

# *Uplift*

REPORT 2019

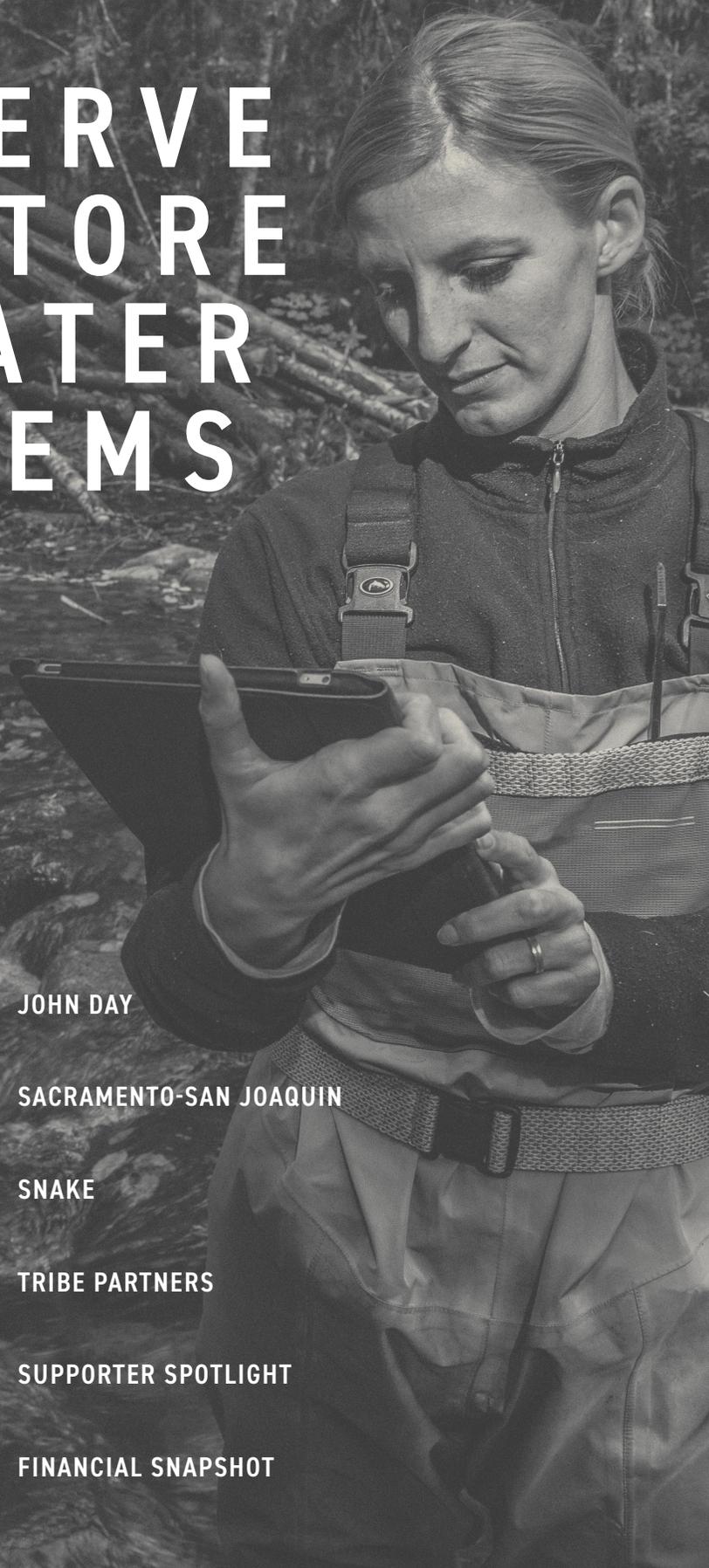


*Our Mission*

**TO PRESERVE  
AND RESTORE  
FRESHWATER  
ECOSYSTEMS**

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Friends of The Freshwater Trust,

# RESILIENCE.

Wild fish are emblematic of it. The work we do on the ground and the technologies we develop behind the scenes help secure it for our landscapes. Our future demands it. 2020 tested it.

Every individual playing a role in the stories and results you're about to read in the following pages had to be resilient in some way over the past year. As an organization, we tussled with the challenges of working remotely, invoked new ways of innovating from afar, navigated new funding realities, and continued fixing rivers on the ground and in person with strict safety measures in place. The work that resulted during this time, and the latest data you're about to dig into from six basins in three states, is proof of our ability to be resilient — and of your role in making that possible.

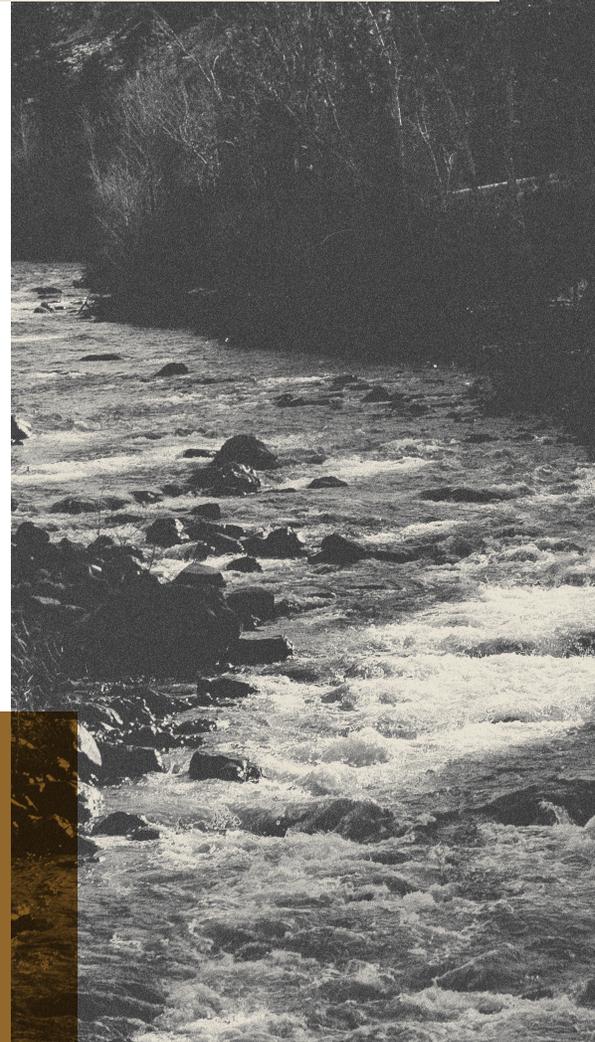
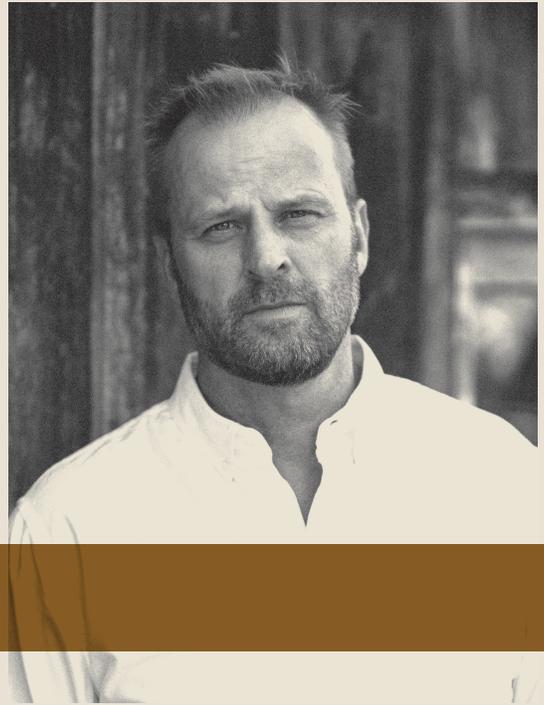
Last year, we planted more than 10,000 native trees and shrubs, and built more than 30 large wood structures. These actions blocked solar load, reduced erosion, and improved stream function — all of which we quantified. In this report, we will explain how the coalescence between conservation and agriculture ensures that as pressures on freshwater increase, our rivers still run. Our partnerships kept more than 25,000 gallons of water instream, enabling healthier fish migration. You will have greater insight into how we used advanced analytics and innovative financing behind the scenes to know where to work in a basin, seeking the greatest uplift for the least cost. We shine a spotlight on how our success means the success of other rural businesses and bolsters local economies. Any crisis, especially a pandemic, underlines the inherently interconnected nature of our world, and we continue to acknowledge how our projects have effects on the communities where we work.

