



Johnson Creek Watershed Council

Within Your Reach

reach: a) a portion of a stream or river b) an extent, esp. of knowledge or comprehension

Celebrating 22 Years of Restoration

- Courtney Beckel, JCWC



Portland City Commissioner Nick Fish (right) and JCWC cofounder Walt Mintkeski (left) presenting awards; photo: Bruce MacGregor

On Thursday, May 25, 2017, we celebrated our 22nd birthday at our signature Annual Celebration event at Reed College.

Nick Fish, Portland City Commissioner, gave an excellent keynote address contextualizing our work at the Johnson Creek Watershed Council as a part of a larger whole within the City of Portland.

Executive Director Daniel Newberry presented a year-in-review slideshow, covering our work over the past year in our six program areas: (1) People / Building Community, (2)

Fish Passage, (3) Riparian Forests, (4) Water Quality, (5) Wildlife / Community Science, and (6) Watershed Science. He touched on some of our key accomplishments, such as the installation of the Badger Creek Culvert (our first culvert replacement project at the Council!). Daniel also unveiled our plans for the North Fork Culvert replacement project. Removing fish passage barriers will allow wildlife to freely pass into the upper reaches of Johnson Creek.

There were a lot of other great accomplishments to celebrate this year, too! Our riparian program planted 21,261 native trees and shrubs on 15 parcels of private and public land, totaling 12 solid acres of restored habitat along the creek, helping to keep water cool and clean for fish and providing forage and breeding habitat for lots of other animals that rely on this urban sanctuary.

Our community science program also really took off this year, adding Beaver, Dragonfly, Lamprey, and Ecoblitz surveys to our annual Salmon Survey. These surveys were powered by 210 community science volunteers. We can't accomplish all of these great things without our incredible volunteer program, which had 1,955 total volunteer signups this year--8,099 hours of work were contributed by this stellar community!

Riffle Awards

There are many people to thank for their part in making the restoration of Johnson Creek possible. As part of our Annual Celebration, Riffle Awards are presented for individuals and groups whose actions in the past year best exemplify our mission to promote restoration and stewardship of a healthy Johnson Creek. Riffle awards went to:

- **Nonprofit/Community:** Crystal Springs Partnership
- **School and Youth:** North Clackamas School's Sabin-Schellenberg Center
- **Jurisdictional Partner:** Clackamas Soil and Water Conservation District
- **Business Partner:** Moda Health
- **Ernie Francisco Award** (for an individual who has left an indelible legacy on the Council for the year): Alan Lumpkin

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Dragonfly Surveyors Are Off To The Wetlands!

- Alexis Barton, JCWC

The sun wasn't out...yet.

The morning of the Dragonfly Survey Orientation began cloudy and chilly – not conducive to finding dragonflies whizzing through Westmoreland Park. But while JCWC's volunteers were getting trained indoors to become Dragonfly Surveyors, the clouds were clearing and the sun was getting ready to shine on the afternoon field training session!

Dr. Celeste Searles Mazzacano, entomologist extraordinaire, wowed surveyors with slow-motion videos of nymphs feeding and adults flying with extraordinary precision. Surveyors learned about dragonflies and damselflies, including protocols for netting and identification.

Equipped with an aerial net, hand lens, dichotomous keys and field guides, Dragonfly Surveyors will be working in small teams collecting data at three wetland sites within our watershed this summer.

Dragonfly and damselfly species presence indicate habitat quality, so documenting these insects will help us create a clear picture of the habitat both before and after restoration has occurred across sites in varying stages of restoration in the watershed.

Wish our surveyors luck and sunshine!



Photo: Phil Nosler

DIRECTOR'S DESK

Yes, We Hear You!

- Daniel Newberry, JCWC

Community engagement is a high priority for our Watershed Council. Hands-on restoration projects at events such as our August Creek Clean Up and our tree planting events have long been our primary method to invite our community members to become part of the Council.

Last year we greatly expanded our Community Science program, which engages community members with varying levels of scientific experience. These volunteers are trained to collect valuable data that is used in restoration by the Council and its agency partners. We've also held twice-a-year evening science "pub" talks featuring presentations by scientific experts on wildlife and water issues in our watershed. Each year we provide service-learning opportunities for 20 or more school groups.

One thing we continue to hear from our community members is "give us more opportunities to learn about the watershed." To respond, we're attempting to present an average of one educational event per month. So far this year, we've held two family-friendly wildlife slideshow talks in Gresham, a science pub talk on birds & wetlands, and two wildflower hikes in Powell Butte Nature Park. We have a roadside geology tour and a restoration bike ride planned as part of September's "Johnson Creek Days" celebration.

