

Where have all the ling gone?

The burbot (*Lota lota*), or ling cod, is a very unique fish that is vanishing from our lakes and rivers in Southern British Columbia. Burbot populations have been the subject of a number of investigations over the past decade, which have recently set off alarms with the Ministry of Environment. Currently burbot fishing is closed in many lakes and rivers of the Kootenay Region, including Columbia and Windermere Lakes, due to the shocking drop in their numbers.

Because of its bizarre appearance the burbot is easy to identify. It has catfish-like whiskers and an eel-like body with elongated dorsal and anal fins. But the burbot is special in more than its looks. It has a unique life history, an important roll in its ecosystem and has local historical and cultural importance.

The burbot is the only exclusively freshwater member of the cod family in the world and has a circumpolar distribution, a trait shared by only one other fish in the Northern Hemisphere. Unlike any other fish in North America, burbot spawn in large groups that form writhing fish balls under the ice in the winter when water temperatures dip below 4°C. Large female burbot can lay over one million eggs which drift downstream into a lake where they hatch and grow into mature adults over the course of 3 to 5 years. Burbot can reach weights of over 12 pounds, although they rarely exceed 10 pounds in British Columbia, and typically grow to lengths between 38cm and 56cm. They prefer deep, cold lakes and rivers where they can hide at the bottom during the day and are active only at night. Although burbot are generally lazy and easily tired, they are considered a top predator as adults feed mainly on smaller fish and large crustaceans and insects.

Because burbot are a top predator, the health of their population is a good indicator of the health of lower levels in the food chain and the ecosystem as a whole. Burbot are a keystone species in their ecosystem, which is comparable to the keystone in an archway. If you take the keystone out, the archway collapses. Burbot are also an important food source themselves. Osprey and eagles prize the nutritious flesh of burbot, as do we.

Burbot are valued as being high quality food among humans. In some places, like Scandinavia, burbot liver is served as a delicacy and an excellent source of fish oil. For first nations in the East Kootenay Region the burbot has both historical and cultural importance. Many tribes fished for burbot throughout the Kootenays and used them as a dietary staple in the winter. In the early 1900's settling families in Windermere depended on catching burbot to make it through the winter too. Ice fishing for ling also served as an excellent social activity on Windermere Lake in the dreary depths of winter from the early 1900's to 1970's. Studies show that the size, health and number of burbot in Windermere and

Columbia Lakes has declined severely. Although studies have not identified the cause of the burbot fishery collapse in our local lakes, speculations include increased competition from the invasion of bass, low spawning adult numbers, loss of habitat, poor ice cover on the lakes as a result of climate change, decreased food sources, over predation (including over-fishing) and the construction of dams. Burbot in the Kootenay River and Kootenay Lake are on the brink of demographic extinction due to flow management at the Libby Dam in Idaho. As burbot are known to migrate great distances to spawn, perhaps the collapse of burbot fisheries elsewhere and the construction of dams along the Columbia River is limiting the interbreeding populations for the burbot here. The Lake Windermere Project will continue to monitor and report to the public on the status of this important species and what can be done to ensure its long term survival in the upper Columbia River system.

For more information contact the Lake Windermere Project at 341-6898. You can also visit the Project office located in the old District of Invermere office beside the Invermere Community Center. The Lake Windermere Project is a non-profit, long-term comprehensive stewardship program dedicated to safeguarding the health of our lake. The Lake Windermere Project is made possible by generous support from Wildsight, Environment Canada, Columbia Basin Trust and the Real Estate Foundation of B.C.