

Spring/Summer 2020

The Confluence

Newsletter of the Rogue River Watershed Council

Drinking Water Source Protection in the Rogue River Basin

by Craig Harper

The quality of the water we drink has a great deal to do with the quality and character of the land that provides it. Our water here in the Rogue River Basin begins as snow and rain falling on our watersheds – the forested slopes of the Southern Cascades and Siskiyou, and agricultural and urban areas of the Rogue Valley. The health of our watersheds determines the quality of our drinking water.

Most water providers in the Rogue Basin draw water from rivers and streams, but groundwater from springs and wells is a significant source too. For example, the Medford Water Commission has two sources of drinking water – Big Butte Springs (a groundwater source) and the Rogue River (surface water). Big Butte Springs flows year-round and supplies up to 26.4 million gallons per day. The Rogue River is tapped as a supplemental source in the warmer months during periods of higher water use. The city of Medford struggled for decades in the early 1900s to find a clean, reliable source of drinking water. After several unsuccessful attempts, in the mid-1920s the Medford Water Commission (MWC) was formed and Big Butte Springs water was brought through a 30-mile-long pipe to serve “a mountain spring in every home” to Medford residents. Today, the MWC serves 140,000 people with drinking water in the Rogue Valley.



Intake chamber with overflow water at Big Butte Springs

Other water providers in the Rogue use a combination of groundwater and surface water (City of Rogue River), solely surface water (Ashland, Gold Hill, Grants Pass), or groundwater alone in the case of some smaller community water systems. Regardless, if people aren’t careful, their actions can allow pollutants to enter our water supplies and contaminate drinking water. Source water protection is the “first line of treatment” for drinking water and is a vitally important barrier against contamination of drinking water.

Drinking water providers in the Rogue Basin banded together in 2017, along with other organizations concerned with clean drinking water, to form the Rogue Drinking Water Partnership (RDWP). They are helping each other to protect sources of drinking water and improve drinking water quality by sustaining a collaborative partnership to develop and support strategies designed to protect lakes, streams, rivers and aquifers, and the land that protects and recharges these sources of water. Protecting the quality and quantity of our drinking water resources not only serves public health, but also benefits nature.

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RRWC's mission: Stewardship of the Rogue River watershed through restoration, education, and community involvement.

RRWC is tax-exempt under section 501(c)(3) of the Internal Revenue Code and a recognized watershed council. Watershed councils were authorized by the Oregon Legislature in 1995 to promote and implement voluntary cooperative conservation actions.

Notes from the Executive Director's Desk

From October 1, 2019 through the end of April, rainfall in Medford was about nine inches, nearly 6.5 inches below normal. Sitting at around 60% of average, it seems that we are headed for a summer with all the familiar consequences of dry winters: relatively empty reservoirs, low stream flows, and dry forests.



Photo by Justin Clifton

This is bad news for salmon, steelhead, and trout, which depend on cold, clean water as well as those of us who depend on local streams, lakes and rivers for water supplies, irrigation, and a place to cool off on a warm summer day. High stream temperatures, bacteria levels, and diseases associated with unusually low summer stream flows will pose increasing problems for people, domestic animals, fish, and wildlife. And that is just "in the water." Forests, meadows, wildlife, and people that use those "upland" landscapes suffer from low rainfall totals, too.

Good news! There are tried and true solutions (at least for rivers and creeks). Rogue River Watershed Council has been lining up and implementing restoration projects to make a difference for our waterways in seasons when winter rains and snowfalls are not abundant:

- Restoring high elevation streams (and their meadows) to increase contributions to shallow aquifers for later release;
- Increasing structure and habitat complexity in larger streams for water quality and fish and wildlife habitat needs;
- Encouraging a wide variety of native plant species to prosper in streamside forests to filter pollution, hold soil in place, and create a cool microclimate along streams; and
- Addressing fish passage barriers so fish can easily swim to temperature refuges.

And we are working hard to develop and implement these projects in the most important parts of our watershed despite the economic and philanthropic uncertainty in front of us.

