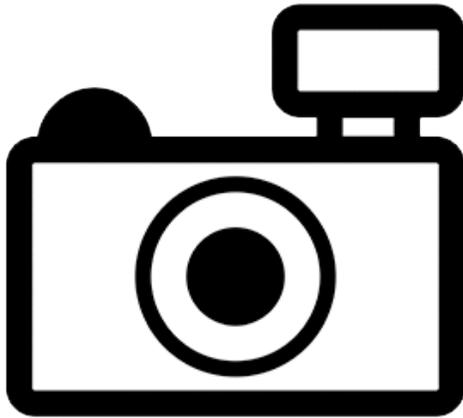


Pangasius kunyit (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2012
Revised, August 2018
Web Version, 5/1/2020

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Asia: major drainages from Sumatra, Indonesia (Musi, Batang Hari and Indragiri rivers); also present in eastern Kalimantan (Mahakam, Kapuas and Barito rivers), Sabah, Malaysia (Kinabatangan River) and Viet Nam (Mekong delta).”

From Gustiano (2009):

“Distribution: *P. kunyit* is known from most of the major drainages in Sumatra (Indonesia), where it was observed in the Musi River (Palembang), in the Batang Hari River (Jambi, Muara Jambi and Muara Tebo) and in the Indragiri River (Rengat). *P. kunyit* is also present in Kalimantan where it was found in the Kapuas River (Pontianak, Kalimantan Barat, Indonesia), in the Barito River (Kuala Kapuas and Banjarmasin, Kalimantan Tengah, Indonesia), in the Mahakam River (Samarinda and Sangasanga, Kalimantan Timur, Indonesia). In Sumatra, *P. kunyit* was usually identified as *P. pangasius* or *P. djambal*.”

Status in the United States

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

Means of Introductions in the United States

No records of *Pangasius kunyit* 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 kunyit* Pouyaud, Teugels, and Legendre 1999 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 kunyit* Pouyaud, Teugels and Legendre, 1999

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 70.2 cm SL (female)”

Environment

From Froese and Pauly (2018):

“Freshwater; brackish; benthopelagic.”

Climate

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Asia: major drainages from Sumatra, Indonesia (Musi, Batang Hari and Indragiri rivers); also present in eastern Kalimantan (Mahakam, Kapuas and Barito rivers), Sabah, Malaysia (Kinabatangan River) and Viet Nam (Mekong delta).”

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Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Froese and Pauly (2018):

“Dorsal spines (total): 2; Anal soft rays: 30 - 33. Distinguished from all other *Pangasius* species by the combination of the following characters: a somewhat spatulated (broad and rounded) head (snout length 40.0-53.4% HL; head depth 48.0-54.7% HL; head width 70.7-76.6% HL); short palatine tooth plates (10.0-12.8% HL); a very robust dorsal spine (width of spine 9.25-11.2 times in its length).”

Biology

From Froese and Pauly (2018):

“Inhabits deeper waters. Occurs sympatrically with *P. krempfi* in the Mekong delta.”

From Gustiano (2009):

“Ecology: Marine invertebrates were found in gut contents of specimens caught in the delta of the Mahakam River. This species is also piscivorous. In all environments it lives in deeper waters. The species has been collected in fresh and brackish water. Fishermen even report it from plume waters beyond the estuaries (Pouyaud et al. 1999).”

Human Uses

From Froese and Pauly (2018):

“Fisheries: commercial; aquaculture: likely future use”

“It is considered as a candidate species for aquaculture and its reproduction in captivity has already been achieved in the Mekong delta, Viet Nam [Pouyaud et al. 1999].”

Diseases

No records of OIE-reportable diseases (OIE 2020) of *Pangasius kunyit* were found.

According to Pariselle et al. (2002) *Pangasius kunyit* is a host to *Thaparocleidus phuongi indonesiensis*.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