Our work contributes to resilience of economies and the environment. And the evidence of this fact does not live only in these pages. It's found in the shade of a cottonwood tree and the slower water under a submerged log. It's in the sound of a creek pulsing through summer and the splash of a spawning salmon in the fall. It's in the glow of an analyst's computer, the kitchen light of a rancher, and the open sign of a small family business. You are to thank for our impact that's on display in this report and most importantly, in the real world.

Thank you for your continued support.



Joe Whitworth  
President



# A LOOK UNDER THE HOOD: *BasinScout*<sup>®</sup>

Watershed analysis and conservation planning — a process that has taken months or years — can now be done in a matter of days using BasinScout<sup>®</sup> Platform. In 2019, The Freshwater Trust partnered with Upstream Tech to develop this unique technology platform.

BasinScout<sup>®</sup> Platform combines TFT's conservation expertise and BasinScout<sup>®</sup> analytical process with Upstream Tech's machine learning capabilities. The automated platform can more rapidly and efficiently assess agricultural practices and restoration actions, and develop feasible, cost-effective scenarios across large areas.



## INPUTS

### SATELLITE AND GROUND TRUTH DATA ON FIELD CONDITIONS, INCLUDING:

- Boundaries
- Crop type
- Cover crop presence
- Irrigation
- Winter flooding
- Soil data
- Elevation

### PROGRAM DETAILS

- Water-related impact goals and budget constraints



# Platform

## ANALYSIS

- TFT modules:  
runoff, flow, and economics
- USDA model:  
nutrient and sediment runoff

## OUTPUTS

### FIELD-BY-FIELD RECOMMENDATIONS

targeted to program goals

### BASIN-WIDE IMPACTS

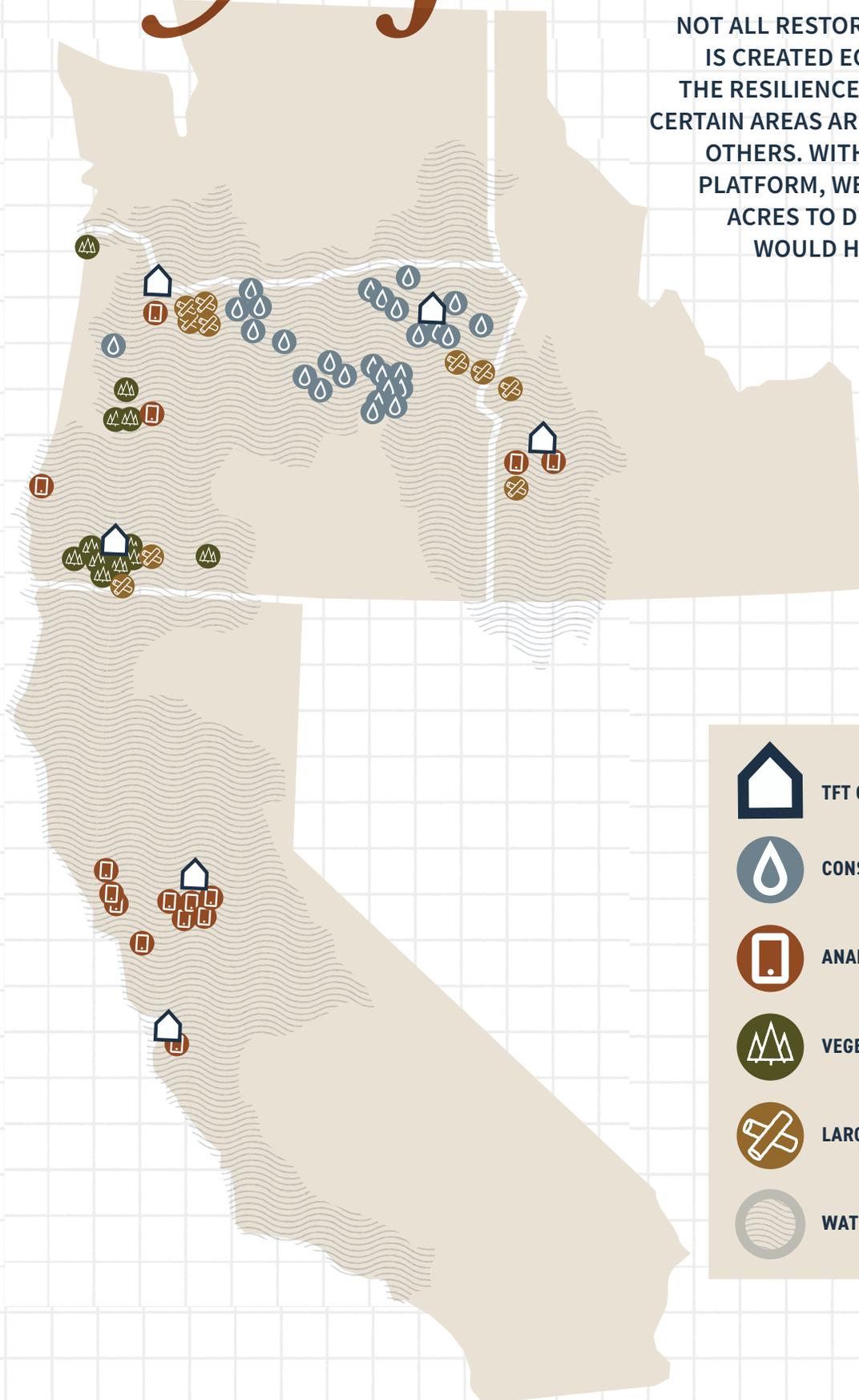
including reduced water usage,  
groundwater replenishment,  
and pollution runoff reduction

