

Hello Team Oncorhynchus!

It seems we are alternating between Summer to near Winter conditions, and we are still waiting on that rain. I know many of my fish loving friends are less-than-patiently hoping the rain will come to help our salmon move up into the rivers, which is what makes Fall such an exciting time. Meanwhile, at the Fish Lab, we have plenty of fun stuff planned over the next month.

But first, let's talk about what we have been doing so far!

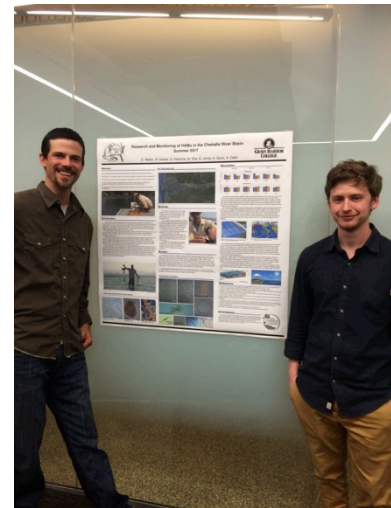


As you have heard, our **Fish Lab Summer Research Program** was a success, and our research assistants have had wonderful feedback about their poster presentations. I can't tell you how proud I am to see my little fry swim out on their own (okay, cheesy reference, but true).

Since the start of the academic year, our focus has shifted from research to start-up.

Our outdoor raceways have not been operational in years, and so a large focus has been on clearing out our pipes, ensuring there are no leaks, and building predator screens to keep our future trout safe. Our gratitude goes to the WDFW Lake Aberdeen Hatchery crew for mentoring us through this process!

We have also been blessed with the donation of new tools to monitor our system and create more accessible under-water viewing for all ages. The **Grays Harbor College Foundation** has been generous enough to give our monitoring toolkit an enormous boost, and our senior volunteers have been developing protocols and practicing with this hands on gear to better facilitate use by new volunteers. Enormous thanks goes to the Grays Harbor College Foundation! If you are interested in contributing to the Foundation's Fish Lab and Watershed Fund, please contact Lisa Smith at lisa.smith@ghc.edu.



New Discoveries!

As we began to work with this new gear, and practice our aquatic species monitoring skills, we have stumbled onto several species that were hiding in plain sight! With a simple under water viewer, that looks like a giant orange cone with a piece of glass at the bottom, we have discovered the presence of two different size ranges of sculpin in Lake Swano and Alder Creek.



The Lake Swano sculpin are approximately two inches in length, and have been positively identified as the prickly sculpin. More information on these fish can be found here:

<https://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=501>

This particular species of sculpin is a long established species in Western WA, although it was introduced from California. They prey on salmon fry and eggs, although the true impact is not entirely clear.

We have not yet positively identified the sculpin in the stream, but we are researching potential species identification tricks for our

November monitoring.

Also, as previously noted, we have stickleback! This summer our research team was able to visually identify two different morphologies of stickleback in our stream. Again, our giant orange cone viewers (technical term) have allowed us to determine that one of our stickleback morphologies is also present in Lake Swano.



After reaching out to experts all over the country, we are aware that the differences between our stickleback populations could either be a difference between gender, or freshwater vs anadromous. Although we have gotten up close and personal with several positively-ID'd freshwater stickleback comingling with last year's coho fry at the Swano end of Alder Creek, we hope to be able to positively ID the other morphology during our more extensive netting and analysis next month.

For more information about the three-spined stickleback, check out this link:



<http://www.arkive.org/three-spined-stickleback/gasterosteus-aculeatus-aculeatus/>

My personal favorite fact about these fish is that they are related to seahorses:

<https://iucn-seahorse.org/>

In fact, the male stickleback cares for the young. He will actually herd the young stickleback close to his nest to ensure they are safe during rearing. Pretty cool!



Stream Diversity and Conservation!

