

COLUMBIA BASIN WATER TRANSACTIONS PROGRAM

CELEBRATING 20 YEARS
2021 ANNUAL REPORT



NFWF



Chinook salmon



4th of July Creek in Idaho

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Celebrating 20 Years of Water Transactions to Benefit Ecosystems

In the spring of 2002, Bonneville Power Administration (BPA) selected the National Fish and Wildlife Foundation (NFWF) to manage a novel initiative aimed at supporting local entities in Idaho, Montana, Oregon, and Washington to improve flows in water-stressed rivers. Over the past 20 years, and in cooperation with the Northwest Power and Conservation Council (NPCC), NFWF and BPA have grown that initial framework into a model for environmental problem solving across the western United States. The Columbia Basin Water Transactions Program (CBWTP) works to restore flows to key fish habitats through voluntary, market-based temporary and permanent water rights acquisitions and other incentive-based approaches. Success for this program is predicated on building trust with landowners and long-standing partnerships on the ground.

At CBWTP's inception, it was unclear to what extent water transactions would be an effective mechanism to augment instream flow, or if purchasing water through transactions would be sustainable. Due in large part to the success of CBWTP over the past 20 years, water transactions are now widely acknowledged among conservation leaders as critical tools for salmon and other native fish recovery. NFWF grant partners, known as Qualified Local Entities (QLEs), work collaboratively with ranchers, farmers, landowners and irrigation districts to develop and implement effective, market-based approaches that bring water use into balance, so streams stay connected and landscapes remain productive. Andy Fischer, Project Manager from Clark Fork Coalition and a longtime QLE under the program, explained, "Even getting a landowner to engage in a conversation about their water rights can be a big hurdle. It takes time to build trust and rapport with many landowners to even begin to discuss something as personal as their water rights."

To date, the program has implemented 661 transactions, cumulatively protecting over 2.3 million acre-feet of water, or 749 billion gallons. In 2021 alone, the program protected 33.7 billion gallons. For context, the average daily in-home water use, which includes water for drinking, washing clothes, flushing toilets, watering lawns and more, of the entire United States population is 27.4 billion gallons.¹

These transactions have improved watershed connectivity, flow, and riparian habitat to enable the return of native fish to key tributaries for spawning and rearing. What was once a closed cohort of QLEs, CBWTP now runs a fully open and competitive annual Request For Proposals cycle and has added four new QLEs over the past two years. A portion of the funding from BPA is dedicated to the areas of the Columbia Basin that are covered by the Columbia Basin Fish Accords with the Confederated Tribes of the Umatilla Indian Reservation and the Confederated Tribes of the Colville Reservation. Both Tribes coordinate with NFWF staff to oversee project selection and funding decisions along with representatives from the NPCC, U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA).

This year, we will celebrate the 20th anniversary of CBWTP while also keeping an eye to the future. NFWF plans to launch its business planning process for the Columbia Basin to build on past achievements and expand our conservation impact by bringing new funding partners to the table and integrating instream strategies with upland management and forest health. This will be the basis of a 10-year conservation investment strategy which will aim to tie together habitat and species goals. We acknowledge that the challenges facing Pacific salmon and other aquatic species are persistent and look forward to growing and evolving the program to generate new solutions for fish, wildlife and human communities.



The Lostine River in the Wallowa-Whitman National Forest in Oregon





The Bitterroot River near Missoula, Montana

“The Bonneville Power Administration (BPA) and the Northwest Power and Conservation Council worked together to develop and establish the Columbia Basin Water Transactions Program in 2002. The idea was to use water transactions — acquiring water rights on a permanent or long-term basis — to increase stream flows that benefit fish in the Columbia River basin, particularly those listed as endangered or threatened under the Endangered Species Act. These BPA-funded transactions would help BPA address some of its legal responsibilities for fish and wildlife. NFWF was selected to administer the water transactions program for BPA. BPA has supported and funded the CBWTP since its inception 20 years ago.”

— Bonneville Power Administration



Chinook salmon being screened for identification tags near the Wallowa River

ABOUT NFWF

The National Fish and Wildlife Foundation is dedicated to sustaining, restoring and enhancing the nation’s fish, wildlife, plants and habitats for current and future generations. NFWF will advance its mission through innovative public and private partnerships, and by investing financial resources and intellectual capital into science-based programs designed to address conservation priorities and achieve measurable outcomes. Since its founding in 1984, NFWF has awarded more than 20,400 projects to more than 6,000 organizations across the United States and its territories, and abroad.



Agricultural land on the banks of the Salmon River near Stanley, Idaho

“Restoring and protecting streamflow to benefit species and ecosystems has been an important strategy in the Northwest Power and Conservation Council’s fish and wildlife program for more than 20 years. The Council has been engaged in the Columbia Basin Water Transactions Program since its inception, and we are pleased with how much has been accomplished.”

—Guy Norman, Chair of the Northwest Power and Conservation Council

Columbia Basin Overview

The Columbia Basin covers 258,000 square miles, making it one of the largest river basins in the United States. The Basin includes public and private lands, multiple mountain ranges, arid valleys, lush forests, and agricultural lands. This region offers abundant rivers and streams that deliver water to the Columbia River and its tributaries to provide critical fish and wildlife habitat, essential power, drinking water, irrigation for agricultural production and scenery that makes the area a diverse and vibrant ecosystem.

The Columbia Basin is home to several threatened and endangered fish species that depend on freshwater streams to migrate and fulfill their life cycle. However, many streams in the Basin have been dewatered due to over appropriation, irrigation and agricultural practices, climate change and drought. Jessica Humphreys, project lead from Trout Unlimited points out, “Twenty years ago, climate change and dramatic shifts in water availability was a more abstract concept and a worry for the future. Now these climatic changes are affecting our day-to-day lives. This is especially true for agricultural communities, where competition for water supplies has escalated.”

Dams in the Columbia Basin create another barrier to fish survival, not only causing fish passage issues, but altering the natural flow of water throughout the Basin. Historically, there were an estimated 10-16 million anadromous fish entering the Columbia River annually. Today, only about 1.5 million salmon and steelhead enter the Columbia each year, and only about 400,000 of those are wild, river-spawned fish.²

Water rights in this region are determined through the prior appropriations doctrine which dates back to the 19th century and states that landowners may divert the waters of these streams for agricultural production, a concept known as “first in time, first in right”. These water rights are important resources for irrigation in the agricultural industry,

accounting for 13% of the economy in Oregon and Washington.³ Voluntary, market-based water transactions provide an effective and fair way to balance out-of-stream water uses with the need to maintain streamflow for imperiled fish. “Water transactions provide an avenue to develop and execute creative water projects that would otherwise be impossible due to land-use practices,” Lisa Pelly, Director of Trout Unlimited’s Washington Water Project, said.



