Tilapia fusiforme
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, June 2015

Photo not available.

1 Native Range, and Status in the United States

Native Range
From Froese and Pauly (2015):

"Africa: endemic to Lake Ejagham, Cross River basin, Cameroon [Dunz and Schliewen 2010]."

Status in the United States
This species has not been reported in the U.S.

Means of Introductions in the United States
This species has not been reported in the U.S.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
From GBIF (2015):

"KINGDOM Animalia
PHYLUM Chordata
CLASS Actinopterygii
ORDER Perciformes
FAMILY Cichlidae
GENUS Tilapia
SPECIES Tilapia fusiforme"

"TAXONOMIC STATUS Accepted species"

Size, Weight, and Age Range
From Froese and Pauly (2015):

"Max length : 8.0 cm SL male/unsexed; [Dunz and Schliewen 2010]"

Environment
From Froese and Pauly (2015):

"Freshwater; benthopelagic."

Climate/Range
From Froese and Pauly (2015):

"Tropical"

Distribution Outside the United States
Native
From Froese and Pauly (2015):

"Africa: endemic to Lake Ejagham, Cross River basin, Cameroon [Dunz and Schliewen 2010]."

Introduced
No introductions of this species have been reported.

Means of Introduction Outside the United States
No introductions of this species have been reported.

Short description
From Dunz and Schliewen (2010):

"*T. fusiforme* spec. nov. is a small Tilapia (maximum observed size 80.0 mm SL) with a laterally compressed body. Head profile straight. Moderately pointed head. Snout outline obtuse. Eye very large and interorbital width always smaller than eye length. Greatest body depth at level of first dorsal spine. Dorsal line slightly posteroventrally curved. Caudal peduncle always longer than deep."

"Basic coloration chartreuse greyish, chest bright yellow and belly pale. Head slightly darker than body and more green. Upper lip bluish green and lower lip whitish. A horizontal iridescent blue line above antero-rostral margin of preopercle. Iris of eyes brown to slightly reddish. Body with indistinct slightly blackish vertical bars and a nape band. Opercular spot indistinct. All fins bright yellow. In soft part of dorsal fin "tilapia spot" extended to a longitudinal stripe."

Biology
From Dunz and Schliewen (2010):

"Qualitative feeding observations suggest that the deepwater specimens primarily feed on planktonic organisms in the open water column, while inshore specimens, in addition, pick on small particles from substrate and feed on allochtonous matter from the water surface. *T. fusiforme* spec. nov. bred in all depth zones, however, only the "little-black" form in all depth

zones whereas, “large-blacks” bred preferentially in log-holes of dead wood in the shallow region above 1 m (Schliewen et al. 2001).”

Human uses
From Froese and Pauly (2015):

“Fisheries”

Diseases

No OIE-notifiable diseases have been reported for this species.

Threat to humans
From Froese and Pauly (2015):

“Harmless”

3 Impacts of Introductions
No introductions of this species have been reported.

4 Global Distribution

Figure 1. Global distribution of *T. fusiforme*. Map from GBIF (2015).

5 Distribution within the United States
This species has not been reported in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low throughout the contiguous U.S., reflected in a Climate 6 proportion of 0.0. The range for a low climate match is 0.000 to 0.005.