Is there another way we can make the watershed more accessible? Give me a call!

NEW GRANTS

Clackamas Soil and Water Conservation District "Creek Care" program – Promotes riparian revegetation efforts in the Clackamas County portion of the upper Johnson Creek watershed by engaging private landowners to undertake restoration on their own property (\$10,000).

City of Gresham – General funding that supports our volunteer stewardship and education/outreach work and specific funding for our riparian efforts in the City of Gresham (\$12,500).

Portland General Electric Foundation – Supports our Volunteer Stewardship program (\$2,500).

City of Portland Environmental Services "Community Science" program – Continuing with another year of support for our aquatic monitoring programs in which community scientists and volunteers collect data that will inform future watershed management restoration efforts (\$7,000).

Herbert A. Templeton Foundation – Service-learning tailored to the needs of the schools that we work with to provide field opportunities (\$5,000).

OWEB – Small grant for inline pond temperature monitoring that will be used to gather data to help prioritize which ponds to target for restoration (\$10,083).

East Multnomah Soil & Water Conservation District – A one-year grant to fund five projects: Community Science, Mitchell Creek Temperature and Fish Passage Improvement, Inline Pond Monitoring, Equity Plan Implementation, general support (\$84,000).

Clackamas Water Environment Services – Funding for four projects within the W.E.S. service area: Johnson Creek Cleanup, Watershed Wide Event, service learning with schools, and science talk (\$12,430).

LEAD STORY

(Continued from page 1)

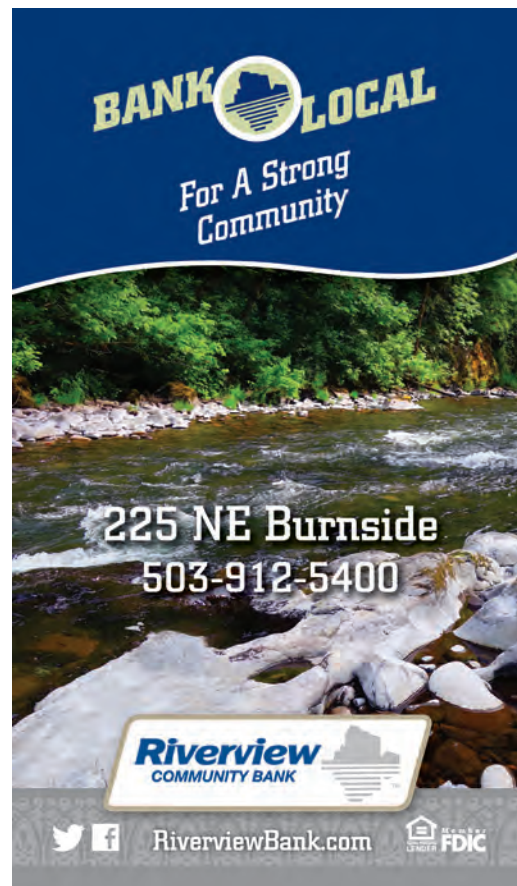
We added a new twist this year with two youth achievement awards, which went to two incredibly dedicated and accomplished high school students.

Phil Nosler has been volunteering with the Council as a dragonfly surveyor and observed the earliest sighting on record of both the black meadowhawk and the autumn meadowhawk.

Adam Nayak has been conducting independent research on the effects of urbanization on flooding in four stream basins near Portland since he was 12, collaborating with us for several years and recently interning with our Stormwater Program.

We are so honored to be a part of this vibrant community of collective action. Thank you for making this year's Annual Celebration a blast!



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The Lithe, Long-Lived, Illustrious Lamprey

- Katie Songer, JCWC

Western brook lamprey building a redd in Crystal Springs

The Pacific lamprey's story might sound familiar. Once abundant in the Northwest, this migratory fish used to arrive in the Willamette River by the millions, returning from the ocean each year to spawn in local streams. This species remains important to Native American communities as a First Food, as a medicine, and as cultural heritage. In recent decades, however, populations have plummeted due to commercial overfishing and development; in the 1990s, the Oregon lamprey fishery was closed. Now, state and tribal agencies and nonprofits are working to help the Pacific lamprey recover.

Over the past two years, JCWC has begun focusing more attention on these amazing and underappreciated fish in our restoration and community-science efforts.

