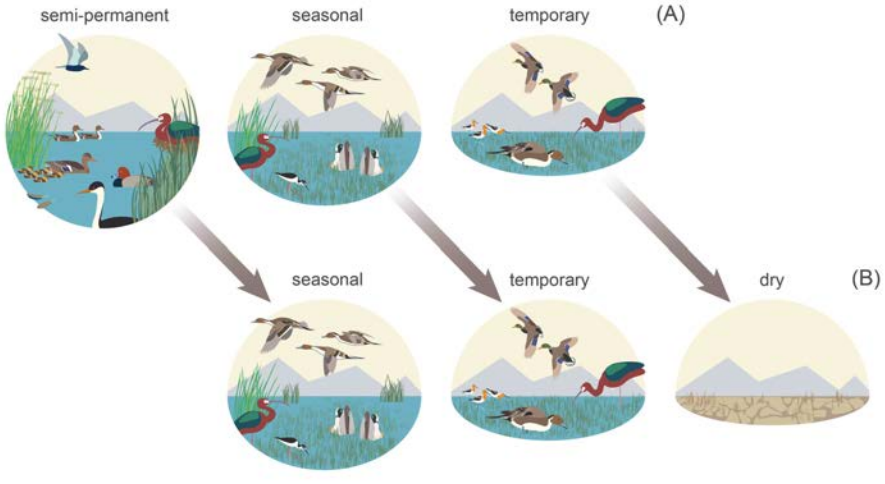


Figure illustrates transitioning semi-permanent wetland conditions (A). Wetland drying results in ecosystem tradeoffs favoring waterbirds dependent on shallow and ephemeral (seasonal and temporary) wetland habitats (B). Figure from Donnelly et al. 2022, Functional wetland loss drives emerging risk to waterbird migration networks.

SCIENCE TRAINING FOR AGENCY STAFF

A third round of science training for agency staff was completed in 2021 via a virtual seminar provided by the IWJV and the University of Montana. The goal of this effort has been to increase partner capacity to leverage IWJV science.

Projects include:

- *Wyoming toad habitat monitoring*: Tools developed by Wyoming Game and Fish Department students are currently being adopted by USFWS to guide wetland habitat production and reintroduction efforts for this species.
- *Yellow-billed cuckoo habitat protections:* Idaho Department of Fish and Game student Sonya Knetter successfully integrated IWJV wetland science and cuckoo habitat monitoring to prioritize the protection of climate-resilient riparian corridors in the eastern Snake River Plain.
- *Riparian productivity*: USFWS student Cheryl Mandich initiated a pilot study to monitor long-term changes to riparian productivity in the Great Basin. Mandich's efforts have led to further collaboration with IWJV science staff and the joint development of a riparian monitoring tool that the USFWS Partners for Fish and Wildlife Program will use to prioritize conservation delivery throughout the state of Nevada.