Bad news. We expect our local donations to suffer this year because of the impacts of our collective and individual responses to Covid-19 and the impact of the "stay at home" and "group size" guidance on events like "Celebrate the Rogue!" (Planning, sponsorship and auction item solicitation, and ticket sales either have or will likely suffer or the event may be cancelled if there are concerns about gatherings into the fall). We expect agencies, foundations, and our local partners to tighten their purse strings with respect to funding, too. The result of this collective and understandable "belt tightening" means that it will be difficult for us to construct the great projects we have developed. The very sorts of projects that will help our watersheds withstand drought conditions like we are seeing this year (and have seen frequently in the past decade).

If healthy fish populations or clean water are important for you, your family, your hobbies, or your job, right now is a great time to invest in the Rogue River Watershed Council so that we can charge ahead with our plans, restoring streams and streamside areas to combat the impacts of drought ... and severe storms ... and decades of development.

...and from the Board Chair

With drought predicted in southern Oregon this summer, it's appropriate that this issue of *The Confluence* focuses on the more "upriver" portion of our watershed, where much of our drinking water originates and where many of our fish head to survive a hot, dry summer. RRWC has been working on projects in these areas for some time, removing barriers to fish migration, enhancing the riparian zone along creeks, and returning stream channels to a more resilient state to withstand flood conditions caused by extreme storm events. While dealing with drought is daunting, it is also rewarding to observe how many of the projects we've put in place will allow aquatic species to survive and thrive in such conditions that this summer looks to bring.

While our staff members continue their good work on projects such as these, the board continues their important work as well. We recently added two new directors to help us; please welcome Phylis McIntosh and Kerry Ken-Cairn. Phylis, a retiree who lives along the Rogue River in Grants Pass, enjoyed a long career working for the US Forest Service in insect and disease control and as a nursery stock buyer for a chain of garden centers. Kerry is a landscape architect specializing in projects that involve development around urban waterways. I am proud to lead a board composed of individuals with such a diverse makeup of vocations, which helps keep our perspective broad and inclusive.



Drinking Water Source Protection in the Rogue River Basin (Continued from page 1)

A major benefit of the collaboration will be a common understanding of the greatest threats to drinking water sources and agreement on the highest priority actions to protect drinking water. The RDWP has begun identifying short- and long-term high-priority measures for collaborative source water protection, including measures that prevent, minimize, and mitigate activities that harmfully impact drinking water quality. Rogue drinking water providers will work with our RDWP partners like Stream Smart, the Jackson Soil and Water Conservation District, and the Rogue River Watershed Council to promote public awareness and stewardship of drinking water sources and healthy watersheds, and to develop resources and financial support for drinking water protection.



Craig Harper is Watershed Administrator for the Medford Water Commission. His work is focused on protection of the sources of drinking water for Medford and surrounding communities, with an emphasis on collaboration and project implementation with partner organizations.

