

Threespine Stickleback (*Gasterosteus aculeatus*)

Freshwater Fish Pennsylvania Endangered

Global Rank: G5 (secure)

State Rank: S1 (critically imperiled)

Description

The threespine stickleback is a small fish reaching a maximum length of 10 cm. It is laterally compressed, scaleless, and has a very narrow caudal peduncle. As its name implies, there are three dorsal spines, the last being very short, which are followed by 14-16 soft dorsal rays. The eyes are large and its color is silver-green to brown above with silver sides often mottled dark. Breeding males have blue sides, a bright red belly and lower sides, and bright blue or green eyes. Large females have a pink throat and belly. The colors of inland populations are often subdued (natureserve.org).



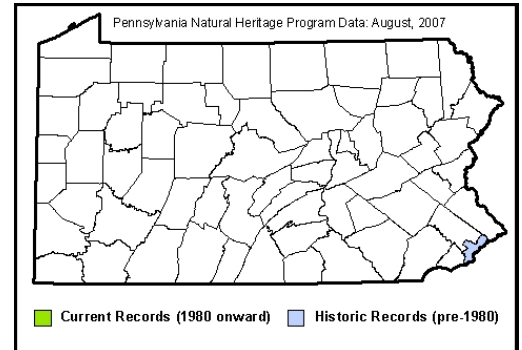
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Behavior

The threespine stickleback spawns over a wide period of spring to summer, due in part to its extensive north-south range. The males of this species, typical of other sticklebacks, builds a nest, which many contain the eggs of several females, and guards the eggs and fry (Cooper 1983). In most populations, spawning adults are 1-2 years old and do not typically live beyond 4 years. They are presumed to die at the end of their first breeding season. There has, however, been a population in Queen Charlotte Islands, British Columbia, where individuals lived up to 8 years (natureserve.org).

Diet

The threespine stickleback is observed to eat invertebrates and fish eggs and fry. Fresh water populations feed primarily on bottom organisms or organisms living on aquatic plants. Anadromous populations feed more on free-swimming crustaceans, but also bottom organisms (natureserve.org).

