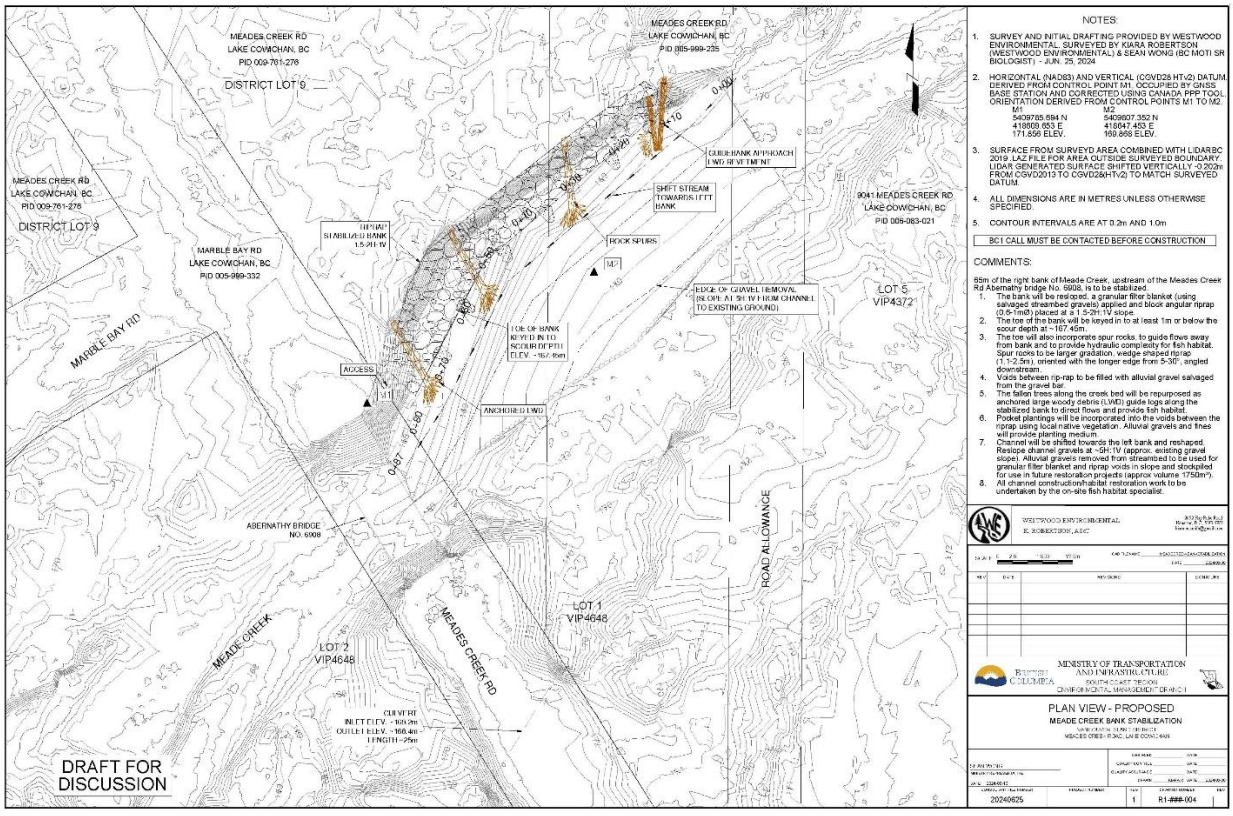
Ts'uubaa-asatx Fisheries Monthly Report
Oct 15th, 2024

