



# Terra Cognita



A student's way of understanding the earth

**Welcome to Terra Cognita,** a student-written, environmentally-focused report on events within Skills Center Natural Resources Program, the Olympic Peninsula, and the globe.

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**Skills Center Natural Resources**  
[www.nopsc.org/naturalresources](http://www.nopsc.org/naturalresources)

## Young Wolf's Gift

By Chyla Greene



Chyla Greene, Cultural and Natural Resources 1 student

As the young boy walks home from fishing for his family to provide dinner, he begins to think of his father who had passed away just a year before. Thinking to himself, he asks, "How am I going to take care of my two sisters and mother? Why'd you have to go father?" A small tear comes to the young boy's eye, but he quickly wipes it away as he comes to his front yard. Walking in, the young boy whose name was Young Wolf greeted his mother and his two sisters. Handing over the salmon to his mother, she began to prepare the salmon to cook. After the food was cooked and ready to be eaten, they all sat back and listened to their mother tell stories of her life before and during the times of her now deceased husband. After story time, everybody had gone to bed except for Young Wolf. He stayed awake and reminisced back to his time with his father.

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He thought for a long while about when his father would teach him how, when and where to fish, and what to fish for. His father also taught him how to hunt, and how quiet to be, and all the usual hunting areas that his father before had taught. This reminiscing continued for weeks, until one day, Young Wolf was walking to his usual fishing spot; his mind was blank and he heard a voice that sounded like his father's. He was searching around but didn't see anybody nearby, so he continued on his way. Then, he heard it again, and he kept looking around but still nobody was there. This happened many times before a wolf, an adult Grey Wolf said, "Hey, over here." Young Wolf looked and thought he was imagining the Grey Wolf talking to him.

Young Wolf didn't realize this was reality. The wolf was really talking to him, and telling him that he has done many great things since his father had died. Young Wolf began to cry and sob about how much he missed his father, and he wished he had him back. At that moment, the wolf gave him all the strength he had to offer. With that strength, Young Wolf was able to let go.

Every year from then on, Young Wolf went back to his fishing spot at the Elwha River where he received his gift of strength from the Wolf.



## Cultural & Natural Resources 1

### New Class!

Human and natural history are explored through hands-on, service-learning projects in our local ecosystems and community. It is also a pretty darn fun, if you ask us.



This year, respected and renowned culture and Klallam language teacher Jamie Valadez (above) has joined, making Cultural & Natural Resources 1.



Students learn traditional knowledge and skills, like connections to the land and tule mat weaving (pictured above in progress and completed).



# Elwha Dam Removal: Present and Past

## Photo Flash: 1 Year Anniversary of Hurricane Sandy

By Josh Watson



Water splashes on a damaged waterfront on the one-year anniversary of Hurricane Sandy in the Queens borough of New York 10/29/13



A mailbox stands in front of a near empty lot of a house that was destroyed by hurricane Sandy in 10/12 in New Jersey, photo from 10/28/13



A view of a part of a boardwalk which was destroyed by Hurricane Sandy 10/12 and a subsequent fire is seen in Seaside Park, New Jersey 10/28/13. Nearly 11,000 people spent a Monday night in 258 Red Cross-operated shelters across 16 states because of hurricane Sandy. Pictures were found at <http://www.bbc.co.uk/news/>



This is a photo of Josh recording data on the creeks in Port Angeles.

## History of the Elwha River Dams

by Thomas Garber

In the Cultural and Natural Resources 1 class we have been studying salmon and their habitats. I chose to write an article about the Elwha, and the dams that are on the Elwha which affect the salmon and their habitats.

In the early 1900s, the Olympic Power and Development Company (led by Thomas Aldwell) sought to harness the Elwha River for its power-generating capacity. In 1910, they began construction on the Elwha Dam--a project that would dramatically alter the Elwha watershed. In 1912 the dam gave way and flooded the four miles below the dam.

Construction on the 105-foot Elwha Dam was completed in 1914. The structure created the Lake Aldwell reservoir, which is 2.5 miles long and has a surface area of 267 acres. Although state law at the time the dam was built required fish ladders, the project owner (Thomas Aldwell) circumvented the law by building an unsuccessful fish hatchery (Wunderlich and others. 1994).

