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The Fish Journal: Bar codes help kokanee salmon in their survival

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By Dallas Cross

Under the direction of the Washington Department of Fish and Wildlife, the efforts of the Lake Sammamish Kokanee Work Group to increase dwindling kokanee salmon numbers in Lake Sammamish are now underway.

Kokanee salmon have been entwined within the history and culture of native and immigrant residents of Lake Sammamish since the Ice Ages. See a previous Fish Journal piece, “Tribal Tales of the Kokanee Trout Clan,” published in The Issaquah Press and on the Web here. (FishJournal.org)

The Kokanee Work Group is comprised of state, county and city municipal officials, conservation organizations, and individuals from King County and surrounding communities. All are highly motivated to save the late run species of native kokanee from an extinction experience similar to that of the early run kokanee in Issaquah Creek.

This winter, fish biologists captured male and female Lake Sammamish kokanee returning to several tributary creeks. More than 34,000 eggs were harvested, fertilized with milt from males and placed in incubation trays at the Cedar River and Chambers Creek state fish hatcheries.On March 25, the first native kokanee fry raised by the Chambers Creek fish hatchery were released in Ebright, Laughing Jacobs and Lewis creeks. They immediately migrated to Lake Sammamish. A second release in the same streams was performed on April 14 with fry raised by the Cedar River Hatchery.

In the lake, the kokanee will mature and return to spawn within three to four years. Observations of progress and measurement of success will be culminated when mature hatchery fish return to tributary creeks to spawn and are captured for examination.

How do they expect to identify the returning adult kokanee from natives in the lake, distinguish fish from the two hatcheries and know in what creek they were released as fry? The answer is exactly the same as how merchants keep track of their inventory. They use bar codes.

Fishery biologists have found that small changes of water temperature in which kokanee fry are raised result in changes in tiny bones in the inner ear of the fish. These changes appear as visible bands on the bones that persist throughout the life of the kokanee. By changing the water temperature in the hatcheries, they have created different patterns of bands on the ear bones, or otoliths, that will identify adult hatchery kokanee, thus revealing their stream and hatchery origins and their fry-planting history.

Will the hatchery kokanee return to the creeks where they were planted? What is their survival rate? Will they stay in Lake Sammamish? Can a program to supplement kokanee with hatchery-raised fish bring their numbers back to levels where they can be fished again? All are questions hoping for positive answers.

Now, information from spawning hatchery kokanee, obtained by scanning their built in bar codes, will help with these answers.

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