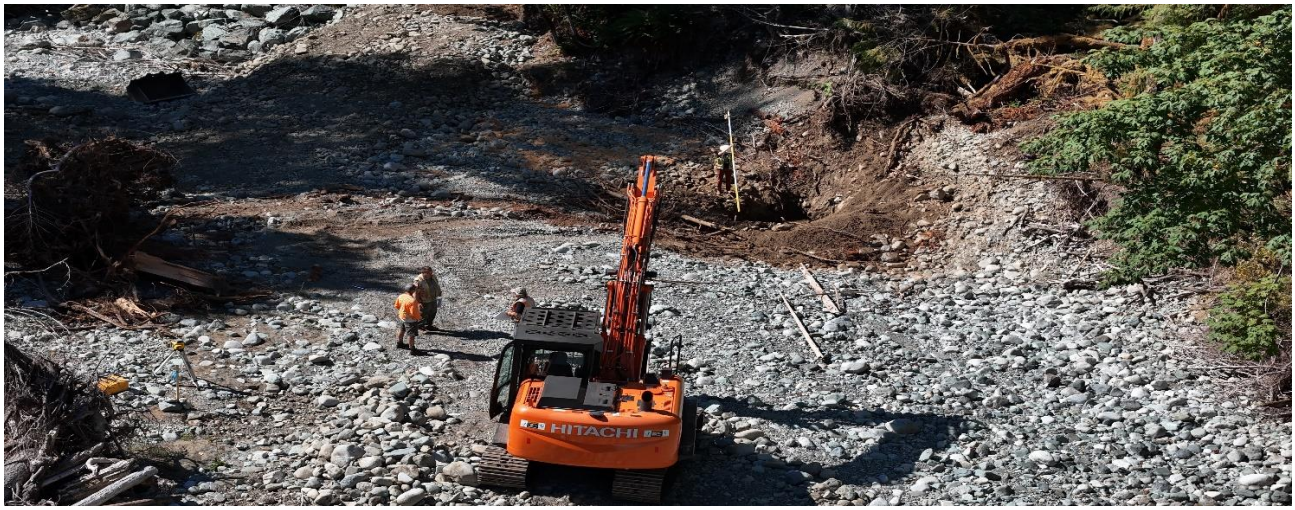
In early September we started with a pre-construction meeting with MOTI Biologist Sean Wong and our Meade Creek project team to discuss safety, the rules for the project as well as the terms and conditions from Provincial Habitat Officer who approved the works under water sustainability act section 11 notification. Also, the strategy discussion on how this "in stream" project to improve fish habitat and protect the Meade Creek Road bridge from further damage/erosion was included in the meeting. This project has Ts'uubaa-asatx First Nation and Cowichan Lake Salmonid Enhancement Society/Hatchery and MOTI teaming up for habitat restoration.