## GOAL

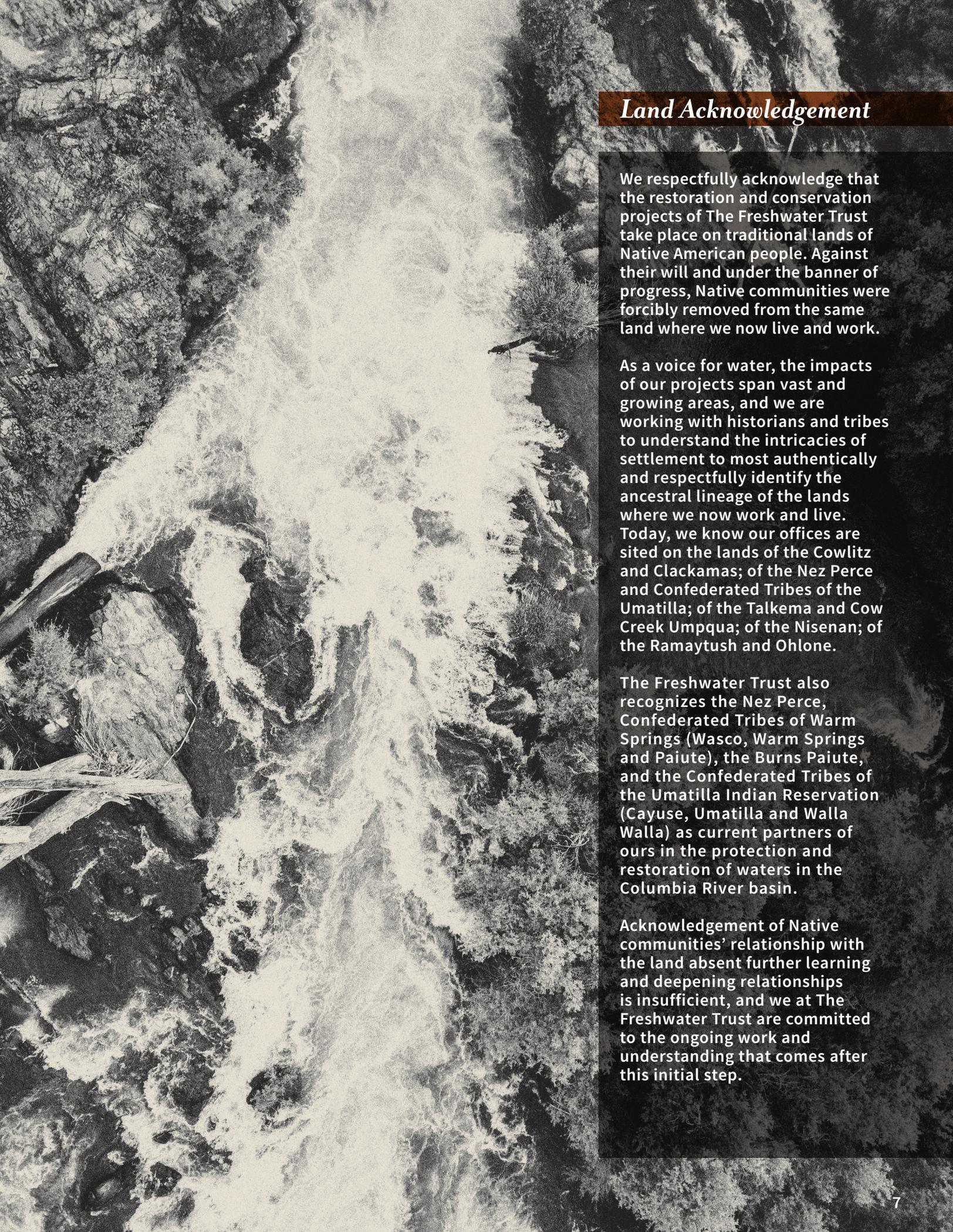
Promote implementation of  
agricultural best practices that  
enhance freshwater ecosystems  
and improve farmers' bottom lines.

# Lay of the Land

NOT ALL RESTORATION AND CONSERVATION IS CREATED EQUAL. IN ORDER TO SECURE THE RESILIENCE OF AN ENTIRE LANDSCAPE, CERTAIN AREAS ARE HIGHER PRIORITIES THAN OTHERS. WITH TOOLS LIKE BASINSCOUT® PLATFORM, WE CAN SCAN THOUSANDS OF ACRES TO DISCOVER THE DOZENS THAT WOULD HAVE THE GREATEST IMPACT. THEN, WE GET TO WORK.



-  TFT OFFICES
-  CONSERVATION
-  ANALYSIS
-  VEGETATION PLANTING
-  LARGE WOOD PLACEMENT
-  WATERSHEDS IMPACTED

An aerial photograph of a river with white-water rapids. Large pieces of driftwood are visible in the water and along the banks. The surrounding landscape is rugged and forested.

## *Land Acknowledgement*

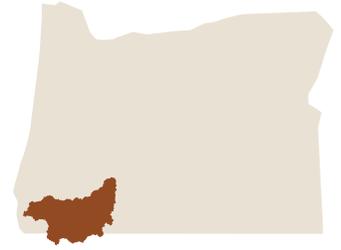
We respectfully acknowledge that the restoration and conservation projects of The Freshwater Trust take place on traditional lands of Native American people. Against their will and under the banner of progress, Native communities were forcibly removed from the same land where we now live and work.

As a voice for water, the impacts of our projects span vast and growing areas, and we are working with historians and tribes to understand the intricacies of settlement to most authentically and respectfully identify the ancestral lineage of the lands where we now work and live. Today, we know our offices are sited on the lands of the Cowlitz and Clackamas; of the Nez Perce and Confederated Tribes of the Umatilla; of the Talkema and Cow Creek Umpqua; of the Nisenan; of the Ramaytush and Ohlone.

The Freshwater Trust also recognizes the Nez Perce, Confederated Tribes of Warm Springs (Wasco, Warm Springs and Paiute), the Burns Paiute, and the Confederated Tribes of the Umatilla Indian Reservation (Cayuse, Umatilla and Walla Walla) as current partners of ours in the protection and restoration of waters in the Columbia River basin.

Acknowledgement of Native communities' relationship with the land absent further learning and deepening relationships is insufficient, and we at The Freshwater Trust are committed to the ongoing work and understanding that comes after this initial step.

# The Rogue



The Rogue is a coveted destination for both rowdy river trips and quieter pursuits of fall steelhead. It's home to hundreds of family farms, ranches, wineries and orchards. Time, the growth of agriculture, and increasing populations led to the simplification of landscapes and lack of streamside vegetation and habitat. Yet the mighty Rogue continues to give and retains its allure. The Freshwater Trust's (TFT) actions to improve water quality by planting streamsidings, building large wood structures, removing fish barriers, and fencing livestock aid in securing its long-term resilience.

Eight years have passed since TFT implemented its first restoration project in the basin. A contract with the City of Medford to offset the impacts of its wastewater treatment facility was the catalyst. Today, a woven network of funders and partners and quantified, robust results allow us to point to our work here as the paradigm for what we envision elsewhere.

There are more than 30 individual restoration sites in the Rogue, five new in 2019, driven by an array of funders, ranging from municipalities to the Oregon Watershed Enhancement Board, Oregon Department of Transportation and the U.S. Bureau of Reclamation. These sites are along the

Applegate River, the mainstem of the Rogue, and eight of the most critical creeks for fish in the basin.

In late 2019, TFT put shovel to dirt in its first restoration project with the City of Ashland, its second water quality trading program in the basin. In 2018, the city contracted with TFT to restore more than 20 acres of streamside vegetation and to keep the water cool for native fish. The program is anticipated to run through 2043.

"Our first water quality trading contract with Medford proved how sound and natural a solution streamside vegetation can be for offsetting impacts that every city has from simply serving its residents," said Eugene Wier, restoration project manager. "We quantify the impact of those projects, and that proves to us we are making a difference."

To date, more than 500 million kilocalories per day of solar load has been blocked in the basin through revegetation. Last year, our project managers celebrated the joining of three contiguous restoration projects, which meant nearly two miles of healthy vegetation was planted along the mainstem of the river. "It's essentially what we always hoped for," said Katelyn Detweiler, restoration project manager.

**"Landowners seeing what we're doing with their neighbors, gaining interest, and then before you know it, more than a mile of river is benefiting from shade. It's not only an environmental win, it's a social one. Reputation turns to results."**

In addition to revegetation, working with partners like the Bureau of Reclamation, TFT built 25 new large wood structures in 2019. And nearly 3,000 feet of livestock fencing was placed along Little Butte Creek to improve water quality and habitat.