Illuminating Lampreys

To call lampreys “ancient” is an understatement. The oldest lamprey fossil is at least 360 million years old, so lampreys were already ancient when dinosaurs developed 230 million years ago! Today's lampreys closely resemble that 360 million-year-old primordial fossil. They are jawless, with skeletons made from cartilage, not bone. Slippery and wiggly, they are difficult to hold if you're lucky enough to catch one. They are important parts of stream and ocean ecosystems, serving as food for fish, mammals, and other creatures. And lampreys have medicinal potential—like salamanders, they can regenerate lost body parts, and can even recover from a severed spine.

At least two of the world's known 38 lamprey species are found in Johnson Creek. The Pacific lamprey (*Lampetra tridentata*) grows up to 25 inches long. Though elusive, it is occasionally spotted here, with the most recent live specimen found in 2016. The pencil-sized western brook lamprey (*Lampetra richardsonii*) is encountered more frequently.

It is important to acknowledge the cultural relevance and close relationship of local tribes to the Pacific lamprey. Tribal elders regard this food as medicine: It is given to them when they are ill, and it helps them recover their health. Members of Pacific Northwest tribes travel great distances to harvest Pacific lamprey from Willamette Falls.

Lampreys are often called eels, although they're not closely related to the fishes in the taxonomic eel order, Anguilliformes. Like the words antelope, minnow, and bug, the word eel has differing colloquial and technical meanings—taxonomic sticklers beware!

Lamprey Life Cycles

Much like salmon, adult lampreys spawn in gravel nests called redds. Both Pacific and western brook lampreys spawn in the spring; Pacific lamprey redds are the size of dinner plates, while brook lamprey redds are tea saucer sized and often resemble elk prints on the streambed. To build their redds, lampreys move each stone with their mouths, painstakingly creating circular troughs that can be distinguished from the

elongated redds of salmon. Eggs are then laid and fertilized in the redd.



Photo: Andrea Barry

Lamprey larvae, called ammocoetes, are filter feeders—they burrow into silty stream bottoms and remain there 2 to 7 years, filtering microscopic organisms out of the water. Often, during in-water construction projects such as culvert replacements, multitudes of lamprey larvae are found wriggling up from the bottoms of still pools, disturbed by the construction process. They are regularly salvaged and re-located to safer spots. (To quote @LunatheLamprey on Twitter, “#National Puppy Day? How about national ammocoete day? They are so cute and cuddly!”)

After their quiet years as larvae, lamprey begin transforming into adults or pre-adults, depending on the species. This transformation takes several months. Some species, like the Pacific lamprey, then migrate to the ocean and become parasitic as adults, feeding on salmon and other fish. Other species remain in streams and do not eat at all as adults.



Pre-adult Pacific lamprey;
photo: Andrea Barry

Adult lampreys eventually migrate to their spawning grounds, whether these are nearby or hundreds of miles away. During migration inland from the ocean, the Pacific lamprey ceases feeding. Unlike salmon, lamprey do not always migrate to their natal streams to spawn—in poor conditions they will stray, a flexibility that helps makes them resilient. They must be

quite resilient, having survived the great extinction of 65 million years ago! But the new threats presented by modern industrial society nevertheless prove a sobering challenge. As Rose High Bear of Wisdom of the Elders says, “Pacific lamprey are older than the dinosaurs, and yet they could become extinct in our generation.”

Toxicity is one factor in their declining numbers—Pacific lamprey prefer clean water and will hide in the mud to avoid toxicity in the stream. Fish-passage barriers, such as dams and culverts, are another major challenge. Lampreys can traverse some barriers that salmon cannot, scaling sheer waterfalls or withstanding high velocities by pulling themselves along rocks and walls with their suction-cup mouths. However, they have trouble making right-angle turns when inching forward—their mouths do not easily bend that way. Culverts and dams with right-angle joints, including many fish ladders designed for salmon, are thus impassible to lampreys. Lamprey populations have been eliminated from much of the Pacific Northwest because of dams.

Local Lamprey Learnin’

In spring 2017, volunteers surveyed Johnson Creek for signs of lamprey and steelhead, which also spawn in spring. Lamprey findings included 3 groups of spawning brook lamprey, as well as 6 additional possible redds of uncertain species. We plan to repeat these surveys in spring 2018. For data summaries and maps, a great video of spawning brook lamprey, and other cool lamprey resources, check out our new Lamprey Science web page: www.jcwc.org/lampreys.