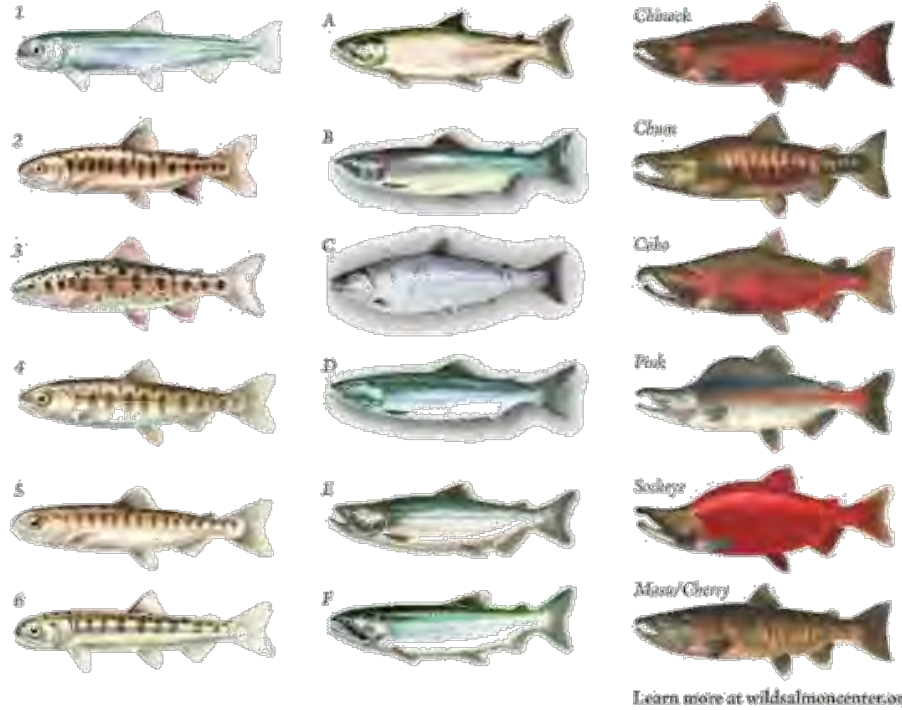
OFF THE RESOURCE SHELF

In response to the COVID-19 crisis, Wild Salmon Center posted several great online activities for young and young-at-heart folks to enjoy while staying at home. There are educational activities, documentaries, coloring pages, a contest, games, and much more. I encourage you to check it out:

<https://www.wildsalmoncenter.org/2020/04/10/how-to-stay-salmon-strong/>

P.S. Their entire website is one that you shouldn't miss if you're interested in wild salmon conservation or you just enjoy beautiful photos of the Pacific Northwest.

Salmon of the Pacific. There are six species of Pacific salmon. They display different colors and characteristics during various life cycle stages. See if you can match the juveniles with their ocean going (sea-run) and river (spawning) counterparts.



Sea-run salmon illustrations provided by Fisheries and Oceans Canada, Dorenda and spawning salmon illustrations provided by Karel Svecna reproduced from the Atlas of Pacific Salmon. Juveniles: D. Fish, 2016. CC BY-NC-ND. Chinook, A. Fish, 2016. CC BY-NC-ND.



RRWC PROJECT PROFILE

Bear Creek Water Quality Improvement Project

In looking to the future, staff from the City of Phoenix, Rogue Valley Sewer Services, and the Rogue River Watershed Council are implementing restoration actions at Blue Heron Park recommended in the Phoenix Parks Master Plan. This plan provides a guiding vision for the development and maintenance of the City's parks system for the next 20 years. Included in the plan is a redesign option for 24-acre Blue Heron Park. Furthermore, the recently completed Bear Creek Restoration Initiative identified this project as a top priority with regard to ecological and social factors.

At the project site, the once abundant and diverse forest is now limited to a thin band of mature trees along the creek. The forest understory is dominated by non-native invasive blackberries. Native vegetation is present, though it's been



Some of the debris hidden under blackberries along Bear Creek

outcompeted by non-native species for the most part. The dominant riparian species are older trees. As such, the riparian corridor lacks the vegetative components necessary to effectively filter stormwater pollutants, stabilize streambanks to reduce sediment inputs, provide shade to reduce water temperature, and provide cover and forage for fish and wildlife.

We have recently begun restoring six acres of riparian forest along a contiguous 0.5-mile reach of Bear Creek and a stormwater retention wetland in the park. By removing blackberries and establishing native riparian vegetation, we will create lasting shade to cool late-summer water temperatures and filter potential stormwater-runoff pollutants.

Coho Strategic Action Plan

By Mark Trenholm

“If I had a million dollars . . .” This was the refrain of a song that was played relentlessly on the radio many years back. I never liked it, yet now I find myself thinking about it every day in my work to recover Oregon’s coast Coho Salmon.

Salmon recovery is a remarkably complex undertaking challenged by an Achilles’ heel of scale. For almost two centuries we have probed virtually every inch of the Pacific Northwest: cutting, mining, damming, draining, channeling, and road-building our way to prosperity. The resulting alterations to salmon habitats are virtually endless. So, how and where across this sprawling landscape should we spend the scarce funds available to fix them?

Several years ago, Wild Salmon Center and a handful of state and federal agencies set out to answer this question for Oregon’s coast Coho Salmon by collaborating with highly effective regional partners. By teaming with local experts and stakeholders one watershed at a time, this “Coast Coho Partnership” seeks to determine where investments in restoration can accelerate Coho recovery.

Why Coho? In addition to being listed as threatened under the Endangered Species Act, the species resides in freshwater for a year or more. When we restore Coho Salmon habitats, we often help other salmonids as well. Why the Rogue? Quite simply, it is one of Oregon’s crown jewels for salmon.

