



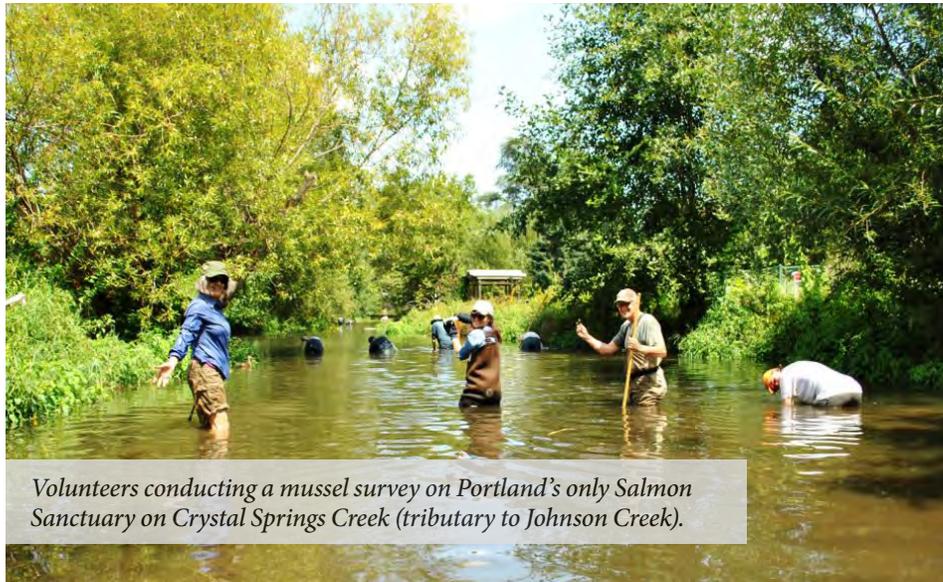
Johnson Creek Watershed Council

Within Your Reach

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

Crystal Springs declared Portland’s first “Salmon Sanctuary”

- Patrick Norton, Crystal Springs Partnership Board Member



Volunteers conducting a mussel survey on Portland’s only Salmon Sanctuary on Crystal Springs Creek (tributary to Johnson Creek).

What is a “Salmon Sanctuary”, and what does it mean for Crystal Springs Creek? In 2017, Portland City Council passed a proclamation making the September 24, the date of the Fourth Annual Salmon Celebration at Westmoreland Park, the first annual Salmon in Our City Day, and designating Crystal Springs Creek as Portland’s first official “Salmon Sanctuary”. The Johnson Creek Watershed Council (JCWC) and the Crystal Springs Partnership (CSP) were recognized at the hearing and each awarded a grant of \$5,000 to help continue the work to bring healthy salmon runs back to the creek.

“Salmon are now found in 125 miles of Portland’s 300 miles of stream. That’s almost half. And nowhere are those streams healthier than in Crystal Springs”. Commissioner Nick Fish

Commissioner Nick Fish (in charge of the Bureau of Environmental Services) who introduced the item, spoke of the importance of salmon in our region and of the effect of poor urban planning upon them: “As our city was built out we made poor decisions. We built culverts and eliminated habitat... in 1998 steelhead were listed as threatened under the Endangered Species Act, and in 1999 salmon were too. It was our wake-up call, and since then we’ve made significant investments in salmon recovery and in our urban watersheds.” but that “perhaps our biggest success has been the restoration of Crystal Springs Creek”.

He went on to say that: “the Bureau of Environmental Services, the Portland Bureau of Transportation, the Parks Bureau, and twenty-one other public and nonprofit partners, like the Johnson Creek Watershed Council and the Crystal Springs Partnership came together and restored Crystal Springs over eight years, and today salmon can now swim the creek’s entire length.”

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Bilingual Community Watershed Education

- Alexis Barton, JCWC



Abdulahi Abib discusses sword ferns with Somali community members.

JCWC is working to engage with the many different communities and populations that make our watershed a vibrant and dynamic place. Funding from the Collins Foundation and an anonymous donor has created the Bilingual Johnson Creek program, working with paid youth interns from immigrant & refugee organizations in the watershed. Bilingual Johnson Creek interns create a brochure in their community’s language and plan a bilingual nature-based event to introduce community members to the watersheds’ natural areas. Abdulahi Abib works with youth at AYCO (African Youth Community Organization) and was our first Bilingual Johnson Creek intern.