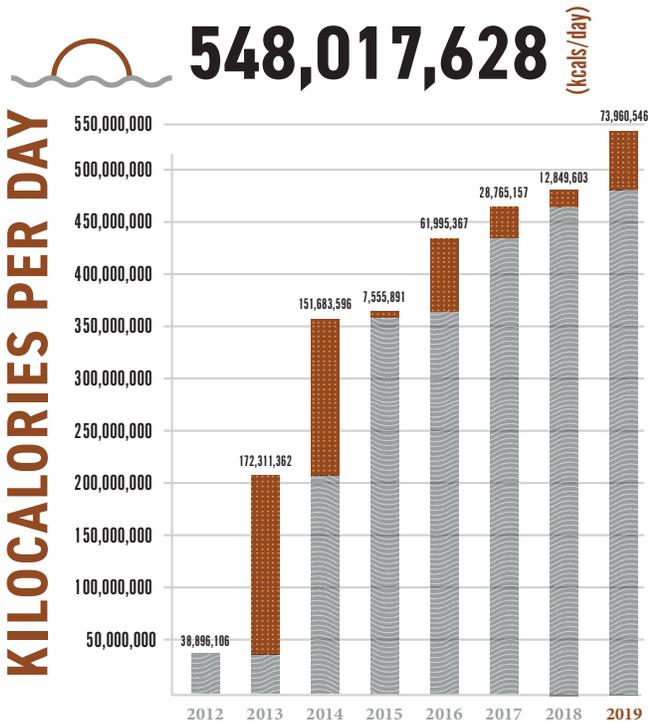
We also began work in earnest with the U.S. Forest Service (USFS) to develop a set of tools that will determine where USFS dollars can be used most effectively upstream to help improve water quality and lower the temperatures in the Wild & Scenic sections of the Rogue. A web-based application, still in development with TFT, will include a map with explorable layers, filterable model results, and dynamic data visualizations, which display "uplift," or the environmental benefit a given project

could have, aligned to the cost of implementing a project. When complete in 2021, a full suite of publicly available geospatial tools will be available to support priority project execution and maximize the benefits of future restoration efforts throughout the Rogue.

In addition to environmental outcomes, our Rogue work has contributed more than \$14 million in investment into the community and provided ongoing contracts to more than 12 small businesses.

“When TFT showed up, that was when investment in restoration really started happening in earnest here,” said Todd Marthoski, owner of M&M Construction Services, an excavation contractor in the Rogue. “It was a huge push forward in terms of funding for projects and getting them on the ground. I’m grateful for that.”

## SOLAR LOAD BLOCKED



TOTAL PROJECTS IN BASIN:

**32**

NUMBER OF PROJECTS IN 2019:

**5**

RESTORATION ACTIONS:

Replanting streamside vegetation, building large wood structures, fencing livestock, improving fish passage

TREES PLANTED IN 2019:

**13,000**

LARGE WOOD STRUCTURES BUILT IN 2019:

**25**

AREAS OF FOCUS:

- Mainstem Rogue River
- Applegate River
- Lone Pine Creek
- Little Butte Creek
- South Fork Little Butte Creek
- Bear Creek
- Kane Creek
- Waters Creek
- Neil Creek
- Emigrant Creek
- Wagner Creek

SPECIES BENEFITED:

- Coho
- Steelhead
- Spring and Fall Chinook
- Cutthroat Trout
- Pacific Lamprey
- Native Minnows and Sculpin

LANDOWNER PARTNERS:

**44**

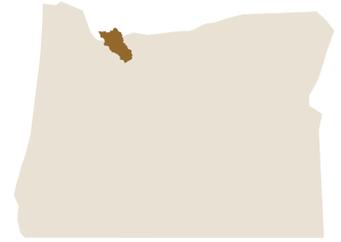
DOLLARS INVESTED:

**\$14.4**  
million to date

PARTNERS:

- City of Medford
- U.S. Bureau of Reclamation
- Oregon Department of Transportation
- Oregon Watershed Enhancement Board
- U.S. Bureau of Land Management
- Oregon Department of Fish & Wildlife
- Rogue Basin Partnership
- Patagonia
- City of Ashland

# The Sandy



Between owls calling, cougars roaming, and the splashing of spawning salmon, the Sandy River basin is alive. It hasn't always been well.

A decade has passed since diligent, attentive work began to repair the impact of human actions. A group of partners, including the U.S. Forest Service, the Sandy River Basin Watershed Council, the Bureau of Land Management, and The Freshwater Trust (TFT) agreed and witnessed how the removal of large woody debris, road construction and clearcutting had led to negative consequences for water quality and habitat. But what was also agreed upon among this group was that strategic action and collaborative funding could fix them.

In 2010, TFT broke ground on the first restoration project here with a goal of making this a home again for native fish species that had become endangered in the area they were once plentiful. Today, nearly three dozen others have been implemented, along with other critical actions to improve stream function and future resilience.

“The Freshwater Trust’s work here has always centered upon understanding what this place might have been like without the influence of significant development and how best to support

the native populations of steelhead, coho and Chinook,” said Mark McCollister, habitat restoration director. “We’ve always asked ourselves how this place would have functioned without these kinds of human impacts. Then, we take action to get it back to a state that supports abundant native fish populations.”

2019 efforts built on years of previous work. At the end of the 10 years of helicopters buzzing, excavators running, planning, and permitting, stream function in the Sandy had been increased by more than 3,000 functional linear feet. Last year, on the mainstem of the Salmon River, flow was restored to three side channels by reconnecting them to the mainstem, and an off-channel pond complex was constructed totaling an acre. Large wood structures were installed at the entrances to each of these features that will help facilitate the development of pool habitat and refuge for salmonids. TFT also restored large wood and floodplain connectivity at the confluence of the South Fork Salmon, and within Sixes wetland complex. More than 650 logs were flown in by helicopter and strategically placed to form 33 new logjams. The wood for the structures is collected locally from hazard trees or other projects, such as trailhead improvement. They sometimes come from nearby forest fires, including the historic Eagle Creek Fire in the Columbia River Gorge.

The massive projects require partnership and coordination and often provide hundreds of thousands of dollars in business to local companies, including Columbia Helicopters, a local operator founded in Oregon in 1957.

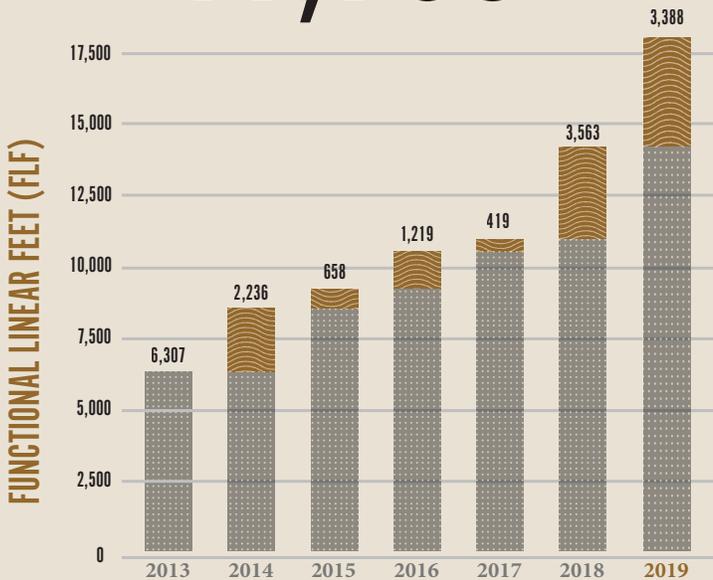
“Our services are worldwide, but we really value the work we do here with The Freshwater Trust,” said Dave Horrax, operations manager with Columbia. “It’s a natural extension of who we are.”

And when it comes to making this a home again for fish, they’ve let us know we’re doing a good job. Rotary screw-traps, which allow for basin scale smolt production abundance estimates and a measure of freshwater productivity, have been operating on Still Creek since 1994 and the Salmon River since 2010. Datasets from these traps show increases since the beginning of restoration work beginning in 2010.

