2017 Q1

Quarterly Impact Report

The Freshwater Trust®

FRIENDS,

Record-breaking snowfall. Raging rivers. The western water crisis is over, right? Wrong.

Come summer, our legacy of 19th-century irrigation infrastructure and outdated water rights laws guarantee there won't be enough water to go around. Unfortunately, this pits farmers against fish advocates.

It doesn't have to be this way. At The Freshwater Trust, we start from the watershed level and work our way down. We identify the best water rights to meet flow targets, and we work collaboratively with landowners to develop water deals that keep streams flowing and farmers whole. Think of it as the difference between responding to a crisis and planning for resilience.

No one understands this quest for resilience better than Oregon's family farmers and ranchers, who make up more than 96% of the agricultural producers in the state. East of the Cascades, these families depend on streamflow for irrigation, the same streamflow sustaining our world-class salmon runs. With agricultural demand accounting for 80% of all surface water use in the state, a resilient future demands collaboration. Turn the page to see it in action.

It's hard to envision water shortage during a season of plenty, but your support helps us save streamflow for the not-rainy day.

CAYLIN BARTER
Flow Restoration Director

Front cover: Drift Creek, Lincoln County, Oregon. Photo by Phillip Marks.
This page: Wallowa County, Oregon

One billion gallons for the Lostine

Approximately 1 billion gallons of additional water will remain in the Lostine River annually, thanks to new and innovative conservation projects on a family farm in Wallowa County, Oregon.

In the first quarter of the year, The Freshwater Trust announced the receipt of a grant for nearly $1.4 million from the Oregon Water Resources Department to upgrade irrigation infrastructure, transfer points of diversion, and lease water rights to conservation purposes on the sixth generation Wolfe Family Farm. As a result, agricultural production and flows for endangered Chinook and steelhead will benefit.

"We've formed lasting relationships with dozens of farmers and ranchers who understand conservation isn't just about protecting fish," said Aaron Maxwell, flow restoration project manager. **"It's about the longevity of their farms, economies and entire communities."**

Nearly 1,100 acres of forage and grain crops will be transitioned to pivot sprinkler irrigation from flood irrigation. Flood irrigation is implemented by pumping water into the fields and allowing it to flow through crops, while pivot systems use as little as half as much water through more precise and efficient delivery.

The transition will also improve water quality. Standing water produced through flood irrigation can be warmed by the sun, contaminated with sediment, nutrients, bacteria and toxins, and returned to the original body of water downstream in a degraded state.

HIGHLIGHTS

- 12 cubic feet per second (CFS) to remain in Lostine River
- $1.4 million grant secured from Oregon Water Resources Department
- The Lostine supplies irrigation to thousands of acres of forage and grain crops and supports Chinook salmon
- Infrastructure upgrades are expected to increase yields at the ranch by 5 to 20%

"By decreasing the water applied to fields, producers are able to reduce erosion, increase organic matter, improve soil health, and rely less heavily on fertilizers, pesticides and herbicides," said Maxwell.

In addition to transferring the water saved through the irrigation upgrade to the Lostine River, the farm is also voluntarily forgoing irrigation in August and September when river flows reach critically low levels. By irrigating more effectively and precisely in the early part of the irrigation season, farmers can utilize cover cropping and grazing techniques to build soil moisture and resistance to drought.

The Lostine is a defining waterway of northeastern Oregon. It supplies irrigation to thousands of acres of forage and grain crops, keeping a small rural economy alive.

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AARON MAXWELL
Flow Restoration Project Manager

Aaron has a diverse background in organic ranching, fisheries, and river restoration. He has worked for the Deschutes River Conservancy, Oregon Department of Fish and Wildlife and River Design Group as a river restoration project manager and fisheries biologist. Aaron holds a bachelor's degree in microbiology from the University of Montana and a master's degree in biology with an emphasis in fisheries and hydrology from Southern Oregon University. As a Flow Restoration Project Manager, he ensures the success of flow restoration projects being carried out in northeastern Oregon. When not in the field, Aaron enjoys tracing the contours of wild places and listening to the rustle of leaves with his wife and children.