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

4 History of Invasiveness

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

5 Global Distribution

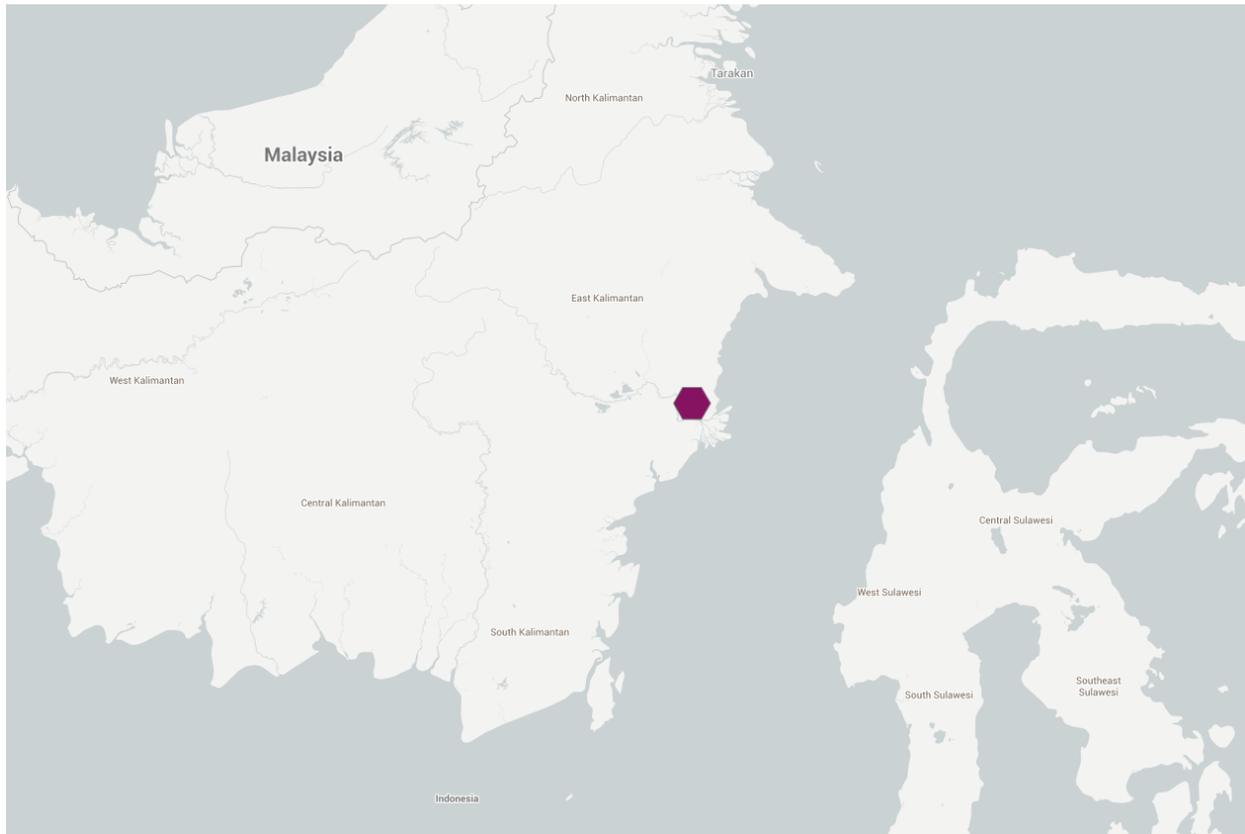


Figure 1. Known global distribution of *Pangasius kunyit*. Location is in Indonesia in eastern Borneo. Map from GBIF Secretariat (2018).

Froese and Pauly (2018) and Gustiano (2009) state established populations of *Pangasius kunyit* have been found in Sumatra, Sabah, Malaysia, and Viet Nam; however, no source point information was provided; therefore, it was not used in climate matching.

6 Distribution Within the United States

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

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Pangasius kunyit* was generally low across the entire contiguous United States. There were no areas of medium or high match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores below 0.005 are considered to be low). All States had a low individual climate score. There were no georeferenced observations available to use as source points for established populations in Sumatra, Sabah, Malaysia, and Viet Nam, thus reducing the confidence in the results.