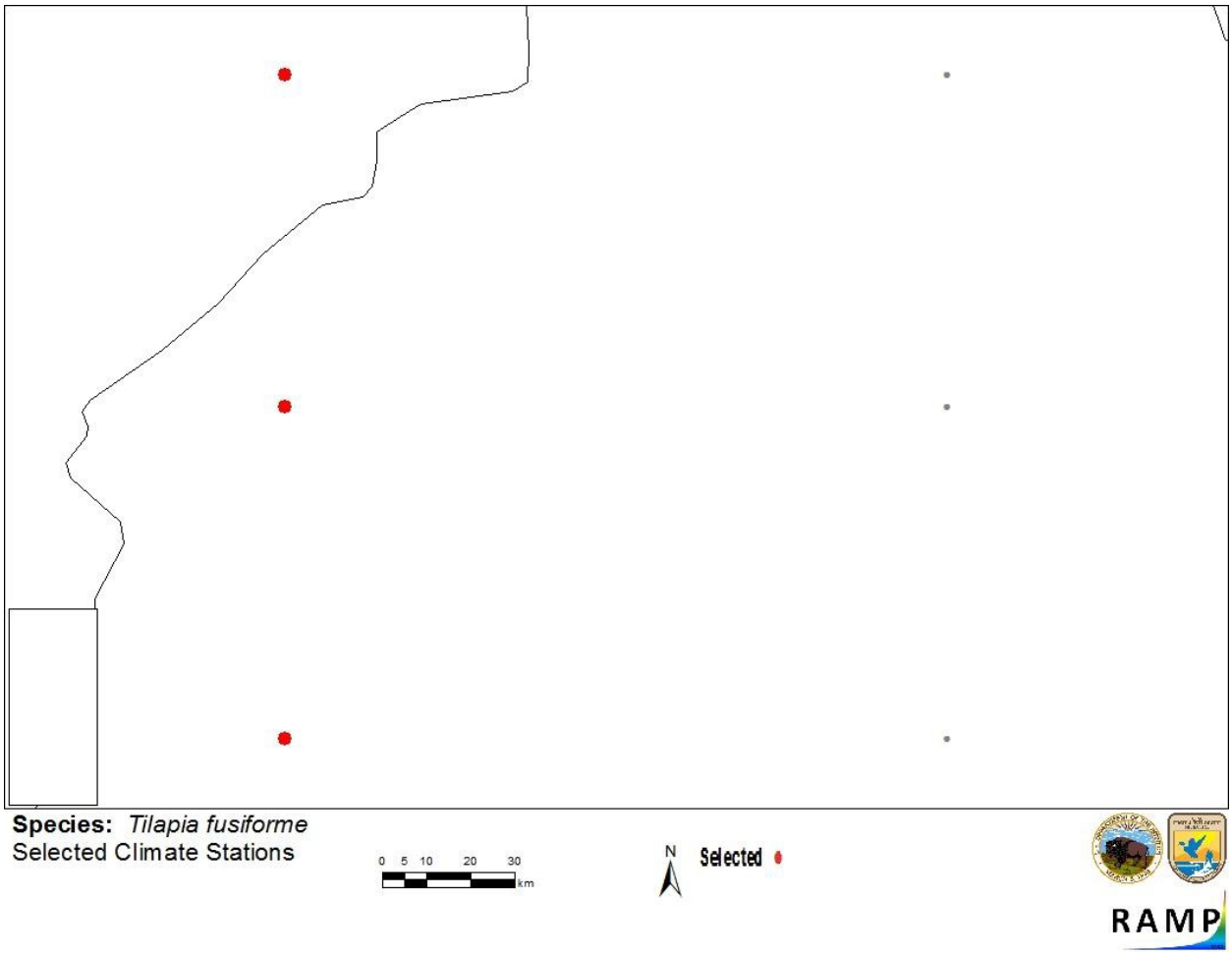

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *T. fusiforme* climate matching. Source locations from GBIF (2015). All source locations are in Cameroon.