ONE BILLION GALLONS

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Chinook have relied on the river for millennia for spawning, incubation, and rearing. In 1999, a mere 13 adults were observed spawning. In 2015, more than 1,000 Chinook were documented — a testament to collaborative restoration projects throughout the watershed.

The infrastructure upgrades are also expected to increase yields at the ranch by 5 to 20%. The transition will allow the farm to diversify offerings and potentially grow more high value food and forage crops.

"Water scarcity and quality issues are not going to go away," said Woody Wolfe, owner of the farm. "Projects like this help further the responsible use of our natural resources while benefiting the environment."

Additional funding for flow restoration comes from the Columbia Basin Water Transactions Program in cooperation with the Northwest Power and Conservation Council and the Bonneville Power Administration.

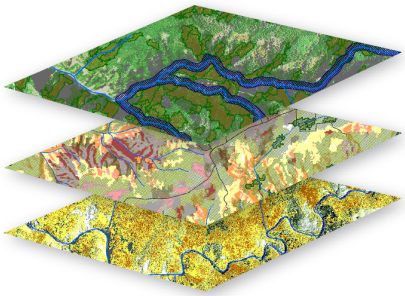
WHAT IS BASINSCOUT?

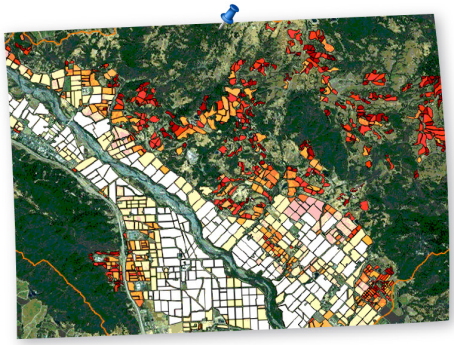
BasinScout™ is a diagnostic tool that looks at an entire watershed. It allows us to survey large areas to prioritize conservation actions.

BasinScout takes data sets on climate, soil, crops, conservation practices and more, and layers them together.

It then produces maps using the aggregated data, identifying where restoration will have the greatest impact.

The maps are blueprints that allow us to take targeted action on the ground.





ACRES OF LAND PROCESSED

1.79 MILLION

STREAM MILES ASSESSED

3,986

PARAMETERS ASSESSED

7

SOLAR LOAD, WATER TEMPERATURE, NITROGEN, PHOSPHORUS, SEDIMENT, STREAM FUNCTION AND FLOW

LOOKING FORWARD

WATER QUALITY

After a long winter, our Science Team is looking forward to a busy spring in the field. We'll implement large wood projects in the Rogue and Sandy River Basins to restore habitat for federally listed coho, spring Chinook and winter steelhead. We are also designing and developing a side channel and floodplain restoration project within the John Day Basin to be implemented in 2018.