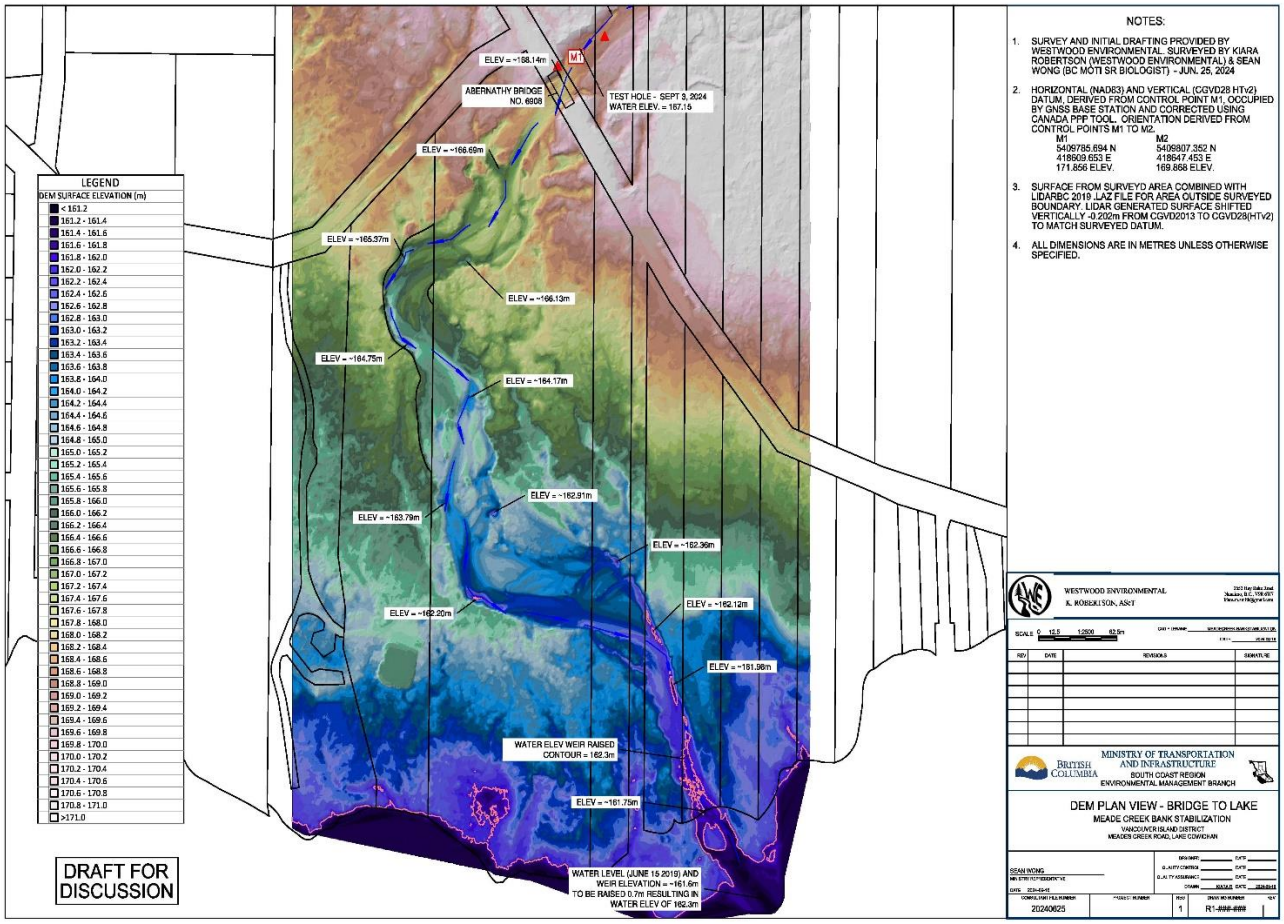
MOTI Phase 1 large woody debris (LWD) installation and gravel overburden removal plan.

Excavators were inspected daily for hydraulic line leaks and tightness of hose couplers. Spill Kits are on board each machine and in the E. Monitors truck. Hydraulic fluid for excavators is a food grade product (Clarity Oil) in case of a hydraulic line leak there would be no hydrocarbons entering the streambed.

Pre-construction meeting Sept. 3rd, 2024 Sean Wong and Kiara Smith MOTI assessing first pool.



Locating elevation of water table is an important first step for constructing scour pools for fish habitat. MOTI Surveyor Kiara Smith runs elevations. (Drone photo Ernest Pilfold).

