

Greetings Friends of Fisheries!

June is a bittersweet time for faculty at Grays Harbor College. While we are full of cheers and happy tears for our students who are moving forward, it is also so sad to say goodbye to the people who have largely shaped our time. This week I attended the pinning ceremony where my first ever batch of GHC students became nurses, including one of my original Fish Lab volunteers! I have already said goodbye to Sam, Fish Labber and Bio Lab work-study, who starts this week in UW's Medical Lab Science program. The year is coming to a close, and this Friday we will watch our graduates walk across the stage and into their future.

Within the Fish Lab, as well, we are closing out the year. Our coho program was released, and the mural was completed. We have met our goals for the year. More than 160 volunteers have contributed over 2,250 volunteer-hours. 83% of those hours were completed by repeat-volunteers, and the average number of hours per volunteer was 18. As I enter the year's data, I am finding our program has more than doubled in both participation and opportunities.

With every ending, there is also a new beginning. We have held orientation for our fresh batch of participants in the Fish Lab Summer Research Program, and have brought on our work-studies to help plan and prepare for new activities next year. We are also working with WA DFW to develop next year's fish programs to create as many learning opportunities as we can for the 2017/2018 volunteers. This summer we will spend our time working behind the scenes to ensure we are able to continue providing learning opportunities for our students and the community.

Thank you for collaborating with me as we continue to construct our understanding of the Grays Harbor ecosystem.

A story in pictures... In no particular order, here is what we have been up to since the last newsletter.



There is something terrifying about a blank canvas, but Erik, Dylan, and Ivy go where no artist has gone before.



Fish release day may look chaotic, but we had three teams working together to scoop, count, carry, and release.



Preparing for the big release! Lauren Thompson, Maddie Thompson, Liz Prior, Yulisa Morelia, Aundrea Rodriguez, Amanda Pontius, Ryan Hendricks



Erik Sandgren trained all our Fish Labbers on how to spray the paint for a textured surface, in windy conditions.



Alex Islas shows off his first school of fish for the Fish Lab Mural.



Ryan Hendricks and Evelyn Kalema get started on their piece for the Fish Lab Mural.



Joan Julius supervised the volunteers on the hunt for amphibian eggs.



Joe Kalisch trying something creative while we worked on the Fish Lab Mural.



Amanda Pontius, Yulisa Morelia, Lauren Thompson, and Maddie Thompson began the backyard mural on the John Smith Aquaculture Building.



Trying our luck looking for egg masses alongside the road, Tim Plagge had the farthest reach.



Introducing the 2017/2018 Fish Lab Leads. Lauren and Maddie Thompson will be working on developing new projects this summer, along with taking over the Stream Microbiome Project.



We didn't find amphibians this day, but we found a lot of interesting life in the drainage ditch. Yulisa Morelia and Pedro Zepeda.



The Fish Lab mural is complete! Thanks to Erik Sandgren for leading the charge, and to the Grays Harbor College Foundation for funding this #sciart project!



Nearing the finish line on the mural! It was amazing to see Erik Sandgren in action. He let us have our hands on the project, but was able to coax it into a cohesive piece despite the 20+ hands on deck.



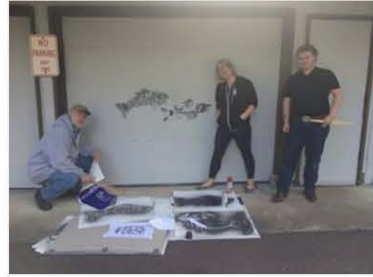
Amphibian egg mass hunting along the model watershed. Yulisa Morelia, the Roush family, Janna Berentsen, and the rest of the team.



Aundrea Rodriguez tries out a water stencil for the Fish Lab mural.



The Fish Labbers listened intently as Erik Sandgren and his art students demonstrated how to work with stencils. The stencils were designed over the past year by students in his classes.



Erik, Ivy, and Dylan after spraying the first fish on the building.



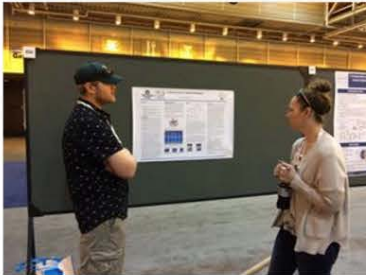
Team Fish Lab on day one of ASM Microbe 2017, ready for the microbiology marathon to come.



