

Everglades Pygmy Sunfish (*Elassoma evergladei*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2017

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http://eol.org/data_objects/31661711. (August 2017).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

“North America: USA from Cape Fear River drainage in North Carolina to Mobile Bay in Alabama; south in Florida to northern edge of Everglades.”

Status in the United States

From NatureServe (2013):

“**Native:** United States”

This species has not been reported as introduced outside of its native range in the U.S.

From thenativetank (2017):

“In the US, you will very rarely see any of these [*Elassoma*] species traded commercially. Interestingly enough, the Blackbanded and Everglades Pygmy Sunfish have enjoyed small niches in the fishkeeping trade in Europe.”

Means of Introductions in the United States

This species has not been reported as introduced outside of its native range in the U.S.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2017):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Acanthopterygii
Order Perciformes
Family Elassomatoidei
Subfamily Elassomatidae
Genus *Elassoma*
Species *Elassoma evergladei* (Jordan, 1884)”

“Taxonomic Status:

Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 3.4 cm TL male/unsexed; [Page and Burr 1991]; common length : 2.3 cm TL male/unsexed; [Hugg 1996]”

Environment

From Froese and Pauly (2017):

“Freshwater; demersal; pH range: 7.0 - 7.5; dH range: 8 - 12. Temperate; 10°C - 30°C [Riehl and Baensch 1991], preferred ?”

Climate/Range

From Froese and Pauly (2017):

“35°N - 27°N”

Distribution Outside the United States

Native

Native to the United States only (see Native Range and Status in the United States).

Introduced

From Soes et al. (2011):

“None of the species belonging to the family Elasmobranchidae is known to be introduced outside its natural range (Welcomme, 1988; Fishbase.org), except for an introduction of *E. evergladei* in an artificial warm water stream in Germany. This introduction took place in the Ore Mountains (Erzgebirge) near Chemnitz (Karl-Marx-Stadt). The individuals released by aquarists were able to maintain a small population for some years, but this population had gone extinct by 1988 (Arnold, 1990).”

Means of Introduction Outside the United States

From Soes et al. (2011):

“[...] released by aquarists [...]”

Short Description

From Marcy et al. (2005):

“Mouth small and oblique with the maxillary barely reaching the front margin of the pupil (Carr and Goin 1959). Embedded scales present on top of head. Scales on body cycloid. Lateral line absent.”

“No dark shoulder blotches or postocular stripe. Sides of nonbreeding fish marked with light streaks, mottling, or blotches, but lack dark vertical bars. Lips dark. Females generally brown on back and mottled brown and cream to white on lower sides. A crescent-shaped area under and

behind the eye may appear gold or iridescent blue in life. Breeding males black with iridescent blue patches in life.”

“Dorsal spines (3)4(5), dorsal rays (8)9-10, anal rays 4-5, pectoral rays 13-15 (Böhlke 1956); lateral series scales 23-32 (Mettee et al. 1996).”

Biology

From Froese and Pauly (2017):

“Occurs in swamps, heavily vegetated sloughs and small sluggish streams, usually over mud. Feeds on worms and crustaceans [Mills and Vevers 1989]. Oviparous, eggs are deposited in aquatic vegetation, preferably on strands of *Ceratophyllum* sp. when available [Mettee and Scharpf 1998].”

“Male guards the eggs [Mettee and Scharpf 1998]. Produces 40-60 eggs.”

From Rubenstein (1981):

“[...] lives in sluggish waters amongst the submerged vegetation. Adults feed upon small annelids, chironomid larvae, daphnia, copepods, and ostracods (Barney & Anson 1920; Rubenstein, unpublished data). They mature at about one year and rarely live more than three years (Barney & Anson 1920). They do not shoal, and occasionally they establish territories.”

“It normally lives in small ponds that undergo radical seasonal changes in volume, and therefore under natural conditions the pygmy sunfish experiences wide fluctuations in population density.”

From NatureServe (2013):

“This fish is common in most of its range.”

Human Uses

From Froese and Pauly (2017):

“Aquarium: commercial”

Diseases

From Allison and Rogers (1970):

“The following gill parasites were collected. Since there were no reports in the literature of Ancyrocephalinae from Alabama freshwater fish prior to this study, each represents a new distribution record. [...] New host records are indicated by an asterisk. The number of hosts examined is given following each host. [...]