Westslope cutthroat trout

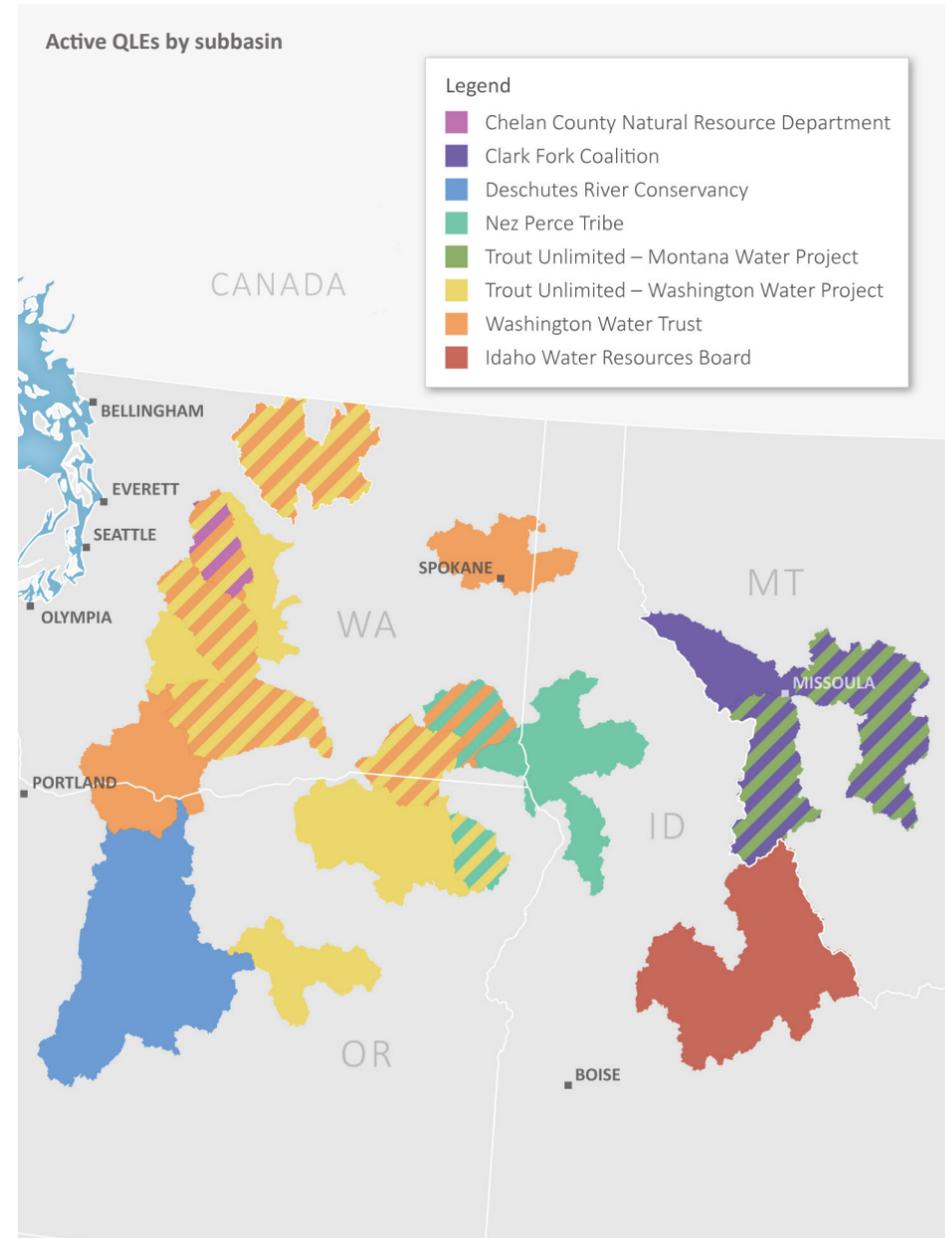
2021 in Review

2021 was an exceptionally dry year for much of the West, but especially in the arid regions of the Columbia Basin. The Pacific Northwest experienced the hottest June and July in more than 127 years of written records, and during August and September, 94% of the region experienced drought. Despite these challenges, CBWTP was able to secure over 22,000 acre-feet (AF) of new water and ensure that key fish streams did not run dry during these unprecedented times.

During the year, transaction selection focused on local prioritization efforts, but linked to broader subbasin and recovery plans (for example, an NPCC subbasin plan, watershed assessment, or NOAA Recovery Plan). CBWTP works to make sure that the water being secured builds on previous efforts and is reliable and achievable. QLEs use monitoring results to show how experience with local systems has contributed to selection of the most impactful transactions.

In Oregon, Deschutes River Conservancy (DRC) was able to secure a permanent deal on Whychus Creek, a longstanding effort in the Deschutes subbasin, to help meet the 33 cubic-feet-per-second (CFS) flow target. This new transaction alone will provide nearly 5% of the flow target, and 90% when combined with other permanent deals on Whychus Creek. Inadequate stream flows, particularly in summer months, have been identified as a primary limiting factor affecting the survival of native fish populations in the Upper Deschutes subbasin. Improving stream flows and thereby reducing stream temperatures will increase the likelihood of successful reintroduction and contribute to the overall recovery of Middle-Columbia steelhead. Given the exceptional drought status in 2021, monitoring efforts showed improved low and daily average flows.

Idaho experienced drought in 2021 due to a very dry spring followed by an intense, prolonged summer heat wave. Despite the exceptional drought conditions, most of the streams where Idaho Department of Water Resources (IDWR) had carried out transactions



maintained flow throughout the irrigation season. While base flow conditions in some streams were 50% less than previous years, those streams sustained connectivity and were passable for fish. Without a longstanding history of transactions in the Lemhi, including the annual minimum flow agreement, many streams would run dry. The Lemhi has a flow target of 25-35 CFS, and the 3 CFS provided by the annual deal supplies a significant part of that. In conjunction with the several permanent deals IDWR has been able to acquire, flows are able to meet the expected targets.

In Washington, Washington Water Trust (WWT) secured the first CBWTP deal in the Klickitat subbasin, which contains key reaches for coho, spring and fall Chinook, and resident trout populations. In partnership with Washington Department of Fish and Wildlife (WDFW), WWT set a 12 CFS flow target for the Little Klickitat, and this transaction alone achieves 30% of that target. Jonathan Kohr, Senior Environmental Planner at WDFW, stated, “We’ve seen in a number of low-flow water years, which are happening on a more consistent basis, streams that would have dried up if it weren’t for the number of water transactions we’ve had.” Across the state of Washington, CBWTP transactions are critical to ensuring flow and fish passage.

In Montana, Trout Unlimited – Montana Water Project (TU-MWP) was able to complete three transactions in the Blackfoot River watershed, on the mainstem and its tributaries. The Blackfoot supports critical migrating bull trout habitat and deals here are key to allowing spawning and migration. One of the targeted sites, on Park Creek, has historically been dewatered below the point of diversion. However, it now has nearly 3 CFS of protected water for the benefit of westslope cutthroat trout. TU-MWP expressed that drought conditions have contributed to increased interest from landowners in participating in water transactions.

Idaho Highlight

Pole Creek, a tributary to the Salmon River near the headwaters of the Sawtooth Valley, has the potential to provide high quality habitat for threatened Chinook salmon, steelhead and bull trout. Climate change modeling for the Upper Salmon subbasin predicts higher stream flow temperatures and changing patterns of runoff. It is recognized that reconnecting tributaries improves access to colder, headwater habitat, as well as the diversity of life-history strategies which can improve the resilience of populations.

This transaction was originally proposed as a one-year agreement to avoid diversion to secure at least 5 CFS in Pole Creek. The landowner, Salmon Falls Land and Livestock (SFLL), used their 22 CFS water right for the purposes of irrigation and hydropower generation. Idaho Department of Water Resources (IDWR) desired to maintain an instream flow of no less than 5 CFS in Pole Creek between the water right owner's diversion and the water's usual return to the creek to facilitate migration and rearing of salmon. This transaction by IDWR will keep Pole Creek connected throughout the summer by replacing the hydropower with a diesel generator when flows drop. This transaction is intended to be a bridge between past flow restoration efforts and a comprehensive flow and habitat restoration plan being designed with the U.S. Forest Service Sawtooth National Recreation Area, NOAA, U.S. Fish and Wildlife Service, and SFLL. IDWR annually renewed the agreement with the landowner and continued to increase the amount of water saved and its duration. In 2017, IDWR was able to secure a long-term deal of 18 CFS per year for 19 years.