**For example, the number of steelhead smolts, young salmon, in the Salmon River have increased by 710% between 2010 and 2018.**

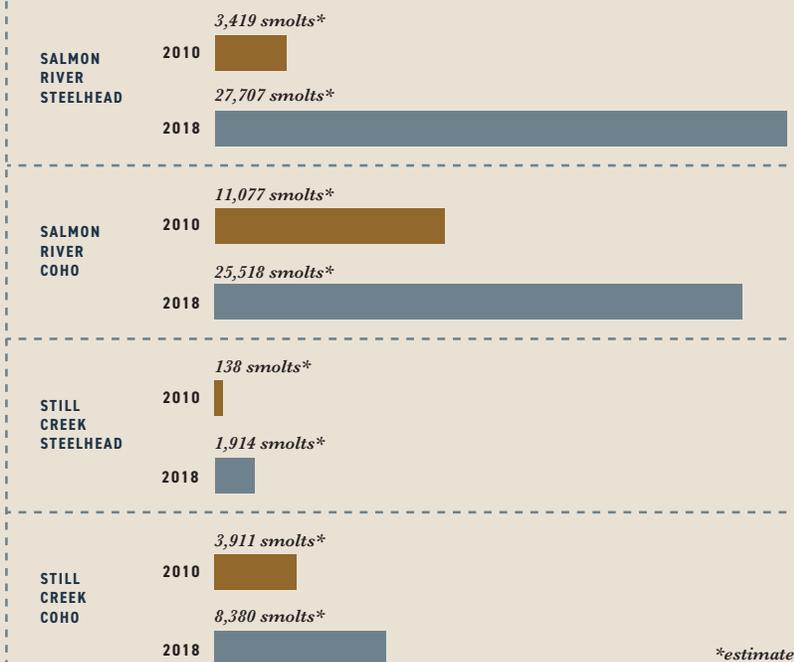
## STREAM FUNCTION RESTORED

17,790 (FLF)



“This basin has been a key focus of my career,” said McCollister, who has worked with TFT for 20 years. “When I reflect on the work we’ve done, I will undoubtedly get to say that I spent my time making a difference and that difference can actually be seen in the waters of my home basin. That’s a great feeling.”

## FISH POPULATION GROWTH



\*estimate

TOTAL PROJECTS IN BASIN:

35

NUMBER OF PROJECTS IN 2019:

4

RESTORATION ACTIONS:

Large wood structure construction, spawning gravel and boulder placement, side-channel reconnection, off-channel pond construction

AREAS OF FOCUS:

- Salmon River
- Still Creek
- Lost Creek
- Cast Creek
- Sixes Creek
- Clear Fork Creek

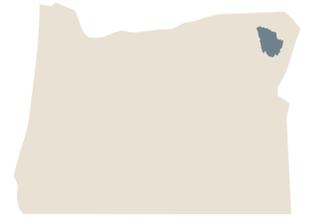
SPECIES BENEFITED:

- Coho
- Winter Steelhead
- Spring Chinook

PARTNERS:

- Clackamas County
- Columbia Land Trust
- Metro
- East Multnomah SWCD
- Mt. Hood National Forest
- Multnomah County
- National Marine Fisheries Service
- The Nature Conservancy
- Northwest Steelheaders
- Oregon Department of Fish & Wildlife
- Portland Water Bureau
- Sandy River Basin Watershed Council
- U.S. Bureau of Land Management
- Western Rivers Conservancy
- Spirit Mountain Community Fund
- Oregon Watershed Enhancement Board
- National Forest Foundation
- Pacific Power Blue Sky Habitat Fund

# The Lostine



When envisioning the American West, you might conjure up vast landscapes, snow-capped peaks, red barns, golden fields, dusty ranches, open roads, and wide skies. You'd have imagined the Lostine. It has classic features that define this part of the United States, including those often unseen, such as the complex and growing pressures on water resources.

Thirty years ago, Chinook nearly went extinct here. Sixty years ago, Coho did. As agricultural production ramped up, salmon populations decreased in tandem. With roots as a water trust, The Freshwater Trust (TFT) believes working lands and healthy rivers can coexist, but collaboration, coordination, and investment must be made as commonplace as the red barns and cattle that welcome you into the rural towns of Joseph, Enterprise and Wallowa. Our strategic conservation efforts ensure fish and farming are resilient enough to withstand the pressures of a changing climate.

TFT has partnered with more than 80 landowners to lease water rights and upgrade irrigation infrastructure to more efficient systems since 2004. The outcomes of these actions and partnerships are always quantified. In 2019 alone, our efforts resulted in more than 12,000 gallons per minute conserved.

"That total is impressive," said Jess Humphreys, conservation project manager and resident of Enterprise, OR. "But while the number signifies more water for fish, it is also proof of strong relationships."

TFT oversees two major irrigation upgrade projects in the basin. Humphreys managed the transition of more than 800 acres of flood irrigated land on the Wolfe Family Ranch, a massive operation in Wallowa County, to more precise pivot systems. Then, upon witnessing neighboring success, an adjacent family ranch began working with TFT. In 2019, the second irrigation efficiency upgrade was complete.

Five new pivot systems were installed and 277 acres were transitioned. These projects now conserve nearly 4,500 gallons of water per minute.

"I've always believed that if you have a healthy ecosystem surrounding the areas you produce agricultural products, it's more likely that the areas you produce in will be healthy," said Woody Wolfe, owner of the Wolfe Family Ranch. "Helping restore the salmon runs is one of the personal gratifications that I get out of it. Some of the reasons are monetary."

The Wolfe family estimated a 10 to 20% increase in agricultural production since the project was completed.

Humphreys is hopeful that by the end of 2020, she will develop a new conserved water project on the lower Lostine that will convert 260 acres from flood to pivot. In addition to saving water, these projects require contracting with local electricians, excavation companies and irrigation system contractors.

Last year also marked the 15th year of the Lostine Minimum Flow Agreement. The program designed in 2004 compensates farmers and ranchers for working together to maintain a minimum flow of 15 cubic feet per second, or approximately 6,700 gallons per minute, during the hottest times of the year. If met, the participants receive incentive payments. This year, the collective decided to dedicate a portion of their irrigation efficiency bonus payments to install an automated head gate and telemetered gage on one of the main ditches, to better manage, understand, and track the flow of water.

"TFT may have set up a table, but the local community has come to take a seat," said Humphreys.

## TOTAL PROJECTS IN BASIN:

5

## RESTORATION ACTIONS:

Irrigation upgrades,  
instream flow restoration

## AREAS OF FOCUS:

Lostine River  
Bear Creek  
Joseph Creek

## SPECIES BENEFITED:

Snake River Chinook  
Snake River Steelhead  
Coho Salmon  
Pacific Lamprey  
Bull Trout  
Resident Trout

## LANDOWNER PARTNERS:

83

## DOLLARS INVESTED:

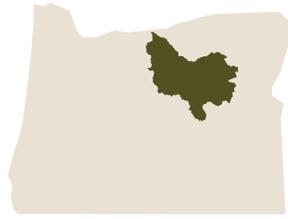
\$7.5

million to date

## PARTNERS:

Bonneville Power Administration  
Columbia Basin Water Transactions Program  
Oregon Water Resources Department  
Oregon Watershed Enhancement Board  
Nez Perce Tribe

# The John Day



A quilt of blue shadows and rust-colored hills, trees and tributaries is stitched together by the second longest free-flowing river in the continental United States. Its hillsides and rock cliffs, verdant vegetation and dry sagebrush, skies and depths are steeped in history and hold rarities. And beyond its natural value, the river gives life to a vibrant ranching community. The Freshwater Trust's (TFT) water quantity work in the John Day supports the environmental and economic legacy of this place.

TFT began its work here in 1995 when the organization was still a water trust. Understanding the value of the water for the steelhead and Chinook, and the fourth and fifth generation ranching families, TFT brings to the table solutions that don't pit one against the other. Some partners work with us to shorten the length of their irrigation season or withdraw water only when certain minimum flows are met. Others voluntarily lease a portion or all of their water rights.

