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The Fish Journal

What's In The Lake - Mud Eels?

by Dallas Cross

There are recollections in the archives of the Issaquah Historical Society from long time residents about eels in Issaquah Creek. Some tell of using or selling them for fishing bait. Years ago I watched folks gathering "mud eels" for bait from the flats near the mouth of Issaquah creek. Knowing that plastic worms are good lures for Lake Sammamish bass, I wanted to know more about what the artificial bait might be imitating. Could it be eels?

Upon inquiry I found that no eels, the elongated fish with a toothy mouth, are in the Lake Sammamish watershed. So what are these aqueous critters?

The answer was partially answered last April when I volunteered to trap and count returning kokanee salmon fry for the Bellevue-Issaquah Chapter of Trout Unlimited. On several of our trap pulls small, snake-like creatures were captured along with the kokanee fry. They looked like eels and I put it one a glass jar to examine and photograph.

The creature had a sucker instead of a mouth and seven gill openings along the front part of the body. It was a lamprey. I feared that lampreys in the lake meant bad news for the fish. I had visions that, like the lampreys that nearly decimated all the fish in the Great Lakes, we might have a problem right here in Issaquah Creek City

A fisheries biologist friend, Jim Mattila, confirmed that it was a lamprey and suggested it was most likely a brook lamprey, not a fish predator, and one of three lamprey species found in Lake Sammamish

Lake Sammamish brook lamprey
April 2010 photo by Dallas Cross

Lampreys are ancient and unique members of the vertebrate animal world with ancestors some 500 million years old. They are characterized as having cartilage skeletons, round mouths with suckers, and no jaws. Some lampreys are parasitic and have prominent, tooth-like structures inside of their sucker that gnaw holes in the sides of fish from which they suck out the fish's soft tissue, often causing death.

I found that two species of lampreys in Lake Sammamish are parasitic to fish, the Pacific Lamprey growing up to 30 inches long, and the rare River Lamprey about which little is known. Both go to sea and return to spawn in tributary creeks following the scent of lamprey larvae still in the creeks. While in salt water, and occasionally in the lake, they attach to fish and feed on them. I have seen several photos of round lamprey scars on fish taken from the lake. However, sea going lampreys release their host fish in order to spawn and die afterwards so their predatory impact on lake fish is minimized.

Insofar as my trapped adult specimen was only four inches long and had small, rudimentary teeth, it was a Western Brook Lamprey. This one was brownish but other kokanee trappers have observed them in different shades including cream. It makes sense that the brook lamprey is, indeed, the "eel" and "mud eel" with which early residents fished and sold for bait.

The life cycle of the brook lamprey is interesting. The adults mate and the female lays her eggs in sand or small gravel. Dark places such as under bridges are preferred for mating and laying eggs. Lamprey larvae emerge from the eggs and burrow into the stream bottom slowly migrating towards the lake as they mature. This process takes from three to seven years. Adult brook lamprey live in burrows on mud flats near the lake and return upstream to spawn and die after one to three years. Brook lamprey are common to lots of fresh water streams in our area and up and down the Pacific Coast. They grow up to seven inches and throughout their larval and adult lives feed on plant and decaying material.

Fish stomach surveys have revealed that lampreys constitute a portion of the diet of most of our freshwater fishes. Armed with my lamprey information I sought to gather some and satisfy the demand of our local bass for this delicious morsel. Prudently, I checked the online WSWF fishing regulations. It was fortunate I did because, for conservation reasons, it is now against state law to even possess any species of lamprey in Washington, much less use them for bait.

I am now left to don an "I Love Lampreys" T-shirt, wiggle my plastic worm on the lake's mud bottom, and compete with the real thing for the attention of a nice bass.

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Western Brook Lamprey: Collected on the Washington State Olympic Peninsula and photographed by Damon Goodman (Humboldt State University, Arcata, Ca)