

# Home Guard

## The Native Redbands of the Upper Columbia River

From China Bend to the United States-Canada Border, the upper Columbia River still resembles its wilder self. The American Reach, as it's called, is 14 miles long. In places, it is a quarter mile wide. After it crosses the border, the Canadian Reach will add 20 more miles, give or take, that make up a 34-mile-long section that still resembles a free-flowing river.

Within this truncated stretch, the river supports some of the Columbia's native biological diversity: eight native subspecies of sculpin, a few mountain whitefish hanging on here and there, and, of course, the iconic Columbia Basin redband trout.

The redband of the upper Columbia is a stout, muscular fish. It has to be to survive in the big river. Even now, eighty years after Grand Coulee Dam was finished, some of those fish still follow an ancient anadromous impulse, travelling downstream into the long reservoir named for Franklin D. Roosevelt. The would-be steelhead are trapped there each spring, fodder for the

predatory invasive fish that thrive in slack water.

Even in the free-flowing American Reach, biologists estimate that between sixty and seventy percent of the Upper Columbia's native fish are eaten by smallmouth bass and walleye before they reach maturity. Angler, writer, and longtime resident of the area Steve Bird is a practitioner of what he calls "skillet biology." Each year, he and other keepers of the upper Columbia set out to put a dent in invasive populations. According to biologists, as little as a four percent decrease would make a meaningful difference for the redbands. Like in so many remote parts of the Pacific Northwest, poaching can also be a problem. Enforcement is a constant challenge, with two troopers covering a 160-square mile area. In April and May, many of the large adult redbands that have migrated out of the mainstem and into spawning tributaries end up in a gunnysack, bound for a smoker.

In other ways, however, conditions have improved for the redbands of the American reach. Aquatic insect hatches have increased in the last forty years. According to Bird, an industrial smelter once dumped the effluent straight into the river. In the early 2000s, members of the Confederated Tribes of the Colville

Reservation pressed the Environmental Protection Agency to enforce its own environmental laws, putting an end to the contamination.

Also in the early 2000s, Washington Department of Fish and Wildlife transferred stewardship to the Tribes. Tribal fishery managers put an end to coastal rainbow stocking in the upper Columbia, and have managed the river exclusively for native fish for the last two decades.

Though there are myriad threats to this iconic native fish, the redbands that remain in the American Reach of the Upper Columbia River remain a shining example of the promise of native fish. Even in a truncated river with marginal habitat and limited life-history pathways, these special trout, perfectly adapted to the interior Pacific Northwest, give us a reason to be hopeful.

Interested in trying your hand a little skillet biology? Join us this summer for the NFS Bass Bash on Oregon's Umpqua River! This annual event has a special purpose: removing invasive smallmouth bass from the Umpqua in order to lend native fish a helping hand. And, of course, to have fun and connect with fellow native fish aficionados in the process! Stay tuned to nativefishsociety.org, or follow us on social media to

learn more about the NFS Bass Bash!

# Biological Black Box

## A Coastal Cutthroat Mystery

"We developed efficiencies in our various projects, we have a working group of scientists who have signed up to pull this off, so when we sat down together at the end of last year, we realized the pieces were all in place. We said, 'All right. This is going to be the year.'"

It's shaping up to be the second big year in a row for native coastal cutthroat trout populations around western Washington. In 2022, Washington Department of Fish and Wildlife adopted catch-and-release regulations for cutthroat in most western Washington freshwaters. The rule change had been a long time coming, given the successful balance of conservation and opportunity that was struck by similar catch-and-release regulations for Puget Sound.

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NATIVE FISH SOCIETY  
P.O. Box 1536  
Oregon City, OR 97045

503 344 4218  
nativefishsociety.org  
facebook / instagram / twitter

### STAFF

Dana Renton, Donor Outreach & Communication  
J. Michelle Swope, Washington Coordinator  
Jennifer Fairbrother, Conservation Director  
Kirk Blaine, Southern Oregon Coordinator  
Liz Perkin, Northern Oregon Coordinator  
Mark Sherwood, Executive Director  
Tom Derry, Director of Wild Steelhead Funding  
Tracy Buckner, Operations + Women for Wild Fish

### STRONG RUNS

Brett Tallman, Strong Runs Writer and Editor

### FEATURED ARTIST

For each issue of Strong Runs NFS partners with an artist/designer/illustrator to bring the featured stories to life:

*Nate Corrado*

Nate Corrado is an art director / illustrator and artist from Portland, Oregon. When he isn't working on creative projects he is most likely fishing one of the many incredible fisheries in Oregon and beyond.

natecorrado.com | @natecorrado  
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NATIVE FISH SOCIETY is a non-profit organization that exists to cultivate the groundswell of public support needed to revive abundant wild fish, free-flowing rivers, and thriving local communities.

