

Brook stickleback (*Culaea inconstans*)

Freshwater Fish Species of Concern

Global Rank: G5 (secure)
State Rank: S3 (vulnerable)

Description

A small fish, the Brook stickleback grows to about two inches long. The adults are dark green to black with light spots on sides, but spawning males are often completely black. The body is laterally compressed, and the head is conical with a truncate lower jaw. The dorsal fins are unique, composed of an average of 5 short, isolated backswept spines with individual membranes followed by 9 soft dorsal rays united by a single membrane. The body is also without scales, although there are small plates by lateral line pores (Colorado Division of Wildlife).



Photo:
The Native Fish Conservancy

Behavior

The brook stickleback is a nest building species. It is ariadnophils, meaning that the male has the ability to secrete a mucous from its kidney, which it then uses to plaster and bind together a hollow nest made out of bits of vegetation (Cooper 1983).

Diet

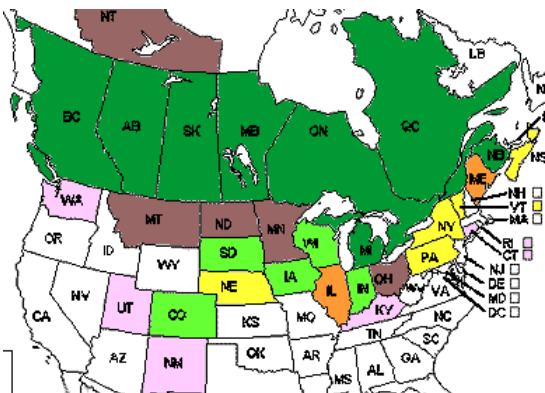
The diet of the brook stickleback is quite varied. According to Cooper it consists of nearly any organism small enough to be captured and swallowed. It is an opportunistic species eating various aquatic invertebrates, fish, eggs and larvae of both, and plants (natureserve.org).

Threats and Protection Needs

More northern populations of the brook stickleback, including those in the Great Lakes and further across the provinces of Canada are secure. Thus, little has been published about threats to this species. The range of the brook stickleback in Pennsylvania is historically limited. The Pennsylvania Fish and Boat Commission described the brook stickleback as only being found in the Ohio watershed, but Cooper and other sources (natureserve.org) give it a wider range including isolated watersheds in the Susquehanna drainage. It is a proposed candidate species in Pennsylvania (Steiner 2000).

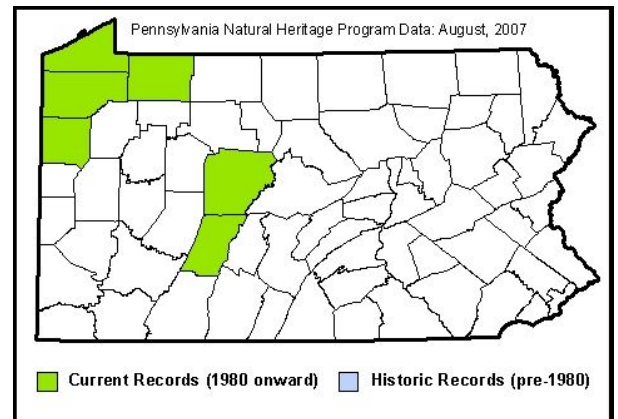
North American State/Province Conservation Status