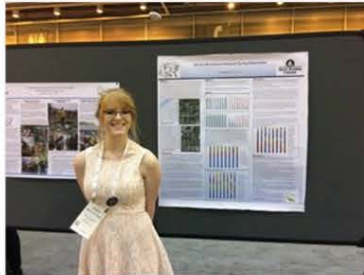
Because sometimes an invasive removal isn't enough for one day. The Thompson twins were given a run down on how to change the oil on their car before heading home for the day.



English Ivy Removal! Lauren and Maddie Thompson, Amanda Pontius, Christie Barchenger, Todd Bates and family, Alice from CRBLT, Aundrea Rodriguez, Zach Deditius, Alex Islas, and Joe



Joe and Mary prepping for the scientific poster session at ASM Microbe 2017.



Sam presented her research at the UW Undergraduate Research Symposium AND at ASM Microbe 2017 (shown here).



Sam and Mary will never forget microbiologist Dr. Martin, who matches and possibly exceeds Mary's love for tardigrades.



Taylor Miller and Aundrea Rodriguez figure out the Up-Rooters.



Fish Labbers who ROCK! Maria Holden, Seth Ronk, Lynne Scamman, Paige Peirog, Samantha Richardson, and Nick Neeley were all awarded at the Chokers Who Rock ceremony at GHC.



Looking exhausted, we represented GHC and the Fish Lab at ASM Microbe 2017: Joe Kalisch, Samantha Richardson, Amanda Gunn, Mary Ellis



Checking out the turtles on a Wednesday nature walk: Joe Kalisch, Pedro Zepeda, and Joan Julius.



Scotch broom removal with Grays Harbor Stream Team: Aundrea Rodriguez, the Roush Family, Taylor Miller, Davis Disol, Joe Kalisch, Zach Deditius, Alysia Day, Alex Islas, Ted Elson, Lauren



Grays Harbor Stream Team volunteers in action removing invasives at the Historical Seaport.



Taylor Miller and Alysia Day check out the fish before release.



Amanda Pontius, Maddie Thompson, and Lauren Thompson corral the coho fry prior to release.



Lauren Thompson finds her happy place on the trails.



Lauren, Maddie, and Yulisa learn that Scotch broom removal is some seriously hard work!



Joe meets his avatar at ASM Microbe.



Dr. Colleen Cavanaugh, microbiologist and oceanographer from Harvard University is every bit as wonderful as I had hoped. Check out her lab! <https://cavanaughlab.oeb.harvard.edu/>



Mary got to meet Ed Yong at ASM Microbe! His book, *I Contain Multitudes*, is a must read that is accessible to early micro enthusiasts and informative for experts. Something for everybody.



Mary and her mom made a GORGEOUS *E. coli* cake for Sam's going away party.



Good luck at UW Sam!



Janna Berentsen found our first Northwestern Salamander egg mass on the Lake Swano Model Watershed.



Another Northwest Salamander egg mass, and there were several salamanders in the area as well!



Mary Ellis and her family after the scholarship ceremony. Congratulations Mary!



You know you have met Dr. Mark Martin from University of Puget Sound when you walk away with awesome microbial gear.



Christie Barchenger and Aundrea Rodríguez saving one tree at a time from invasive English Ivy.



Amanda Pontius and Lauren Thompson freeing some older growth from newer invasives.



When the sun shines, it shines hard. Yulisa Morelia and the Thompson sisters working on our trail system.



We really do have the cutest fish around.



Pedro Zepeda models this year's coho program.



Used to be the Così Pits, now it's home to a variety of aquatic amphibian species. There's always something new to experience on the Lake Swano Model Watershed.



Long toed salamander egg mass, the first identified on our watershed by Maddie Thompson.



Janna Berentsen, Brian Kramer, and Davis Disol watch as Pedro Zepeda gets ready to release his coho.



Debris removal can be fun, depending on who you are working with... Or if you see butterflies. Fish Labbers cleaning up the watershed near the access road.



Smiling for the camera during the coho release!



Rose Pendergast and Bill Brown getting ready for their coho release



Maria Holden and Ziya Arrand, looking for snails and releasing some fish.



Families and friends take to the trails on coho release day.



Rose served as one of our fish counters during the coho release event.



The Ellis Family heads to their release site.



Tom Kuester: Staring down and to the left. A throwback shot.



Dr. Minkier heading to his coho release location.



Julie Nelson kept counts on trough 2 while Maria and Ziya waited to collect their fish.



April and Daniel waiting for their coho.



Our favorite future slug scientist climbing out of the release site.



Learning about our team and giving fish release instructions on fish release day.



Tom Kuester ran site 2 like a boss during fish release.



Abe Minkler heads out to the trails with his coho.



Walking to the release sites is easier when your dad is Brian Kramer.



