

# *Tilapia joka*

## Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, June 2015

Photo not available.

### 1 Native Range, and Status in the United States

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#### Native Range

From Froese and Pauly (2015):

“Africa: lower courses of rivers from Sierra Leone and western Liberia.”

#### 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.

#### Remarks

From Bousso and Lalèyè (2010):

“The species is found in the lower coastal plains of Sierra Leone and western Liberia. The extent of occurrence and area occupancy of this species are not very large, at 10,000 km<sup>2</sup> and 1,000 km<sup>2</sup> respectively. In view of restricted extent of occurrence and area occupancy, presumed small population in these basins (fewer than 10 locations), the species can be classified as Vulnerable due to threats, particularly from agricultural, urban and deforestation developments.”

### 2 Biology and Ecology

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#### Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2015):

“Kingdom Animalia  
Subkingdom Bilateria  
Infrakingdom Deuterostomia  
Phylum Chordata  
Subphylum Vertebrata  
Infraphylum Gnathostomata  
Superclass Osteichthyes  
Class Actinopterygii  
Subclass Neopterygii

Infraclass Teleostei  
Superorder Acanthopterygii  
Order Perciformes  
Suborder Labroidei  
Family Cichlidae  
Genus *Tilapia*  
Species *Tilapia joka* Thys van den Audenaerde, 1969”

“Taxonomic Status: valid”

### **Size, Weight, and Age Range**

From Froese and Pauly (2015):

“Max length : 9.6 cm TL male/unsexed; [Teugels and Thys van den Audenaerde 1991]”

### **Environment**

From Froese and Pauly (2015):

“Freshwater; benthopelagic; pH range: 6.0 - 8.0; dH range: 5 - 12.”

### **Climate/Range**

From Froese and Pauly (2015):

“Tropical; 23°C - 25°C [Baensch and Riehl 1985]”

### **Distribution Outside the United States**

Native

From Froese and Pauly (2015):

“Africa: lower courses of rivers from Sierra Leone and western Liberia.”

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 Froese and Pauly (2015):

“Dorsal spines (total): 15 - 17; Dorsal soft rays (total): 11-13; Anal spines: 3; Anal soft rays: 8 - 9. Diagnosis: micro-gillrakers absent; small-sized specimens; dorsal fin with 15-17 spines and 11-13 soft rays (mean 17.12); anal fin with 3 spines and 8-9 soft rays; narrow scaly sheet at the base of anal fin; 7-9 lower gill-rakers [Teugels and Thys van den Audenaerde 2003].”

## Biology

From Froese and Pauly (2015):

“Female lays around 200 eggs inside the male's cave. Both parents care for their young.”

## Human uses

From Bousso and Lalèyè (2010):

“This species is harvested for human consumption.”

## Diseases

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

## Threat to humans

From Froese and Pauly (2015):

“Harmless”

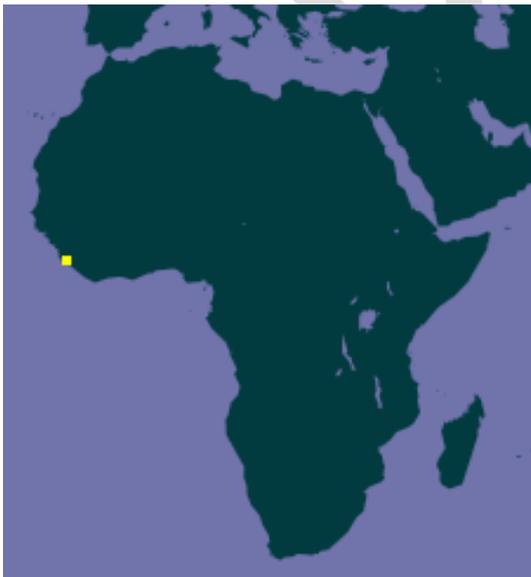
## 3 Impacts of Introductions

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No introductions of this species have been recorded.