During 2019, TFT implemented 17 deals, and working together, they all protected more than 18,000 gallons per minute. A highlight of the year was a new 10-year lease signed with a landowner owning property along Reynolds Creek, a critical cold-water source to the Upper John Day River.

"We strategically seek out creeks that supply cold water to the system and would be particularly valuable to protect, but we also look for landowners who are willing to make longer term agreements with us," said Meg Belais, program operations leader at TFT. "The new lease has both."

Belais is currently in pursuit of new water deals on priority tributaries and the upper mainstem of the John Day and working to convert existing leases to long-term or permanent leases.

In addition to leasing, TFT has had success preventing fish kills and ensuring enough water flows through the system during the hottest and driest days by building a program founded upon existing data-driven models that combine streamflow and climate information to forecast water temperatures. When the model predicts water temperatures to increase to a degree harmful for native fish, an alert allows irrigators to prevent additional water from being removed. TFT first used this type of model with great success to prevent fish kills during unusually hot days in Fifteenmile Creek, a tributary of the Columbia River. Started in 2013, nearly 20 irrigators are participants in that program, which is now administered by Wasco County Soil and Water Conservation District.

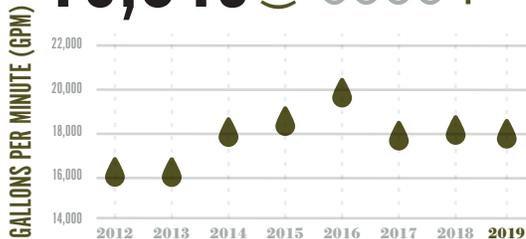
By the end of 2020, Belais and the rest of the team at TFT will also have completed a feasibility study, funded by the Oregon Department of Water Resources, to identify ditch and on-farm irrigation upgrade projects that will save additional water. The results will guide funding to the highest priority projects with the greatest quantified impact.

**"Data is at the heart of all our decision making, whether improving water quality or quantity," said Belais.**

**"Information yields impacts."**

## STREAMFLOW RESTORED

**18,043 (GPM)**



TOTAL PROJECTS IN BASIN:

**17**

AREAS OF FOCUS:

- Middle Fork John Day
- Upper John Day
- Pine Creek
- Rudio Creek
- Roberts Creek
- Canyon Creek
- Reynolds Creek
- Standard Creek
- Beech Creek
- Fox Creek
- Rock Creek
- Vinegar Creek
- Clear Creek

SPECIES BENEFITED:

- Mid-Columbia Spring Chinook
- Mid-Columbia Summer Steelhead
- Pacific Lamprey
- Bull Trout
- Western Brook Lamprey
- Westslope Cutthroat Trout

LANDOWNER PARTNERS:

**16**

DOLLARS INVESTED:

**\$7.58**

million to date

PARTNERS:

- Bonneville Power Administration
- Columbia Basin Water Transactions Program
- Oregon Watershed Enhancement Board
- Bella Vista Foundation
- Confederated Tribes of the Warm Springs Reservation of Oregon
- John Day Basin Partnership
- Oregon Water Resources Department
- Grant, Gilliam, and Wheeler SWCDs
- Oregon Department of Fish & Wildlife
- Burns Paiute Tribe
- LP Brown Foundation

# Sacramento-San Joaquin



Standing on the edge of Shasta Lake in northern California, an eagle-eyed observer can trace the path of the Sacramento River for 400 miles, down volcanic ridges, fanning out into the fertile Sacramento-San Joaquin River Delta and finally reaching the bustle of the San Francisco Bay. This river has withstood centuries of activity, from volcanic events to gold mining, forest fires to engineered levees and tunnels. Harder to see, yet no less critical, is the water contained deep underground in aquifers even older than the river.

Five years have passed since we opened our first office in California. During that time, we have built a network of monitoring sites, of scientific data and of strong partnerships throughout the Sacramento Valley in the quest to meld compliance with state regulations to cost-effective, tangible results for freshwater ecosystems.

In 2019, we cemented major partnerships with Microsoft and American Farmland Trust. Projects with each entity kicked off in 2020 to meet replenishment and groundwater sustainability targets.

We continued to make strides on projects already underway. In the Solano Subbasin, we

installed 10 monitoring sites on agricultural wells and connected them to the first iteration of a unique groundwater trading tool built on a secure blockchain platform. We refined our measurement method for surface water irrigators in the Sacramento-San Joaquin Delta and secured the support of the region's Watermaster. For the Sacramento Regional County Sanitation District, our team completed the first draft of an extensive Ecological Program with a roadmap for securing, protecting, and enhancing 8,400 acres of important habitat in the southern Sacramento Valley over the next 80 years.

**The Sacramento has run full and strong for 3 million years and the region's farmers need it to remain vibrant for decades to come, particularly in the face of recent prolonged droughts.**

“Our work here is underpinned by relationships with more than 80 agricultural landowners alongside community partners and robust technologies,” said Anna Swenson, community outreach coordinator for TFT. “These relationships allow us to assess the entire Sacramento Valley, and move us toward prioritizing and funding the conservation actions that will drive groundwater sustainability and protecting freshwater ecosystems. It’s a win-win for everyone.”

Building resilience for the region extends beyond our food supply. The burgeoning urban populations of the Bay Area get their drinking water in part from snowmelt delivered from the Sacramento River watershed. And many rural communities rely on groundwater wells as their only source of drinking water.

The Solano Subbasin is also the center of TFT’s work with severely disadvantaged communities, where incomes in several areas are less than 80% of the state’s median household income. A grant from the California Department of Water Resources allowed TFT to bring in a fellow through CivicSpark, an AmeriCorps program. In 2019, Jacqueline Garcia focused on engaging with local communities around groundwater sustainability.

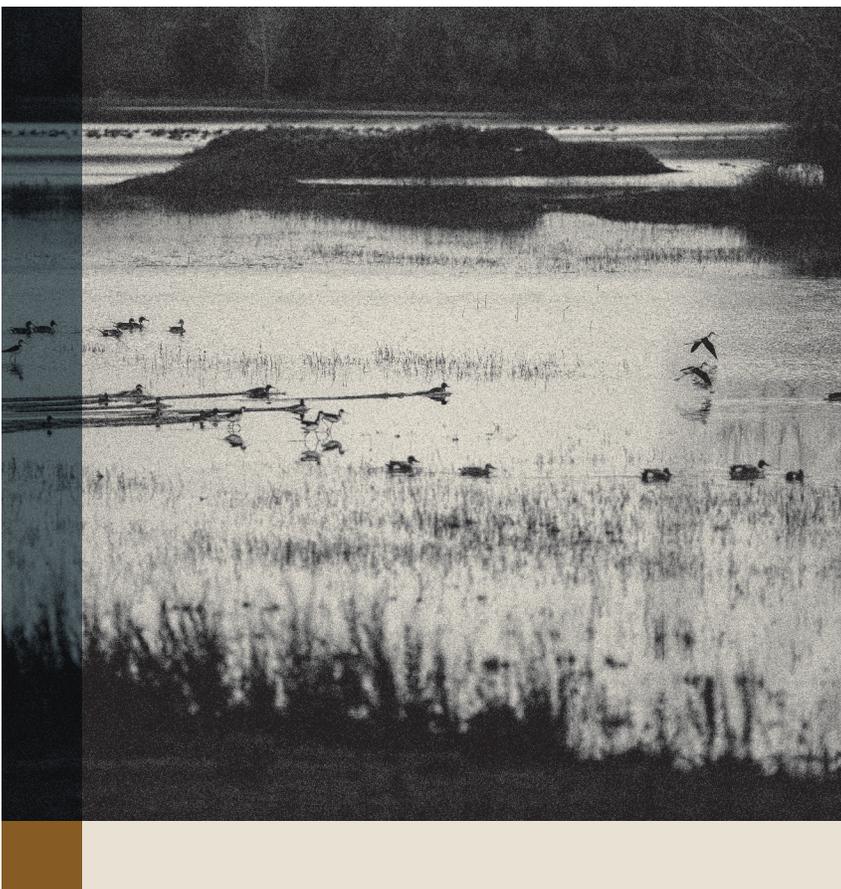
Garcia led the charge on a community-wide assessment with the Local Government Commission to characterize and map how communities rely on groundwater throughout the subbasin and develop strategies for engagement.