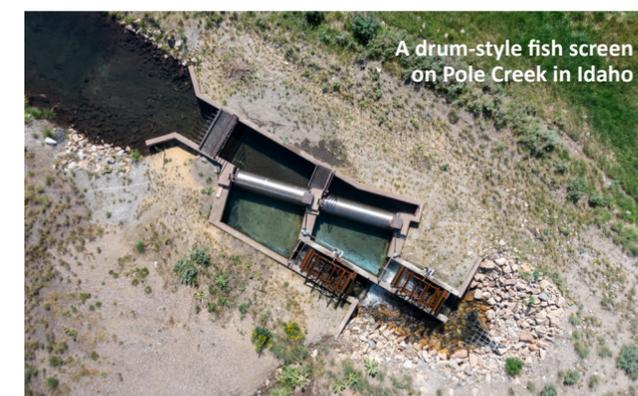
This 19-year agreement involves the elimination of the hydropower diversion of 7 CFS, leasing 50 acres of irrigation, and replacing surface water with groundwater pumped from two new wells to maintain a minimum stream flow of 12-18 CFS in Pole Creek. The water user is allowed to divert up to 15 CFS as long as flows downstream of the diversion equal 18 CFS or more, unless it is a low-water year, in which the flows shall not drop below 12 CFS. These provisions are intended to split the burden of a low water year between the water user and the fish.



John Loffredo of Idaho Department of Water Resources crosses a log bridge over 4th of July Creek near Salmon, ID



Pole Creek as it flows toward the Salmon River in Idaho



A drum-style fish screen on Pole Creek in Idaho

Creative efforts to increase water secured instream for longer periods of time continue to be a focus for many QLEs. Amy Cassel, Program Manager at IDWR, expressed, “The need for water transactions and water conservation is greater now than it has ever been in the past 20 years. Over time, the transactions have generally become more complex and challenging in scope and implementation. That evolution, coupled with increasing drought conditions and climate change, has increased the need to implement the complex and expensive water transactions to keep pace with an unpredictable and fluctuating climate.”

“Relationships with the landowner, the locally elected watermaster, conservation and restoration partners, federal regulatory agencies, and our funding partners all play a critical and constant role in the success of a water transaction.”

– Amy Cassel, Idaho Department of Water Resources



Redfish Lake at dusk, overlooked by the Sawtooth Mountains in Idaho

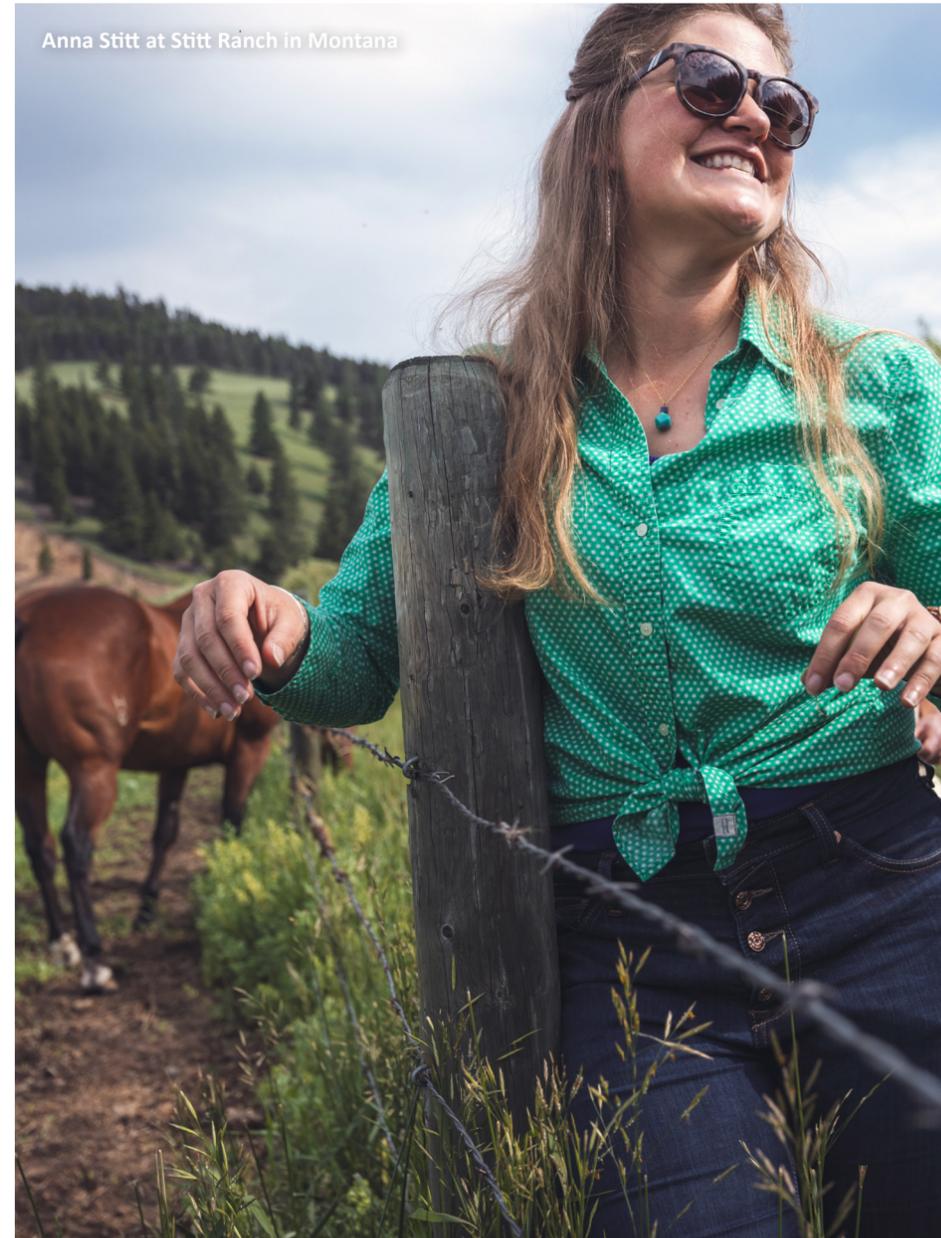


Montana Highlight

Braziel Creek is a tributary to Nevada Creek in the Blackfoot River subbasin. Recent efforts to restore streamflow to reconnect it to rehabilitated habitat in Nevada Creek make it a valuable refugia for fish. The creek, which supports a westslope cutthroat population in its upper reaches, has historically been degraded in its lower reaches by stream channelization, dewatering and heavy livestock grazing. The Blackfoot subbasin supports an estimated 250 species of birds, 63 species of mammals, five species of amphibians, six species of reptiles and 25 species of fish, all of which are crucial to healthy riparian systems. Surface water hydrology in the Blackfoot River is driven by winter snowpack accumulation, spring snowmelt runoff, and late summer, fall and winter base flows, which are all at risk due to climate change and over-appropriation.

The Stitt family property, owned by Wade and Diana Stitt since 1976, is used to raise and graze cattle and produce hay. In 2010, TU conducted a stream restoration project on 1,500 feet of Braziel Creek on the Stitt family property which included a step-pool channel, replacement of an undersized culvert, a new screened diversion to enhance fish passage, and fencing that prevented livestock from overgrazing the riparian corridor. It wasn't until after this aspect of the restoration was complete that TU-MWP approached the landowner with a water transaction proposition of a one-year single-season diversion-reduction agreement to maintain a minimum flow of 0.5 CFS on Braziel Creek.

