



Bellingham Technical College
Press Release

January 15, 2019

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For Immediate Release

BTC'S FISHERIES & AQUACULTURE SCIENCES PROGRAM TESTS NEW FISH TRANSPORT AND RECOGNITION SOFTWARE

Bellingham, Washington – January 15, 2019 – Bellingham Technical College's Fisheries & Aquaculture Sciences program tested out a new and innovative method for transporting hatchery fish from pond to pond safely and with minimal stress.

BTC's Fisheries program partnered with Seattle-based Whooshh Innovations to test the company's new fish passage systems and help develop species recognition software at the student-run Whatcom Creek Hatchery in Maritime Heritage Park.



Fish ladders require on average 5-10% of a dam's water to operate and are an exhausting journey for fish. Fish transported via Whooshh's system (a suspended, pliable, water-filled tube) spend mere seconds being gently transported compared to hours and possibly days of arduous climbing up a fish ladder. This leads to higher egg viability when spawning upstream and lower mortality rates as compared to fish

who wore themselves out moving up the ladders. The Whooshh transport system is also used in hatcheries to minimize handling stress. In addition, Whooshh systems are being designed to simultaneously sort invasive species, which further benefits fisheries restoration. All of this aids in salmon restoration and enhancement efforts, bringing an environmental benefit to the species and a food security benefit to local economies.

"This is a fantastic opportunity for our students to get hands-on experience with cutting-edge technology that will help our local fisheries better support salmon stocks and allows us to transfer the salmon from pond to pond with less physical handling which gives the fish a longer life expectancy," BTC Fisheries Instructor Brittany Palm said.

This is how it works: Similar to facial recognition software used for human security, this fish recognition software will improve the company's fish transport systems by allowing them to recognize when a fish is present and needs to be moved upstream, as well as recording species and other morphometric data. The company needs access to live chum salmon to design an accurate algorithm for the software, so representatives reached out to BTC Fisheries & Aquaculture Sciences instructors to team up.



Fisheries and Aquaculture Sciences program students worked with representatives from Whooshh to scan the hatchery's chum into the system, which photographed each fish and took measurements to help build the algorithm. Whooshh also trained students on its mobile fish transport system to help move fish

between ponds with less stress on the fish. These systems are remarkable in that they can span long distances and move fish over large and small dams.

"We are happy to help educate BTC's next generation of fisheries experts on modern fish-handling methods," said Whooshh Innovations' Director Michael Messina.

"Fisheries restoration is important for our rivers, for the orca and for our ecosystems. As the BTC Whatcom Creek Hatchery is ramping up its efforts to meet the Governor's request to increase hatchery production, we know we can make a difference in both the short and long term."

This partnership allows BTC to be pro-active in how it works to reduce stress on salmon broodstock, while helping develop technology for innovative species identification software. This work is particularly vital in light of the orca recovery task force and efforts to increase salmonid production in the region. BTC is working closely with the state's co-managers (Washington Department of Fish and Wildlife and the Treaty Tribes) to increase chum and Chinook production for Governor Jay Inslee's mission. Through an intensive, hands-on training program, BTC students produce millions of salmonids annually for the community and enter the work force trained in highly innovative culturing methods.

Based in Seattle, Whooshh Innovations is an engineering group that designs fish passage technology to help fish migrate around impassable barriers, like hydro dams. The company also designs fish transport systems for aquaculture and is known worldwide for its work.

About Bellingham Technical College

Bellingham Technical College is accredited by the Northwest Commission on Colleges and Universities, and offers seven transfer degrees such as pre-engineering, pre-nursing, computer science and business. Completion of these degrees prepares BTC students to transfer with a junior status to participating colleges and universities in Washington State. BTC offers 38 associate degrees, 60 certificate options and two bachelor of applied science degrees providing professional technical education to support local and regional industry workforce needs. For more information, go to www.btc.edu.

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About Whooshh Innovations

Whooshh Innovations moves live fish safely and efficiently. Using patented technology, Whooshh can safely pass fish over dams large and small, sort for invasive species, or simply move fish efficiently around facilities such as hatcheries and aquaculture operations. In addition to the environmental benefits associated with fisheries restoration, Whooshh solutions typically cost 80% less than fish ladders, and allow for up to 10% more clean energy production. Whooshh Innovations is located in Seattle, WA and on the web at www.whooshh.com.

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