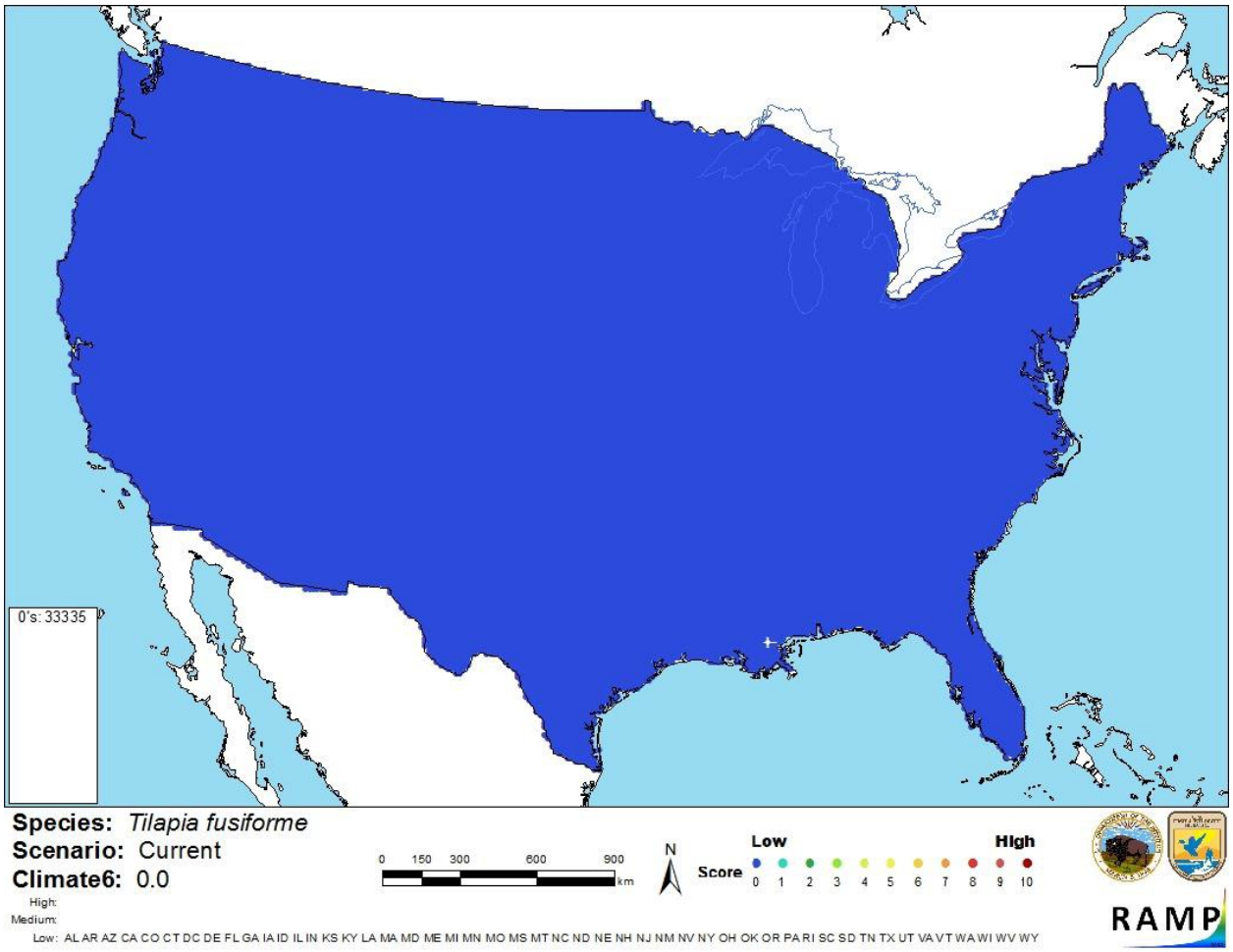

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *T. fusiforme* in the continental United States based on source locations reported by GBIF (2015). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

7 Certainty of Assessment

Little information is available on the biology of *T. fusiforme* and it has not become established outside its native range. The certainty of this assessment is high because the lack of information about this species precludes any assessment other than "uncertain" risk.

8 Risk Assessment

Summary of Risk to the Continental United States

Tilapia fusiforme is a benthopelagic cichlid endemic to Lake Ejagham in Cameroon. It has not been reported as introduced outside of this location. Because *T. fusiforme* has no history of invasion, it is currently impossible to know what impacts *T. fusiforme* might have if introduced to the US. Climate match to the contiguous U.S. is low, but this may be an underestimate because environmental factors other than climate tolerance may be responsible for the restriction of the species to a single lake. Tropical and sub-tropical areas of the U.S. may be suitable habitat for this tropical species. Overall risk of this species is uncertain.

Assessment Elements

- ☐ **History of Invasiveness (Sec. 3):** Uncertain
- ☐ **Climate Match (Sec.6):** Low
- ☐ **Certainty of Assessment (Sec. 7):** High
- ☐ **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.

Dunz, A. R., and U. K. Schliewen. 2010. Description of a *Tilapia* (*Coptodon*) species flock of Lake Ejagham (Cameroon), including a redescription of *Tilapia deckerti* Thys van den Audenaerde, 1967 (Perciformes, Cichlidae). Spixiana 33(2):251-280.

Froese, R., and D. Pauly. 2015. *Tilapia fusiforme* Dunz & Schliewen, 2010. FishBase. Available: http://www.fishbase.org/summary/65870. (June 2015).

Global Biodiversity Information Facility (GBIF). 2015. GBIF backbone taxonomy: *Tilapia fusiforme* Dunz & Schliewen, 2010. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/5961886. (June 2015).

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. US Fish and Wildlife Service.

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.

Schliewen, U. K., K. Rassmann, M. Markmann, J. Markert, T. D. Kocher, and D. Tautz. 2001. Genetic and ecological divergence of a monophyletic cichlid species pair under fully sympatric conditions in Lake Ejagham, Cameroon. Molecular Ecology 10:1471-1488.