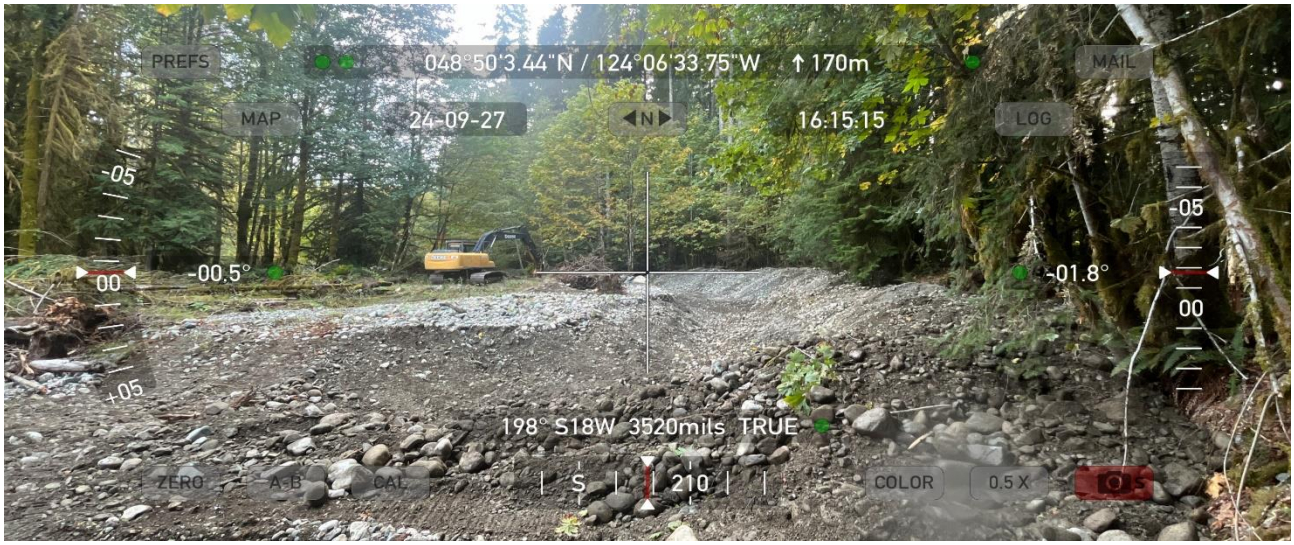


Kiara uses stock LIDAR (light induced differential absorption radar) images to affix (label) her water table elevations to.

Keying in dry blasted rock boulders for armoring against hydraulic stream forces. Drone Photo Ernest Pilfold.

 By mid September LWD was anchored in place and last of the many loads of excess gravel were removed.

 Ts’uubaa-asatx Drone Pilot Ernest Pilfold was on site with drone camera keeping updated imagery throughout the project.



Late in September Phase II has started downstream of Meade Creek Road bridge on the Mac Rae property.

On Sept 27th a pool with salmonids in it was discovered beneath a log jam adjacent to the worksite. Trapping and relocation of fish commenced.

Coho, Cutthroat and Sculpins were trapped and moved to the lake. Fry salvage totals & details are at the end of this document.

Lake Cowichan School students arrive to plant Phase I. Three bus loads total 69 students cycled through during the day Oct.4th 2024.

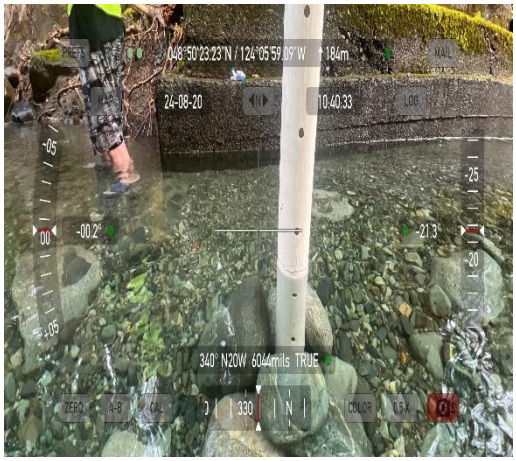

International students from left to right Elle from Milan Italy, assisted by a Belgium student and two students from Gernmany on our right, all planting streamside species in Phase I.

Deliveries of large, blasted rock boulders arriving for anchoring LWD and habitat enhancement.

Soil and mulch arriving for native species streamside plants.

Streamside Native Plant Nursery in Bowser delivers to project site.

On site signage.



More than 4 standpipe monitoring wells were installed and used to collect water table levels.


Aivars Liepa-Spence uses Dipper sensor to record water table levels in standpipes.

Ernest Pilfold (left) and Joe Henderson from Agile Drone conduct LIDAR data acquisition Oct.2nd 2024. This data will be used by Surveyor and Cartographer to map Meade Creek water table elevations.

Final day in Meade Creek Project 2024. Planting will take place over the next weeks by Owen Powell University student, Brittany Brooks R.P. Bio & Sean Wong Project leader and Biologist MOTI.