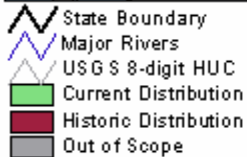
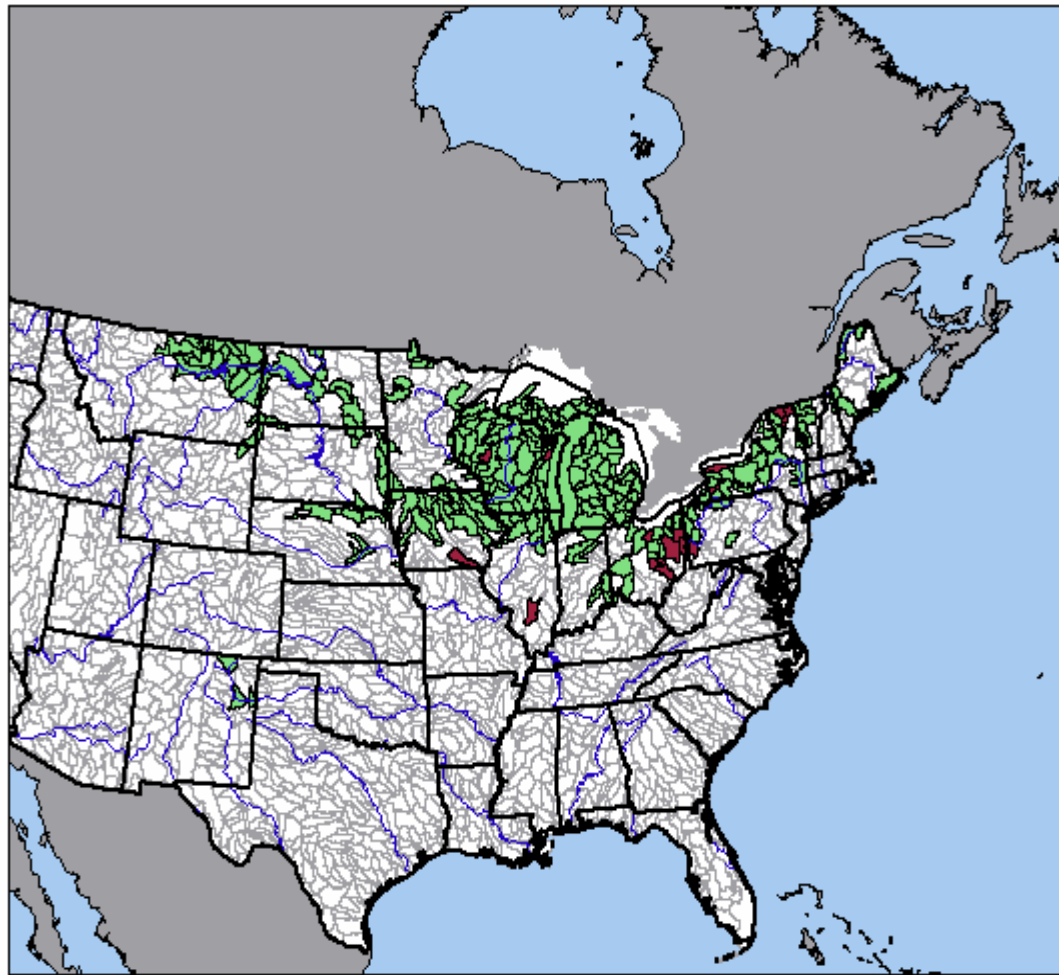
Map by NatureServe (September 2007)



State/Province Status Ranks

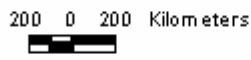
- SX – presumed extirpated
- SH – possibly extirpated
- S1 – critically imperiled
- S2 – imperiled
- S3 – vulnerable
- S4 – apparently secure
- S5 – secure
- Not ranked/under review
- exotic





Culaea inconstans
Brook Stickleback

Map created June 2003



Habitat

The brook stickleback is a rare but locally abundant species found sporadically in the Ohio, Erie, and Susquehanna watersheds of Pennsylvania (Cooper 1983). It prefers cool, clear, heavily weeded, spring-fed creeks, small rivers, lakes and ponds. They are occasionally found in brackish water. In Pennsylvania the brook stickleback is considered vulnerable (natureserve.org).

References



Pennsylvania Natural Heritage Program

- Cooper, Edwin L. Fishes of Pennsylvania and the Northeastern United States. The Pennsylvania State University Press and University Park and London. 1983
- Colorado Division of Wildlife. Natural Diversity Information Source. <http://ndis.nrel.colostate.edu/wildlifesp.aspx?SpCode=010608>
- 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).
- Steiner, Linda, Pennsylvania Fishes. Pennsylvania Fish and Boat Commission Bureau of Boating and Education Educational Media Section. 2000.