“Many folks don’t know where their water comes from,” said Garcia. “Nor do they think they have a meaningful stake in water management. The truth is, however, local water management has big implications for the health of their communities for present and future generations. Many of these communities are often entirely dependent on groundwater and, therefore, most significantly impacted by unsustainable practices.”

Moving toward coordinated actions for sustainable groundwater and surface water management is our vision.

“The water we see on the surface is related to the water we don’t see underground,” said Becky Rittenburg, conservation programs manager. “Rivers and groundwater are actually connected. Pumping too much groundwater lowers the water table and dries up, which, in turn, dries up the small creeks and streams that are sustained by groundwater. Tree roots can’t reach the water they need during the dry season. Seasonal pools and wetlands can’t support wildlife and fish.”

**“It’s all interrelated. By focusing on groundwater in California, we are at the heart of systems change for many impacted basins.”**



TOTAL PROJECTS IN BASIN:

**18**

NEW PROJECTS IN 2019:

**10**

RESTORATION ACTIONS:

Groundwater well monitoring,  
surface water diversion reporting

AREAS OF FOCUS:

Northern portion of the  
Sacramento-San Joaquin River Delta

Cosumnes River

Sacramento Valley

Groundwater Basin

SPECIES BENEFITED:

Fall-run Chinook Salmon

Sandhill Crane

Swainson’s Hawk

Giant Garter Snake and Others

LANDOWNER PARTNERS:

**80**

JOBS SUPPORTED  
IN LOCAL ECONOMY:

**12**

DOLLARS INVESTED:

**\$3.5**

million to date

PARTNERS:

Sacramento Regional County  
Sanitation District

Dixon Resource Conservation District

Solano Resource Conservation District

Solano County Water Agency

Northern Delta Groundwater  
Sustainability Agency

Sacramento County Farm Bureau

Multiple landowners and reclamation districts

SweetSense, Inc.

Environmental Defense Fund

Water Foundation

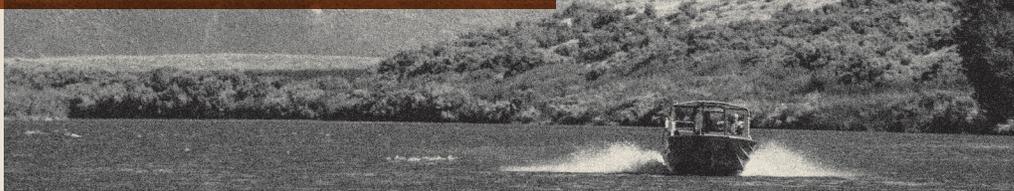
Gordon and Betty Moore Foundation

USDA Natural Resources  
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California Department of Water Resources

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# The Snake



The dusty greens, grays and golden browns of southern Idaho unfurl from the edges of the Snake River and spread across the arid landscape. The river slithers into canals that water thirsty fields of potatoes, onions and sugar beets. It tumbles over falls and is shadowed by some of the steepest canyon walls on its journey west to the Columbia.

In times past, salmon spawned by the millions in this river while bony-plated sturgeon swam its depths. The last 100 years have taxed the resilience of this river born of the crashing waters of the Bonneville Lake Flood. Dams for irrigation and electricity have supported human activity but have slowed and silted the waterway. Chemical fertilizer and other pollutants have tainted the water and fed the overgrowth of aquatic weeds.

For people floating down the Snake and boating in its reservoirs, they may not yet know about the changes ramping up to improve water quality under the Snake River Stewardship Program (SRSP), one of the largest watershed restoration programs in the United States.

TFT began working with Idaho Power Company in 2016 on the SRSP.

“The SRSP is unique among TFT projects because of its 50-year program life,” said David Primozych, conservation director.

“Our next longest programs are Oregon water quality trading projects at 20 years. We think these robust timelines are essential for delivering measurable improvements to the environment.”

Work in 2019 included field teams maintaining and monitoring five previously implemented project sites and transitioning one site from passive restoration to an active planting site. Back in the office, teams continued to develop and test the database and data collection tools that allow SRSP staff to track and manage the program. Additionally, Idaho Power moved forward with permitting the Rippee Island floodplain enhancement project, which will be built in 2021.

Also last year, the states of Idaho and Oregon certified the company’s water-quality plan for the Snake River — a key milestone in the renewal of the federal license for the operation of three dams in Hells Canyon, which provide about 70% of IPC’s hydropower electricity.

While the SRSP is still in a research phase, we’re assisting Idaho Power with building the systems and running multiple pilot projects to test permitting, implementation, and maintenance techniques. Attention to the details of site selection, planning, training local contractors, and documenting performance now will ensure the program will launch smoothly once it receives its final approval.

Restoration actions from the research phase thus far include 8 acres of floodplain enhancement, 37,000 native trees and shrubs planted, and 1,450 tons per year of sediment prevented from washing off fields into the river.

**“The Snake River is crucial to providing clean energy to our customers,” said Brett Dumas, environmental affairs director at Idaho Power.**

**“We’re committed to the actions that will improve its water quality.”**

TOTAL PROJECTS IN BASIN:

5

RESTORATION ACTIONS:

Replanting streamside vegetation, upgrading irrigation, fencing livestock

AREAS OF FOCUS:

Marsing Reach of the Snake River  
Powder River  
Little Weiser River  
Weiser River

SPECIES BENEFITED:

Mountain Whitefish  
White Sturgeon  
Rainbow Trout  
Bull Trout

JOBS SUPPORTED  
IN LOCAL ECONOMY:

10

PARTNERS:

Idaho Power Company  
Multiple Landowners  
Adams County SWCD  
Armitage Contracting LLC  
Baker County SWCD  
Plantworks LLC  
River Design Group  
Washington County Cooperative Weed Management Area  
WildLands Inc.

# Tribe Spotlight

THE SCOPE OF OUR WORK IS VAST. WE'RE DATA SCIENTISTS AND RESTORATION PROFESSIONALS. YET THERE'S NOT A SOLUTION BUILT BEHIND THE SCENES NOR A FIX IMPLEMENTED ON THE GROUND WITHOUT COLLABORATION. THE TRIBES HAVE BEEN LONG-STANDING PARTNERS.

## Confederated Tribes of Warm Springs

The Confederated Tribes of Warm Springs (CTWS) John Day Basin office has worked with TFT in the John Day Basin for years. According to CTWS, TFT's efforts to improve streamflow through the water right transaction program has been extremely beneficial for conservation work in the basin. Many landowners that implement fish habitat restoration projects are also concerned with water efficiency, and often gravitate to enroll in the water transaction program. In addition to project collaboration, TFT has been a valuable partner of the CTWS in the John Day Basin Partnership, helping the collaboration with development and funding.

**"The partnership between TFT and the Warm Springs Tribe has enabled a variety of projects coming to fruition with private landowners that have lasting benefits for fish and wildlife habitat."** - Amy Charette, Watershed Restoration Coordinator



## Nez Perce Tribe

The Nez Perce Tribe began partnering with TFT in 2005, when the Tribe, residents and local partners recognized a need to restore streamflows to the Lostine River in order to help save imperiled Chinook populations. Since that time, TFT has worked with the Tribe and local irrigators to maintain minimal streamflows suitable for salmon migration.