Abdulahi and Alexis, JCWC’s AmeriCorps member, created content for a brochure in Somali that he presented at the event. Abdulahi educated community members about watersheds, Johnson Creek, and flora and fauna found both on natural areas and around town. The event brought 17 members of Portland’s Somali community to Powell Butte to learn and to plant native plants, with the help of Portland Parks & Recreation. Future Bilingual Johnson Creek projects will also be funded by Meyer Memorial Trust. Thank you to AYCO, PP&R, and Abdulahi!

Project Priorities

- Daniel Newberry, JCWC

How do we prioritize restoration projects to maximize the benefits to salmon, steelhead and lamprey? With limited funding and a great need, this is a question all watershed councils in Oregon wrestle with. Five years ago, we inventoried and prioritized watershed culverts and other potential fish passage barriers—274 of them—to determine which barriers we should attempt to repair or remove first. Culverts often block fish access to habitat, especially cold water habitat in the upper watershed. As the world's temperature continues to rise, access to colder water becomes critical.

Our culvert prioritization considered cost and the length of habitat opened to salmon as primary factors. Since then, we've add a new consideration: access to cold water habitat. This factor was behind our decision three years ago to build a coalition of agencies and funders to remove, repair or retrofit seven culverts on North Fork of Johnson Creek. Last summer we replaced a North Fork culvert under the Springwater Trail. This summer we're retrofitting two more. The East Multnomah Soil & Water Conservation District replaced or removed three culverts on this same tributary. Multnomah County will be replacing number seven. After this final culvert is replaced, we will add wood to the stream to improve the quality of this newly re-opened habitat. This over-arching approach is a focused subwatershed approach, which we intend to continue using into the future.

This summer we take this approach to the Mitchell Creek watershed. We are currently working on three barriers. The first one fish will encounter is on Kelley Creek, a through way to reach Mitchell Creek. This is a dam that is more than five feet tall. The landowner is allowing us to remove it in a project planned for 2019. This summer we will be removing two culverts that form a large shallow pond that impounds Mitchell Creek and adding wood at the same time. Our monitoring has documented up to a 14 degree Celsius rise in stream temperature as water passes through the pond, so this project will also help restore cooler water. There are three more culverts upstream. We're currently developing a strategy to address these as well.

A Creek Runs Through It

- Kevyn Hay, JCWC Volunteer

Lake of the Woods is as distant in geographic location as it is as memory now. But it is a place where, as a small boy, I became one with the land, the water, and all things within them. I learned to swim, fish, paddle a canoe and start a fire; and when I dream of it now, I soar through the pines over granite cliffs as the aspens quake beneath me. At a very young age I witnessed, first hand, the effects of acid rain on the boreal forest at the southern edge of the Canadian Shield. In great blotches, like a pox upon the land, as marshes turned to bogs, entire generations of young trees died as the world seemed to change from green to orange. As far back as the 1970's I recall my grandpa, a quiet and reserved man, scolding my dad for allowing us to wash ourselves in the lake. (Using soap and shampoo, and most likely conditioner as well.) It would be many years later until I understood the processes and politics of acid rain or the effects of excess phosphorus loads. But now I know.

All throughout the Johnson Creek Watershed we have opportunities to make physical connections to the land. We can put our hands in the soil and our feet in water of the place in which we live. This is where our collective past and future merge to create a mindful present. It is here we can engage with one another with respect and understanding. It is here that we find common ground. It is here that we can see the future results of the labor from our past. It is here that we live and it is here that we are. And this is why I am here.

The Johnson Creek Watershed Council is my conduit to the land, the water and all things within. The Council brings diverse people together, channeling each individual's gift toward achieving a common goal: Healing the land. (Which, in turn, will help us to heal ourselves.) To me, this is what gives the council meaning and why I have been volunteering since 2010. With JCWC I have the opportunity to go new places and see new things, to engage with community members and stakeholders and participate in building a stronger community for everyone. All of this while doing cool things like fresh-water mussel surveys, looking for salmon, or mining for blackberry roots in the caldera of an extinct volcano. Shoulder to shoulder, all of us together.