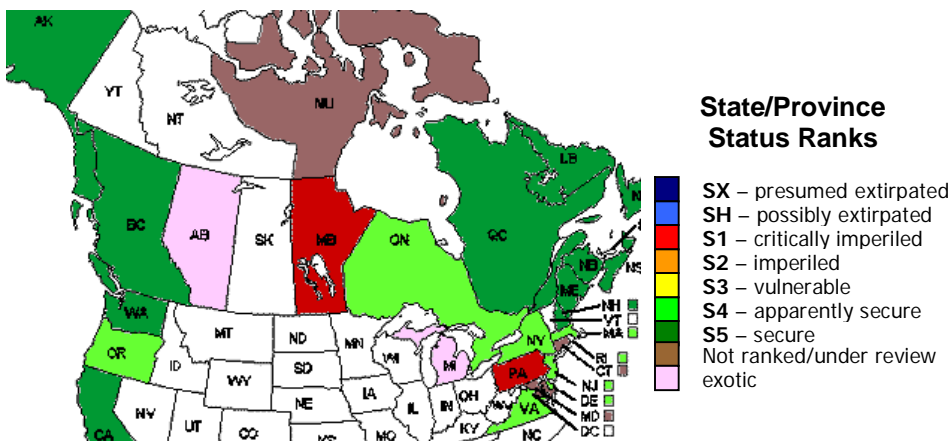


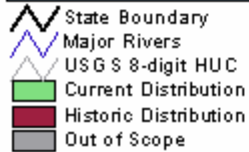
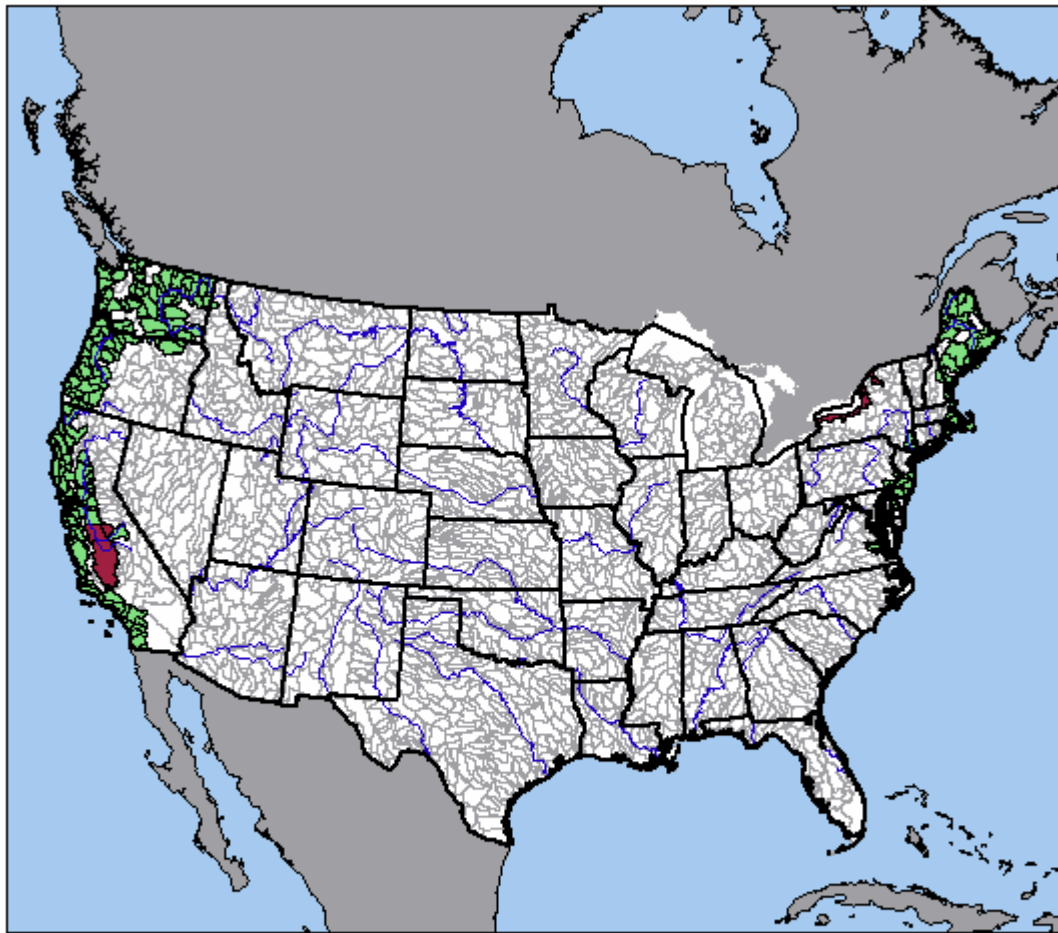
Threats and Protection Needs

The threespine stickleback is a globally secure species and exotic to the Great Lakes system and Alberta, Canada. It is Pennsylvania Endangered (naturalheritage.state.pa.us) and has historically been restricted to small reaches in the Delaware drainage near Philadelphia, and has only been found, according to Cooper, in Pennypack Creek, a tributary of the Delaware River, and is thought to be a stray from saltwater. The threespine stickleback has been used in carcinogenesis testing (natureserve.org).

North American State/Province Conservation Status

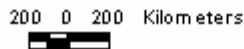
Map by NatureServe (September 2007)





Gasterosteus aculeatus
Threespine Stickleback

Map created June 2003



Habitat

The threespine stickleback is a coastal and brackish-water form species (sometimes recognized as separate species), nearly circumpolar in the Northern Hemisphere. They are present in freshwater but seldom occur very far from the ocean, except in populations in the Great Lakes and St. Lawrence River (Cooper 1983). It is found on both US coast from the poles down to Baja California, Mexico on the west coast and the Chesapeake Bay on the east coast (natureserve.org).

References

- Cooper, Edwin L. Fishes of Pennsylvania and the Northeastern United States. The Pennsylvania State University Press and University Park and London. 1983
- NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: September 4, 2007).



Pennsylvania Natural Heritage Program