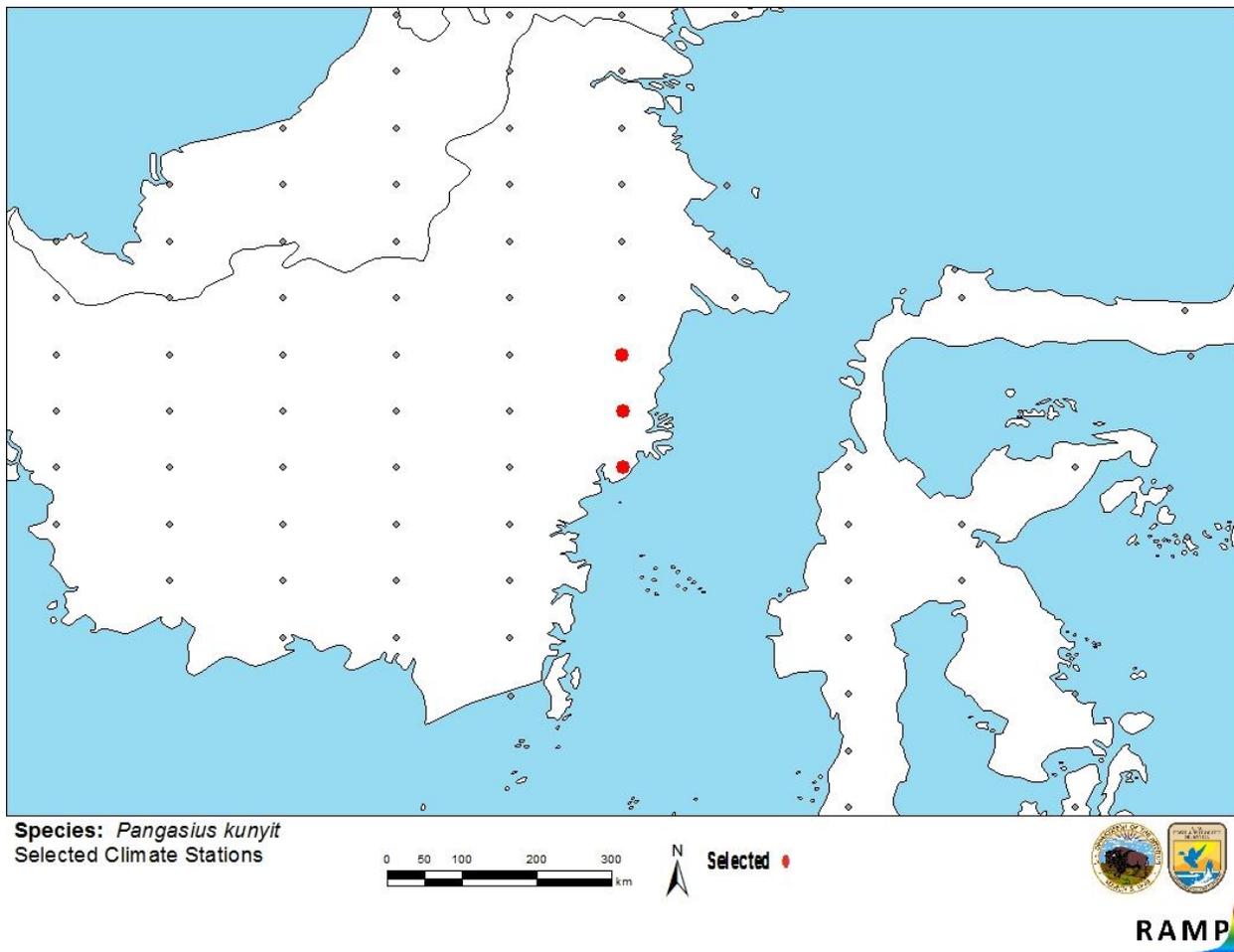


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southeastern Asia selected as source locations (red; Indonesia on Borneo) and non-source locations (gray) for *Pangasius kunyit* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations are within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

