

The Freshwater Trust

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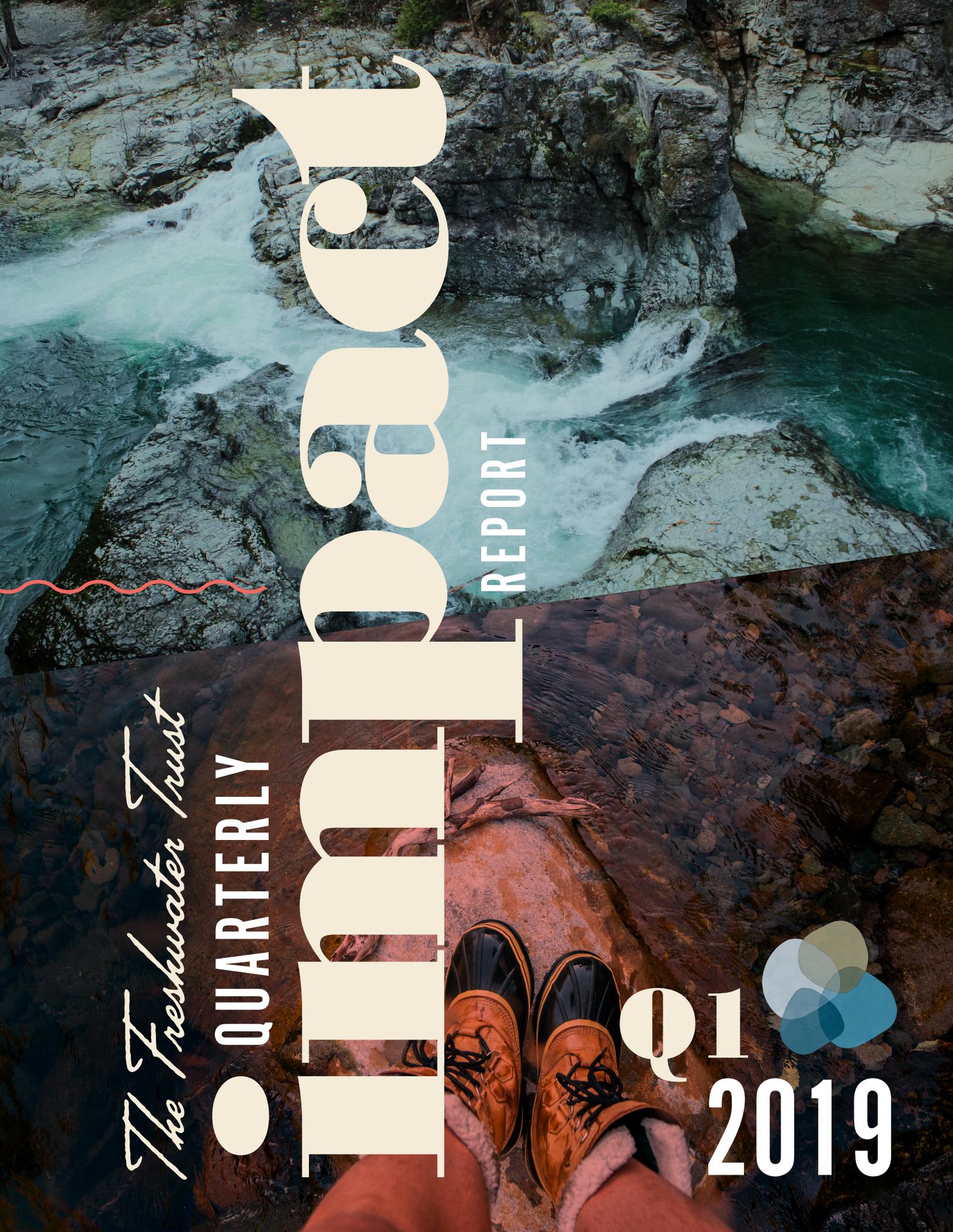
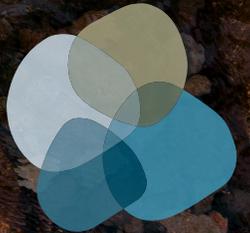
WATER

WATER

REPORT

Q1

2019





HELLO



FRIEND OF THE FRESHWATER TRUST,

TFT is more about shaking hands than shaking fingers.

