

The Vancouver Lamprey (aka Cowichan Lamprey)

By Rodger Hunter, Cowichan Watershed Board, February 5, 2011

Photos by Les Harris

Did you know that we have a lamprey that lives in Cowichan and Mesachie lakes and nowhere else and it is considered to be critically imperilled?!! Due to some blundering in the fish naming 'bureaucrazy', our lamprey's official name was shortened from the Vancouver Island lamprey to the Vancouver lamprey but Dr. Dick Beamish of DFO's Nanaimo Biological Station is hoping that soon it will officially be renamed the Cowichan lamprey. Dick is the scientist who originally identified the Cowichan lamprey as a separate species in the 1980's.

You might wonder how a lamprey could possibly be threatened. Don't fishermen regularly find lamprey scars on fish in Cowichan Lake and aren't lampreys raging out of control in the Great Lakes?



Okay so let's start with the general and go to the specific. First of all lampreys are a primitive and very successful group of fish that date back at least 350 million years. They are long slender eel like species but unlike eels they don't have scales or jaws and they have cartilage instead of bones –hence the primitiveness. There are at least 34 different lamprey species worldwide and the Cowichan lamprey is a special one. Our lamprey only evolved as a separate species quite recently. It is derived from Pacific lamprey that became isolated in Cowichan Lake as a result of the ice age. It may have become a separate species less than 10,000 years ago. Some of the differences that Dick Beamish found between the Pacific lamprey and the Cowichan Lamprey include:

- Smaller length 14 to 27 cm almost half that of the Pacific;
- Larger eyes that are higher on the head than for the Pacific (the better to see you with my dear); and
- The oral disc/mouth became significantly wider than the diameter of the head –the Pacific's is narrower (the better to latch onto you my dear).

Both species reproduce once and then die but Pacific lamprey spawn earlier April/May than the Cowichan lamprey May/August and the Pacific spawns in rivers or streams while the Cowichan is a lake spawner. A final and key difference is that physiologically Cowichan lampreys are able to spend their entire life in fresh water.

The root of the word lamprey is stone sucker and true to form Cowichan lamprey pairs have been seen carrying small stones to cover their gravel nests. They likely produce over 10,000 eggs which hatch into larvae in 2 to 3 weeks. The worm like larvae hang-out in the substrate feeding on fine textured organic materials. They do this for 5 or 6 years before they metamorphose into adult lampreys then they overwinter in gravel areas before they spend a year feeding in the lake. Then they return to gravelly areas to spawn.



During that last year of life, like other parasitic lampreys the Cowichan lamprey develops an image problem. Their way of earning a living - by attaching funnel shaped mouths to seemingly innocent host fish and feeding on blood/body fluid - makes it hard to love parasitic lampreys. And then there is the image of the sea lampreys that have wreaked havoc on the native fish of the Great Lakes –the common misconception is that lamprey are hard on fish populations. However, seldom mentioned in the Great Lakes story is the fact that prior to the invasion of the sea lamprey 2 native species of parasitic lamprey had coexisted with those Great Lakes fish populations for thousands of years. Highly evolved parasites don't kill their host –it's not a sustainable strategy. The prevalence of scarred fish in Cowichan Lake may indicate that the Cowichan lampreys are feeders not killers.

Scientists know that siltation from poor land use practices threatens lamprey habitat. Another threat to



lamprey is the fact that coho, one of the Cowichan lampreys' primary food sources, have declined drastically. We also know that the Cowichan lamprey is a native species. It belongs here. It's part of an amazing ecosystem that is composed of species that have evolved together –right here where we have chosen to live. As a threatened species, it is illegal to kill, harm, harass, capture or take the Cowichan lamprey. Collectively we need to protect it. Its future is in our hands.

Some lamprey trivia....

- Not all lamprey species are parasitic. Some continue to be filter feeders as adults.
- King Henry the first is reported to have died from eating too many lamprey. The royals seem to have been very keen on lamprey pie.
- Dick Beamish assures me that lamprey don't attack people. We're the wrong size and shape and don't smell right. If you really want to attract one rubbing herring oil all over your body might help.

For more information about the Cowichan Watershed, please visit www.cowichanwatershedboard.ca