

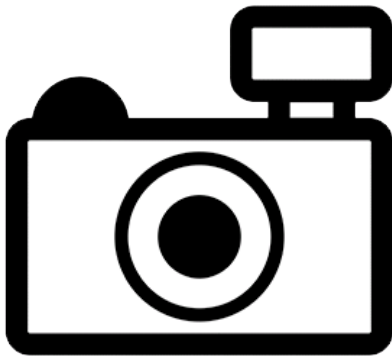
# Marmara Barbel (*Barbus oligolepis*)

## Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, August 2017

Revised, September 2017

Web Version, 11/29/2017



No Photo Available

## 1 Native Range and Status in the United States

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### Native Range

From Froese and Pauly (2017):

“Asia: rivers draining to the southern shore of the Marmara Sea, Turkey: Nilüfer, Koca (= Kocasu; entering Lake Ulubat), Kocachay (entering Lake Manyas, a tributary of Koca or Susurluk River), Hanchay (a tributary of Gönen) and Narlica Stream in Iznik county (flowing to Lake Iznik).”

### Status in the United States

This species has not been reported as introduced or established in the United States.

### Means of Introductions in the United States

This species has not been reported as introduced or established in the United States.

## Remarks

From GBIF (2017):

“Synonyms

=*Barbus tauricus* subsp. *oligolepis* Battalgil, 1941”

Searches to inform this ERSS were conducted on the above synonym as well as the accepted scientific name.

From Eschmeyer et al. (2017):

“[The scientific name *Barbus tauricus oligolepis* or *Barbus oligolepis* is a] secondary junior homonym of *Capoeta oligolepis* B[leeker] 1853, but Bleeker's species is now placed in *Oliotius*, so both species names are available.”

From Freyhof (2014):

“The species is endemic to an area which is heavily affected by many threats but the species seems to be able to cope with these threats and it is still widespread and locally abundant.”

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From GBIF (2017):

“Kingdom Animalia

Phylum Chordata

Class Actinopterygii

Order Cypriniformes

Family Cyprinidae

Genus *Barbus* Cuvier & Cloquet, 1816

Species *Barbus oligolepis* Battalgil, 1941”

From Eschmeyer et al. (2017):

“Current status: Valid as *Barbus oligolepis* Battalgil 1941. Cyprinidae: Cyprininae.”

### Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 35.0 cm SL male/unsexed; [Turan et al. 2009]”

## **Environment**

From Froese and Pauly (2017):

“Freshwater; benthopelagic.”

From Freyhof (2014):

“Lower part of rivers and streams with fast to moderately fast flowing water, riffle and pool structure. Inhabits also reservoirs and lakes from where it migrates to inflowing rivers to spawn.”

## **Climate/Range**

From Froese and Pauly (2017):

“Subtropical, preferred ?”

## **Distribution Outside the United States**

Native

From Froese and Pauly (2017):

“Asia: rivers draining to the southern shore of the Marmara Sea, Turkey: Nilüfer, Koca (= Kocası; entering Lake Ulubat), Kocachay (entering Lake Manyas, a tributary of Koca or Susurluk River), Hanchay (a tributary of Gönen) and Narlica Stream in Iznik county (flowing to Lake Iznik).”

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 (2017):

“Vertebrae: 46 - 47. This species is distinguished from its congeners in Turkey and the Aegean basin by possessing a lower lip without median lobe (vs. present) and a longer and pointed snout. It is further distinct by having the following characters (none unique to the species): medium body size (up to 35.0 cm SL); specimens over 10.0 cm SL have large and many irregular dark brown spots on the back, as well as on the flanks, but none on the head; some smaller specimens lack the dark brown spots; fleshy lips; lower lip with no median lobe but with two small notches and a squarish fleshy median pad; lateral line scales 53-62; scale rows between the lateral line and the dorsal-fin origin 11-13 and between the lateral line and the anal-fin origin 7-9; gill rakers on the first gill arch 11-14 (modally 12); the last simple ray of the dorsal fin is moderately ossified, and with 30-34 serrae on the proximal  $\frac{3}{4}$  of the posterior margin; body depth 18.8-24.1 % SL at dorsal-fin origin; head length 27.0-29.8 % SL [Turan et al. 2009].”

## Biology

From Froese and Pauly (2017):

“Occurs in swift flowing water, with stone and pebble bottom and collected together with the following species: *Alburnoides bipunctatus*, *Alburnus cf. carinatus*, *Barbus niluferensis*, *Rhodeus amarus*, *Squalius cii*, *Vimba vimba*, *Cobitis puncticulata*, *Cobitis fahirae*, and *Proterorhinus semilunaris* [Turan et al. 2009].”

From Yalçın Özdilek and Jones (2014):

“Macroinvertebrates are particularly important food components for [...] *B. oligolepis* [...]”