I am privileged to connect with many organizations making a difference in Oregon and Washington through my Community Affairs work at NW Natural. Time and again, those who embrace partnerships to leverage expertise and resources succeed in meeting their goals. We get to the future we want together. TFT is one such organization, which is why I'm a proud supporter. They don't just partner, they understand collaboration is critical to their mission and will bring to the table anyone who wants to make a true, quantifiable impact for water.

Take their Headwaters Council for instance. It's a unique, diverse group of emerging leaders from a variety of sectors who have come together behind helping TFT protect and restore freshwater ecosystems. The goalkeeping coach of the Timbers, myself, real estate brokers, a portfolio manager for a timber investment company and many more, help the organization strategize on how to bring more funding and support for their mission.

And the Immerse benefit at the beginning of this month was another example of how TFT leveraged its partnerships to achieve results. We saw dozens of companies sponsoring the event this year to ensure TFT could do more river restoration and conservation in the year to come. Together, these businesses and many individuals helped raise more than \$170,000. Flip through this report to check out more impacts of this fundraiser.

Also in the following pages, you'll read about how teaming up with IBM is opening new doors to work in California and how a fund started with Pacific Power Company has led to miles of stream restored in Oregon.

The council, the projects, their events and more are manifestations of the ways TFT turns collaborative ethic into powerful differences on the ground. It's amazing what they're able to accomplish after a handshake.

Thank you for your continued support of this organization.

MARY MOERLINS

*Community Affairs & Environmental Programs
Manager for NW Natural
Headwaters Council Member*

And, big fan of healthy rivers



TFT Teams Up with IBM

The Freshwater Trust is partnering with IBM Research and SweetSense Inc., a provider of low-cost satellite connected sensors, to pilot technologies which can accurately monitor and track groundwater use in one of the largest and most at risk aquifers in North America. Additional research support will be provided by the University of Colorado Boulder.

Jointly funded by the Water Foundation and the Gordon and Betty Moore Foundation, the project's scientists and engineers will demonstrate how the blockchain and remote Internet of Things (IoT) sensors can accurately measure groundwater usage transparently, and in real-time.

The sensors will transmit water extraction data to orbiting satellites and then to the IBM Blockchain Platform hosted in the IBM Cloud. The blockchain will record of all data exchanges or transactions made in an append-only, immutable ledger. The blockchain also uses "smart contracts," whereby transactions are automatically executed when the conditions are matched.

Through a web-based dashboard, water consumers, including farmers, investors and regulators will all be able to monitor and track the use of groundwater to demonstrate how sustainable pumping levels can be achieved through the trading of groundwater use shares in California. Individual users who require groundwater amounts beyond their share will be able to "purchase" groundwater shares from users who do not require all of their supply at a market-regulated rate.



For example:

- A strawberry farmer is planning to take the season off to prepare for an organic crop the following harvest. The farmer can trade or sell their water credits on the blockchain to another farmer.
- Due to a particularly dry season, a winery realizes it will need additional groundwater to avoid losing the vintage. The vintner can purchase additional water shares, without negatively impacting the aquifer.

“The future success of these sustainability plans hinges on being able to track and report groundwater use, and likely will also require a robust way to trade groundwater shares as well”

said Alex Johnson, Freshwater Fund Director with TFT. “Our strategic intent is to harness new technologies to develop a system that makes getting groundwater more sustainable, collaborative, accurate and transparent process, which is why we are using the blockchain. We now have the project team and funding to do it, and a strong network of partners in the region that are open to an initial testing and building phase.”

“Based on a research project in Kenya with USAID, the Millennium Water Alliance and other partners, we are now applying our expertise in building decision support systems for water management for surface and groundwater data aggregation, workflow optimization and analytics to address similar challenges in California. With the addition of the blockchain, we can bridge critical trust and transparency gaps making it possible to build a robust, scalable and cost-efficient platform for managing precious groundwater supplies anywhere in the world,” said Dr. Solomon Assefa, Vice President, Emerging Market Solutions and Director, IBM Research – Africa.