For the past two years, I’ve been privileged to work with a talented and committed team assembled by the Rogue River Watershed Council to develop a “Strategic Action Plan” that prioritizes habitat restoration to recover Upper Rogue Coho Salmon. Thanks to our partners at the National Oceanic and Atmospheric Administration, National Fish and Wildlife Foundation, and Oregon Watershed Enhancement Board, we look forward to supporting RRWC and the public and private landowners who are stepping up to restore critical habitats locally.

If we have a million dollars . . . we’ll soon find out where to put them in the Upper Rogue.

Mark Trenholm is the Coast Program Director at the Wild Salmon Center and is collaborating on a watershed restoration plan with the Rogue River Watershed Council.



SPECIES SPOTLIGHT

Dwarf Mistletoe

by Phylis McIntosh

The next time you’re standing under the mistletoe, remember that it’s a parasite! Dwarf mistletoes, which need hosts in order to reproduce, are the most destructive pathogens in our Northwest coniferous forests. Each conifer species is host to a specific dwarf mistletoe species; these relationships are stable and ancient. It takes three to four years, and in some cases up to ten, for any sign of infection to appear. But in the end, this parasitic mistletoe will kill its host.

The unique seed dispersal method of these plants is key to both their success and the difficulty of their control. When the seeds – encased in a glue-like substance – ripen in late summer, they are expelled at high pressure and speed (up to 90 mph) sticking to whatever they hit.

Photo by Frank Hawksworth



Mistletoe seed structure on pine branch

Mistletoes attach to their hosts with rootlike structures called haustoria, which are specialized to grow through the trees’ cells to consume moisture and nutrients. This “starves” the tree and opens up its wood structure, reducing its lumber strength.

Over the years, the infection site draws, or manufactures, hormones that induce abnormal shoot growth in the host causing the diagnostic witches’ brooms that finally visually indicate that a tree is infected. Although these brooms do provide nesting sites for owls and other raptors, they are full of pitch and needles, making them especially flammable. Brooms low in the trees burn very hot and encourage fires to crown.

Control of mistletoe infections is limited to pruning of young infections, expensive and rarely effective, or removal of the infected trees. Spacing of trees and encouraging mixed stands are current forest practices.

Phylis McIntosh is a Rogue River Watershed Council board member. She spent most of her professional life working in the nursery industry, but also worked for US Forest Service Insect and Disease Control after completing graduate research on dwarf mistletoe.

RRWC PROJECT PREVIEW

South Fork Little Butte Creek Project

Little Butte Creek is one of five creeks included in the Upper Rogue Coho Salmon Strategic Action Plan, with many proposed restoration actions proposed for its south fork. Last November, we – in partnership with Jackson Soil & Water Conservation District – hosted an open house at the Lake Creek Grange to let local landowners know about opportunities for improving conditions in and along the creek and implementing new agricultural management practices. Several landowners, who collectively own property



along more than a mile of South Fork Little Butte, expressed interest in implementing projects. After multiple visits and conversations with the landowners to develop project designs, we are now seeking funding to implement the first of many ecological restoration projects in this focal watershed. Within the next several years, at least another six miles of stream will be included in restoration efforts as additional landowners have also expressed a desire to become involved.

Our focus in South Fork Little Butte Creek is on improving water quality, stream processes, and aquatic and terrestrial habitats, which build resilient and robust native fish and wildlife populations. The restoration actions will consist of riparian forest rehabilitation on 18.6 acres, large wood placement at 20 locations, reactivation of 1,100 feet of side-channel, and construction of 3,360 feet of livestock exclusion fencing. We plan to start implementing the project this coming fall.



UNDER THE SURFACE

Under What Surface?

by Jay Doino

Welcome Readers, to the final edition of “Under the Surface!” My final edition, anyway. When they coerce someone else to do free work, more columns will come. And there will be some very good columns. Just not my brand of good. Too bad for you.

For several years now, I’ve written about all kinds of stuff – salmonid life histories, food webs, the NCAA, even rock ‘n’ roll. Today, however, is special. Today, I’m writing about the thing that ties it all together. The thing we take for granted. The thing upon which “Under the Surface” is entirely predicated. Readers, meet Water.