Elassoma evergladei Jordan—10

**Urocleidus circumcirrus* sp. n.

**Urocleidus udicola* sp. n.”

From Soes et al. (2010):

“With Ellassomatidae not being cultured or of importance in fisheries relatively little information on their parasites and diseases is present. Some parasites are reported including three species of monogeneans which are only known from *Elassoma*-species (*Urocleidus circumcirrus*, *U. udicola* and *Gyrodactylus heterodactylus*). Two species of nematods [*sic*] are known, both cosmopolitans. [...] Another four species have been reported from *Elassoma*-species in juvenile stages: *Caecincola latostoma*, *Cryptogonimus spinovum*, *Posthodiplostomum minimum* and *Textrema hopkinsi*. All four are mainly known from Centrarchidae (Hoffman, 1999).”

No OIE-reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

No information available.

4 Global Distribution

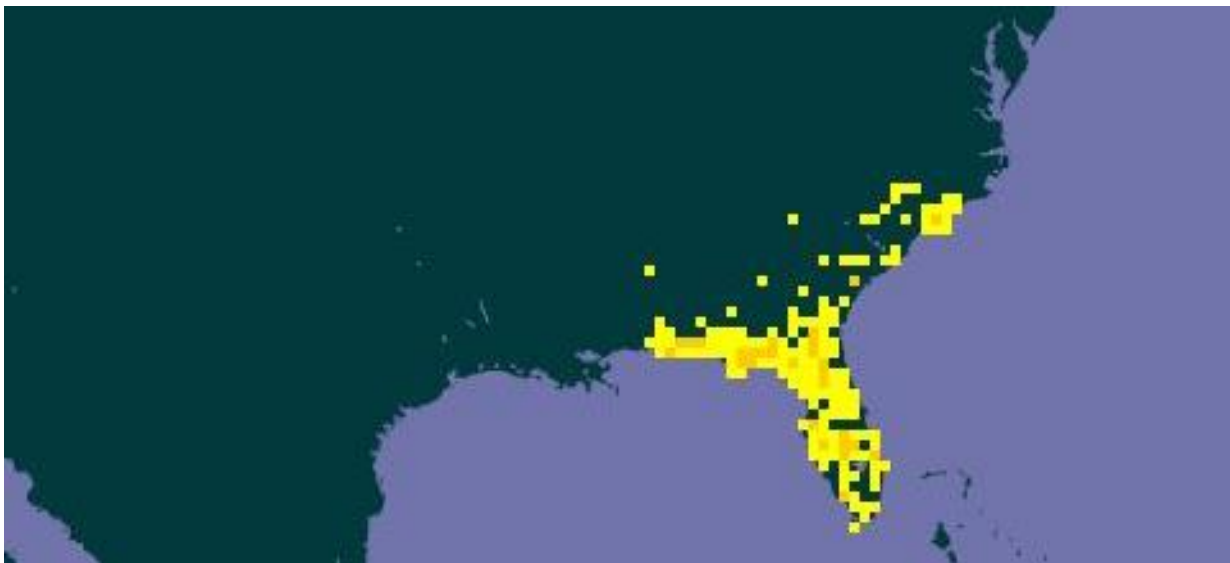


Figure 1. Known global established locations of *Elassoma evergladei*. Map from GBIF (2017). The data point near Tuscaloosa, Alabama, was not included in climate matching because of an error in the coordinates.

5 Distribution Within the United States

The U.S. distribution is the same as the global distribution (see “Global Distribution”).

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean Distance) for the contiguous U.S. was high. The range of scores indicating a high climate match is >0.103 ; the Climate 6 score of *Elassoma evergladei* was 0.216. *Elassoma evergladei* is native to the contiguous United States, and high climate match scores occurred in its known native range. Medium climate match scores occurred in areas adjacent to *Elassoma evergladei*'s native range. The remainder of the contiguous U.S. had a low climate match.