Construction of two dams on the Elwha River (Elwha Dam in 1913 and Glines Canyon Dam in 1927) blocked fish passage and prevented anadromous fish from accessing approximately 81 miles of main-stem and tributary habitat. Historically, the Elwha River had 10 runs of native anadromous salmon and trout. The salmon species were coho, sockeye, pink, chum, steelhead and Chinook salmon.

It has taken decades for the final decision to be made to destroy the dams. It was also difficult to predict how much money was going to be used on this destruction and restoration project. There were multiple groups of people such as conservationists, tribal leaders, congress, industrialists, lawyers and hobbyists who held stake in this matter. In 1992 the government passed the law nom. 102495 which states that the salmon habitat was to be restored. It was in the best interest of following this new law to destroy the dams on the Elwha River.

The Elwha Lower dam is fully destroyed, and the destruction of the upper dam is now 80% complete. The future of the Elwha's salmon habitat is looking brighter now than it has in years.

## How did the Elwha Dam Affect the People?

by Cheyenne Sprouffs and Moe Charles

Thomas Aldwell built the Elwha Dam in the early 1900's. The dam broke in 1910, and it flooded the lower Elwha Valley. People in the valley weren't warned; only the people in town were aware of what happened. People in the valley knew the dam broke because of the sound of the water crashing through trees, and they left the reservation. When they came back there were fish in the trees, and no one was hurt except one white man who died. He was buried on the West side of the river with other elders who have passed on. Then they fixed the dams, and they stayed standing for 100 years. The dams are being taken down now. The destruction started in September 2011. They were expected to finish by September 2014. The dams affected the people because they stopped fish from going to their spawning places, and because they did that the fishing numbers really dropped. With fishing numbers dropping that means the Tribe can't go fish on their own river to get fish for special ceremonies. For example, during the salmon ceremonies they wouldn't be able to get a salmon. The dams blocked the way but are now almost completely down after being up for 100 years, and we are hoping that the salmon will come back so that everything will go back to the way it was before the dams.



Sediment and woody debris that was held behind the Elwha Dams is shown at the mouth of the river in May.

## Opinion: GMO Salmon By Stephen Huiskens

It seems that genetically enhanced salmon are dangerous for the environment as well as the average consumer according to the food and water watchers GE article on their website, but this may not actually be as true as many health gurus and companies may say. Federal health regulators say that a genetically modified salmon that grows twice as fast as one in the wild does not show any sort of threat to the environment. In 2012 the food and drug administration (FDA) released an environmental assessment on the Aqua Advantage Salmon, a faster growing fish which has been subjected to many debates over the years. The document concludes that “genetically enhanced salmon will not have any significant impacts on the quality of the human environment of the United States.” Regulators also said that the fish is unlikely to harm populations of natural salmon, a key concern for environmental activists. The FDA said more than two years ago the fish were safe to eat, but the agency took no type of action since then. Company executives for the Maynard, Mass.-based Aqua Bounty, speculated that the government was delaying their application due to responses from Anti-Genetically Modified food groups. Many critics call the modified fish “Franken fish”; they worry it will cause allergies and decimate the natural salmon population. But should that keep us from eating the enhanced fish? It is in my opinion that this should not keep us from eating the fish we most enjoy. The fish are only enhanced to grow faster and bigger to supply us with more food, this does not make these fish bad for our health. The FDA has already released a report saying that the fish are safe to eat. This being said the super markets should begin to put the enhanced fish on the shelves.



Below is a picture of Atlantic salmon (non-GMO) taken by a student at the American Gold fish farm off Ediz Hook.



## PA Creek Restoration - Students Help Valley and Peabody

### Peabody Problems By Joel Gamez & Class

The once beautiful Lower Peabody Creek is now an ugly, treacherous wasteland! Lower Peabody Creek is currently filled with women's under garments, lots of litter, signs of a large amount of drug use and an abundance of noxious weeds that over-populate the area. All of this creates bad habitat for the non-existing salmon that have next-to-zero chances of surviving right now in this desolate area.