Two different stickleback morphologies, coho, chum, crayfish, lampreys, and sculpin! Each of these are now visible in our creek if you have a little time and patience. Such diversity seemed unlikely when we first started the Fish Lab, and this abundance is made possible in part by the conservation efforts of our ENTIRE community. With

that, we would like to thank everybody who contributed to the Alder Creek Clean-Up hosted by the City of Aberdeen.

Between the Fish Lab, City of Aberdeen, Clean Streams and Memes, and Grays Harbor Stream Team we had around 30 volunteers working together to remove debris from Alder Creek and its riparian zone. In fact, we removed nearly 1,600 pounds of garbage! With volunteers from Ocean Shores all the way to Elma, you would be surprised how much fun we can have picking up trash. Thank you, again, to all of our volunteers!



Finally, I would like to thank our Fish Labbers who have gained experience through our Natural Resources programs for leading an impromptu invasive blackberry removal this past weekend. One thing led to another, and our fish ladder is officially cleared and ready for any Fall returns that may arrive. It is always wonderful when our Natural Resources team joins us and shares their expertise. I have learned so much from this group! Did you know we have a new Bachelors program in Forestry



Resource Management? If you are interested in learning more, check out these links:

<http://www.graysharbartalk.com/2017/10/09/grays-harbor-college-bachelor-of-applied-science-forestry-resource-management/>

<https://www.ghc.edu/content/bachelor-applied-science-forest-resources-management>

Fall is the most exciting season to be a part of our local fisheries! If you are interested in joining us, all you need to do is drop by. If you aren't affiliated with the college, I have forms for that. If you are under 16, just bring a parent or guardian. A common question I have heard recently is which opportunities are open to the public, and my answer

is: all of them! We have created pathways for all, regardless of any previous experience... So come check us out!

As a reminder, here are some of our upcoming events:

Saturday, October 21 – The trout are coming! We have been running our outdoor raceway and updating the predator screen system, with thanks to WDFW Lake Aberdeen Hatchery (Ken Isaksson, Keith Burns, Eric Roos) and our fabulous Fish Lab research assistants (Maddie Thompson, Lauren Thompson). On Oct 21st, we will receive a transfer of 1,000 trout, who will be joining us until May when they go out for the kids fishing derbies. This event is ALL ages.



Saturday, November 4th – This is our tentative date for the field fish identification training with WDFW Fish Biologist Curt Holt. We will meet at the Fish Lab at 8am to take care of our fish, then carpool to Schafer Park for this valuable training experience. This event is highly suggested for our Natural Resources and Biology majors, and is open to anybody who may be interested. Please use your discretion when bringing children under the age of 16 as this training will be a more professional experience.

November (generally)– The Fish Lab’s latest project addition is to take on more extensive monitoring of Alder and Fry Creeks. November will be busy with our quarterly aquatic species, amphibian, riparian species, water quality, and microbial analysis. We have selected seven sites for this full-scale analysis, and we will be working through them throughout November. Everybody is welcome to participate. No experience? No worries! We have been working on developing our protocols with our core team of volunteers, so there will be a Fish Labber to help you get your feet wet, so to speak.



November 27th – This is the tentative start date for our AmeriCorp VISTA, who will be a valuable member of our Fish Lab Team for the next year. Brent Mitchel has years of experience with community programs focusing on salmon/fisheries education up in Alaska. He will moving down to the Harbor along with his wonderful wife Shauna, and beloved dog Kydra. Brent will be helping us develop standard operating procedures, increasing our K12 and community

outreach, and writing for funds so we can expand upon our current program. A more extensive introduction will be included in our next newsletter, but in the meantime please ready your warmest welcome to Brent and his family!

Aside from these opportunities, we will meet during our regularly scheduled hours, Monday and Wednesday at 3pm, Saturday beginning at 8am. Additional focus for the next month is to ready our system for the coho and chum eggs arriving at the end of the quarter, including monitoring our water quality and regularly maintaining our system. We would like to extend our gratitude to the Grays Harbor College Foundation for providing us with new educational tools that will make these projects not only possible, but also more accessible to a wider audience.

Happy Fall!