The group will pilot the system in northern California’s Sacramento-San Joaquin River Delta, an area often referred to as the “nexus of California’s statewide water system.” The river delta covers 1,100 square miles and provides water to the San Francisco Bay Area and coastal and southern California and supports dozens of legally protected fish, plant and animal species. In addition, nearly 75% of this land is used for agriculture.

The sensor technology is provided by SweetSense Inc., which is currently monitoring the groundwater supplies for more than a million people in Kenya and Ethiopia, which plans to scale to 5 million by the end of the year. The sensor data are transmitted over satellite networks to an online data analytics platform.



“By remotely monitoring groundwater use using our sensors, we’re able to help improve and maintain sustainable access to water supplies for people, farmers, and livestock. The work we’re doing in Africa is directly translatable to California,”

said Evan Thomas, CEO of SweetSense and Mortenson Chair of Global Engineering at the University of Colorado Boulder. “Our research team at the University of Colorado will assist in modeling groundwater use through the sensor data and satellite detected rainfall and weather correlations.”

The collaboration began in response to the Sustainable Groundwater Management Act (SGMA), which was signed into California law in 2014. SGMA mandated the creation of Groundwater Sustainability Agencies (GSAs), local groups that are responsible for ensuring regional groundwater supplies are sustainably managed. The GSAs are charged with developing and implementing a plan to make their local groundwater usage sustainable by 2040.

Since 2016, TFT has built multiple programs in the basin. In response to another bill, Senate Bill 88, TFT developed a measurement method for surface water diversion that addresses the unique qualities of the Northern Delta region. In 2017, 148 surface water diversions covering more than 29,000 farmed acres in the region — including wine grapes, pears, corn, alfalfa, safflower, tomatoes and wheat — had enrolled in the five-year study. For groundwater concerns in the same area, TFT helped support the formation of the Northern Delta Groundwater Sustainability Agency. This means 17 local agencies formed into one integrated agency and have begun work on a unified plan for sustainably managing groundwater use across a single aquifer to achieve outcomes together rather than work at cross-purposes. These agencies are understaffed, so TFT provides the capacity to gather and analyze data and develop effective sustainability measures.

A Gift Born of Aligned Values

The Ortiz-Myers family has six core values: make an impact, develop people, be intentional, exercise empathy, live generously, and play (a little.) These values help guide their movements through personal and professional worlds, their interaction with others, and the organizations they choose to support.

TFT is pleased to share that Jonathan and Kathryn have generously decided to include TFT in their estate plans, helping to ensure TFT will be able to protect and restore freshwater ecosystems long into the future.

Jonathan Ortiz-Myers has served on TFT's Headwaters Council for two and a half years. He is the President of Zevez, an accounting automation software company based in Portland, Or. Launched in 2016, The Headwaters Council is an advisory group comprised of emerging business leaders, disrupters, decision-makers and influencers who help drive the next generation of creative and networked conservation and philanthropy.

Kathryn Ortiz-Myers is a teacher-researcher at The Opal School, a Reggio Emilia based Portland Public Charter School inside the Portland Children's Museum focused on empathy-driven, play-based education. She is also a passionate artist.

Jonathan and Kathryn shared that they support TFT because, "TFT is taking folks from different agencies and organizations who are politically divergent and bringing them together to solve real problems in sustainable, practical and inclusive ways." This aligns with their core values as a family: "Our philosophy for generosity is that it needs to make an impact, needs to invest in people we believe in and needs to be focused and intentional."

TFT's ability to deliver its impacts in a quantified fashion also provides the Ortiz-Myers family with confidence that their support is and will continue to be put to good use.

"In the conservation or mission driven space, it is often challenging to know what the impact truly has been," said Jonathan. "What sets TFT apart is their



commitment to be exact with those impacts. It allows us to not just think they're going to do good but to know they're going to do good."