RESEARCH & TECHNOLOGY

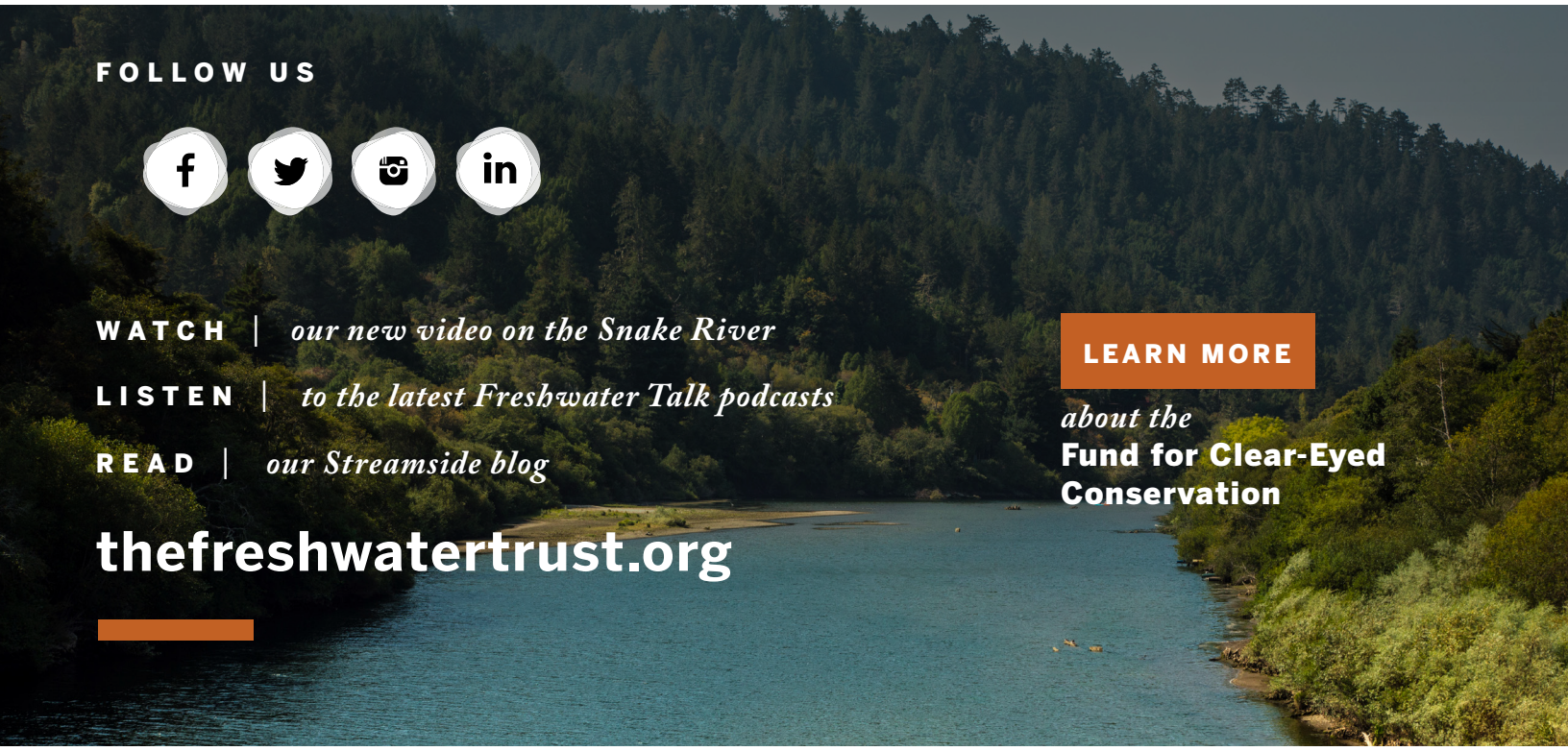
We are testing a new tool to inform our watershed assessments. The Soil & Water Assessment Tool (SWAT), an open-source, watershed-scale hydrologic simulation model developed by the United States Department of Agriculture's Agricultural Research Service, will hopefully allow us to evaluate the environmental benefits of water and land management practices across watersheds. The SWAT model's applications range from agricultural management practice assessments to evaluations of the hydrologic impacts of climate change.

COMPLIANCE SOLUTIONS

Building on our successful natural infrastructure programs in Oregon and Idaho, we've migrated south to California. Led by State Director Erik Ringelberg, we're assisting cities in the Golden State with assessing how watershed restoration can help them meet compliance goals. We've also begun adapting our conservation toolkit to help farmers in the Central Valley comply with new regulations on surface and groundwater uses.

WATER QUANTITY

Our Flow Team is working to secure funding for more than a dozen new water deals for 2017 and beyond, bringing us to nearly 150 active flow restoration projects. At the state level, we're tracking water bills through the Oregon Legislature. Back at the soil surface, we've broken ground on irrigation efficiency upgrades on the Wolfe Family Farm in northeastern Oregon.



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Fund for Clear-Eyed Conservation