## 4 Global Distribution

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

## 5 Distribution within the United States

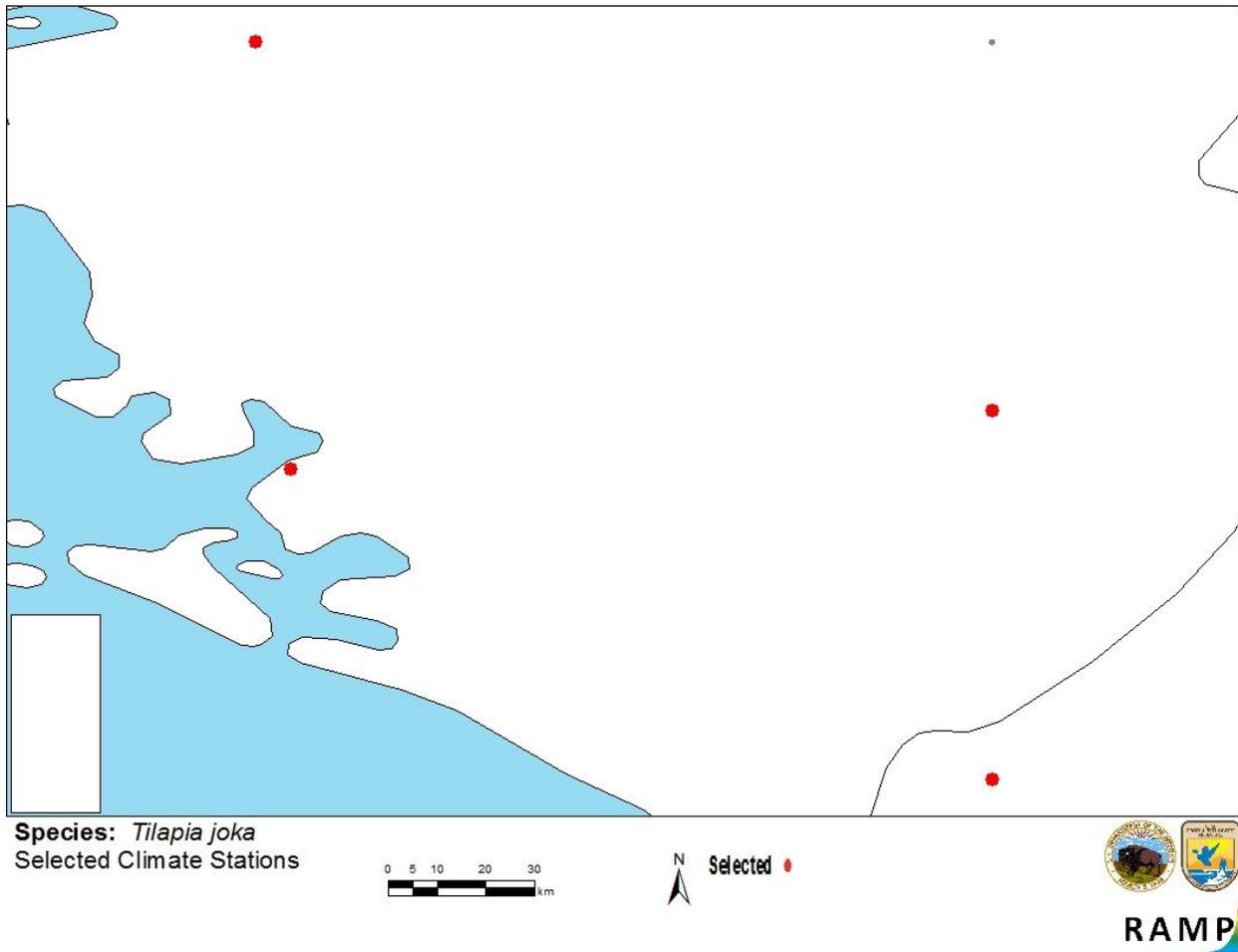
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This species has not been reported in the U.S.