Summary:

The 2024 Meade Creek Project rehabilitated 4,000 square meters of fish habitat and prevented erosion along the worksite length. 1,674 Coho fry, 26 Cutthroat juveniles, 6 Rainbow Steelhead juveniles, and 103 Aleutian Sculpins were rescued and released into Lake Cowichan. 69 students with teachers from Lake Cowichan School (volunteers) assisted in planting. Approximately 8,000 cubic meters of excess gravel was removed and stored in a MOTI storage yard on Youbou Road. Lake Cowichan Gazette interviewed participants on Oct. 4th and published an article in the Oct. 10th edition of the newspaper. LIDAR imaging is in processing and will be used by MOTI and others to monitor the Meade Creek water table.

Report by Bob Crandall - Environmental AScT – QEP for Ts'uubaa-asatx Fisheries

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Gazette

THURSDAY, OCTOBER 10, 2024

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STUDENTS DIG IN TO RESTORE MEADE CREEK

Grade 11 students from Lake Cowichan Secondary get the opportunity to get their hands dirty at Meade Creek planting Streamside Native plants. (Chadd Cawson/Gazette)

Chadd Cawson

Cowichan Lake Secondary students had the opportunity to get out of the classroom on Oct. 4 and make a difference at the restoration project happening at Meade Creek.

Nicole Lorusso's Grade 11 class was among the three groups of students that had the opportunity to get their hands dirty with the planting of more than 400 streamside native plants, while some also went for an informative nature hike.

"They have been learning about the salmon life cycle, and the requirements on a stream to keep them healthy in their Life Sciences Class," said substitute teacher Mykelti Berg. "It's fantastic that they are able to get a real hands on experience today."

Cowichan Lake Salmonid Enhancement and Hatchery Society operations manager Bob Crandall, and biologist and society president Brittany Brooks led the planting party where students planted different species such as swordfern, Oregon grape, snowberry, and Pacific ninebark to name a few.

"These are all species that would occur around the riparian edge which are so important to have here because they hold the soil in place, and then they eventually grow up and drop their leaves that have insects on them into the water," said Crandall.

"There are three components that make a stream healthy. One is shade for the fish to have cool water refuge in the summer, two would be the leaf litter insect drop which is like groceries for the fish, and three is the large woody debris which is quite anchored in. The biology of the plants is also very important, for example the little young alders that we put in the ground create nitrogen pillows on their root systems, and then transfer that nitrogen to the nearby plants that need it. So all plants have a purpose in the design."

Crandall, who is originally from Ontario spent time doing similar work in Alberta as well as Louisiana and Colorado in the U.S., before calling Vancouver Island his home. Crandall said he loves the hands-on volunteer work that he gets to do with the society, and that his role as operations manager includes planning projects such as this.

"We get to have kids come in and work with us," Crandall said. "We also have students help incubate the salmon eggs and mix them and put them into the incubation trays which are then delivered to all the classrooms in District 79 that have classroom incubation. One of our big goals is to supply all the eggs for all of those schools throughout the valley."

Brooks, who has been a biologist for four years, had the students plant in stages ranging from dry and medium to wet soils that would be found closer to the creek bed.

"It feels really good to be able to work with the kids, and it's so nice that they want to get involved in a local creek restoration project," said Brooks.

"We try to rehabilitate one stream every year," said Crandall. "In the summer when we are not doing that, we are out rescuing all the fish that are in drawing pools and we then either move them back to the lake, or river so that they can get a second chance at life."

According to Crandall the society rescued more than 50,000 baby salmon and trout last year alone and even had a small group of student volunteers

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October 10th Lake Cowichan Gazette article on students planting.

Grade 11 student Cruise from Lake Cowichan Secondary gets the opportunity to get their hands dirty at Meade Creek planting Streamside Native plants. (Chadd Cawson/Gazette)

Biologist and society president Brittany Brooks educates the students on some of the species that they will be planting with purpose. (Chadd Cawson/Gazette)

A little tractor has the big job of removing all the excess gravel from Meade Creek. (Chadd Cawson/Gazette)

Grade 11 students from Lake Cowichan Secondary get the opportunity to get their hands dirty at Meade Creek planting Streamside Native plants which helps improve the quality of life for salmon and trout. (Chadd Cawson/Gazette)

Lake Cowichan students get their hands dirty to make a difference at Meade Creek restoration

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assist in cleaning out more than 1,000 salmon and trout fry from the creek this past summer.