Most adorable smile of the day!



Our coho had their game faces on. Ready to make their new homes.



Maddie Thompson helps Adrienne Roush collect her fish for release.



Lauren Thompson: DO NOT MOVE! Surrounded by fish after releasing a large batch.



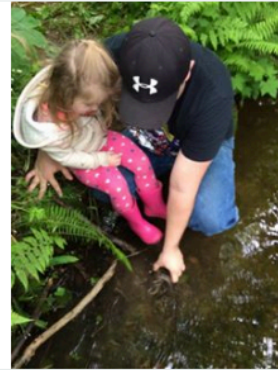
One last look at the fry in their troughs before the big event.



Dr. Minkler releasing his coho.



Amanda Pontius helps her nephew with his fish release.



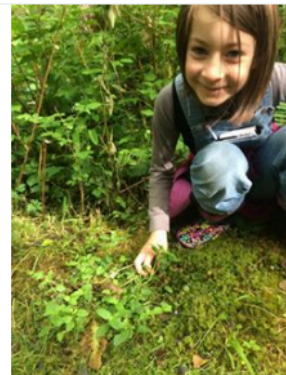
Brian Kramer and his daughter, our official Fish Lab Princess.



Making a salad as we walked through the trail system. Ted advises the Fish Labbers not to graze too close to the trail, and to avoid the "white huckleberries".



Spit bugs! Also known as froghoppers, I was introduced to these slime dwelling creatures by Ziya.



I had to look it up, but a scientist who studies slugs is called a malacologist. Slug lovers watch out, because this young lady will be a leader in the malacology field some day.



Ted Elson brought a couple large leaf maple to plant on the trail system as part of his edible plants tour.



Even in our aquaculture yard, there is plenty to eat! Dand



Ted kicks off the edible plants tour just steps from the Fish Lab with blackberry and salal.



The entire coho release team! Taylor Miller, Amanda Pontius, Mary Ellis, Tyler Ellis, Cory Ellis, Erin Dilley-Linton, Evynn Linton, Jace Rosander, Lauren Thompson, Maddie Thompson, Tom Kuester, Zach Deditius, Brian Kramer, Madeline Kramer, Alex Islas, Joe Kalisch, Alysia Day, April Bacongco, Abby Bacongco, Daniel Bacongco, Rose Pendergast, Bill Brown, Mike Schroeder, Patrick Schroeder, Yulisa Morelia, Julie Nelson, Jim Minkler, Tim Plagge, Anita Plagge, Abe Minkler, Davis Disol, Maria Holden, Ziya Arrand, Liz Prior, Jeffrey Bryant, Leah Millie and Evie, Ryan Hendricks, Clara Roush, Helen Roush, Adrienne Roush, Russ Roush

I would also like to honor several of our graduating nursing class, who have served the Fish Lab since the beginning. These hard working students have been with us since the conceptual stage of the program, and who are every bit as responsible for

its success as anybody else. I am so very proud of them for all of their hard work and dedication. Lacey Dahlstrom, Nicole Franks, and Nick Neeley: the Harbor community will be lucky to have your service, congratulations to you and ALL our graduating Nurses!



... And without further ado, we could not possibly operate without our outstanding volunteers, participants, collaborators, and supporters.

Here's to our volunteers! If your name is missing, or if I butchered the spelling, please forgive me. We'll be using a write-in-the-rain to avoid water damage on our notebook next year. Thank you for all your hard work and enthusiasm. Your participation drives our progress, activities, and opportunities. Without you, we would not have a Fish Lab.

Abby Bacongco
Abe Minkler
Abigail Giacomia
Adrienne Roush
Aileen Gardner
Alan Richrod
Albert Giacomia
Alex Seta
Alexander Islas
Alison Criswell
Alysia Day
Amanda Gunn
Amanda Pontius
Amanda Rodriguez
Analiese Flores
Andrew Cook
Anita Plagge
Anna Gunn
Anthony Odell
April Bacongco
Arthur Grunbaum
Aundrea Rodriguez
Bill Brown

Dylan Frank
Dylan Weber
Echo Hahn
Erik Larson
Erik Sandgren
Erin Dilley-Linton
Evelyne Kalema
Evynn Linton
Faith Matthews
Gene Arnold
Hannah Matthews
Helen Roush
Isiah Barnett
Ivy Moyer
Jace Rosander
Jake Gunn
Jane Spencer
Janet Parker
Janna Berentsen
Jeanette Plummer
Jeffery Bryant
Jennilyn Franklin
Jill Bushnell