Through diligent monitoring and use of new technology, TFT is able to definitively state how many pounds of runoff have been prevented from entering a waterway, how many river miles have been restored, and how much water has been kept instream for fish that need it.

The Ortiz Myers family also supports several other organizations throughout Portland.

"If I had a big dream for the future, it's that Kathryn and I could play a part in shaping the future of the region the way Ladd or Corbett did, by leveraging their gifts in business to create jobs, infrastructure, craft policy, and preserve this place we love," said Jonathan. "My hope is that we can make an impact like they did."

If you're considering including TFT in your estate plans, or would like to learn more about how planned gifts can have the greatest impact for rivers, we're here to help. We have helpful documents that guide those considering creating or updating estate plans. These resources are all free:

- **Will & trust planning guide**
- **Estate inventory form**
- **Final wishes booklet**

TFT is here to help as you look ahead to the legacy you want to leave. For more information, please contact McCailin Wunder, Associate Freshwater Fund Director, at 503-222-9091 Ext. 26 or at mccailin@thefreshwatertrust.org.



What is unique about this fund?

The Pacific Power Blue Sky Habitat Fund is a unique opportunity for Pacific Power users to make a small monthly contribution, which goes directly to river restoration efforts being made in their local watersheds. Collectively, this translates to huge beneficial impacts to river health throughout Oregon.

What kinds of applicants does TFT look for?

We are looking for stream restoration entities dedicated to implementing meaningful projects for the benefit of ESA-listed salmon, steelhead and trout within the Pacific Power service area.

How has this funding helped Oregon rivers to date?

Since 2011, Blue Sky funds have helped in restoring 157 miles of rivers and streams in 14 different counties throughout Oregon. In this time, 32 projects have been implemented, providing important in stream and streamside habitat features, which are imperative for the health of a river.

The awarded funds stay in the communities where Pacific Power customers who contribute live in. Local contractors are hired to do the restoration work; supplies and materials are locally sourced and staff themselves are often residents. As a result, you see an overwhelming amount of support from the community and an invested interest in seeing the projects succeed.

Can you share an example of a project funded last year?

In 2017 – 2018, the Applegate Partnership & Watershed Council received \$20,000 in Blue Sky Habitat funds, which helped to replace a rusted and dilapidated fish barrier metal culvert on Butcherknife Creek with a precast bridge.

The culvert had rusted through, leaving large holes in the bottom of it. The stream undercut and eroded the culvert, which resulted in a jump height that salmon could not pass over and ultimately this created a false attraction to a part of the watershed they were trying to access. For landowners, the failing integrity of the culvert posed a significant safety hazard for them every time they passed over it.

The replacement of the culvert with a channel-spanning bridge restored fish passage to more than two and half miles of high-value spawning and rearing habitat for coho salmon within the Slate Creek sub-watershed. For landowners, the bridge provides a sound way to cross over the creek, which meets Oregon Department of Transportation standards. The project successfully engaged local stakeholders

The Freshwater Trust (TFT) believes in sitting at the table with anyone who wants to make a quantifiable impact for rivers. That means we pull out a chair for nonprofits, individuals, small businesses, entire cities, and large corporations. Years ago, TFT formed a partnership with Pacific Power Company, one of the West's largest utilities, to administer its Blue Sky Habitat Fund. This is a voluntary program, where participating customers purchase and support renewable energy, while also helping to restore and preserve habitats for Oregon native fish, including salmon, through an automatic \$2.50 monthly donation.

The \$2.50 donations are given to The Freshwater Trust to administer multiple grants that restore habitat in Pacific Power's service area. We coordinate use of Blue Sky customer funds and match their donations with grant dollars, creating an even bigger positive impact for our communities.

Once a year, TFT puts out a request for different restoration organizations to apply for a portion of that funding.

Jeff Fisher, our habitat monitoring lead, sat down to answer a few questions about the success of this program and what we're looking for when reviewing potential projects to support.

