

Critical Habitat and the Conservation Ecology of the Freshwater Parasitic Lamprey, *Lampetra macrostoma*

R. J. BEAMISH¹ and J. WADE²

¹ Fisheries and Oceans Canada, Pacific Biological Station, 3190 Hammond Bay Road, Nanaimo, British Columbia V9T 6N7 Canada; e-mail: Richard.Beamish@pac.dfo-mpo.gc.ca

² Fundy Aqua Services, 1619 Venlaw Road, Nanaimo, British Columbia V9S 1J3 Canada; email: joy2004wade@yahoo.ca

Beamish, R. J., and J. Wade. 2008. Critical habitat and the conservation ecology of the freshwater parasitic lamprey, *Lampetra macrostoma*. Canadian Field-Naturalist 122(4): 327-337.

Lampetra macrostoma, the Cowichan Lamprey, is a freshwater parasitic lamprey that probably evolved from *L. tridentata* within the last 10 000 years. It is unique to the Cowichan Lake watershed on Vancouver Island, British Columbia, Canada. Larval rearing in Mesachie and Cowichan lakes occurs in shallow, silt-covered gravel areas at the mouths of rivers and streams flowing into the lakes. Spawning occurs over a protracted period from early May until about late July. Shallow areas with small gravel along the shore of the lakes, near the mouths of rivers are essential for successful spawning. Adults prey on a variety of salmonid species within the lake. There has been considerable development around Mesachie Lake and reported increased fishing pressure on prey in Mesachie and Cowichan lakes. It is not known if the size of the population of *L. macrostoma* has changed since an initial study in the early 1980s, but a study in 2008 captured very few spawning lamprey in Mesachie Lake, possibly indicating that the population is declining.

Key Words: Cowichan Lamprey, *Lampetra macrostoma*, critical habitat, conservation, Mesachie Lake, Cowichan watershed, British Columbia.