I've been asked about my ideal future for Johnson Creek. Of course, I would love for it to be a place for all things and all people. A thriving ecosystem and healthy habitat whose economic value is its intrinsic value, with a premium placed on its ecosystem services. Truth be told, my future of the creek is much more self-serving. I hope that my children will learn the lessons I have learned.

And in doing so, develop and express their own love of the land while utilizing and passing down the skills and knowledge they have acquired through their experience with JCWC. And I look forward to the day when I can walk down to the creek and, as in the days of yore, pull a salmon out with a pitchfork. (Legally of course, after First Nation rights, and when fish populations can support it.)



Within Your Reach

(Continued from page 1)

"We really wanted a way to celebrate our investment, to recognize the incredible community efforts that have gone into this restoration project, and to build momentum for continued improvements- there are more Crystal Springs Stories out there" Kaitlin Lovell- BES

During the council hearing on September 20, Kaitlin Lovell (Bureau of Environmental Services- BES) spoke of the importance of salmon to the regional identity, and that "today Portland can stand tall because we have lived up to our commitments and are doing our part" and that with twenty-one partners "we create a culture and economy around restoration" and went on to say "A Salmon Sanctuary is the result of public investments [in] restoration, rivers and streams in the city that have conditions for salmon to thrive" and that these conditions are based on ten quantifiable criteria for each stream.

"Salmon are our brothers- we carry a part of the salmon in our hearts and the salmon carry a part of us with them" Judy Bluehorse Skelton

Other speakers included Ronda Fast (BES), Judy Bluehorse Skelton (PSU Indigenous Nations Studies Program), Zac Perry (Reed College and CSP), Emily Roth (Portland Parks and Recreation) and Dan Kent (Salmon-Safe), and third generation creek-side resident Joe Mitchoff. Joe spoke about changes in the creek over the years. He and his family have witnessed the creek in health, in decline, and again in return to vitality.

"It's really encouraging for me to know that kids growing up in our neighborhood today won't be able to recall a time when there weren't salmon on Crystal Springs" Joe Mitchoff

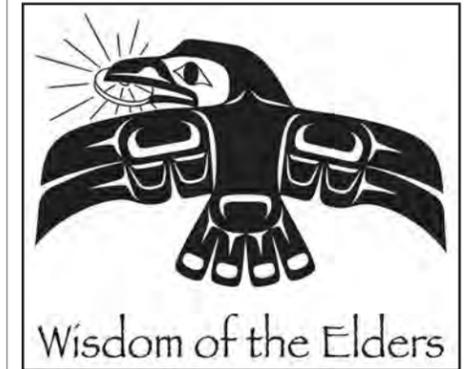
Commissioner Fish and the other Commissioners each spoke in support of the item, Mayor Wheeler spoke in favor and read the declaration, and the items were passed unanimously. Daniel Newberry (JCWC) and Karl Lee (CSP) received a giant check from the mayor who told them to "spend it well".

The move was meant to bring attention to the very facts that salmon are native to Portland's waterways, that they are still here, that they are endangered, and that people are working to bring them back to habitat they have been denied access to. The declaration is as much a celebration of progress so far as it is a commitment to continued effort to bringing back healthy salmon runs in Crystal Springs and other Portland waterways. Other potential salmon-bearing waterways include Oaks Bottom Wildlife Refuge, Miller Creek in Forest Park, and Tryon Creek. The first two of these have had barriers to fish passage removed recently and removal of a barrier on the last has been approved by Congress in 2016.

"We're not exactly done here... the big bulldozer-type work is done but I think a really compelling piece for us in this Salmon Sanctuary designation is that we're still working on this" Karl Lee- CSP

The JCWC and the Crystal Springs Partnership will use the grant money to continue to work to restore healthy salmon and steelhead runs to Crystal Springs Creek and to make the Salmon Sanctuary designation an enduring reality- but the designation is as much a challenge as it is an award. There are still many challenges, many unsolved problems in Crystal Springs and in the Johnson Creek watershed as a whole. Time will tell what the Salmon Sanctuary designation will come to mean for our work restoring these special places in the future.