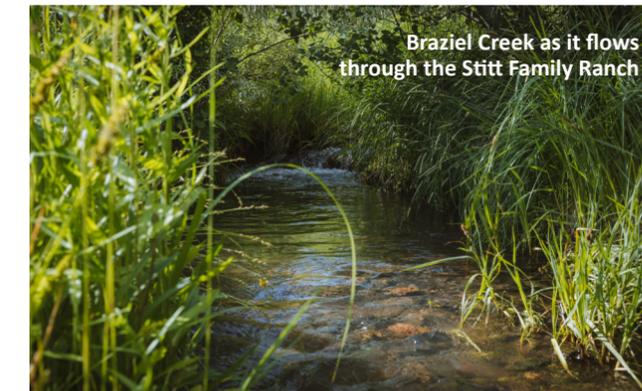
By 2012, the Montana Department of Fish, Wildlife and Parks surveys reported a marked response from Braziel Creek fish populations, showing over three times the number of age one and older westslope cutthroat trout at mile 0.2 than those counted in 2010. While the numbers dropped a bit in 2013, an extraordinarily dry year, they remained more than two times the amount surveyed prior to restoration. Dewatering continues to be a threat in Braziel Creek, so the transaction has been imperative to keep water instream. In 2016, the family transitioned to a 10-year agreement which has allowed them to keep up with operation expenses and ensure conservation and regenerative ranching practices.



Anna Stitt at Stitt Ranch in Montana



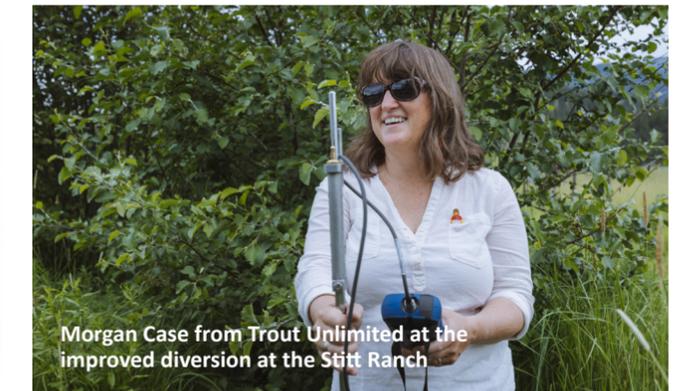
The Stitt family outside their ranch near Helmville, Montana



Braziel Creek as it flows through the Stitt Family Ranch



Cutthroat trout



Morgan Case from Trout Unlimited at the improved diversion at the Stitt Ranch



An improved irrigation ditch at the Stitt Family Ranch

“Thanks to CBWTP, Clark Fork Coalition has built a water rights portfolio that currently adds nearly 7 billion gallons of water per year to chronically dewatered creeks and streams, creating vital habitat for diverse fish and wildlife species and keeping streams connected to their mainstem rivers, all while meeting the needs of agriculture.”

– Andy Fischer, Clark Fork Coalition

The combination of habitat work with an increase in water quality has made the stream more resilient to the effects of climate change, especially in terms of temperature issues and water storage within the creek’s floodplain. While the primary incentive was financial, the irrigator has become an active partner in the restoration of both Braziel Creek and its receiving water, Nevada Creek. Over the course of the partnership, the landowner has come to recognize that maintaining healthy stream habitats is yielding benefits to their grazing operation. Anna Stitt, Wade and Diana’s daughter, expressed, “As ranchers, we have one of the greatest roles in conservation... We have the deepest connection and the deepest understanding of the land, and therefore the greatest calling to protect and conserve the land.”

Stan Bradshaw, a former TU employee who secured the first ever water transaction for CBWTP in 2002, underscores the approach TU made at Braziel Creek. He described how important it was to pursue dual efforts of both stream restoration and water transactions. He explained that approaching landowners with stream restoration projects first makes it more palatable to do a water transaction in the same area. Building trust and demonstrating impact over time is critical to long lasting ecosystem benefits.



The improved diversion (left) and Braziel Creek (right) on a ranch in Montana

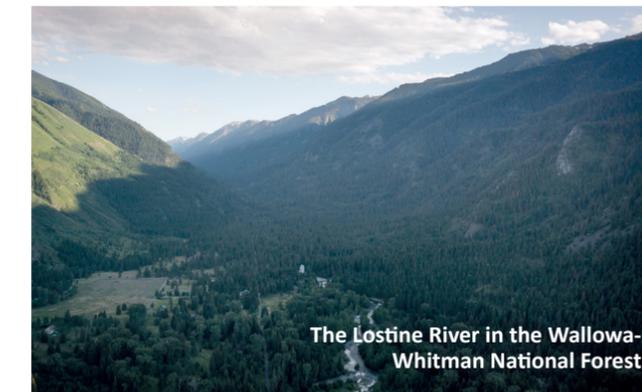
Oregon Highlight

For more than 30 years, the Wallowa River basin has been home to a model effort of collaborative ecosystem. This effort includes riparian and flow restoration as well as extensive projects in the uplands to promote grassland and forest health. The Wallowa basin is home to ESA listed spring/summer Chinook salmon, steelhead and bull trout, as well as reintroduced coho salmon. Water transactions are critical to maintaining flows in the late summer and fall for migrating, spawning and rearing of various life stages of these species.

The Upper Lostine Minimum Flow Agreement is an agreement to maintain 15 CFS in the Upper Lostine, a tributary to the Wallwalla River, during August and September, the driest months of the year. The Upper Lostine Minimum Flow Agreement compensates irrigators on five irrigation ditches for managing their diversions to maintain the minimum flow. TU is working with irrigators to implement efficiency projects and management strategies that will provide permanent solutions to flow and passage issues in the upper Lostine. In 2020 and 2021, irrigators used bonus payment funds to make improvements at their headgates that allow them to measure their water and manage it more efficiently in real time.

Despite the unprecedented drought in the Wallowa basin in 2021, this transaction allowed irrigators to maintain base flows. Although the water in a minimum flow agreement is not protected by the state, the upper Lostine irrigators have successfully maintained more than the contracted minimum flow every single year of the agreement. The landowners take pride in this agreement and are committed to achieving the instream goal each year.

Through engagement, collaboration, and willingness to modernize systems and coordinate water use, the allotted water remains instream during periods critical to Chinook salmon migration and spawning. This agreement incentivizes behavior





Jessica Humphreys of Trout Unlimited stands on walkway over a fish screen on the Lostine River

modification and awareness while maintaining a balance between instream and out of stream needs, making it a source of community pride rather than a polarizing issue. Jessica Humphreys, Project Manager of this geography for Trout Unlimited, stated, “Without the CBWTP and the incentive-based approach to improving instream flow, we would not have the minimum flows needed to ensure Chinook migration to their spawning grounds.”

An ongoing Nez Perce Tribe (NPT) telemetry study on the Lostine provides evidence that Chinook passage through this reach is partially obstructed by flows below 15 CFS and identified that a 25 CFS minimum flow would be more ideal for passage. The study tracks migrating salmon as they move through the target reach, especially around key diversions, to help determine how much flow is needed for optimum migration. The NPT’s biological monitoring has provided, and will continue to provide, the baseline data for TU’s project goals on the Lostine. Bobby Hills, Project Leader at NPT, highlighted that “without CBWTP, Chinook and bull trout would not be reaching their spawning grounds.” Although 25 CFS seems challenging for many of the water users on the system, they continue to be willing to work with the Nez Perce tribe to replace diversions that improve efficiency.

