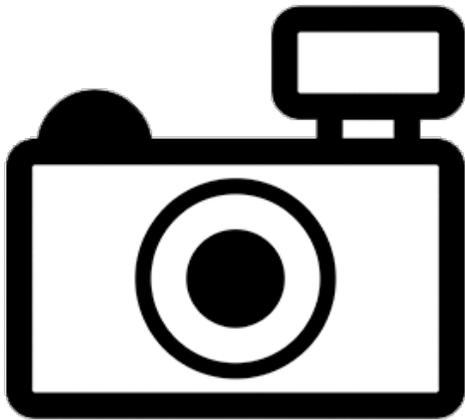


Pangasius mahakamensis (a catfish, no common name) Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2012
Revised, August 2018
Web Version, 2/9/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

From Pouyaud et al. (2002):

“*Pangasius mahakamensis* is endemic to East Kalimantan (Indonesia) and it is presently only known from the type locality, the Mahakam River.”[Island of Borneo]

Status in the United States

No records of *Pangasius mahakamensis* in the wild or in trade in the United States were found.

Pangasius mahakamensis falls within Group I of New Mexico’s Department of Game and Fish Director’s Species Importation List (New Mexico Department of Game and Fish 2010). Group I species “are designated semi-domesticated animals and do not require an importation permit.” With the added restriction of “Not to be used as bait fish.”

Means of Introductions in the United States

No records of *Pangasius mahakamensis* in the wild in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Pangasius mahakamensis* (Pouyaud, Gustiano, and Teugels 2002) is the current valid name and the original name for this species.

From ITIS (2018):

Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Pangasiidae
Genus *Pangasius*
Species *Pangasius mahakamensis* (Pouyaud, Gustiano and Teugels, 2002)

Size, Weight, and Age Range

From Pouyaud et al. (2002):

“Adipose fin small. Maximal size observed 182 mm SL, probably one of the smallest species among Pangasiidae.”

Environment

From Froese and Pauly (2018):

“Freshwater; brackish; benthopelagic.”

Climate

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Pouyaud et al. (2002):

“*Pangasius mahakamensis* is endemic to East Kalimantan (Indonesia) and it is presently only known from the type locality, the Mahakam River.” [Island of Borneo]

Introduced

No records of introductions of *Pangasius mahakamensis* were found.

Means of Introduction Outside the United States

No records of introductions of *Pangasius mahakamensis* were found.

Short Description

From Pouyaud et al. (2002):

“*Pangasius mahakamensis* is distinguished from all other *Pangasius* (*Pangasius*) species by the unique combination of the following characters: short caudal peduncle (14.0- 16.7 %SL); large eye (diameter: 22.8-29.4 %HL); short mandibulatory barbel (length: 19.6-45.8 %HL); and short predorsal length (30.1-32.7 %SL).”

“Snout short and rounded. Postocular distance short. Mouth inferior. Anterior nostrils entirely situated on the anterior margin of the upper lip; posterior nostrils completely on dorsal side of head; distance between anterior nostrils shorter than distance between posterior nostrils. Eyes large and laterally placed. Premaxillary toothplate visible when mouth closed. Premaxillary teeth conical. Vomerine toothband very wide (length about 1.5 times in width) and somewhat oval-shaped; palatine toothplates notably laterally placed compared to vomerine toothband. Vomerine teeth molariform. Maxillary barbels long, reaching beyond the pectoral-fin basis. Mandibular barbels much shorter, hardly reaching the isthmus. Gill rakers on the first branchial arch: 20-27 (26 in holotype). Dorsal side of operculum large and rounded.”

“Body moderately elongated and robust with a short caudal peduncle. Dorsal with two spines; the first very small, hidden under the skin, the second short and slender. I.7 dorsal-fin rays. I.10-13 pectoral-fin rays [...]; pectoral fin reaching level of virtual line corresponding to last dorsal-fin ray basis. I.6 pelvic-fin rays; pelvic fin short, not reaching anal fin basis. Anal fin with 27-32 soft fin rays [...]; short anal-fin height.”

“On live specimens, head and body dorsally olive to greenish grey, lower side of flanks and belly silver or whitish. Dorsal, pectoral and caudal fins yellowish, other fins hyaline.”

Biology

From Pouyaud et al. (2002):

“The Mahakam River is the second largest river in Kalimantan, with a course of some 920 km and a drainage area of 77.700 km² (Christensen, 1992). Specimens smaller than 150 mm were collected in brackish water in the delta of the river, while larger sized specimens were found in the upper part. Both environments have no vegetation on the banks, have a relatively strong current, are deep and the water is turbid. The species is omnivorous, feeding mainly on insects and small fruits. Spawning periods are unknown.”