Wisdom of the Elders



Wisdom of the Elders is a non-profit dedicated to Native American cultural sustainability, multimedia education and race reconciliation.

Founded in 1993, they serve youth and adults from the Native community—and the larger community of the Portland metropolitan area—by producing radio and film programs, educational curriculum, storytelling festivals, and other media that tell the stories of Native peoples.

JCWC began working with Wisdom in 2012, when we participated in a summer field science camp—part of their "Discovering Yidong Xinag" ("Discovering the Old Wisdom") program, which focuses on Native youth leadership and service learning. We have since expanded our partnership to include working extensively with the Wisdom Workforce Development program, which offers paid internships for Native adults to learn and apply restoration techniques, traditional ecological knowledge, and career skills. Wisdom provides the in-class training and instruction, while JCWC and other partners provide field experiences where the interns apply and add to what they have learned.

Many thanks to our partners at Wisdom of the Elders!

Dragonflies and Damselflies: What's The Difference?

- Shreya Jain (JCWC Intern) & Alexis Barton

Sometimes, the smallest creatures can give us a lot of valuable information about the health of an ecosystem. It's certainly true for odonates - more commonly known as dragonflies and damselflies. There are over 5,000 different species of odonates in the world, 400 in the United States, and 23 of them were found right here in the Johnson Creek Watershed this past year!

What species can I expect to see in Johnson Creek?

JCWC's Community Science volunteers have been conducting odonate surveys with the scientific support of CASM Environmental, LLC for the past two years. In 2017, three sites were surveyed: Westmoreland Park, Brookside Wetland, and Centennial Pond. Based on the results, the most common species you may find throughout Johnson Creek are the Tule bluet damselfly (*Enallagma carunculatum*), the Pacific forktail damselfly (*Ischnura cervula*), and the Blue dasher dragonfly (*Pachydiplax longipennis*).

How were surveys conducted? What did the surveyors look for?

Volunteers conducted surveys about every two weeks from June to October. Odonate activity fluctuates a lot with temperature, cloud cover, wind, and more, so the timing of surveys would vary based on when conditions were optimal. Surveyors were armed with useful equipment, including a net, hand lens, dichotomous key for identifying odonates to the family level, and a field guide to identify them to the species level. Volunteer teams walked transects along a water's edge at the sites, taking photos and netting individuals when possible. They recorded species, abundance, genders, and reproductive stage (mating, egg-laying, newly-emerged adult, etc.). Early in the season, our teams were especially careful to avoid netting newly-emerged odonates by looking out for a soap-bubble appearance on their still-delicate wings. Data was reported on iNaturalist and managed by our scientific advisor, Celeste Mazzacano, PhD.

When is the best time to watch for these awesome odonates?

You can find dragonflies and damselflies around Johnson Creek during their adult flight season, May to October. Look for them on sunny mornings and afternoons, flying over ponds, streams, and wetlands.

Where are the odonates during the rest of the year?

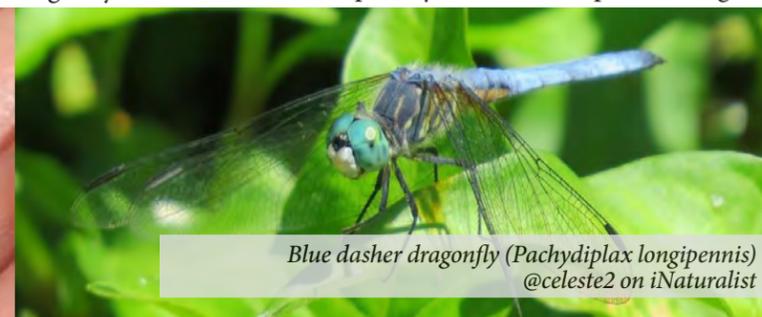
They are probably underwater, or possibly migrating to a warmer location! Dragonflies and damselflies have a fascinating life history. Most of their life is spent underwater, starting out as an egg, then as a larva (or nymph). These nymphs look quite different from the odonates we see flying around. They have a uniquely serrated, hinged jaw that quickly shoots out to attack prey. Their quick