"When you rescue fish that are about to die in a pool and you take them and set them free, that is very rewarding," said Crandall.

Crandall said a lot of the work that the society does is volunteer, but sometimes they do get paid for restoration projects like the removal of the excess gravel at Meade Creek. Crandall noted they are always looking for more volunteers.

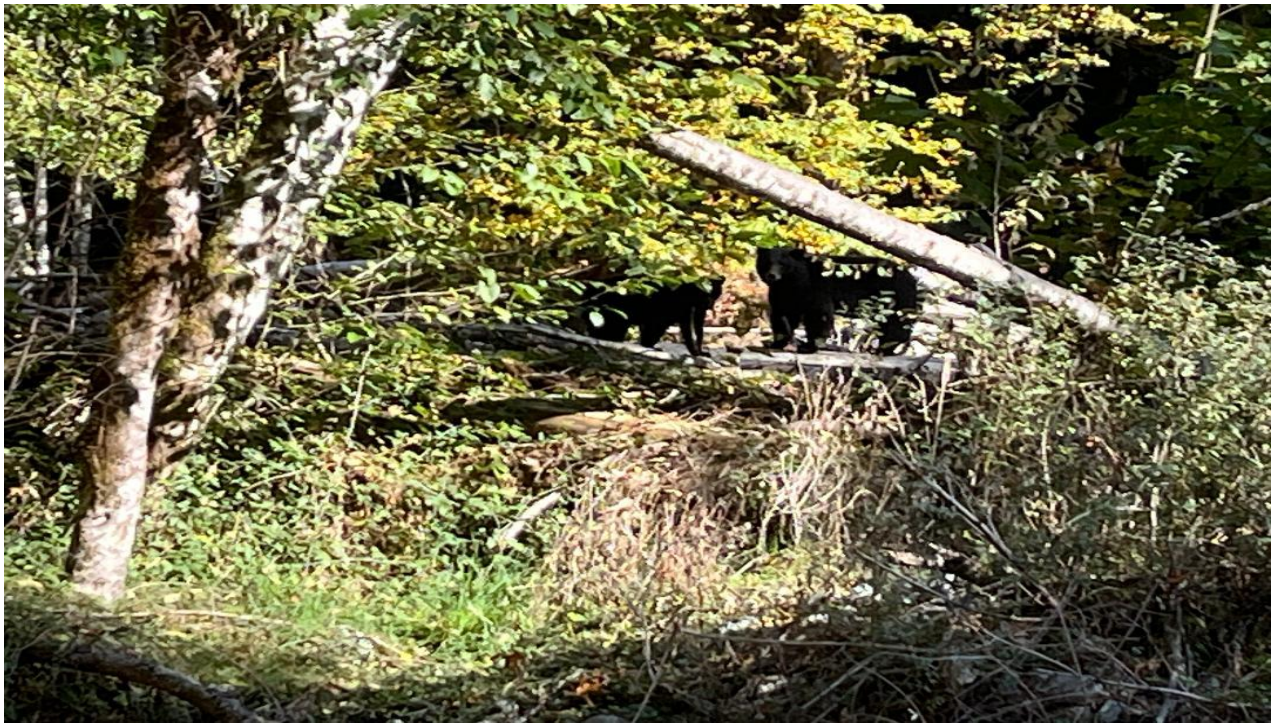
"It's so great to get to see kids learn through a hands-on experience," said Crandall. "I hope that the students leave today learning that every stream needs help. When kids do something with their hands they remember, and when they get older and drive by here and see all these plants growing it will be very rewarding for them."

Newspaper article.

Elk were often visiting the worksite.

Elk are in the “Rut”.

Elk crossing Meade Creek note: standpipe monitoring well in distance.



Oct. 12th, 2024, Mother Black Bear and cub in between phase I and phase II of worksite.