Human Uses

From Normelani (2016):

“Some fish has the greatest market values, such as Patin (*Pangasius mahakamensis*), [...]”

Diseases

No records of OIE-reportable diseases (OIE 2021) were found for *Pangasius mahakamensis*.

Pariselle et al. (2005) lists *Thaparocleidus pouyaudi* and *Thaparocleidus teugelsi* as parasites of *P. mahakamensis*.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Pangasius mahakamensis* were found; therefore, there is no information on impacts of introductions.

4 History of Invasiveness

No records of introductions of *Pangasius mahakamensis* were found; therefore, the history of invasiveness is no known nonnative population.

5 Global Distribution

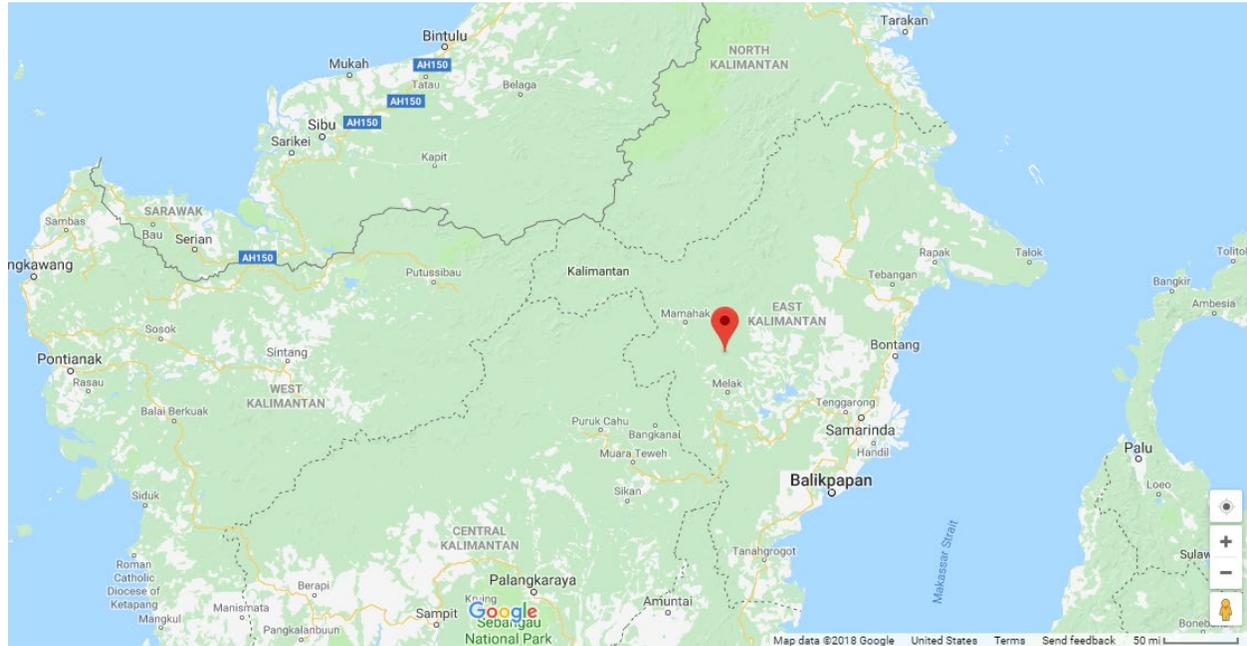


Figure 1. General location of the Mahakam River in east Kalimantan, the known global distribution of *Pangasius mahakamensis*. Map from Google (2018). No georeferenced observations were available. Source points for the climate match were chosen based on range description given by Pouyaud et al. (2002).

6 Distribution Within the United States

No records of *Pangasius mahakamensis* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Pangasius mahakamensis* was low across the entire contiguous United States. There were no areas of high or medium match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had a low individual climate score.