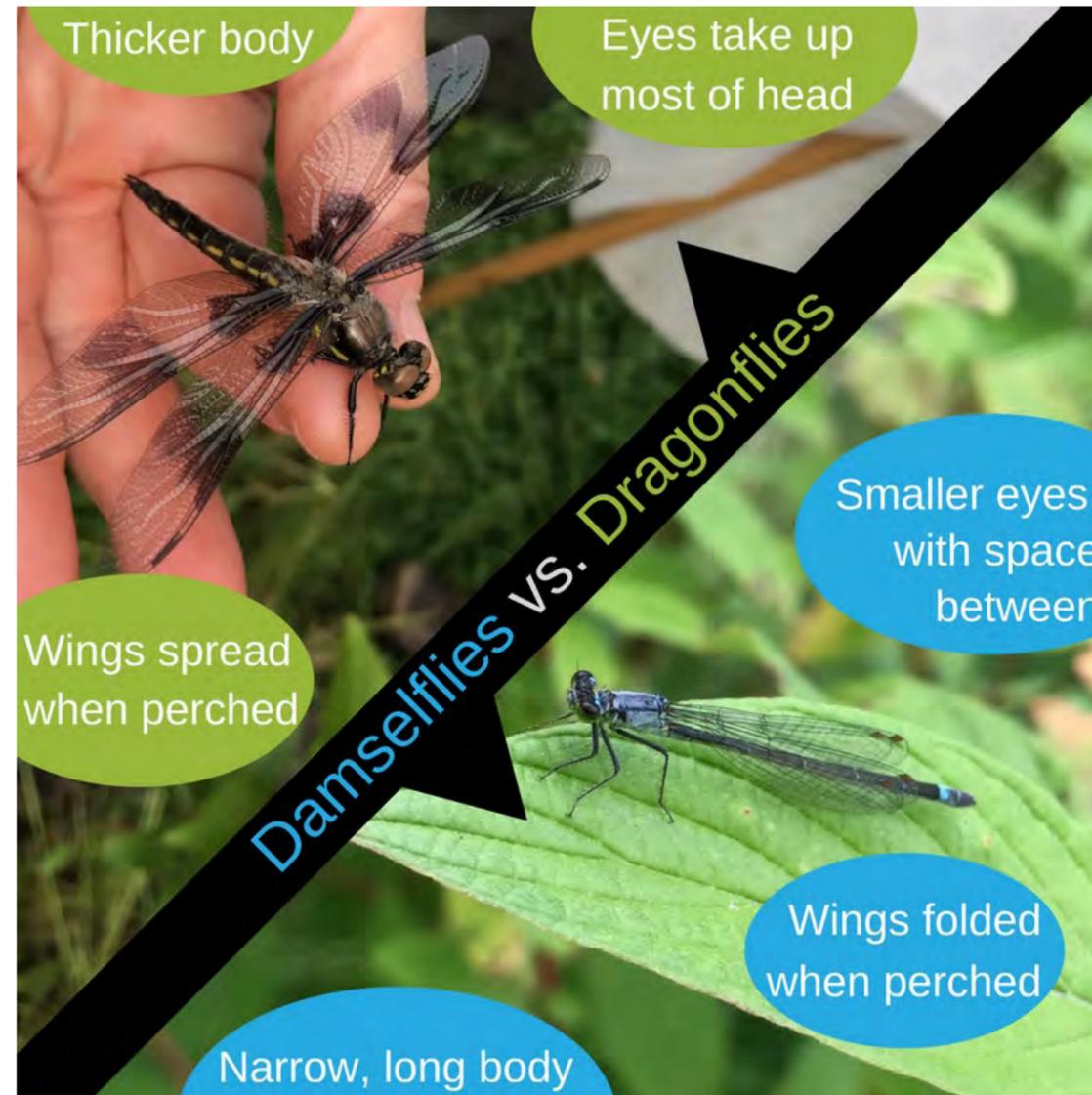
Tule bluet damselfly (*Enallagma carunculatum*)
@dnewberry on iNaturalist



