

Hey Everybody,

We are having a beautiful Spring, and everywhere you look there is evidence of the warm weather and new life.

Here at the GHC Fish Lab, we are hard at work as usual. This quarter we are seeing a record number of volunteers, which has empowered us to take on several new projects. **Here are some of the things we have been up to lately:**

- 1.) Recent Volunteer Field Trip to Satsop Springs**
- 2.) Another Lamprey!**
- 3.) Participation in the Aberdeen Stream Team Clean Up of Alder Creek**
- 4.) Movie Day – TRiO Screening of Wild Reverence with Discussion**
- 5.) Trail Maintenance – Re-gravelling the trail**
- 6.) A Guided Tour of the Lake Swano Watershed**



Recent Volunteer Field Trip To Satsop Springs. As the local fisheries facilities prepared for Spring fishing, the Fish Lab volunteers were eager to jump in and help. On March 26th, Steve Franks of the Satsop Springs facility hosted our volunteers for a working field trip where students learned how to move fish.



Working alongside volunteers from the Chehalis Basin Fisheries Task Force, Department of Fish and Wildlife, and the Poggie Club, the Fish Lab team helped net and carry trout to the trucks that would carry them out to be planted. Thank you to Steve Franks, along with all of the seasoned volunteers who helped train our Fish Lab crew. We always learn a lot during our visits to Satsop Springs!



Another Lamprey! We had another surprise visit from a lamprey in our coho troughs, and the volunteers had the opportunity to view a slightly more mature version before we released it into the wild.



Although the water was too high for us to see what happened after we released our last batch of lampreys, this time we had the opportunity to view what happened. Following release, it immediately burrowed into the sediment at the bottom of the creek for protection. After waiting a few moments, it began swimming around and eating off the gravel similarly to what you would expect from the pleicostomus in our cichlid tank. As we watched our latest find feeding, one of our younger volunteers noticed that there was another doing the same thing.

We have continued to check back for signs that they have stayed in the area, but have not seen any evidence that they are still on site in several weeks. It is still

possible they have made a home by burrowing deep into the sediment, though, which is why it is very important that environmental enthusiasts not walk through creek beds at this time of year. You don't want to squish the many organisms hiding just below the surface of the soil.



Alder Creek Clean Up – Hosted by the Aberdeen Stream Team and Aberdeen PUD. On April 23rd, the GHC Fish Lab, Aberdeen Stream Team, GHC Forestry Club, and the community at large came together to clean up the banks of Alder Creek.

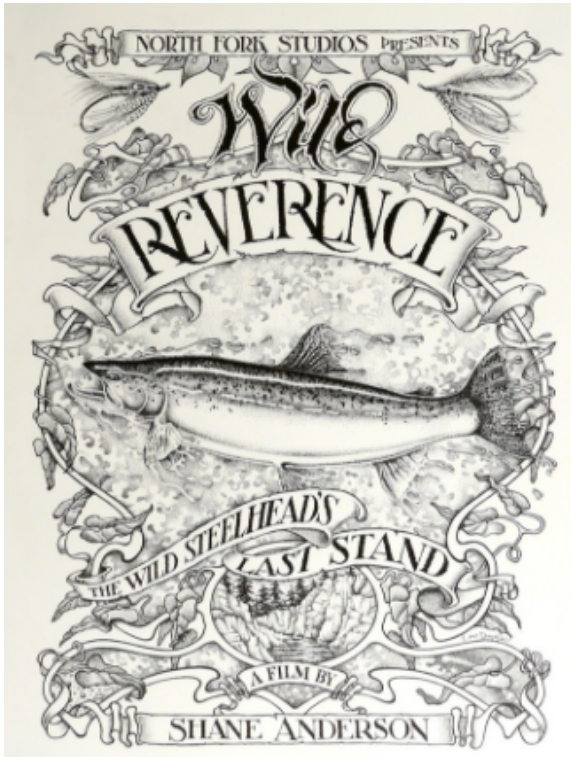
With GHC Forestry taking a group upstream, and the remaining volunteers beginning at the mouth of the creek, we worked toward the center and managed to remove several truck-loads of garbage along the way. An enormous thank you goes out to Kyle Scott of Aberdeen PUD, Joshua Francy of CleanStreamsAndMememes, Todd Bates of GHC Forestry, and all the amazing community volunteers who helped make this happen!

... And of course, we had a lot of fun and made new friends while we were at it. It was during this Fish Lab and Forestry cross-over that I met Brady Dier, a current Forestry student under the tutelage of



Todd Bates. He dropped such incredible knowledge during the clean-up that I invited him to take the Fish Lab crew out and teach us about the plants we might encounter on the Lake Swano trail. See below for the notes taken during our guided tour of our Lake Swano model watershed.

