Blackstripe Pencilfish (*Nannostomus harrisoni*)
Ecological Risk Screening Summary

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1 Native Range and Status in the United States

Native Range
From Froese and Pauly (2014):

"South America: Demerara River basin, Guyana."

GBIF Secretariat (2014) has records for this species in Brazil and Bolivia. These records are outside the native range as stated by Froese and Pauly (2014) but no sources indicate if these locations are the results of further understanding of the native range or the result of introductions.

Status in the United States
No records of *Nannostomus harrisoni* in the United States were found.

Means of Introductions in the United States
No records of *Nannostomus harrisoni* in the United States were found.

Remarks
No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2014):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Characiformes
Family Lebiasinidae
Subfamily Pyrrhulininae
Tribe Nannostomini
Genus *Nannostomus* Günther, 1872
Species *Nannostomus harrisoni* (Eigenmann, 1909)"

From Eschmeyer et al. (2017):

"***harrisoni, Poecilobrycon*** Eigenmann [C. H.] 1909:43 [Annals of the Carnegie Museum v. 6 (no. 1) […]] Canal at Christianburg, Guyana. Holotype: FMNH 52767 [ex CM 1160]. Paratypes: CAS 62376 [ex IU 11709] (2). Type catalog: Henn 1928:56, Ibarra & Stewart 1987:68 […]. •Valid as *Poeciloberycon harrisoni* Eigenmann 1909 -- (Weitzman 1966:12 […]). •Valid as *Nannostomus harrisoni* (Eigenmann 1909) -- (Weitzman & Cobb 1975:11 […], Weitzman & Weitzman in Reis et al. 2003:244 […], Zarske 2011:293 […]). **Current status:** Valid as *Nannostomus harrisoni* (Eigenmann 1909). Lebiasinidae: Pyrrhulininae."

Size, Weight, and Age Range

From Froese and Pauly (2014):

"Max length : 4.5 cm SL male/unsexed; [Weitzman and Weitzman 2003]"

From GBIF Secretariat (2014):

"Though the recently described species *N. grandis* has been dubbed the largest member of the genus, adult *N. harrisoni* commonly grow to a length of 70 mm, making it in fact the largest species of pencil fish described to date."

Environment
From Froese and Pauly (2014):

"Freshwater; benthopelagic; pH range: 5.5 - 7.0; dH range: ? - 4. […]; 24°C - 28°C [assumed to be recommended aquarium temperature range] [Riehl and Baensch 1991]"

Climate/Range
From Froese and Pauly (2014):

"Tropical; […]"

Distribution Outside the United States
Native
From Froese and Pauly (2014):

"South America: Demerara River basin, Guyana."

GBIF Secretariat (2014) has records for this species in Brazil and Bolivia. These records are outside the native range as stated by Froese and Pauly (2014) but no sources indicate if these locations are the results of further understanding of the native range or the result of introductions.

Introduced
No records of *Nannostomus harrisoni* introductions outside of its native range were found.

Means of Introduction Outside the United States
No records of *Nannostomus harrisoni* introductions outside of its native range were found.

Short Description
From GBIF Secretariat (2014):

"Native to The Guianas, the species displays a single horizontal stripe of intense black, and blood red adornments on its fins."

Biology
Biological information for *Nannostomus harrisoni* was not found.

Human Uses
From Froese and Pauly (2014):

"Aquarium: commercial"

Diseases
No records of diseases of *Nannostomus harrisoni* were found.

Threat to Humans

From Froese and Pauly (2014):

"Harmless"

3 Impacts of Introductions

No records of *Nannostomus harrisoni* introductions outside of its native range were found.

GBIF Secretariat (2014) has records for this species in Brazil and Bolivia. These records are outside the native range of Guyana as stated by Froese and Pauly (2014) but no sources indicate if these locations are the results of further understanding of the native range or the result of introductions.

4 Global Distribution

Figure 1. Known global distribution of *Nannostomus harrisoni* in South America. Map from GBIF Secretariat (2014).

Figure 2. Known distribution of *Nannostomus harrisoni*. Map from VertNet (2017).

5 Distribution Within the United States

No records of *Nannostomus harrisoni* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Nannostomus harrisoni* was medium for the tip of Florida and low for the rest of the contiguous United States. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.001, low, and no states had an individually high climate match.