Prior to 2005 and the first minimum flow agreement, the Lostine River routinely ran dry, preventing adult Chinook from accessing premium spawning habitat above irrigation withdrawals. Returning adult Chinook numbered less than 50 in the early 1990’s and the population was believed to be on the brink of collapse. In 2014, due to improved stream flows resulting from minimum flow agreements and hatchery supplementation, over 2000 adults returned to the Lostine River. Working to find a long-term, cooperative solution and preventing liability for ‘take’ of protected salmon under the ESA motivates the landowners to be proactive and work with fish biologists and conservation organizations. In addition, Lostine irrigators acknowledge that future funding opportunities and regulatory landscapes may change; protecting both agricultural and natural resource interests will require a proactive investment of revenue and strategic thinking.



The Lostine River as it flows toward the Wallowa River

Washington Highlight

The Walla Walla subbasin, meaning “many waters” in the Sahaptin language of native tribes to the Columbia Basin, was once home to thriving ecosystems and rivers. However, with the development of irrigated agriculture in the late 19th century, instream flows in the Walla Walla River became drastically depleted during summer irrigation withdrawals.

Mill Creek, a tributary to the Walla Walla River, is a flow-limited major spawning area for Mid-Columbia steelhead and is important habitat to Mid-Columbia spring Chinook and redband trout. Mill Creek highlights a unique challenge that is protecting an Oregon-State water right through the state of Washington. Partners are working on developing a bi-state agreement that would recognize flow between states. The city of Walla Walla depends primarily on Mill Creek for its municipal water source. The city diverts its water supply from Mill Creek more than 25 river miles above Walla Walla, itself, and diverts more than two-thirds of Mill Creek’s natural summer flow under its 1866 water right (28 CFS), which is both the largest and most senior water right on Mill Creek. This transaction was originally proposed by Washington Water Trust (WWT) and funded by CBWTP in 2021 as a one-year pilot project for a “source-switch” for 5.5 CFS of the city of Walla Walla’s municipal water supplies.

In addition to the surface right, municipal water supplies are augmented with deep basalt wells. Currently, the city can utilize two wells to divert surface water during winter high flows, inject this water for storage, and later recover the injected water. Project partners determined that by using a combination of surface flows and stored water, the city could meet its municipal water demands by switching from its Mill Creek surface diversion to one of its deep basalt wells during low flow periods. Anton Chiono, Water Transaction Specialist at Confederated Tribes of the Umatilla Indian Reservation (CTUIR), stated that, “investment in storage and efficiency can provide cities with opportunities to both enhance the resilience of their water supply systems as well as restore their local streams and rivers — both of which provide great benefits to those who live in and work



The water diversion site for the city of Walla Walla, Washington



Project partners at Walla Walla’s water diversion



Chinook salmon



The Walla Walla River passing through agricultural land on its way to the Columbia River



CTUIR Chair Kat Brigham meets with City of Walla Walla leaders at the water diversion



The water diversion site for the city of Walla Walla, Washington

“CBWTP fosters the expertise and capital required to achieve flow restoration while protecting the private property rights of water users.”

– Anton Chiono, *Confederated Tribes of the Umatilla Indian Reservation*

in these communities.” As a result of this source-switch, forgone surface withdrawals will benefit surface flow for nearly 14 river miles from the diversion in Oregon to the city center of Walla Walla in Washington.

The city’s storage capacity is expanding with development and construction of new wells. The long-term goal is to expand storage across the city’s deep wells and to develop a solar installation to make the operation cost-effective and allow the city to significantly reduce their late-season surface water diversion of Mill Creek. The first year of the pilot project was a success and the project demonstrated feasibility. Monitoring conducted by WWT showed increased flows from the city’s point of diversion in Oregon to the city in the full benefited reach. Partners will continue to work with the city to develop a long-term strategy for their water usage and water right.

When it comes to water resources, municipalities frequently have some of the largest, most-senior water right portfolios in their basins. They also have considerable influence over the manner and efficiency with which water resources are used. This puts municipalities in a truly unique position to steward water use in a way that enables the restoration of the aquatic ecosystems that depend on instream flows. However, cost is often a limiting factor, particularly in small, rural communities where the rate-payer base is extremely limited. CBWTP is able to monetize the positive benefits of re-imagining old ways of water use to become more efficient and resilient and allow for stream restoration.

By changing management to utilize stored water during the summer months, the city will begin restoring stream flows and transforming Mill Creek back into the flowing stream it once was. A flowing river co-existing with clean, renewable energy improves the quality of life in Walla Walla and has built pride and purpose for the city and its citizens.



The confluence of Touchet River with the Walla Walla River in Oregon



Wildflowers on the banks of Pole Creek, Idaho

2021 Grants

IDAHO

Identifying, Assessing, Prioritizing and Implementing Water Transactions in the Upper Salmon and Teton River Basins (ID)

Grantee: Idaho Department of Water Resources
 Grant Amount:\$298,500
 Matching Funds:\$166,500
 Total Project Amount:\$465,000
 Identify, assess, prioritize, and implement new water transactions in the Upper Salmon and Teton River Basins. Project will improve tributary flows for the benefit of Snake River Spring/Summer-run Chinook salmon, Snake River steelhead, and native trout populations.

MONTANA

Support for Water Transfers to Instream Flows (MT)

Grantee: Montana Department of Natural Resources and Conservation
 Grant Amount:\$22,900
 Matching Funds:\$20,700
 Total Project Amount:\$43,600
 Assist organizations developing water transactions with review and coordination of project proposals. Project will efficiently process instream flow water right change applications to legally protect instream water acquired through water right transactions.

Restoring, Reconnecting, and Protecting Instream Flow in the Upper Clark Fork Basin (MT)

Grantee: Trout Unlimited, Inc. - Montana Water Project
 Grant Amount:\$136,000
 Matching Funds:\$76,800
 Total Project Amount:\$212,800
 Develop water right leases and transactions that work to augment streamflow and critical habitat for native

trout species, including bull trout and westslope cutthroat trout, throughout the Clark Fork River basin, Blackfoot River and Bitterroot River subbasins. Project will reconnect key tributaries to their mainstems and restore chronically dewatered stream reaches.

Water Transaction Development in the Clark Fork River Basin (MT)

Grantee: Clark Fork Coalition
 Grant Amount:\$179,800
 Matching Funds:\$100,000
 Total Project Amount:\$279,800
 Identify, implement and monitor water transactions in the Clark Fork basin of Montana. Project will improve stream flows and aquatic habitat conditions for native trout.

OREGON

Deschutes Basin Streamflow Restoration (OR)

Grantee: Deschutes River Conservancy
 Grant Amount:\$509,000
 Matching Funds:\$1,167,400
 Total Project Amount:\$1,676,400
 Restore stream flow in Oregon's Deschutes Basin through water transactions. Project will improve habitat and water quality for native fish, including salmon and federally listed steelhead trout.

Enhancing Instream Flow in the Grande Ronde Basin (OR)

Grantee: Trout Unlimited – Washington Water Project
 Grant Amount:\$881,100
 Matching Funds:N/A
 Total Project Amount:\$881,100
 Identify, prioritize and develop water transactions in the Grande Ronde Basin of Oregon. Project will restore flow to the Wallowa and Catherine Creek subbasins to improve habitat critical to the recovery of ESA-listed salmonids throughout the region.