Pacific forktail damselfly (*Ischnura cervula*)
@hkillber on iNaturalist



Blue dasher dragonfly (*Pachydiplax longipennis*)
@celeste2 on iNaturalist



speed allows them to hunt for other aquatic insects, worms, tadpoles and even small fish! Odonates can spend months to years in the nymph stage, molting multiple times until their final molt transforms them into newly emerged teneral. This is a critical time in the dragonfly life cycle, as the tenerals are weak and unable to fly well. After they wait to let their wings dry out, they are strong enough to finally fly. As adults, odonates eat mosquitoes and other insects, catching them in the air!

Although they have a pretty short adult life above water, they end up traveling quite a bit. Dragonflies in particular are strong fliers; many species migrate hundreds to thousands of miles, and some end up flying 90 miles a day! Some species even migrate to different continents, arriving from southern regions each spring to breed in the north. There is still much to learn about dragonfly mi-

gration in North America: there are questions about frequency and timing, flight routes and destinations, reproduction and emergence patterns, interactions between resident and migrating species, and how climate change will influence odonates. Three out of the five main migratory species of odonates in North America use feeding and mating sites in the Johnson Creek Watershed!

What can we learn from our survey results?

By monitoring the sites yearly, we can create a picture of the changes in composition and seasonality of local and migratory odonate populations. This can give us valuable information about changes in habitat quality as well as impacts of climate change. Over the past two years, our surveyors have added new species records for our site locations, as well as for Multnomah County. Monitoring odonate assemblages can help us determine whether restoration goals are being met. The first year of surveys at Centennial Pond were conducted in the spring and summer of 2017, where an in-line pond is going to be removed summer of 2018; our survey data will help us make comparisons about pre- and post- restoration habitat changes.

Our results can also help us observe and understand changes in the historic ranges of odonates. A few years ago, Portland was the northernmost record for the Flame Skimmer (*Libellula saturata*); the dragonfly species is now documented in Portland regularly, and documented in southern Washington in 2017, showing a possible northward range expansion for this species. Global climate change has been implicated in geographical range expansion of dragonflies in Germany and Japan. Collecting more data here will help the scientific community be able to monitor changes in odonate dispersal.

Other cool facts:

- Dragonflies weren't always so small. The ones we see today have wingspans of about two to five inches, but the fossils of ancestral dragonflies from 300 million years ago have been found to have wingspans of up to two feet! Imagine seeing those flying around Johnson Creek!
- Odonates' four wings can move independently, making flying efficient and precise, which allows them to be formidable hunters.
- Odonates develop pruinosity, a wax coating that makes them look dusty or frosted. You can see a similar coating on fruits like grapes and plums!
- We're very grateful to our funders: East Multnomah Soil & Water Conservation District and the Bureau of Environmental Services.

Want to get involved and learn more?

- If you encounter a dragonfly or damselfly, take a clear picture (or several!) and upload it to iNaturalist. Experts can help you identify the species, and you'll be contributing to improving our understanding of the distribution of odonates in the region!
- Keep an eye out for our updated Dragonfly Science page on our website (jwcw.org), which will soon have graphics and more details about the dragonfly survey results.

- Stay tuned for Dragonfly Surveys and other Community Science opportunities from JCWC!

20th Annual Watershed Wide Event

On Saturday, March 3rd, 2018 hundreds of volunteers will gather at ten sites spanning the watershed for Johnson Creek Watershed Council's 20th Annual Watershed Wide Event! Individuals, businesses, organizations and other nonprofits unite for an epic day of stream stewardship and community-building at ten priority restoration sites. At each site, volunteers will steward the watershed by removing invasive species, planting native trees and shrubs, and mulching young plantings.