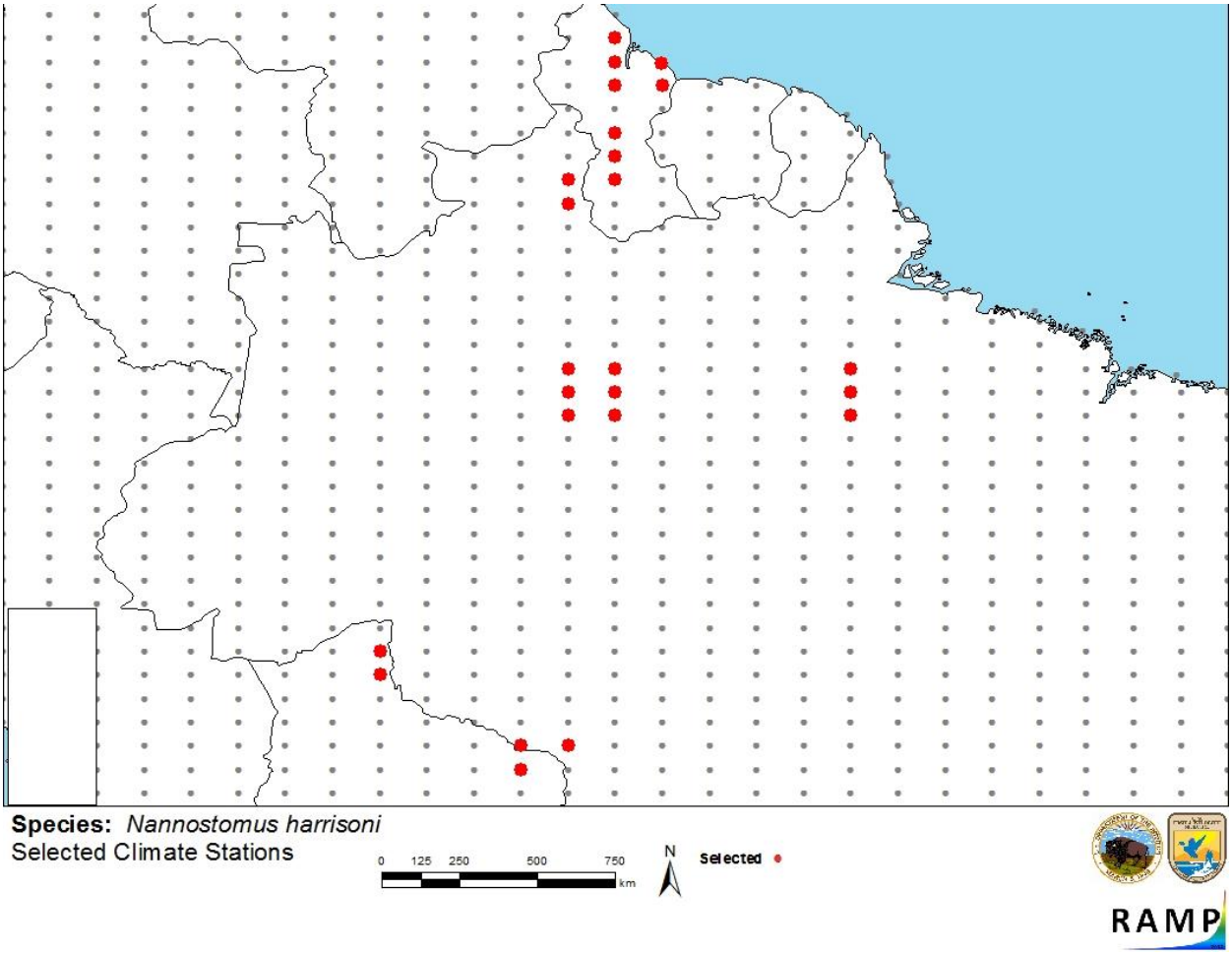

Figure 3. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (grey) for *Nannostomus harrisoni* climate matching. Source locations from GBIF Secretariat (2014).