Don’t think about her a whole lot, do ya? Here’s why you should: too often, fish don’t get enough Water, and sometimes none at all. That’s a problem all over the West, and the Rogue’s no exception. There is broad consensus among fish managers and biologists that impaired streamflow (read: Water withdrawals from tributaries for human uses) is a primary factor limiting Rogue fish production. In my (not too humble) opinion, it’s Water’s availability and allocation that will determine the sustainability of wild fish runs in the (not too distant) future.

I don’t have the answer. I do know the way we’re doing it now, there’s not enough Water to go around. Start thinking about Water and how you use her. It’s more than landscaping and hot showers. It’s diet, consumption of goods – it’s pretty much everything. And in the end, it’s really about values. Where’s Water in yours?

Jay Doino is a fisheries biologist who has been working in the Rogue Basin since 1999.

Editor’s note: Yes, it’s true; Jay has told us he needs a break from the glamour of feature writing. I’m sure that many of you will share in our disappointment. Jay’s writing is top-notch, always informative, and never fails to make me laugh. Thank you, Jay; you’re welcome back any time (and we’ll even triple your salary).



From Field Guide to the Pacific Salmon, by Adopt-a-Stream

RRWC PROJECT PREVIEW

Salt Creek River Mile (RM) 0.5 Project

Initially envisioned as a fish barrier removal project, this project’s design has broadened to include restoration actions for improving water quality, stream processes, and aquatic and terrestrial habitat. Two irrigation diversion structures – both gravel push-up dams – will be upgraded to allow year-round fish passage, but large wood structures will also be placed at strategic locations along a half-mile-plus stretch of creek, four acres of riparian forest will be rehabilitated, and 4,000 feet of livestock-exclusion fence will be constructed. The landowner has agreed to build the fence with materials supplied by RRWC, resulting in considerable cost savings for the project. On-the-ground work will begin next summer.



Photo: Both the push-up dam and concrete sill seen here will be removed and replaced with a new irrigation system that allows for juvenile fish passage during spring and summer.



RRWC PROJECT UPDATE

Elk Creek River Mile (RM) 5.6 Project

After several years of project development, implementation of this project has begun! Our efforts started with the removal of 30 acres of Himalayan (Armenian) blackberry and Scotch broom to begin rehabilitating the riparian forest and prepare the site for June in-stream construction. Elk Creek is one of the five creeks listed in the Upper Rogue Coho Salmon Strategic Action Plan, and this project is located within the 7.3 miles designated as Wild & Scenic in 2019. Our focus in this project is to improve side-channel and floodplain conditions over a mile of the main channel and 1.3 miles of side-channels. We have contracted a restoration construction company to help us place large wood structures at 30 locations throughout the project and reactivate the inlet of one of the side-channels that had previously been diked. All of the large wood is being donated by Bureau of Land Management, Hancock Forest Management, and Medford Water Commission. It is currently being delivered and staged on site. Noxious weeds will continue to be treated so the native plant community can recover, and Army Corps of Engineers will build a livestock-exclusion fence to protect sensitive floodplain habitat from open-range cattle. Another partner, US Forest Service, is going to donate restoration crew labor to treat an additional eight acres of noxious weeds to rehabilitate the riparian forest.



Rehabilitation of the riparian forest begins with cutting the non-native Himalayan blackberry using chainsaws



One of the three side-channels that will have large wood placed in the channel to improve stream processes and aquatic habitat

Support Our Work!

Make a Donation

All donations are greatly appreciated, put to good use, and are tax-deductible. Donate online at <http://www.rogueiverwc.org/get-involved/donate/>.

Bottle Drop Redemption

Open a Bottle Drop account at an Oregon Redemption Center, drop off your cans and bottles, then transfer your donation to RRWC [online](#).

Fred Meyers Rewards

Help RRWC earn donations by shopping with your Fred Meyer Rewards Card. Link your card to us at <https://www.fredmeyer.com/topic/community-rewards-4>. Search for us by name.

AmazonSmile

Online shoppers can go to smile.amazon.com, click on your account and select RRWC as your charity of choice at no cost to you.