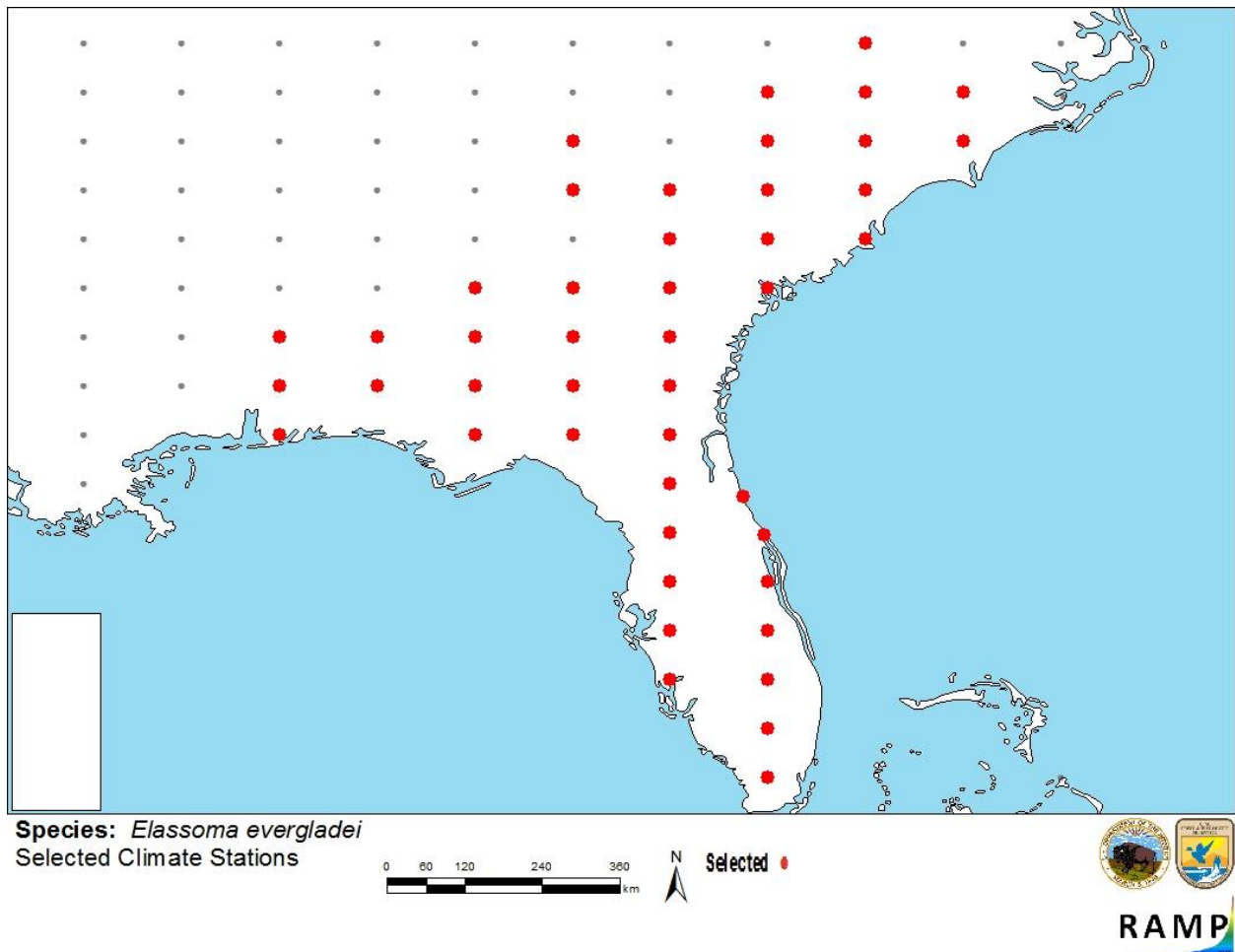


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *Elassoma evergladei* climate matching. Source locations from GBIF (2016).