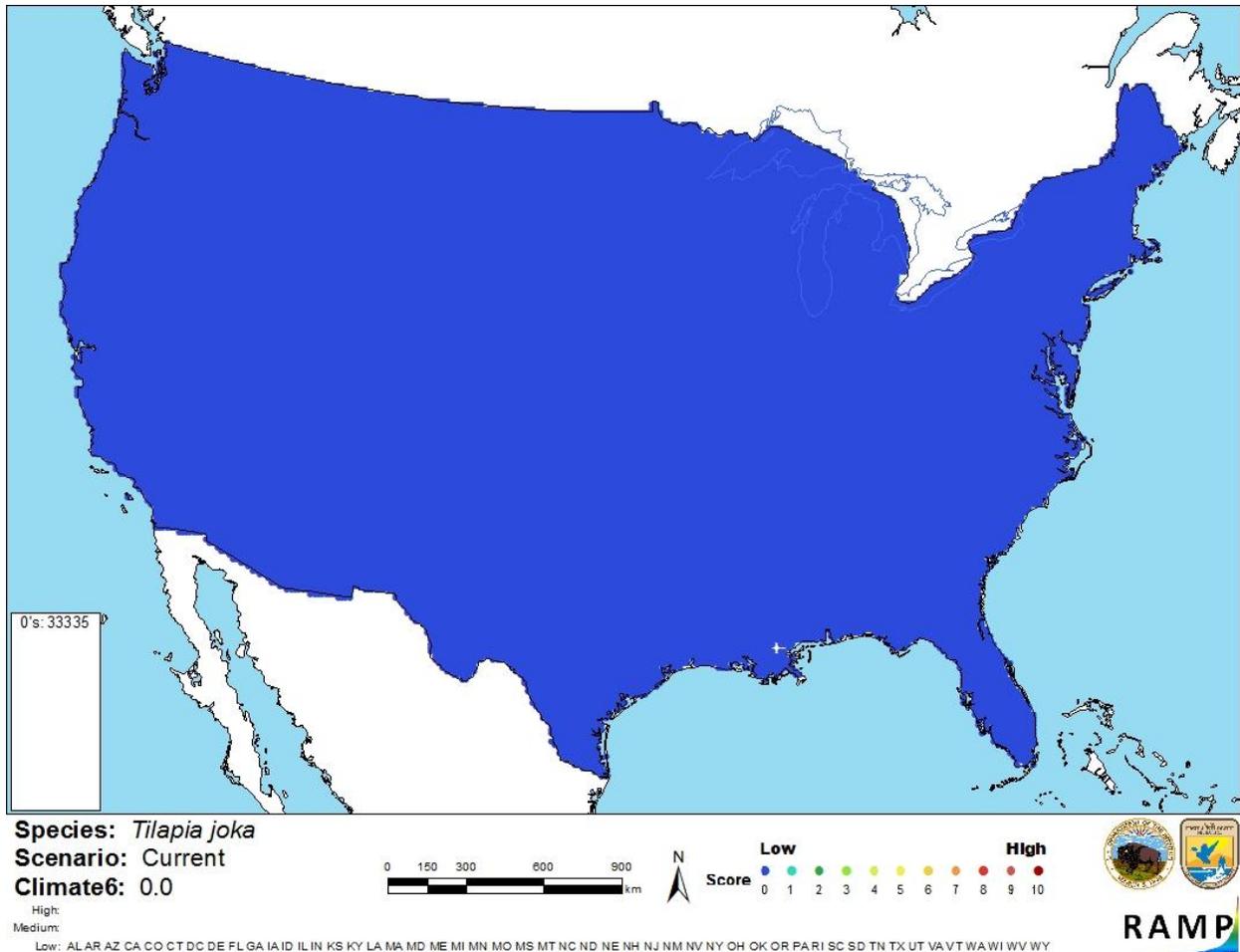
## 6 Climate Matching

### 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. joca* climate matching. Source locations from GBIF (2015). All source locations are in Sierra Leone.



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *T. joko* 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. joko* 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 joko* is a benthopelagic cichlid native to a small part of West Africa. The species has not been reported as introduced outside of this location. Because *T. joko* has no history of invasiveness, it is currently impossible to know what impacts *T. joko* might have if introduced to the U.S. Climate match to the contiguous U.S. is low. 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**

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## 9 References

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

- Bouso, T., and P. Lalèyè. 2010. *Tilapia joka*. The IUCN Red List of Threatened Species, version 2015.2. Available: <http://www.iucnredlist.org/details/182524/0>. (June 2015).
- Froese, R., and D. Pauly, editors. 2015. *Tilapia joka* Thys van den Audenaerde, 1969. FishBase. Available: <http://www.fishbase.org/summary/8915>. (June 2015).
- Global Biodiversity Information Facility (GBIF). 2015. GBIF backbone taxonomy: *Tilapia joka* Thys van den Audenaerde, 1969. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2370680>. (June 2015).
- Integrated Taxonomic Information System (ITIS). 2015. *Tilapia joka* Thys van den Audenaerde, 1969. Integrated Taxonomic Information System, Reston, Virginia. Available: [http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=648974](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648974). (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

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**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.**

- Baensch, H. A., and R. Riehl. 1985. Aquarien atlas, volume 2. Mergus, Verlag für Natur-und Heimtierkunde GmbH, Melle, Germany.
- Teugels, G. G., and D. F. E. Thys van den Audenaerde. 1991. *Tilapia*. Pages 482-508 in J. Daget, J.-P. Gosse, G. G. Teugels, and D. F. E. Thys van den Audenaerde, editors. Check-list of the freshwater fishes of Africa (CLOFFA), volume 4. ISNB, Brussels; MRAC, Tervuren; and ORSTOM, Paris.
- Teugels, G. G., and D. F. E. Thys van den Audenaerde. 2003. Cichlidae. Pages 521-600 in D. Paugy, C. Lévêque, and G. G. Teugels, editors. The fresh and brackish water fishes of West Africa, volume 2. Coll. faune et flore tropicales 40. Institut de recherche de développement, Paris, France, Muséum national d'histoire naturelle, Paris, France and Musée royal de l'Afrique Central, Tervuren, Belgium.