Thank you to partners Wisdom of the Elders, PSU Indigenous Nations Studies Program, and Oregon Department of Fish & Wildlife, as well as funders Spirit Mountain Community Fund, East Multnomah Soil & Water Conservation District, Portland Bureau of Environmental Services, and Jubitz Family Foundation, for the opportunity to study lampreys in Johnson Creek!

Thank you to Rose High Bear of Wisdom of the Elders and to Carson McVay for their input on this article.

Thank you Moda!

We would like to express our gratitude to Moda for printing our newsletters.



Thank You and Good-Bye!

- Katie Songer, Restoration Project Manager 2015-2017



My two years with JCWC have flown by in a whirlwind of engaging projects, wonderful community, and constant learning. I am off to pursue an exciting writing opportunity and to restore my own health, but it is with very mixed feelings that I leave! I will miss so much: managing complex projects such as the Badger Creek culvert replacement;

bringing watershed science to the public through outreach and events; working with our many stellar interns, partners, and the awesome JCWC staff...

From the beginning, the hard work and passion of this community has been a true inspiration. Johnson Creek is amazing because of all of you, the many people working to understand and restore your local watershed. What a privilege to have been a part of it all! Thank you for all that you do.



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Johnson Creek Watershed Council's
2017 Annual Celebration and
appreciates the hardwork and
dedication of the many volunteers
who contribute each year.**



Spring 2017 Interns

This spring, we've had a flurry of incredible intern activity! Our interns spend over 1,500 hours annually supporting our mission to restore Johnson Creek. We simply could not do what we do at the council without them. Here's a peek at our spring interns:

Landon Kresie - *PSU, Environmental Studies* - left his mark on the Council through his work in design and data entry supporting Watershed Wide, the Annual Celebration, and the Birds and Wetlands Science Talk.

Sharon Joyce - took on the enormous project of acquiring, organizing, and marketing the bulk of the silent auction items at the Annual Celebration. This helped us earn more from the auction than ever before!

AnaCapri Mauro - *Lewis and Clark, Environmental Studies* - has supported Watershed Wide, organizing and improving our data systems, and assisting with outreach events.

Hannah Madden - *PSU, Environmental Studies* - is our first social media intern ever! She helped us audit our social media systems, developed a calendar of social media campaigns for the year, and created a guiding document for how our team can best share our story with the community.

Nicolette Sowa - *Univ. of Vermont, Environmental Law* - has an IT background instrumental in helping us optimizing our databases and website, fixing some pesky coding bugs, and even came to the rescue when our website unexpectedly shut down. She also helped with outreach for our Tree Giveaway project with PP&R's Urban Forestry, and prepared for the Annual Celebration.

Emily Waters - *PSU, Environmental Studies* - has been supporting our Annual Celebration, Dragonfly Surveys, Clean Up, and has attended many of our events and written articles on them, including the lamprey talk and dragonfly orientation.



Dakota Hufford - *PSU, Environmental Science* - our second ever social media intern will be working to create messaging for our Clean Up in August, and building our social media presence.

LeighAnna Morgan - *Concordia University* - finalized our on-line science library of 100+ documents, created a salmon science webpage, and served as one of our first ever Lamprey surveyors.

Adam Nayak - *Cleveland High School, Senior* - was recognized with a Youth Achievement award this year at the Annual Celebration for his outstanding work, including modeling the effects of land use change on urban streams. His most recent project was developing our stormwater program and webpage.

Lauren Yap - *OSU, Environmental Science/GIS* - finalizing our new water quality and lamprey science webpages. She is also managing our first year of lamprey and steelhead data.

Kayla Tomlin - *PSU, GIS* - managed our beaver survey data and created maps of the dams found by surveyors last summer. She also created a research poster that was showcased at the Urban Ecosystem Research Consortium this winter!

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Upcoming Opportunities

Find details, registration, and more at our online Events Calendar: www.jcwc.org/events-calendar.



Beaver Survey Orientation

Wed, August 2nd, evening (time TBD)
JCWC Office: 1900 SE Milport Rd, Milwaukie



10th ANNUAL JOHNSON CREEK CLEANUP and BBQ

Sat, August 26th, 9 AM - 2 PM
Mill Park: 6201 SE Overland, Milwaukie



JCWC Board Meeting

Tue, September 19th — *Open to the public!*
JCWC Office: 1900 SE Milport Rd, Milwaukie



Salmon Celebration

Sun, September 24th, 11 AM - 4 PM
Westmoreland Park @ 7530 SE 22nd Ave,
Portland, OR



Johnson Creek
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