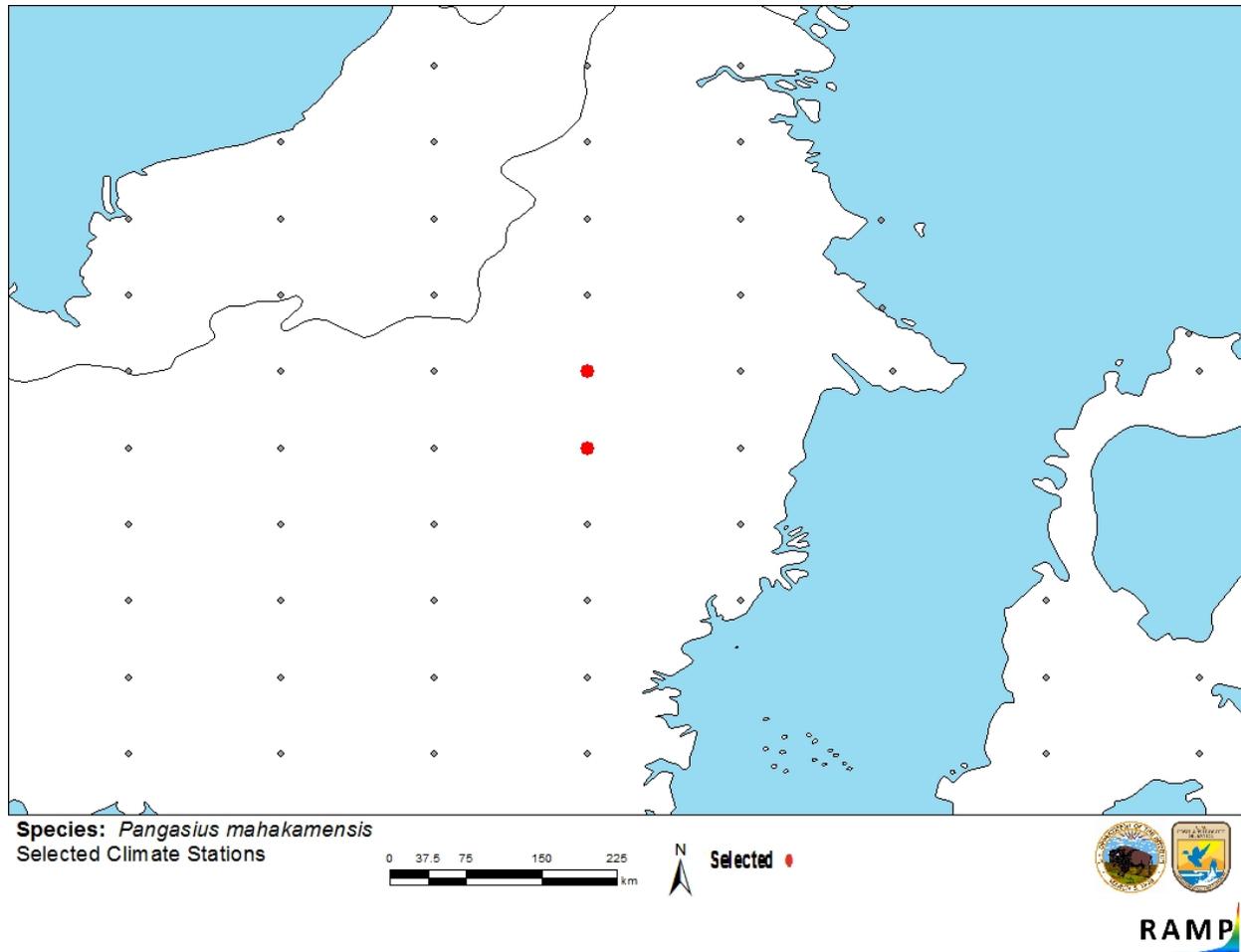


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations on the island of Borneo selected as source locations (red; Indonesia) and non-source locations (gray) for *Pangasius mahakamensis* climate matching. Source location description from Pouyaud et al. (2002). Selected source locations are within 100 km of one or more species occurrences and do not necessarily represent the locations of occurrences themselves.