Movie Day at TRiO – Screening Wild Reverence. To change things up a little, we spent one of our Wednesday volunteer days attending a screening of a locally made film, Wild Reverence. Although we encountered technological difficulties, the event was well worth our time as it dissolved into a discussion of the intersection between economic and ecological burdens.



Thank you to Ken Isaakson of DFW for attending and being on hand to answer questions as students, faculty, and community members discussed how we can work toward addressing the four H's while maintaining our culture and economy. Jenny Causey, a Fish Lab volunteer, said it best when she exclaimed that this seems like an impossible problem to solve. The four H's that put our wild steelhead at risk are:

1. Habitat Destruction – Including logging and development
2. Hydroelectric Power – Including dams
3. Harvest – Such as overfishing
4. Hatcheries – Which may alter genetic diversity

As we discussed each issue, we were able to identify both sides of the argument and assess the major challenges in each area. While our small think tank was unable to come up with a whole-sale solution, I think we all learned a lot about the complexities of managing fisheries and wild stocks.

Thank you to Julie Skokan and all of TRiO for hosting our discussions and providing snacks, along with Darby Cavin for providing the movie. You all gave us a fabulous opportunity to think more critically about our ecosystem.

Trail Maintenance – Re-graveling the Lake Swano Trail.

As the weather provides us with more opportunities for outdoor activities, our trail system has become a more popular host for community members getting a little fresh air and exercise. To continue our efforts to help maintain the trail system, Fish Lab volunteers have been working to help Janet Parker and the grounds crew add gravel to the trail.



One wheelbarrow at a time, volunteers led by Math Instructor Extraordinaire, Tom Kuester, have already made a huge dent hauling, spreading, and tamping the gravel onto the trail.

With a total of twelve volunteers working last weekend, we managed to put out nearly half the gravel. These efforts will continue over the next several weeks, so if your idea of exercise includes working outside please join us Saturdays at 8am to help keep our trail system great! Special thanks goes to Janet Parker for organizing all the materials for us, and to her amazing Work Study crew who

have been working on those trails every week. As regular users of the Lake Swano trail systems, the Fish Lab volunteers have taken notice of all the hard work put in by the grounds crew.

A Guided Tour of the Lake Swano Watershed. Last, but certainly not least, I would like to share the notes taken by one of our Fish Lab volunteers during Brady's tour of the trails. Natalie Peterson, pre-nursing student, was the only one of us with the foresight to bring a notebook for the tour, and every one of us



wishes we had something to write down what Brady was saying. If this was an example of what Forestry students learn every day, then I can personally attest to the hard work they put into learning their craft. Our volunteers enjoyed Brady's presentation so much, we have invited him back for the Fall so he can continue to teach us about the plants of the pacific northwest.

Thank you so much to our wise guide and our prepared student for providing the following notes. Please note that the pictures from various internet-sources, were included by Natalie for educational purposes, and are not her own.



Plants and Trees Located around Swano Lake By Natalie Peterson

1. Lady Fern (***Athyrium filix-femina***): Lady Fern is a native perennial upright fern that can reach 2-5 feet in height. The leaves are a bright green, with a fine-textured lacy appearance. Ferns have a vascular system and seem to grow in clumps.



2. Sword Fern (***Polystichum munitum***): The western Sword Fern, is an evergreen fern native to western North America, where it is one of the most abundant ferns. The ferns individual pins point up, spores on the bottom of leaf and are red orange in color.



3. Scouler's Corydalis (***Corydalis scouleri***): This is a perennial Northwest groundcover that is hairless. It has fairy slipper flowers and Leaves are arranged in an alternate fashion, with 3 leaflets. Leaflets grow upright and spread out.



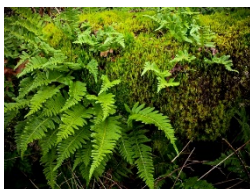
4. Cleavers (***Galium aparine***): Cleavers are annual plants with creeping straggling stems that branch and grow along the ground and over other plants. They attach themselves with the small hooked hairs which grow out of the stems and leaves.



5. Horsetail (**genus *Equisetum***): Horsetails grow in moist, rich soils. They can be found along stream banks and in meadows. Horsetails reproduce by spores.



6. Licorice Fern (***Polypodium glycyrrhiza***): The leaves of Licorice Ferns often times curl and dry up in summer when the mosses located at their bases become dormant. This plant likes to live in trees.



7. Skunk Cabbage (***Symplocarpus foetidus***): Skunk cabbages begin to make its appearance in the early winter, when most plants still are waiting for spring. This plant has a very distinct sharp smell.



8. Cascara (***Rhamnus purshiana***): The Cascara has nondescript, greenish flowers, clustered near the ends of the branches. The bark is used for laxatives. The bark is thin, dark greyish-brown and smooth when it's young. The bark becomes scaly with age.



9. Small Flowered Wood Rush (***Luzula parviflora***): Small flowered Wood Rush have a leaf blade that is flat or rolls in at the edges. They are common plants in wetlands.