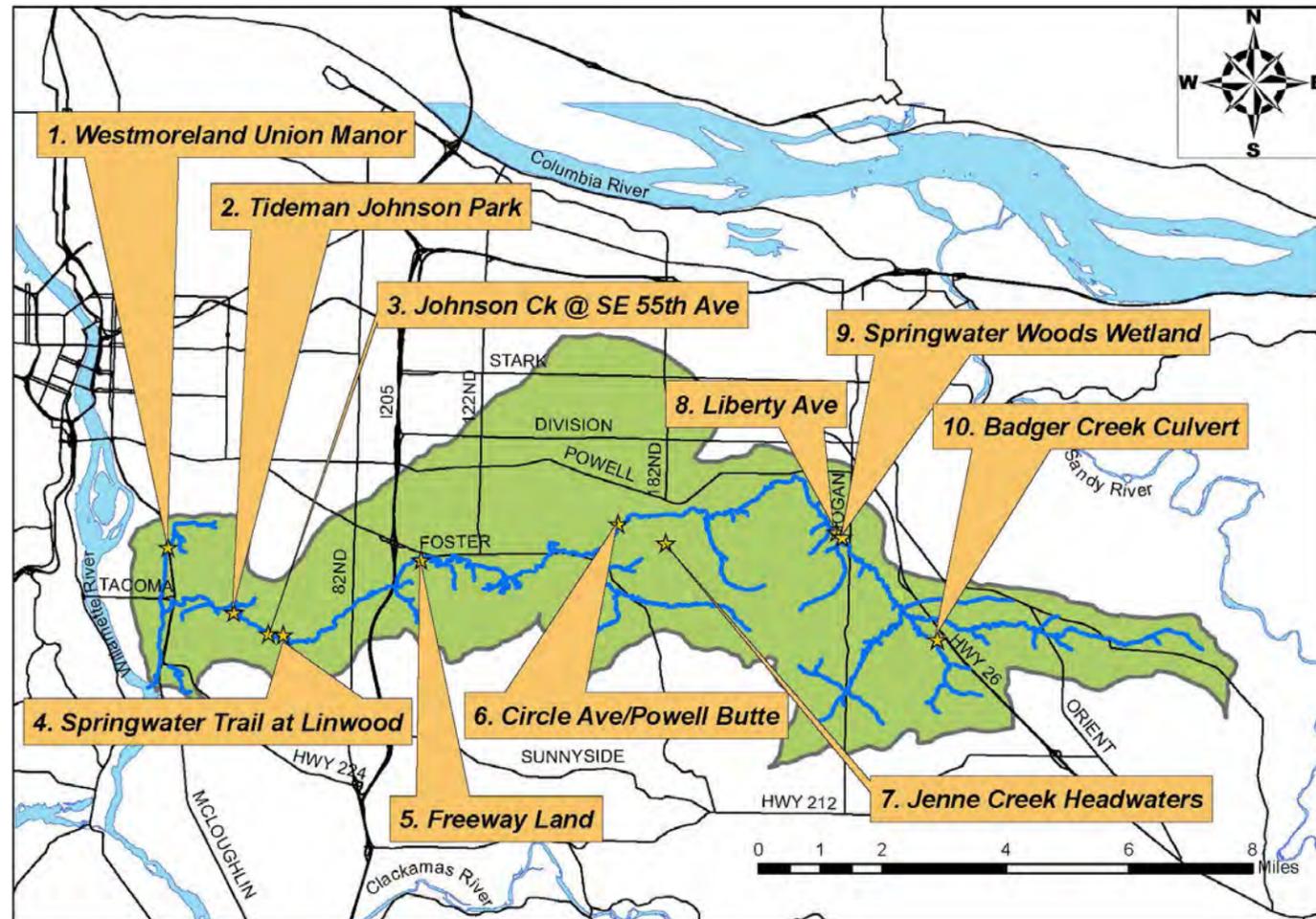
This is our 20th Annual Watershed Wide, so we're making it extra special: what's better than just restoration? DRESStoration! We're all dressing up in fun costumes! This year our goal is to have over 400 volunteers come out and volunteer, so bring out your friends and best group costumes.

Restoration work parties will take place from 8:45am-12pm, followed by a complimentary pizza party for all participants at 2 locations (where we'll be having costume contests!). To register for the event, please visit jcwc.org/20th-wwc.

