

Case study

Freshwater Fish



Disclaimer: The case study presented below is for a **fictional** species and is intended for training purposes only. The information presented in this account is not intended to reflect accurate information for any real species or the current situation within any particular country. This case study must not be cited for any purpose outside of Red List training.

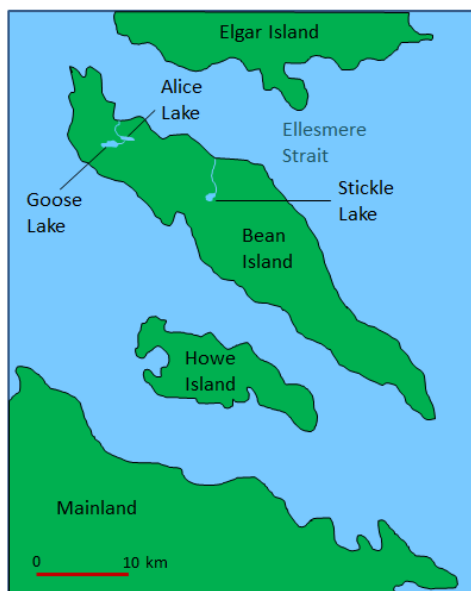


Figure 1: location of Stickle Lake

Range:

The global population of this fish is restricted to one small lake (Stickle Lake), which is located on an island approximately 20 km off the coast of the mainland (Figure 1). The lake has a maximum depth of about 15 m and is situated 92 m above sea level. The only outlet to Stickle Lake was dammed 35 years ago; beyond the dam, the outlet drops about 80 m in a series of small waterfalls before entering Ellesmere Strait, thus isolating the lake and the upper portion of the river from the sea. There is no permanent surface flow into the lake.

Population:

Currently the total population is likely to exceed 100,000, of which around 60% of the population being reproducing adults. No data exist on population trends, but currently it is believed to be more or less stable.

Habitat & Ecology:

During the summer months, the species prefers some cover and are often found around sunken logs and beneath vegetation around the littoral zone. In winter months they disperse to deeper areas (>8 m depth) occupying the entire lake bottom. Adults typically feed along the shallow lake margins preying on amphipods, midge larvae, dragonfly nymphs, freshwater snails, etc. Juveniles mainly feed on plankton. Spawning occurs in the shallower waters of the littoral zone and nests are usually found under cover in aquatic vegetation. Adults reach 90 mm in length. Individuals take 2-3 years to mature and experience only one breeding season before dying.

Threats:

Mining activities near Stickle Lake is known to have caused siltation and small pollution events in the lake in the past. It is likely that this caused some past declines in this fish, however the scale and time period over which these declines occurred are not known. Mining has not been a threat to the species since the mine closed 20 years ago.

Introduction of invasive species is the main potential threat to this fish, although currently there is no evidence for the presence of introduced species in Stickle Lake. Two predatory invasive species [Brown Bullhead Catfish (*Ameiurus nebulosus*) and Pumpkinseed Sunfish (*Lepomis gibbosus*)] have been spreading on the mainland over the last 15 years due to unauthorized public transplants. Brown Bullhead Catfish was also introduced to Goose Lake 7 years ago, and is believed to have been responsible for the recent extinction of a native freshwater fish species, which was closely related to the Stickle Lake species.

Conservation Measures:



Currently there are no species-specific conservation actions in place for this fish. An action plan has been developed to reduce further spread of the invasive fish, but it has yet to be fully implemented.