10. Deer Fern (***Blechnum spicant***): Deer Ferns have dark green, shiny, leathery fronds and purple-black stems. Vegetative ferns lay along the ground. The reproductive ferns point straight up. They do not care for direct sun light. Deer ferns like the damp moist climate.



11. Goatsbeard (***Aruncus dioicus***): This plant generally grows in moist woods, meadows, and along streams. Goatsbeard has feathery clusters of tiny cream colored flowers.



12. Trailing Blackberry (***Rubus ursinus***): Trailing Blackberries have compound leaves with 3 leaflets. The leaves are alternate and deciduous. The berries are often used for baking. The berry seeds are small.



13. Sitka Spruce (***Picea sitchensis***): The leaves are sharp-pointed and needle like. The upper branches are ascending, and the lower branches are drooping and heavier. The Sitka Spruce has smooth bark. You can use the tips for teas and syrups. The tree tips are high in vitamin C.



14. Bracken Fern (***Pteridium aquilinum***): Bracken Ferns are one of the more successful ferns. It has an overall deltoid shape. They love soils with high levels of acidity.



15. Artist's Conk (***Ganoderma applanatum***): Artists use these mushrooms for etched designs when fresh and for landscape and other painting when dried. These are very easy to find on mature or dead hardwood.



16. Creeping Buttercup (***Ranunculus repens***): Creeping Buttercups are the common buttercup found in grassland, damp places, along woodland and field edges. The rooting runners help it to spread across the ground.



17. Reed Canary Grass (***Phalaris arundinacea***): Reproduces vegetatively through horizontal stems growing below the soil surface, called rhizomes. This grass will over grow an area. Reed Canary Grass was brought over for cattle to feed on.



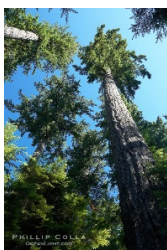
18. Red Alder (***Alnus rubra***): Red Alder is the largest of all the alders and the most abundant. Red Alder trees are nitrogen fixing.



19. Red Cedar (***Thuja plicata***): It has red-brown or gray-brown bark with thick longitudinal cracks that are easily peeled. Red cedar is of major cultural importance to Native American tribes living in the Pacific Northwest.



20. Western Hemlock (***Tsuga heterophylla***): The leader, or growing top, of the trees, always droops over. Western hemlock grows well in shade, and seedlings often grow on rotting logs on the forest floor.



21. Indian Plums (***Oemleria cerasiformis***): Indian Plums are a deciduous shrub or tree. It grows in areas with full sun and ample water, and is often found growing near stream banks. It is the first to flower and the first to fruit. The plant smells like a cucumber.



22. Red Elderberry (***Sambucus racemosa***): In spring and summer, the shrubs are covered in white or pink flowers. It produces poisonous red berries that should not be consumed by humans. Red Elderberries contain moderate amounts of cyanide.



23. Red Huckleberry (***Vaccinium parvifolium***): Huckleberries love organic soil and is most often found growing on tree stumps and dead logs. The leaves of the huckleberry have smooth, rounded edges. It also has bright red and slightly tart berries.



24. Sedges (***Cyperaceae***): Sedges are perennial plants that resemble grasses and grow in shallow water or moist soils. Stems of sedges are usually triangular.



25. Salal (***Gaultheria shallon***): Salal is extremely adaptable. It thrives in sun, shade, and dry or moist soils. It has dark green, lustrous leaves.



26. False Lily of the Valley (***Convallaria majalis***): False Lily of the Valley is an herbaceous perennial plant that forms extensive colonies by spreading underground stems called rhizomes. Flowering is in late spring.



27. Siberian Miners Lettuce (***Claytonia sibirica***): It has dainty white to pink flowers on multiple stems. Siberian Miners Lettuce likes moist shaded places. It is an annual edible plant.



28. Coltsfoot (***Petasites frigidus palmatus***): A salt-substitute can be made by drying and then burning the leaves. The underside of the leaves is covered with matted, woolly fuzz. It grows in moist shaded ground. Palmate Coltsfoot also has wide palm shaped leaves.



29. Thimbleberry (***Rubus parviflorus***): The leaf is fuzzy and five-lobed. The berries are tart and may be eaten raw or cooked. The flower of the plant is white and it produces very soft berries.



30. Devils Club/ American Ginseng (***Oplopanax horridus***): This plant is protected with spines, prickles, and stinging hairs. Devils Club has red berries and the stem is made of super strong wood.



31. Stink Currants (***Ribes bracteosum***): Stink Currants are deciduous shrubs without thorns. It is found in wet to boggy woodlands. Stink Currant leaves are very stinky in smell when smashed.



32. English Holly (***Ilex aquifolium***): It can grow in light, sandy soil and medium soil. English Holly is also very shade tolerant and is often found as a dominant undergrowth plant. Holly leaves have a thick cuticle to prevent water loss and protect against the cold.