### RIVER STEWARDS



### NATIVE FISH FELLOWS



# NATIVE FISH SOCIETY STRONG RUNS ISSUE NO. 16.1 SUMMER 2023

## Biological Black Box cont.

This year, our friends and conservation partners at the Coastal Cutthroat Coalition will kick off an acoustic telemetry project specifically designed to track coastal cutthroat in South Sound, Willapa Bay, and the Strait of Juan de Fuca. In order to better understand the behavior of native coastal cutthroat when they hit saltwater, the CCC will tag and track 160 to 170 cutthroat beginning in May, after most cutthroat have recovered from the physical challenges of spawning.

The project has been five years in the making, as the CCC team has worked steadily to master technical procedures—like the surgeries used to insert acoustic tracking tags into the body cavities of cutthroat. Each tag has a unique sonic signature. The pings are heard by a network of underwater receivers, which store the data until they can be retrieved via Bluetooth technology.

During the leadup to the project, CCC Staff traveled to Iceland, Norway, and Sweden to work alongside biologists conducting similar studies on sea trout in the Atlantic. The shared knowledge gleaned overseas has sped up the thinking, not only on what our coastal cutthroat might be up to but also how best to study them.

The CCC has also developed partnerships with Pacific Northwest-based scientists from the National Marine Fisheries Service, Olympic National Park, the Elwha Tribe, and WDFW District 17, all of which have signed on to assist in the project and help the CCC as it attempts to crack a fisheries black box.

## Through the Heart of Bend

### Fish Passage on the Urban Reach of Oregon's Deschutes River

Conversations about fish passage usually center around salmon and steelhead.

But the Pacific Northwest's native trout also migrate. Trout move in search of new and different food sources and better protection from predators. They move in search of cooler water and more dissolved oxygen. They chase the rich bounty of salmon spawning migrations and to spawn, themselves. The movements of native trout increase genetic diversity within and among populations, and make the species more resilient as a whole. Which is why fish passage, wherever it can be provided, is an opportunity not to be missed.

Bend, Oregon has just such an opportunity. On the Deschutes River, between Wickiup Reservoir and Lake Billy Chinook, there are three artificial barriers to fish passage. All three are in the town of Bend. There are already arrangements to rectify the problem at the North Canal and Colorado Avenue dams. That leaves Pacific Power's Newport Bridge Dam, near Drake Park, as the only remaining artificial fish barrier.

Fortunately, the Mirror Pond Fish Passage Advisory Committee—a joint effort between the City of Bend and Bend Park & Recreation District, and facilitated by the Central Oregon Intergovernmental Council—is exploring three fish passage options at the dam: a standard concrete fish ladder, a rock ramp, and a natural fish byway.

Of the three, a natural fish byway—which would create a channel out of natural river elements like wood and gravel—is the best choice for Deschutes trout. It's a durable, sustainable way to re-direct trout and other native fish around a dam. It would have the added advantage of contributing to the Deschutes ecosystem as a whole, which concrete cannot do.

It's also the practical choice for Bend residents. A nature-like fishway is likely to have lower maintenance costs and a greater aesthetic appeal, without

sacrificing the city's ability to maintain and monitor the dam.

The Deschutes River is the focal point of Bend's identity. Whenever we consider the interdependence of healthy rivers, native fish, and vibrant Pacific Northwest communities, we think of Bend. By investing in nature-like fish passage on the Deschutes where it flows through the heart of Bend, we are investing in a future for Bend that includes wild trout.

Sign up to receive NFS Action Alerts delivered right to your inbox, and we'll keep you apprised of opportunities to speak up for wild, native fish in Bend, Oregon and throughout the Pacific Northwest!





# Wild and Remote

In 2000, the United States Congress passed the Steens Mountain Cooperative Management and Protection Act. The law designated nearly 200,000 acres of federal land on Steens Mountain as a wilderness area—one of the wildest and most remote places in Oregon. At the urging of conservation groups, the bill included a provision for the Donner und Blitzen Redband Trout Reserve, which protects the upper Donner und Blitzen River from livestock grazing.

The Redband Reserve was an important step toward more carefully-considered management of public land in Oregon and throughout the American West. The destructive impacts of cattle grazing—erosion, sedimentation, and contamination—can be seen on more than 270 million public acres in eleven western states. But not on the Blitzen in the Steens Mountain Wilderness.

