

# Cowichan Lake Lamprey (*E. macrostomus*)



# Cowichan Lake Lamprey

- In 2000 and 2008, this species was assessed as threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
- It is currently listed and therefore protected under the *Species at Risk Act* (SARA)
- *Critical habitat* has been identified as: Cowichan and Mesachie lakes in their entirety, the adjoining waterways and 100 metres upstream of tributaries into the lakes

# Distribution and Life History

- Found only Cowichan, Mesachie and Bear lakes and tributaries emptying into the lakes
- Has not been found in Cowichan River
- Freshwater parasitic fish
- We do not know for certain how long Cowichan Lake lamprey spend in each life history stage. It is estimated based on other species and expert observations that:
  - Ammocoetes: may be 5 years old or older??
  - Metamorphosed: several months??
  - Adult: 1 year or more ??

# Ammocoete Habitat

- Burrow in loose sediment, silt and mud-but are not sedentary
- Utilize the nearshore areas of Cowichan, Mesachie and Bear lakes as well as rivers emptying into the lakes
- Have been found in tributaries emptying into Cowichan Lake
- Because of the extensive time spent as an ammocoete rearing habitat is critical



# Adult Habitat

- Free swimming in the water column
- Spawning occurs in fluvial fans of lakes with loose sediment for nest building
- Nests are made in areas which have water flow to aerate eggs and provide nutrients to small ammocoetes



# Gaps?

- We have limited knowledge of:
  - Basic biology including life span
  - Population abundance
  - Specific habitat use
  - Predation requirements, feeding rates
  - Prey specificity
  - Spawning behaviour



Much of our knowledge on Cowichan Lake lamprey is based on a handful of studies and comparisons with other species of lake lamprey

# What Do We Know?

**Lake level** is of critical importance for several reasons but most importantly:

- Adult lamprey need water in the nearshore to successfully spawn
- Ammocoetes need water in the nearshore to feed and grow

When lake levels are low, spawning and rearing areas are restricted in size

This affects the ability for the species to spawn and rear with implications on population abundance