Real-Time Instream Flow Assessment of Transactions (OR)

Grantee: Oregon Department of Fish and Wildlife
 Grant Amount:\$22,100
 Matching Funds:\$25,000
 Total Project Amount:\$47,100
 Develop a real-time instream flow tracking system to ensure that CBWTP transactions are monitored and enforced through an automated program. Project will increase instream flows by ensuring stakeholders are immediately aware when legally protected senior instream flows are not being met and regulation or management adjustments are necessary.

Recovering a Strategic Steelhead Sanctuary on the Umatilla River (OR)

Grantee: Western Rivers Conservancy
 Grant Amount:\$30,000
 Matching Funds:\$18,100
 Total Project Amount:\$48,100
 Acquire an 820-acre property and its water rights, including two miles of Umatilla River and the lower mile of Birch Creek to benefit steelhead. Project will place a conservation easement on another 165 acres that encompasses the floodplain and conveys the property's fee to the Confederated Tribes of the Umatilla Indian Reservation.

Water Transaction Coordination and Monitoring (OR)

Grantee: Oregon Water Resources Department
 Grant Amount:\$50,000
 Matching Funds:\$40,000
 Total Project Amount:\$90,000
 Provide assistance to Oregon QLEs on water transactions for proposed streamflow restoration projects, including instream transfers, instream leases and allocations of conserved water. Project will ensure the conditions specified in final orders are monitored

and when necessary enforced through regulation to protect all instream flows.

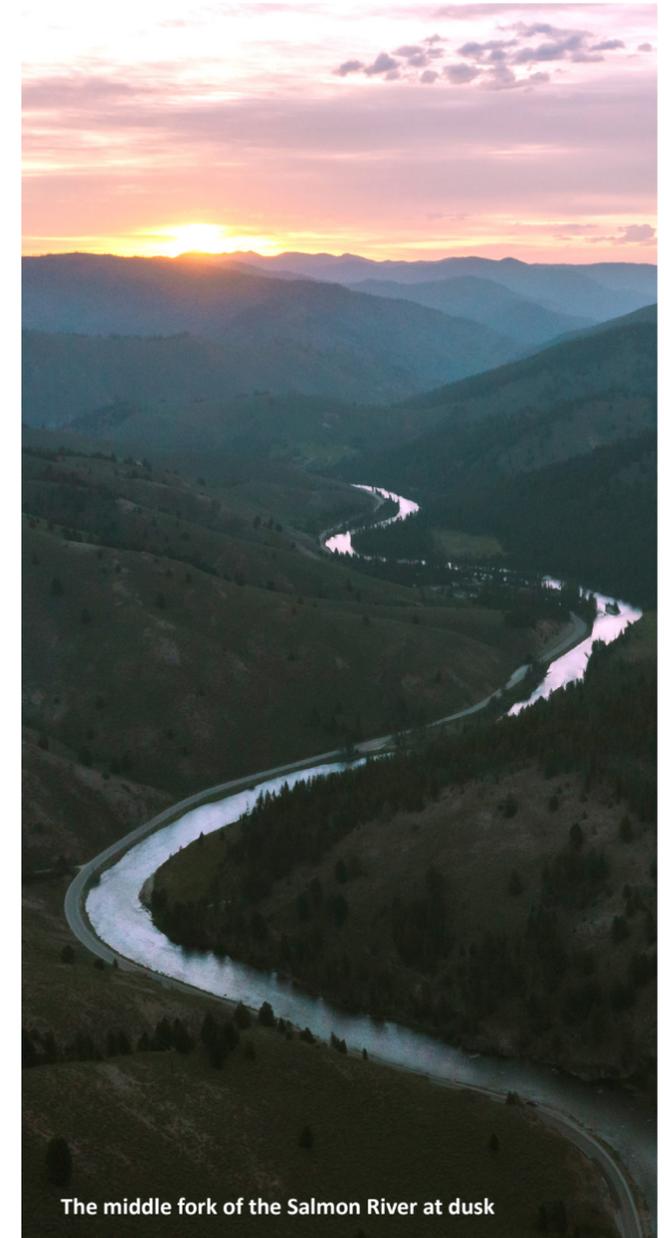
WASHINGTON

Elevating Instream Flow Enhancement in the Methow & Okanogan Basins - Colville (WA)

Grantee: Trout Unlimited – Washington Water Project
 Grant Amount:\$72,800
 Matching Funds:\$350,000
 Total Project Amount:\$422,800
 Identify, prioritize and develop water transactions in the Methow and Okanogan subbasins of Washington working in collaboration with the Confederated Tribes of the Colville Reservation. Project will increase habitat and instream flow in priority tributaries and will build capacity for working with agricultural landowners on conservation projects that will benefit Pacific salmon, steelhead and their habitat.

Elevating Instream Flow Enhancement in the Umatilla Tribal Geographies (WA)

Grantee: Trout Unlimited – Washington Water Project
 Grant Amount:\$158,600
 Matching Funds:\$5,000
 Total Project Amount:\$163,600
 Identify, prioritize and develop water transactions in the Walla Walla and Upper Grande Ronde subbasins of Washington working in collaboration with the Confederated Tribes of the Umatilla Indian Reservation. Project will improve future flow regimes for ESA listed salmonids, mitigate for out of stream use, increase habitat quantity and lower water temperatures.



The middle fork of the Salmon River at dusk

Hydrologic Flow Restoration in the Yakima, Entiat, and Wenatchee Basins (WA)

Grantee: Trout Unlimited – Washington Water Project
 Grant Amount:.....\$157,100
 Matching Funds:.....\$240,000
 Total Project Amount:.....\$397,100

Identify, prioritize and develop projects with willing water right holders in the Entiat, Yakima and Wenatchee subbasins of Washington to complete significant instream flow enhancements to priority streams and tributaries. Project will improve tributary instream habitat to benefit listed salmon and other fish species and their habitats.

Provide Streamflow Monitoring and Water Transaction Support (WA)

Grantee: Washington Department of Fish and Wildlife
 Grant Amount:.....\$105,100
 Matching Funds:.....\$150,000
 Total Project Amount:.....\$255,100

Provide stream monitoring and technical assistance to all Washington state QLEs on prioritization, identification, and development of water right transactions. Project will provide review on monitoring plans to ensure that stream flow and, where appropriate, biological monitoring are incorporated into project monitoring plans.

Stream Flow Restoration to Benefit Salmon, Steelhead and Trout in the Columbia Basin (WA)

Grantee: Washington Water Trust
 Grant Amount:.....\$287,100
 Matching Funds:.....\$98,200
 Total Project Amount:.....\$385,300

Restore fish-critical streams in the Columbia River Basin by implementing instream flow acquisitions in the Yakima, Kilckitat, and White Salmon basins. Project will benefit ESA-listed Chinook salmon and steelhead.

Stream Flow Restoration to Benefit Salmon, Steelhead and Trout in the Columbia Basin - Colville (WA)

Grantee: Washington Water Trust
 Grant Amount:.....\$65,400
 Matching Funds:.....\$42,900
 Total Project Amount:.....\$108,300

Restore fish-critical streams in the Columbia River Basin by implementing instream flow acquisitions in the Okanogan, Wenatchee, and Methow watersheds. Project will continue its partnership with the Confederated Tribes of the Colville Reservation to benefit ESA-listed steelhead, spring Chinook, and bull trout.