Within the wilderness boundaries, the Blitzen still provides critical habitat for a unique population of native trout: Malheur Lakes redbands. Malheur redbands are a product of the ancient connection between the desert basins of southeast Oregon and the Snake and Columbia River watersheds.

Historically, native redband populations in Malheur and Harney basins were interconnected, and fish moved freely within the closed interior system. The result was a

spectacular range of life histories. Malheur redbands ranged from six- to seven-inch resident trout, to six- to seven-pound migratory giants.

Habitat that can support such diverse life histories still exists, but only in the Blitzen. Other populations are isolated by barriers, both manmade and natural. But large migratory redbands are still regular visitors to pristine Blitzen waters. A 2007 study from Oregon State University indicates that Malheur Lakes redbands now spawn almost exclusively within the boundaries of the Steens Mountain Wilderness. The study also shows that, in addition to mature adults on a spawning run, the spring migration includes immature trout in search of summertime thermal refugia.

Periodic access to nutrient-rich Malheur Lake and (mostly) unobstructed connection to the Blitzen continues to produce large trout, as the Great Basin always has. And, simple as it seems, a policy that keeps cows off of stream beds and out of riparian areas has proven to be a crucial step in the right direction for native Malheur redbands.

Through the NFS Celebrating Wild Abundance Campaign, we’ve been sharing stories of wild, native fish populations that are flourishing thanks to thoughtful management strategies and an emphasis on wild populations. Visit [nativefishsociety.org/campaigns](http://nativefishsociety.org/campaigns) to share your story of wild abundance in your homewaters!



## Off-Trail and Off Script

### Searching for Remnant Bull Trout Populations in Central Oregon

At more than 1,500 pages, the Deschutes River Basin Habitat Conservation Plan is a massive document. The scope of the plan is somehow even bigger. More than 10,000 square miles of central Oregon are managed under the HCP. But an early draft made a startling claim: There are no bull trout—a species listed under the Endangered Species Act since 1999—in the upper Deschutes Basin. NFS River Steward Jodi Wilmoth had questions.

Wilmoth asked around. The deeper she dove, the more convinced she became that a remnant population could exist. And eDNA, an emerging conservation tool, could prove it one way or another. Wilmoth's background is in molecular biology, but her passion is native species conservation.

Though native fish populations in the Deschutes Basin have been stymied by the usual culprits—habitat fragmentation, blocked migration corridors, poor water quality, and careless fishery management—10,000 square miles is a lot of potential habitat to write off with a single sentence.

Using the proceeds from an NFS

Raffle, Native Fish Society was able to support Wilmoth's efforts by paying lab analysis fees for 100 eDNA samples. All she had to do was collect the samples.

“It’s lot of early-morning driving and climbing over downed trees and boulders with a 50-pound pack on,” she said, laughing.

All that, followed by precise work. Wilmoth must run exactly five liters of water through a delicate filter. The filter goes into a bag, into her pack for the hike out, and off to the United States Forest Service's Rocky Mountain Research Station in Montana for processing.

Wilmoth selects most of the sites using a model provided by the Forest Service's Rangewide Bull Trout eDNA Project.

“Occasionally I go off script,” she said. These are Wilmoth's homewaters, after all.

“Basically, I know where the water is cold,” she said. “There are no trails, but you get to spend time in some beautiful country that not many people ever see.”

In addition to her duties as an NFS River Steward, Jodi is also a leading voice in Women for Wild Fish, an NFS Initiative creating opportunities for women to take action for native fish, free-flowing rivers, and their communities!

Learn more about W4WF at [nativefish-society.org/get-involved](http://nativefish-society.org/get-involved).





# Strong Runs Specs & Guidelines

The Strong Runs mailer is a 4 panel double gate fold flat size of 24 x 10, folding to 6 x 10.

Printing is full color CMYK.

Masthead design to remain consistent, accent color can be edited to fit issue.

Typefaces and character styles to remain consistent, sizes can be adjusted as needed to account for copy.

Typefaces are available via Adobe fonts:  
ATF Livvermore Script  
Sofia Pro  
Bookmania

Arboards for interior layouts are included as general guides, layouts are meant to be adjusted and used in the way that works best for each issue, with copy to be kept within the grid system.

Placement of the stamp and address areas on the mailing panel is specific to USPS requirements and should remain consistent.

COVER



Biological  
Black Box

GATE FOLD



FULL FOLD OUT



BACK /  
MAILING PANEL