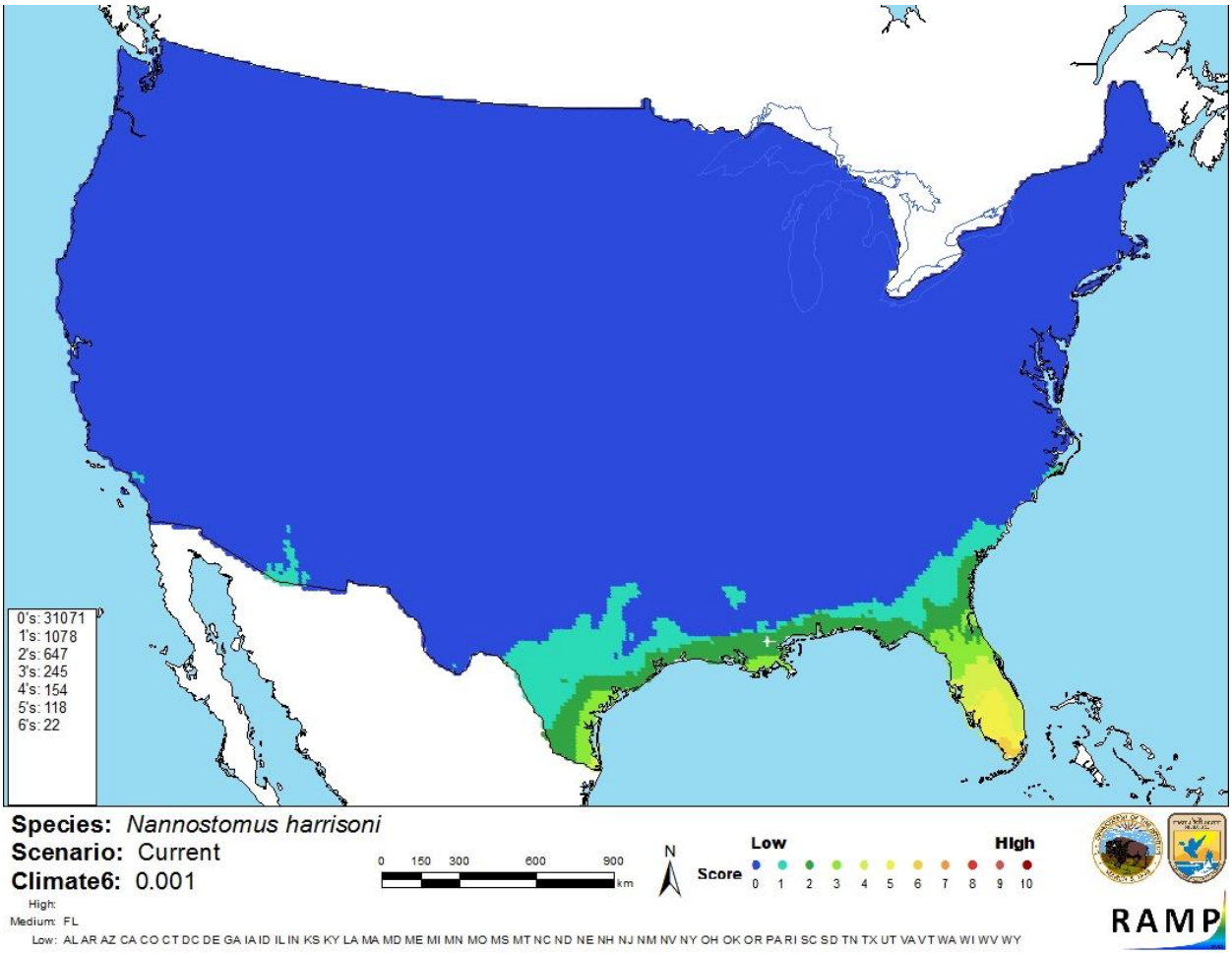

Figure 4. Map of RAMP (Sanders et al. 2014) climate matches for *Nannostomus harrisoni* in the contiguous United States based on source locations reported by GBIF Secretariat (2014). 0 = Lowest match, 10 = Highest match.

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
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

There was minimal information available for *Nannostomus harrisoni*. Ambiguous information was available on the native range of this species. Records exist for this species in nearby river systems to the stated native range of the species that could constitute a better understanding of the native range or introductions but no sources provide this information. The certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Nannostomus harrisoni is a small freshwater fish native to South America. It may be used in the aquarium industry but not much is known about the species. The history of invasiveness for *Nannostomus harrisoni* is uncertain. There were no confirmed records of introductions found. GBIF Secretariat (2014) has records for this species in Brazil and Bolivia, which are outside the native range of Guyana as stated by Froese and Pauly (2014). However, sources indicate if these locations are the results of further understanding of the native range or the result of introductions. The climate match for the contiguous U.S. is low, 0.001. The certainty of assessment is low. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information** No additional remarks.
- **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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VertNet. 2017. VertNet. Available: http://www.vertnet.org/index.html. (February 2017).

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.

Eigenmann, C. H. 1909. Reports on the expedition to British Guiana of the Indiana University and the Carnegie Museum, 1908. Report 1. Some new genera and species of fishes from British Guiana. Annals of the Carnegie Museum 6(1):4–54.

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Weitzman, M., and S. H. Weitzman. 2003. Lebiasinidae (pencil fishes). Pages 241–251 *in* R. E. Reis, S. O. Kullander, and C. J. Ferraris, Jr., editors. Checklist of the freshwater fishes of South and Central America. EDIPUCRS, Porto Alegre, Brazil.

Zarske, A. 2011. *Nannostomus grandis* spec. nov. -- ein neuer Ziersalmler aus Brasilien mit Bemerkungen zu *N. beckfordi* Günther, 1872, *N. anomalus* Steindachner, 1876 und *N. aripirangensis* Meinken, 1931 (Teleostei: Characiformes: Lebiasinidae). Vertebrate Zoology 61(3):283–298. (In German; English and French abstracts.)