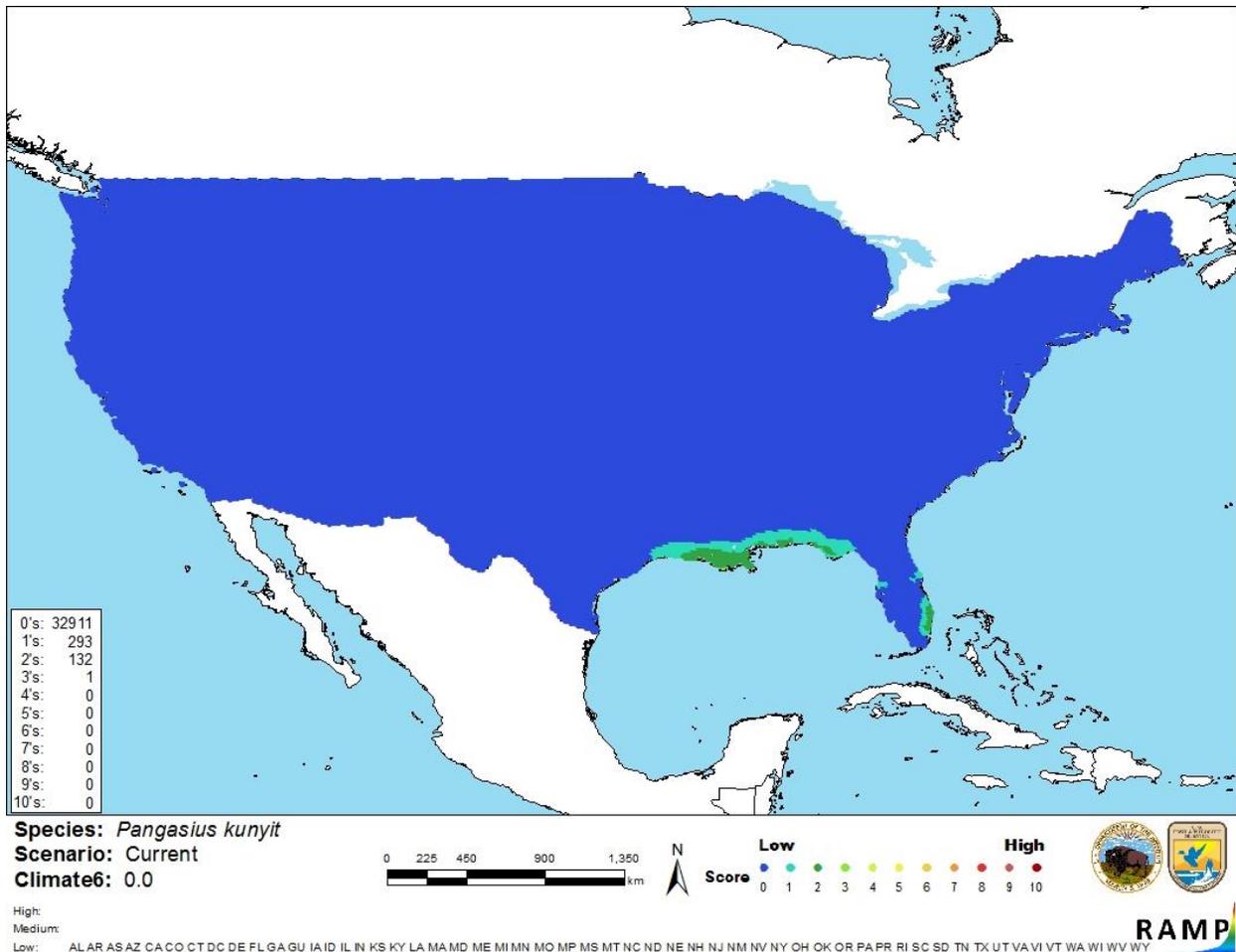


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Pangasius kunyit* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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. Only one location for climate matching was found, leaving a large area with no climate data available for the climate match. 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 kunyit is a species of catfish native to major river drainages in Indonesia, Malaysia, and Vietnam. This species is part of a commercial fishery and is being considered for use in aquaculture with captive breeding already successful in the Mekong delta, Vietnam. There were no records of introductions to the wild found. Therefore, the history of invasiveness is no known nonnative population. The climate match was low. This is likely an underestimate because the only source point location was on southeastern Borneo, and no source point information was found for established populations in Sumatra, Sabah, Malaysia, and Viet Nam. There was a small area of medium match in Florida. 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).

Froese R, Pauly D, editors. 2018. *Pangasius kunyit* Pouyaud, Teugels and Legendre, 1999. FishBase. Available: <https://www.fishbase.de/summary/Pangasius-kunyit.html> (August 2018).

Gustiano R. 2009. Pangasiid catfishes of Indonesia. Bulletin Plasma Nutfah 15:91–100.

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Pangasius kunyit* Pouyaud, Teugels and Legendre, 1999. Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/5202448> (August 2018).

[ITIS] Integrated Taxonomic Information System. 2018. *Pangasius kunyit* Pouyaud, Teugels and Legendre, 1999. Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=681702#null (August 2018).

[OIE] World Organisation for Animal Health. 2020. OIE-listed diseases, infections and infestations in force in 2020. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2020/> (April 2020).

Pariselle A, Lim LHS, Lambert A. 2002. Monogeneans from pangasliidae (siluriformes) in Southeast Asia: IV. Five new species of *Thaparocleidus* Jain, 1952 (Ancylostoididae) from *Pangasius krempfi*, *P. kunyit*, *P. mekongensis* and *P. sabahensis*. Parasite 9:315–324.

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.

Pouyaud L, Teugels GG, Legendre M. 1999. Description of a new pangasiid catfish from South-East Asia (Siluriformes). Cybium 23:247–258.