We want to start cleaning this area with the hope that someday it will be a place both people and salmon will want to visit. We think that if the place looks clean and taken care of people will be less likely to trash it. Our plan is to complete a day of service on Monday, Dec. 2nd from 12:45-4pm removing noxious weeds and trash. We will also document the locations of the noxious weeds and trash that we remove in Geographic Information Systems (GIS) maps we will give to the City of Port Angeles, North Olympic Salmon Coalition, Streamkeepers of Clallam County and Feiro Marine Life Center.



Joel and Chyla pull weeds at Lower Peabody Creek



Students and teachers at Valley Creek RM 1.0

### Down in the Valley By Josh Watson & Class

Natural Resources program is helping our community by helping restore Valley Creek semi-natural reach (river mile 1.0) toward its former status with the removal of the noxious ivy and the hopeful prevention of weed growth around conifers we planted at this area.

On December 3rd from 3:15 to 5pm, the Natural Resources Options—Streamkeepers class plans to cut out the (ob)noxious ivy that is growing around full-grown trees and clear noxious grasses that are cutting off the growth and killing young conifers in that area. We will also document our work in a video.

As stated in our grant application to the storm water manager of The City of Port Angeles “We want to help reduce the negative impacts of noxious weeds in the natural reach of Valley Creek. Noxious weeds are a problem all over, but in the semi-natural reach, it is pretty bad.” These weeds are hurting conifers that someday could provide shade for salmon.

See p.4 for details on how you can help

**News Flash:** Natural Resources Program just received two grants totaling ~\$2,000 from the City of Port Angeles to help with this work in December on Peabody and Valley Creeks. Thank you to the City of Port Angeles!

## Skills Center Natural Resources

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and Jamie Valadez

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Skills Center Natural Resources offers a variety of hands-on skills training options for students up to 21 who do not have a high school diploma. Enrollment is open now.

**Join the Adventure!**  
Enroll in Natural Resources  
Program Today!

### Two Creek Restoration Events 12/2 at Peabody, 12/3 at Valley

Monday, Dec. 2nd  
12:45-4pm

Meet down the trail from the motorcycle shop near Peabody and 2nd Streets.

Call 360-670-5167 on 12/2 to coordinate.

Tuesday, Dec. 3rd  
3:15-5pm

Meet near the boxcar bridge down the trail at the end of Valley Street.

Call 360-670-5167 on 12/3 to coordinate.

College Credit Now Available  
in All Natural Resources Classes  
Central WA Univ. 'Intro to Civic Engagement'  
2 Credits per semester—inquire for details



## Natural Resources Options for High School-Aged Students

During spring semester, students can earn 0.5 English, science or CTE credits and 2 college credits, log community service hours, and be set up for internships and scholarships while working on cool projects that can count toward school Senior Culminating Projects.

- Five options are available in **Port Angeles** including Feiro Marine Life Center, Olympic Coast National Marine Sanctuary, Streamkeepers, Olympic National Park Visitor Center, and the Underwater ROV Crew.
- Three options are available in **Sequim** including Dungeness River Audubon Center, North Olympic Salmon Coalition, and Dungeness National Wildlife Refuge.
- Two options are available in **Forks** including Olympic National Park and Pacific Coast Salmon Coalition.

Call Skills Center Natural Resources at 360-565-1892 to enroll . . . And let the adventure begin!

## Greetings from the Editor by Conan McCarty

The Terra Cognita newsletter is now under my control, and with its influence I am going to take over planet Earth! I will rule with a clenched fist as you all bow down to me. Do not try to resist; you will only be pursued and apprehended by the authorities of the new world, my world... If only that was the truth beyond my imagination . . . I am the new Terra Cognita editor though, and I will try my very hardest to make this newsletter the best-edited, most interesting newsletter that it can be. I used to be a student in Natural Resources 1, and I was also a Natural Resources 2 Intern with Feiro Marine Life Center, Streamkeepers of Clallam County, and Olympic Coast National Marine Sanctuary. One of my favorite parts of

Natural Resources 1 was actually writing articles for Terra Cognita. Now I get to be a part of this class again, doing behind the curtain work instead of regular assignments. This will probably be the last thing you hear from me for a while, but don't forget that I'm here as you read future issues of Terra Cognita; I'm pulling the strings and altering the text, forming my plans to annihilate you all. I hope that you all enjoy the interesting articles that come from the new year of Natural Resources students because they are writing up a literary Armageddon!