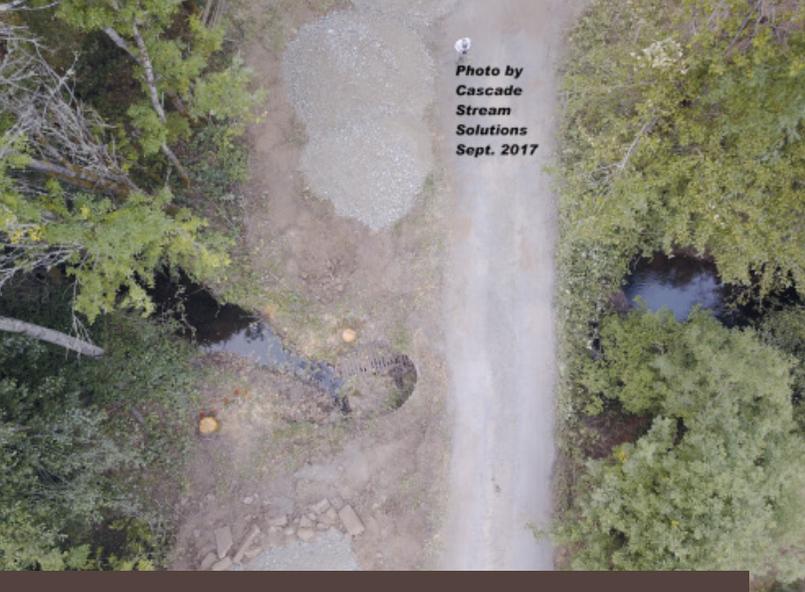


Photo by
Cascade
Stream
Solutions
Sept. 2017



Photo by
Cascade
Stream
Solutions
10/12/17

The replacement of the culvert with a channel-spanning bridge restored fish passage to more than two and half miles of high value spawning and rearing habitat for coho salmon within the Slate Creek sub-watershed.

from the Southern Oregon Fly Fishers, who volunteered their time to plant native riparian plants along the banks of the creek's project area. It is truly a great feeling to see a community of invested people come together to give back to the resources they rely on for pleasure.

What does TFT consider when reviewing project proposals?

To put it simply, we are looking for applicants who can demonstrate that their projects will have direct benefits on salmon and steelhead through habitat restoration actions within the Pacific Power service area.

Changes are to include:

- Projects that benefit ESA-listed anadromous fish.
- Having strong technical support from a qualified restoration team and/or by a biologist.
- Addresses actions outlined in a basin recovery plan.
- Strong technical design addressing limiting factors with quantifiable benefits.
- A ≥ 1:1 cash or in-kind match to awarded amount.
- Quantitative and qualitative monitoring to track project success and change.

How do you know the applicants are making a difference with the funds?

Awarded projects are required to provide a status update report at the end of the year in which the funds were awarded and then a final report when the project is completed. The reports are intended to update us on the progress of implementation and then a snapshot of the project once completed.

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Sadly, this is where our tracking ends. However, the success of the projects are deeply rooted in the metrics on which we score each project. Having a strong technical team that informed the project design and implementation and a robust group of other project funders with their own long-term monitoring and tracking requirements gives us the confidence that the projects will indeed succeed.

What's being an administrator of a fund like?

It has been such a rewarding experience! We get to work with an energy company that genuinely cares about healthy waters by encouraging their customers to make a small monthly contribution, which ultimately will yield big outcomes in restoring their local watersheds.

TFT knows that we cannot fix every river alone. Administrating Blue Sky funds allows us to enable other restoration groups to restore their home rivers, which brings us an equal sense of accomplishment. In administrating this fund, we expose ourselves to a diverse portfolio of projects, which helps us in growing and learning from what others are doing and how we can take some of the lessons learned to further our own work in the field of river restoration.



\$170,000
RAISED

60 SPONSORS

122 RAFFLE TICKETS SOLD

NEW ATTENDEES

134

TOTAL ATTENDEES

370

ATTEND | OUR DESIGN WEEK OPEN HOUSE ON APRIL 9

CHECK OUT | OUR LATEST STREAMSIDE BLOGS

WATCH | OUR HEADWATERS COUNCIL PROFILES

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