Stream Flow Restoration to Benefit Salmon, Steelhead and Trout in the Columbia Basin - Umatilla (WA)

Grantee: Washington Water Trust
 Grant Amount:.....\$149,600
 Matching Funds:.....\$77,700
 Total Project Amount:.....\$227,300

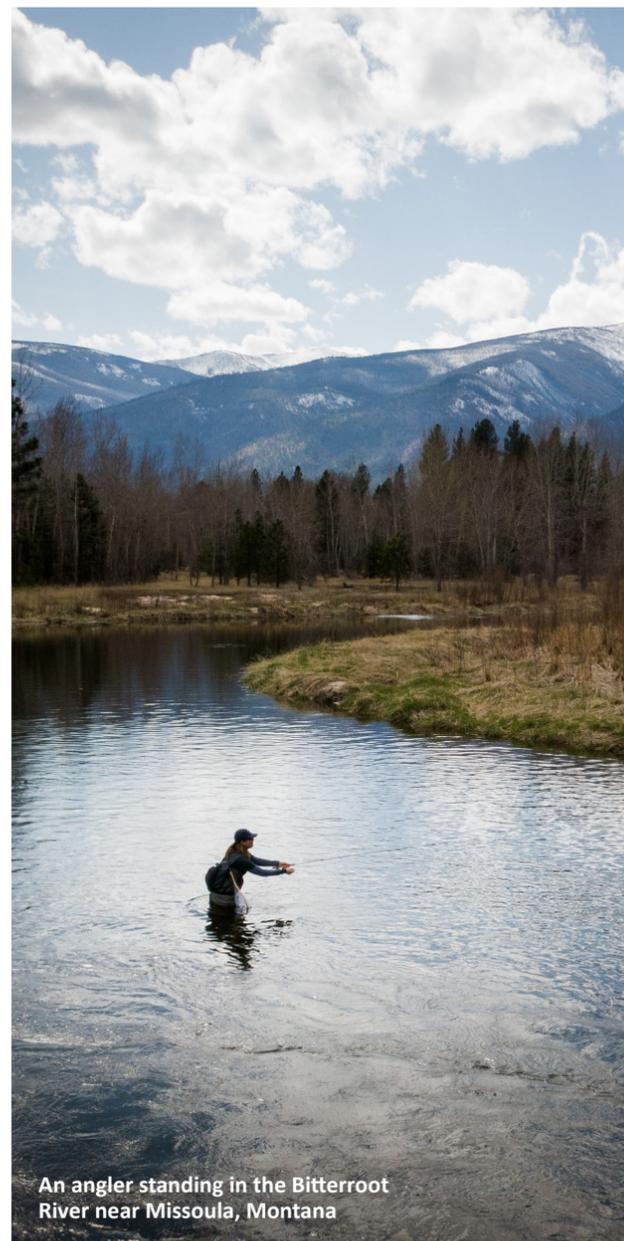
Restore fish-critical streams in the Columbia River Basin by implementing instream flow acquisitions in the Walla Walla basin. Project will continue its partnership with the Confederated Tribes of the Umatilla Reservation to benefit ESA-threatened summer steelhead and bull trout.

MULTIPLE STATES

Increase Flow Restoration Efforts in the Nez Perce Tribal Geographies (ID, OR, WA)

Grantee: Nez Perce Tribe
 Grant Amount:.....\$13,100
 Matching Funds:.....\$10,000
 Total Project Amount:.....\$23,100

Increase flow restoration efforts in the Nez Perce tribal geographies. Project will increase tribal capacity to coordinate with other groups developing water transactions within the broad geography of ceded lands, and also enable the Tribe to propose transactions uniquely linked to tribal relationships, tribal treaty rights, and tribal sovereignty.



An angler standing in the Bitterroot River near Missoula, Montana



Chinook salmon

2021 WATER TRANSACTION TABLE

NFWF Funding	BPA Main				
	519-21	489b-19	472b-20	325f-21	508-20
Transaction Number	519-21	489b-19	472b-20	325f-21	508-20
Transaction Name	TUOR-2021-Lostine River-JM SSL	TUOR-2019-Lostine river-TransferBJ	TU-WWP-2021-Cowiche Creek-Cowiche 2021 Late Season	TU-WWP-2021-Big Creek -BCWUA - 3 yr DR	WWT-2021-Lower Little Klickitat River- Little Klickitat #1 - KF
Qualified Local Entity	Trout Unlimited - Washington Water Project (OR)	Trout Unlimited - Washington Water Project (OR)	Trout Unlimited - Washington Water Project	Trout Unlimited - Washington Water Project	Washington Water Trust
Benefited Stream	Lostine River	Lostine River	Cowiche Creek	Big Creek	Lower Little Klickitat River
Subbasin	Wallowa	Wallowa	Naches	Upper Yakima	Klickitat
HUC 8	17060105	17060105	17030002	17030001	17070106
Total Water Cost	9342	62040	5000	29544.66	170280
Cost of Water Requested from CBWTP / Accord Funds	9342	62040	5000	29544.66	170280
Cost Share Total	0	0	0	0	0
Landowner Donation	0	0	0	0	0
Cost Share Source					
Transaction Term	2021 - 2021	Permanent	2021 - 2021	2021 - 2023	2021 - 2024
Years	1	100	1	3	4
Timing of Increased Flow (from)	August	May	August	August	April
Timing of Increased Flow (to)	September	September	October	February	October
Primary Benefited Distance	5	4.2	0.8	2.5	2.45
Total Benefited Distance	5	4.2	0.8	2.5	29.29
Annual Instream Flow Rate (cfs)	0.56	0.43	0.72	1.29	3.12
Annual Instream Volume (AF)	69.2	77.55	114.2	301.75	799
Acres	103.5	17.5	26.6	110.49	387
Transaction Tool Used	Lease, short term (2-9 years)	Acquisition, Irrigation Efficiency	Forbearance Agreement (Agreement not to Divert)	Diversion Reduction Agreement	Lease, short term (2-9 years)
Method of Increasing Flow	Split Season	Full Season	Split Season	Split Season	Split Season, Full Season
Anadromous Species Benefitted	Chinook - Snake River Spring/Summer ESU (threatened), Steelhead - Snake River Basin DPS (threatened)	Chinook - Snake River Spring/Summer ESU (threatened), Steelhead - Snake River Basin DPS (threatened), Pacific Lamprey	Steelhead - Middle Columbia River DPS (threatened), Chinook - Middle Columbia River Spring ESU, Coho	Steelhead - Middle Columbia River DPS (threatened), Chinook - Middle Columbia River Spring ESU, Coho	Steelhead - Middle Columbia River DPS (threatened)
Resident Species Benefitted	Bull Trout (threatened)	Bull Trout (S. confluentus) (threatened)	Westslope Cutthroat Trout, Rainbow Trout	Westslope Cutthroat Trout, Rainbow Trout, Bull Trout (threatened)	

