

## *Stickleback Species Pairs*, was featured in the 2005/2006 Freshwater Fishing Synopsis

### Stickleback Species Pairs – Part of B.C.'s Unique Aquatic Biodiversity

Most people familiar with B.C.'s coastal areas have likely observed the small bony-looking fish, the threespine stickleback (*Gasterosteus aculeatus*) in near-shore areas. However, it is a little known fact that the threespine stickleback has evolved into two unique co-existing species in 6 lakes in B.C. and nowhere else on the planet. These "species pairs" are of great scientific interest because of their very recent and rapid evolution – they are among the youngest species on earth! These species pairs are believed to have evolved from the common marine form of the threespine stickleback when post-glacial changes in water levels allowed them to invade low-lying lakes. A second invasion at a later time led to the development of two distinct species, a bottom-dwelling (*benthic*) species and a mid-water (*limnetic*) species, which differ significantly in appearance (see photo), behaviour, feeding habits and habitat preferences.



*Benthic (large) and Limnetic (small) Sticklebacks from Paxton Lake, Texada Island*

Until recently, 6 separate pairs of benthic and limnetic sticklebacks were known; from 4 lakes on Texada Island, one lake on Vancouver Island and one lake on Lasqueti Island. Unfortunately, the Hadley Lake pair on Lasqueti Island was recently declared extinct due to the illegal introduction of a non-native fish, the brown bullhead. The status of a second pair in Enos Lake on

Vancouver Island is currently unknown but thought to be at risk due to habitat change and the introduction of crayfish. The Texada pairs are considered abundant but the experience from Hadley and Enos lakes highlights these species' extreme vulnerability to human activities. Their existence depends on the protection of a very specific set of biological and physical features found in each lake that are sensitive to land and water use activities such as forestry, mining and urban development. Recently, recovery planning was jointly initiated by provincial and federal agencies to guide future management and protection of these species pairs. Given that the introduction of non-native species may represent the biggest risk, public awareness and stewardship are essential for preserving the remaining species pairs.

**For more information see:**

<http://wlapwww.gov.bc.ca/wld/documents/stickleback.pdf>