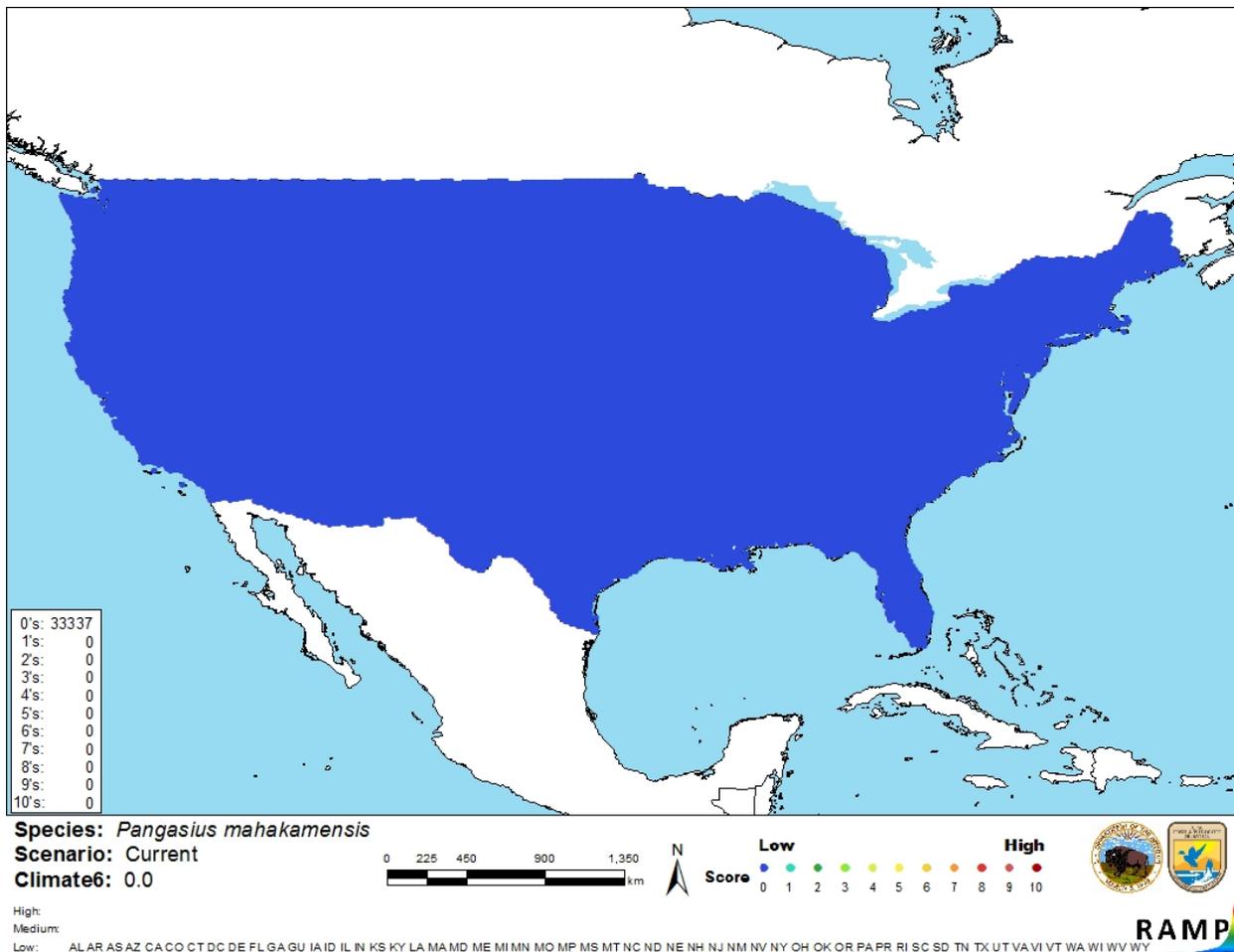


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Pangasius mahakamensis* in the contiguous United States based on source location description reported from Pouyard et al. (2002). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

The certainty of assessment is low. There was some general information about the species available from peer-reviewed sources. There were no records of introductions found and, therefore, there is no information on impacts available to evaluate.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Pangasius mahakamensis is a species of catfish native to Indonesia on the island of Borneo. The history of invasiveness is no known nonnative population. There were no records of introductions found. The climate match was low. The certainty of assessment is low. There were no areas of medium or high match in the contiguous United States. The certainty of assessment is low. The overall risk assessment is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks/Important additional information:** No additional information
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

Eschmeyer WN, Fricke R, van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. California Academy of Science. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (August 2018).

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Normelani E. 2016. River, culture and tourism in Lok Baintan, South Kalimantan. *Journal of Indonesian Tourism and Development Studies* 4:57–62.

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Pouyaud L, Gustiano R, Teugels GG. 2002. Systematic revision of *Pangasius polyuranodon* (Siluriformes, Pangasiidae) with description of two new species. Cybium 26:243–252.

Sanders S, Castiglione C, Hoff M. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

11 Literature Cited in Quoted Material

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.

Christensen MS. 1992. Investigations on the ecology and fish fauna of the Mahakam River in East Kalimantan, Indonesia. International Review of Hydrobiology 77:593–608.