The Wallowa Lake Dam in Oregon



2021 WATER TRANSACTION TABLE (CONTINUED)

NFWF Funding	Umatilla Accord						Idaho Accord
	457g-21	471b-18	502b-21	488c-21	481f-21	72q-21	
Transaction Number	457g-21	471b-18	502b-21	488c-21	481f-21	72q-21	
Transaction Name	TUOR-2021-Walla Walla River-WWRID	WWT-2021-Mill Creek-City of Walla Walla	TUOR-2021-Wallowa River-WH	TUOR-2021-Catherine Creek-BuffaloPeak	TUOR-2021-Birch Creek-Lease-Bank_2021	IWRB-2021-Lemhi River-annual-LC-2021	
Qualified Local Entity	Trout Unlimited - Washington Water Project (OR)	Washington Water Trust	Trout Unlimited - Washington Water Project (OR)	Trout Unlimited - Washington Water Project (OR)	Trout Unlimited - Washington Water Project (OR)	Idaho Water Resources Board	
Benefited Stream	Walla Walla River	Mill Creek	Wallowa River	Catherine Creek	Birch Creek	Lemhi River	
Subbasin	Walla Walla	Walla Walla	Wallowa	Upper Grande Ronde	Umatilla	Lemhi	
HUC 8	17070102	17070102	17060105	17060104	17070103	17060204	
Total Water Cost	\$ 645	\$ 51,096	\$ 12,375	\$ -	\$ 20,181	27000	
Cost of Water Requested from CBWTP / Accord Funds	\$ 645	\$ 51,096	\$ 12,375	\$ -	\$ 20,181	27000	
Cost Share Total	\$ -	\$ -	\$ -	\$ -	\$ -	0	
Landowner Donation	\$ -	\$ -	\$ -	\$ -	\$ -	0	
Cost Share Source							
Transaction Term	2021 - 2021	2021 - 2021	2021 - 2022	2021 - 2021	2021 - 2021	2021 - 2021	
Years	1	1	2	1	1	1	
Timing of Increased Flow (from)	June	August	August	July	April	March	
Timing of Increased Flow (to)	October	September	September	October	October	November	
Primary Benefited Distance	5.4	13.7	31.76	15.9	21.15	7.4	
Total Benefited Distance	5.4	13.7	31.76	15.9	21.15	7.4	
Annual Instream Flow Rate (cfs)	0.31	5.5	0.45	3.44	4.95	3	
Annual Instream Volume (AF)	68.87	665.46	54	777.81	366.78	595	
Acres	8.28	0	54	285.5	282	222	
Transaction Tool Used	Lease, Annual (single year)	Source Switch	Lease, short term (2-9 years)	Lease, Annual (single year)	Lease, Annual (single year)	Minimum Flow Agreement	
Method of Increasing Flow	Full Season	Stored Water	Split Season	Split Season, Full Season	Full Season	Split Season, Full Season	
Anadromous Species Benefitted	Steelhead - Middle Columbia River DPS (threatened), Chinook - Middle Columbia River Spring ESU	Steelhead - Middle Columbia River DPS (threatened), Chinook - Middle Columbia River Spring ESU	Chinook - Snake River Spring/Summer ESU (threatened), Steelhead - Snake River Basin DPS (threatened)	Chinook - Snake River Spring/Summer ESU (threatened), Steelhead - Snake River Basin DPS (threatened)	Steelhead - Middle Columbia River DPS (threatened), Chinook - Middle Columbia River Spring ESU, Coho	Chinook - Snake River Spring/Summer ESU (threatened), Steelhead - Snake River Basin DPS (threatened)	
Resident Species Benefitted	Bull Trout (threatened), Rainbow Trout	Redband Trout	Bull Trout (threatened), Mountain Whitefish, Redband Trout, Freshwater Mussels	Bull Trout (threatened)	Redband Trout	Bull Trout (threatened)	

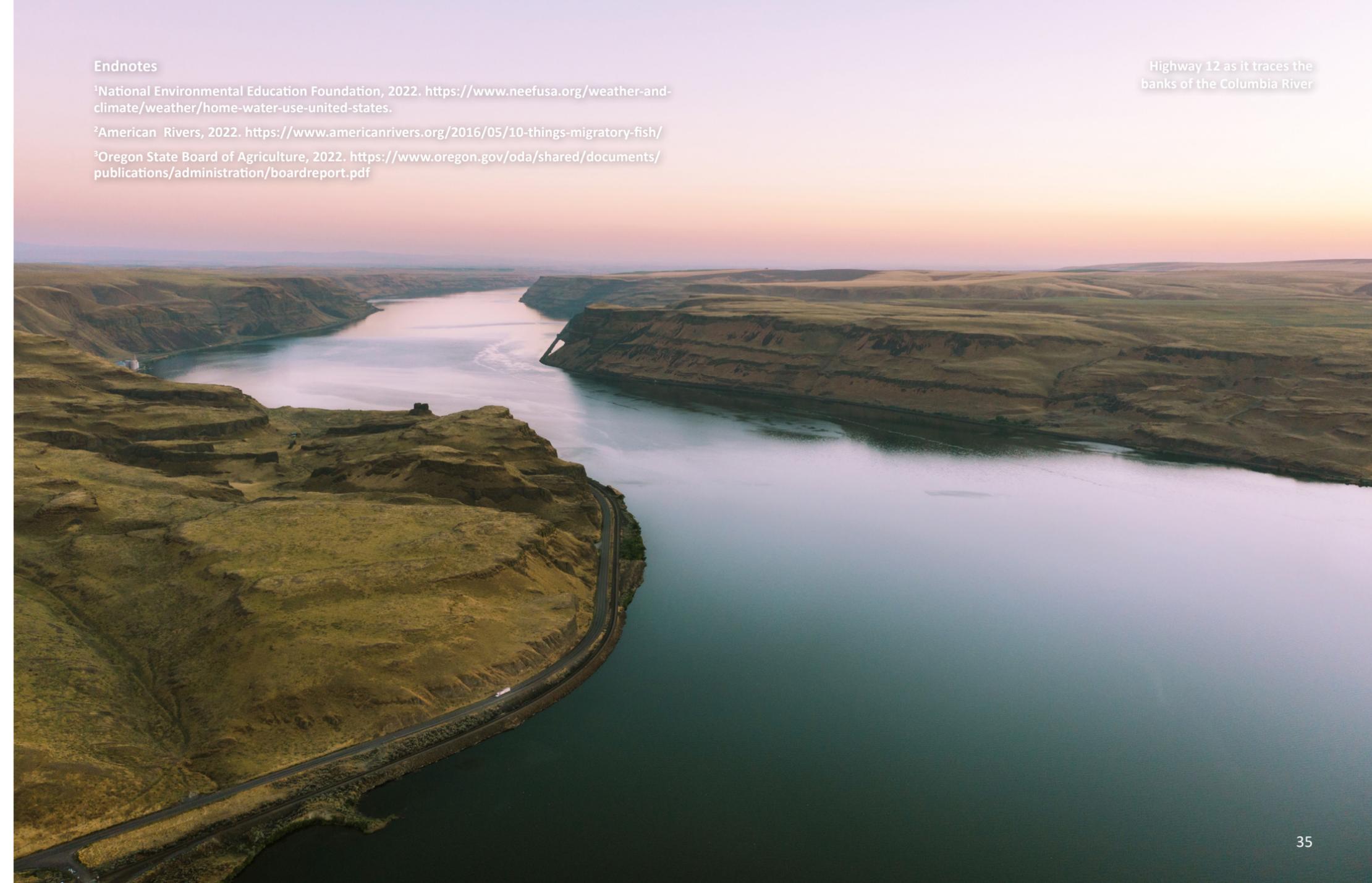
Endnotes

¹National Environmental Education Foundation, 2022. <https://www.neefusa.org/weather-and-climate/weather/home-water-use-united-states>.

²American Rivers, 2022. <https://www.americanrivers.org/2016/05/10-things-migratory-fish/>

³Oregon State Board of Agriculture, 2022. <https://www.oregon.gov/oda/shared/documents/publications/administration/boardreport.pdf>

Highway 12 as it traces the banks of the Columbia River





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ON THE FRONT COVER

Nevada Creek as it flows from
the Nevada Creek Reservoir near
Helmville, MT

ON THE BACK COVER

Lostine River as it flows toward
the Wallowa River in Oregon