Our partners this year include The Mintkeski Family Fund of the Oregon Community Foundation, Clackamas County's Water Environment Services, East Multnomah Soil and Water Conservation District, Portland Parks and Recreation, City of Gresham, Friends of Trees, Crystal Springs Partnership, Friends of Tideman Johnson, Friends of Powell Butte, Freeway Lands, Overland Park Coalition & Green Lents.



We're donning costumes to care for the creek for our 20th Annual Watershed Wide Event!



New Fall Interns in 2017 & 2018

Our interns make our work possible, doing many things including spreading the word about JCWC, supporting events, acquiring donations, and entering the data that makes the volunteer program run like a well-oiled machine. THANK YOU TO OUR INCREDIBLE INTERNS!

Dakota Hufford: An environmental science major at PSU, she hopes to pursue her MS in conservation ecology from OSU. Dakota powerfully supported our social media efforts from keeping all of our platforms engaging and current, running evidence-based campaigns for the Clean-Up, streamlining our strategies, propelling our communication efforts, and helped run and photograph many of our events!

Tessarae Mercer: An Environmental Studies and Dance major from the University of Washington, Tessarae took a very organized approach in supporting a planting event in December, MLK Day, made lots of beautiful flyers, and supported our equity outreach work.

Kenzie Harris: An energetic biology major from UCLA, Kenzie has supported our outreach efforts for many of our events including the volunteer appreciation dinner, Creek Crew and Parks Naturalist trainings, and Watershed Wide.

Kat Maloney: A thorough and super-involved Environmental Science major at PSU, Kat has taken on donations acquisitions and organization for many of our events, from the volunteer appreciation dinner, MLK Day, restoration plantings, and Watershed Wide.

Alexio Avila: A charismatic Environmental Studies major at PSU, Alexio has supported the social media platforms, from keeping all of our platforms current on all our upcoming events to finding new hashtags, tracking our progress and helping create a fun campaign for Watershed Wide, as well as photographing many of our events.



Interns Kenzie, Alexio, and Tessarae getting their Watershed Wide Event costumes ready.



Videographers Sam and David hard at work behind the camera.

We started a videography internship, to bolster our burgeoning YouTube channel! The videography interns work closely with volunteer mentor David Pickar, who found us through the Master Naturalist Program—he does all this when he's not shooting videos of exotic places with Lindblad/National Geographic Expeditions. What an exciting life!

William Floor: A film student at PSU with a minor in sustainability, Will loves shooting imagery of water, especially using his gopro. He hopes to become an environmental documentary filmmaker. Will is capturing time lapse and other cool film for our upcoming videos.

Sam Friedman: A self-taught videographer who majored in economics, Sam made time to take every film class offered at the University of Puget Sound. Sam is capturing personal interviews and other cool images for our upcoming videos.



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Upcoming Events

For details and to sign up for any of these events, contact us at info@jcwc.org or call 503-652-7477.

 **JCWC Board Meeting**
Tue, March 20th — *Open to the public!*
JCWC Office: 1900 SE Milport Rd, Milwaukie

 **Earth Day Restoration**
Sun, April 20th, 8:45 AM - 12 PM
Invasive Species Removal - we are removing yellow flag iris, ivy, holly, blackberry, and wisteria.
@ Wisteria Lane, Gresham

 **Mulching with Friends of Tideman Johnson**
Sat, May 5th, 8:45 AM - 12 PM
@ Tideman Johnson Park, Portland

 **Mulching with Friends of Trees**
Sat, May 12th, 8:45 AM - 12 PM
@ Powell Butte, Circle Ave, Portland

 **Annual Celebration**
Thu, May 24th
@ Kaul Auditorium, Reed College, PDX

 **Mulching with City of Gresham**
Sat, June 9th
@ Wisteria Lane, Gresham

 **JCWC Board Meeting**
Tue, June 15th — *Open to the public!*
JCWC Office: 1900 SE Milport Rd, Milwaukie

 **11th Annual Johnson Creek Clean-Up**
Pick up litter from the creek with us!
Sat, Aug 25th, 8:45 AM - 12 PM
@ Mill Park, Milwaukie

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



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Cathy Geiger
Operations & Finance Coordinator

Noah Jenkins
Riparian Program Manager

Daniel Newberry
Executive Director

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Restoration Project Manager