**"TFT has been instrumental in building and maintaining relationships that bridge the gap between multiple interest groups making streamflow restoration a reality."** - Emmitt Taylor, Fisheries Watershed Director



## Burns Paiute Tribe

TFT has helped the Burns Paiute Tribe to support conservation actions on a property acquired near Mount Vernon, Oregon. Beech Creek and Little Beech Creek run through the property, and it has been identified by the Oregon Department of Fish and Wildlife as a high priority for steelhead conservation, due to its position between the private mainstem and public lands in the headwaters. TFT has been a partner in a long-term lease that maintains more of the water instream for fish and helps the Tribe pay the mortgage and maintain the property, without jeopardizing legal ownership of the irrigation water rights.

**"The Freshwater Trust has a pragmatic understanding of the balance between working lands and water conservation. Their voluntary, incentive-based water management strategies have made them a good project partner."**

- Calla Hagle, Natural Resources Director





**T**he Tuchmanns remember when The Freshwater Trust (TFT) auctioned lanterns and fly rods in the basement of a hotel to raise funds to continue fixing rivers.

The financial advisor and forester have chaired TFT's auction, attended dozens of events, brained through difficult challenges, and supported its environmental education program when the organization was still Oregon Trout.

"The organization has come a long way since then," said Meggins Tuchmann.

**"As the world has changed, TFT has adapted with it through so many transitions. We've seen how their ability to change on a dime has meant a greater difference at a greater scale."**

Meggins and her husband, Tom, first became involved with TFT in the nineties upon a move to Portland from their home in Alexandria, Virginia, and careers in Washington, D.C. A two-year position for Tom turned into 27 years on the West Coast, two daughters, flourishing careers, and a long-standing commitment to TFT.

"I immediately felt more at home here than I had in the last 10 years in DC," said Meggins.

Tom was appointed by the Clinton Administration to work on the Northwest Forest Plan, a series of policies to manage federal forest land, while protecting threatened and endangered species. Today, he is president of US Forest Capital, an impact investment and conservation finance company. Meggins was a Vice President at Morgan Stanley.

"I was first introduced to TFT professionally from just being in the natural resource world, and then Meggins began volunteering," said Tom.

"It was an added benefit that we ended up finding a community and enjoying the people so much. Many of those that we first met through TFT when we moved here are still some of our closest friends."

TFT gave the Tuchmanns community. The Tuchmanns have given TFT nearly three decades of steadfast, generous time and support. Through annual donations, raising a paddle at the annual fundraiser, introducing friends and family to our cause and mission, or advising on strategic initiatives and efforts, Meggins and Tom are in it for the long haul. And their continued support makes all the difference.

"Long-term commitment sustains this organization and directly connects to what we're able to accomplish in the real world for our rivers," said McCailin Wunder, Freshwater Fund associate director. "Their passion for a resilient environment now and for generations to come matches our own, and it is truly gratifying to count such dedicated river enthusiasts in our community."

Meggins also attended TFT's inaugural Women on Water (WOW) trip down the Middle Fork of the Salmon River in 2018. The WOW initiative was designed to provide women with rewarding experiences on multi-day fishing and rafting trips on acclaimed Pacific Northwest rivers. Trips are invite-only and reserved for leaders, founders and C-suite executives. TFT Board Member and Founder of A to Z Wineworks Deb Hatcher led the initial charge, after recognizing that women leaders rarely have the same nature-oriented opportunities as men.

"I cannot begin to say what an incredible experience this was for me personally," said Meggins, recounting the intimate experience of sharing her story with dozens of other women entrepreneurs. "I spent my career in a pretty male-dominated industry. I'm inspired by the commitment to change that."

Meggins retired from her career in financial services in June, and this marks her 14th year on the Board of Directors at TFT.

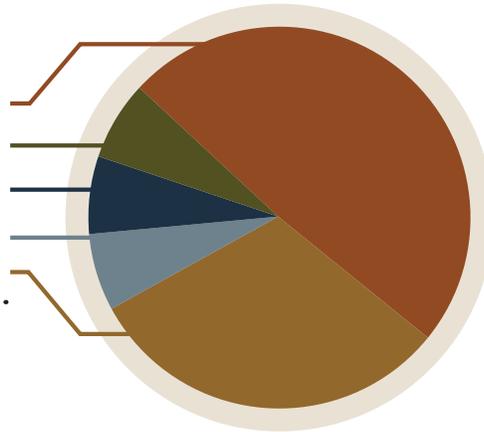
"Every time I think it's about time for me to move on, something else that they do pulls me in again," said Meggins. "I'm loving seeing the leverage of new tools and technologies and the engagement of landowners. Over the years, they've opened my eyes to the many ways to accomplish a mission."

***For more information on how your support can help TFT accomplish its mission, please contact McCailin Wunder at [mccailin@thefreshwatertrust.org](mailto:mccailin@thefreshwatertrust.org).***

# 2019 FINANCIAL SNAPSHOT

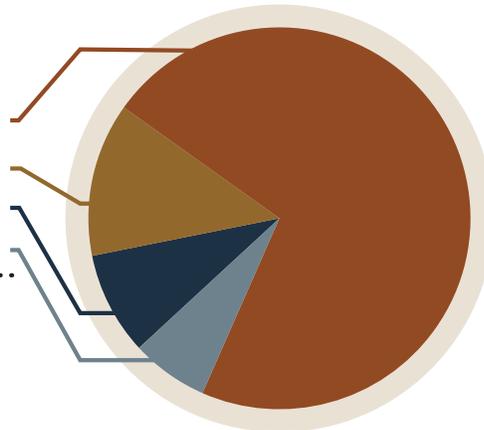
## REVENUE

GRANTS & CONTRIBUTIONS	\$ 5,193,347	49%
INDIVIDUAL GIVING	\$ 693,944	7%
SPECIAL EVENTS INCOME	\$ 714,449	7%
IN-KIND DONATIONS	\$ 657,844	6%
EARNED REVENUE	\$ 3,337,754	31%
<hr/>		
<b>TOTAL</b>	<b>\$ 10,597,338</b>	



## EXPENSE

CONSERVATION PROGRAMS	\$ 7,275,360	72%
OPERATIONS	\$ 1,311,341	13%
DEVELOPMENT	\$ 907,199	9%
OUTREACH	\$ 619,881	6%
<hr/>		
<b>TOTAL</b>	<b>\$ 10,113,781</b>	



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## ENVIROCALCULATOR ENVIRONMENTAL IMPACT AUDIT REPORT

THE FRESHWATER TRUST SAVED THE FOLLOWING RESOURCES BY SELECTING MOHAWK VIA 100% PC PAPER WITH 100% POST-CONSUMER CONTENT. QUANTITY: 803 LBS.

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**TREES** 2.19 tons of fresh (green) wood, which is equivalent to 13.1 trees

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**WATER** 1000.0 gallons, which is enough water for 0.76 clothes washers operated/year

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**ENERGY** 5.55 million BTUs, which is enough energy to power 6.5 residential refrigerators/year

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**SOLID WASTE** 53.0 pounds of solid waste, which would fill 0.0016 garbage trucks

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**GREENHOUSE GAS** 5680.0 pounds of CO<sub>2</sub>, which is equivalent to 0.515 cars/year

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ENVIRONMENTAL IMPACT ESTIMATES FOR SAVINGS PERTAINING TO THE USE OF POST CONSUMER RECYCLED FIBER ARE BASED ON ENVIRONMENTAL DEFENSE FUND CALCULATOR AND RESEARCH DONE BY THE PAPER TASK FORCE. NEENAH PAPER.COM