Mary Ellis
Matthew Rackley
McKaela Bartram
Megan Gonzalez
Mika Gunn
Mike Schroeder
Mike Spencer
Oliver Criswell
Olivia Nicholson
Patricia Bates
Patrick Schroeder
Pedro Zepeda
Per Dillingham
Rachel Bigby
Raina Day
Randy Karnath
Robert Ford
Robin Anderson
Rose Pendergast
Russ Roush
Ryan Eide
Ryan Hendricks
Ryan Matthews

Brady Dier	Jim Minkler	Sam Richardson
Brandon Johnson	Joan Julius	Scot Purefoy
Brian Kramer	Joe Kalisch	Steven Dobrozsi
Brianna	Joey Mohr	Tammy Domike
Brittain Daniels	Joshua Francy	Taylor Miller
Brittany Church	Juliann Charaska	Ted Elson
Brittany Winn	Julie Nelson	Theresa Julius
Casandra Parra	Karian Penttila	Tim Plagge
Chance Stewart	Kasia Tugaga	Todd Bates
Cheyenne Doolittle	Katrina Estrada	Tom Kuester
Christie Barchenger	Keith Penner	Travis Torset
Cindy Ortega	Kim Smith	Tyler Davis
Clara Roush	Kris Koski	Tyler Ellis
Cody Caruthers	Lauren Thompson	Tyler Marchese
Colleen Purefoy	Linda Orgel	Veronica Mymself
Collin Stone	Liz Prior	Whitney Lee
Corey Ellis	Mac Bigby	Will Sandor
Craig Zora	Maddie Thompson	Yulisa Morelia
Daniel Bacongco	Madeline Kramer	Zach Deditius
Davis Disol	Makayla Bosarge	Zach Miller
Domenic Curulla	Maria Deditius	Ziya Arrand
	Maria Holden	

Enormous thanks goes to the GHC Team at Large, and in particular:

Jim Minkler, Laurie Clary, Nicholas Lutes, Darin Jones, Keith Penner, Andrew Glass, Kristy Anderson, Jason Hosene, Judy Bennett, Jackie Blumberg, Barb Dyer, Penny James, Kathee Katainen, Matt Crollard, Lance James, Randy Karnath, Christ Macht, Rick McGuire, Travis Obias, Janet Parker, Dave Smith, Jeannette Green, Julie Skokan, Chance Stewart, Amy McMillan, Maureen Espedal, Lisa Krause, Lisa Espedal, Carmen Hammonds, Michael Auckland, Kathy Kaires, Jane Goldberg, Rich Wenke, Jeff Koskela, Lynne Lerych, Darby Cavin, Chris Portman, Diane Muir, Russ Jones, Tim Plagge, Todd Bates, and all the other wonderful people who have supported us throughout the year.

My gratitude also goes to our collaborators and funders:

Stream Teams:

Aberdeen	Rick Sandger Kyle Scott Kris Koski
Clean Streams and Memes	Joshua Francy
Grays Harbor Stream Team	Joe Kalisch Christie Barchenger
Thurston County Stream Team	Michelle Stevie

Fisheries:

Lake Aberdeen Hatchery	Ken Isaksson Keith Burns Eric Roos
Satsop Springs Fish Rearing	Steve Franks
WA DFW (in general)	Randy Aho Curt Holt Josh Nicholas Mark Hayes
Chehalis Basin Fisheries Task Force	Lonnie Crumley Terry Nielson Membership

Community:

The Historical Seaport	Christie Barchenger
Chehalis Basin Partnership	Kirsten Harma
Sustainable Salmon Partnership	Rich Osborne Jess Helsley
The Poggie Club	Membership
Wild Fish Conservancy	Jamie Glasgow

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Grays Harbor Marine Resource Committee	Lorena Maurer Kristina Hollaz Committee Members
Grays Harbor College Foundation	Lisa Smith Jan Jorgenson JEB Thornton PJ Daugherty Community Donors

Looking to the future, here are our 2017 Fish Lab Summer Research Program participants:

Project:	Mentor	Research Assistants
Spruce Tree Analysis	Todd Bates	JoAnna Daniels Mary Valentine Colleen Purefoy
Phytoplankton Analysis	Anthony Odell	Mary Ellis Dylan Weber Volunteers
Chehalis History	Lorena Maurer	Bryn Cavin
Environmental Education	Christie Barchenger	Paige Peirog
Salmon Genetics Stream Microbiome	Amanda Gunn	Malia Marks Seth Ronk Lauren Thompson Maddie Thompson
Stream Characterization	Jamie Glasgow	Alex Islas

See you next year!