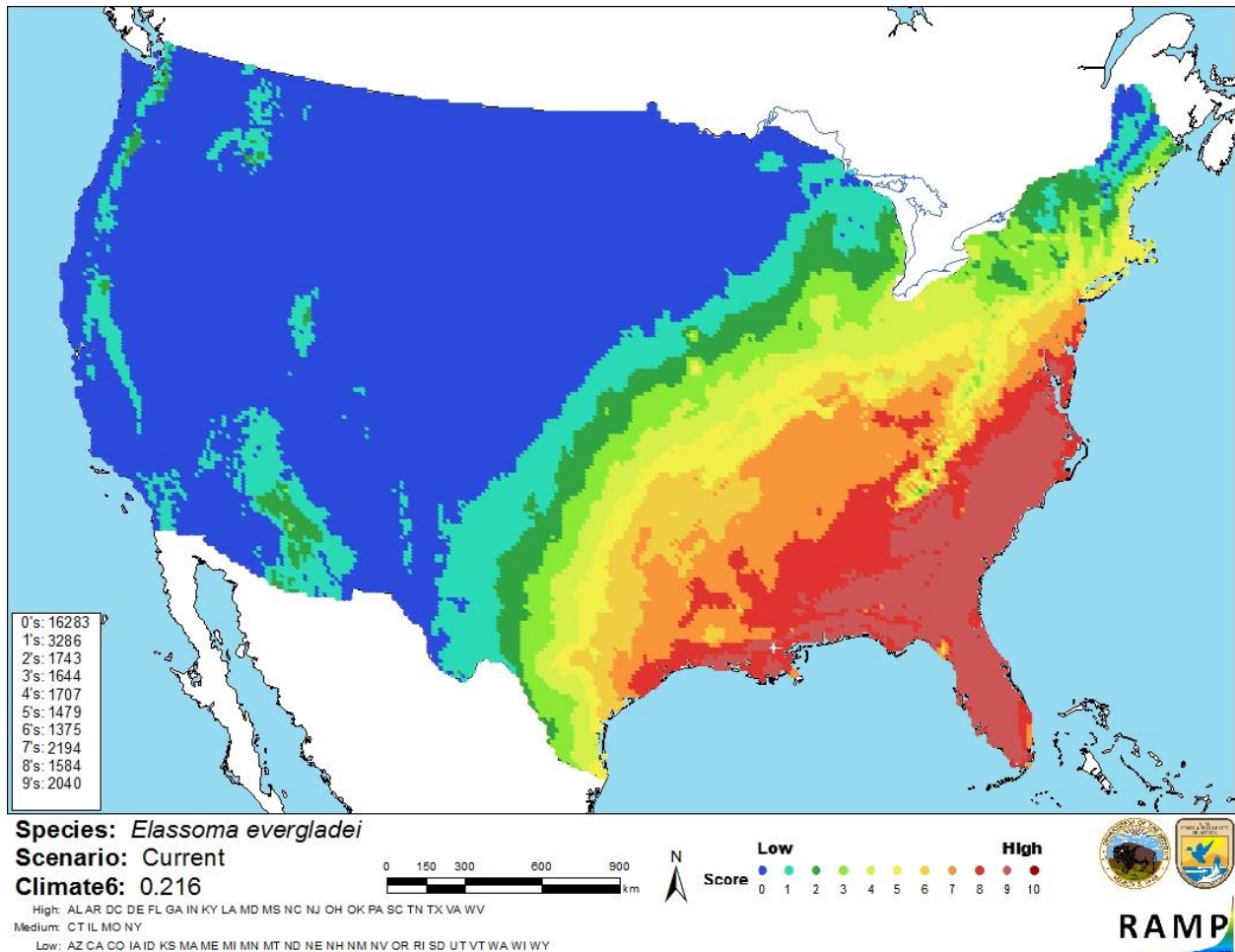


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Ellassoma evergladei* in the contiguous United States based on source locations reported by GBIF (2016). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 < X < 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

The biology, ecology, and distribution of *E. evergladei* have been reasonably well documented. There was limited information available on the introduction history of *Ellassoma evergladei*, including no information on any impacts of the one introduction reported. The certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Elassoma evergladei is native to coastal drainages in the Southeastern United States. This benthic species is a predator of worms, crustaceans, and insect larvae, and lives in sluggish waters. It is present in the aquarium trade in the U.S. and Europe. One introduction occurred due to aquarium release into an artificial warm water stream in Germany, but that introduction failed by 1988. Due to its high climate match and minimal introduction history, the overall risk posed by *E. evergladei* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec. 6): High**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

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10 References Quoted But Not Accessed

Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.

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