## Human Uses

From Tokatlı et al. (2016):

“*S[qualius] cii*, *C[apoeta] tinca* and *B. oligolepis* were the most commercial fish species for the Emet Stream Basin and have a significant place on the diet of local people.”

## Diseases

No information available. No OIE-reportable diseases have been documented for this species.

## Threat to Humans

From Froese and Pauly (2017):

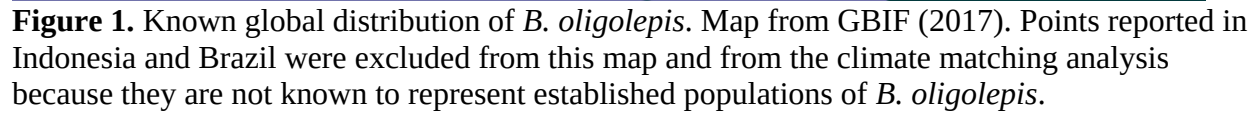
“Harmless”

## 3 Impacts of Introductions

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No introductions of this species have been reported.

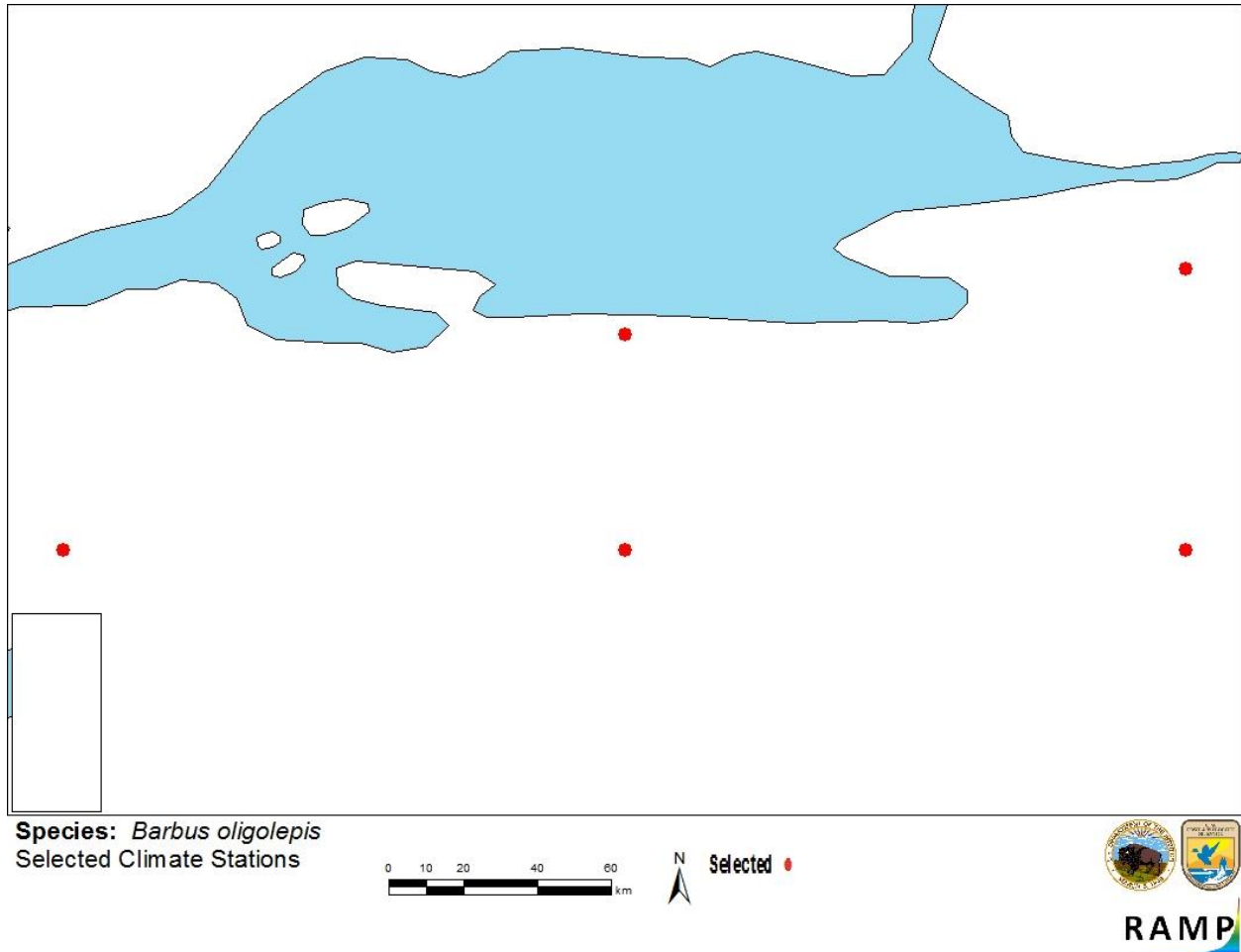
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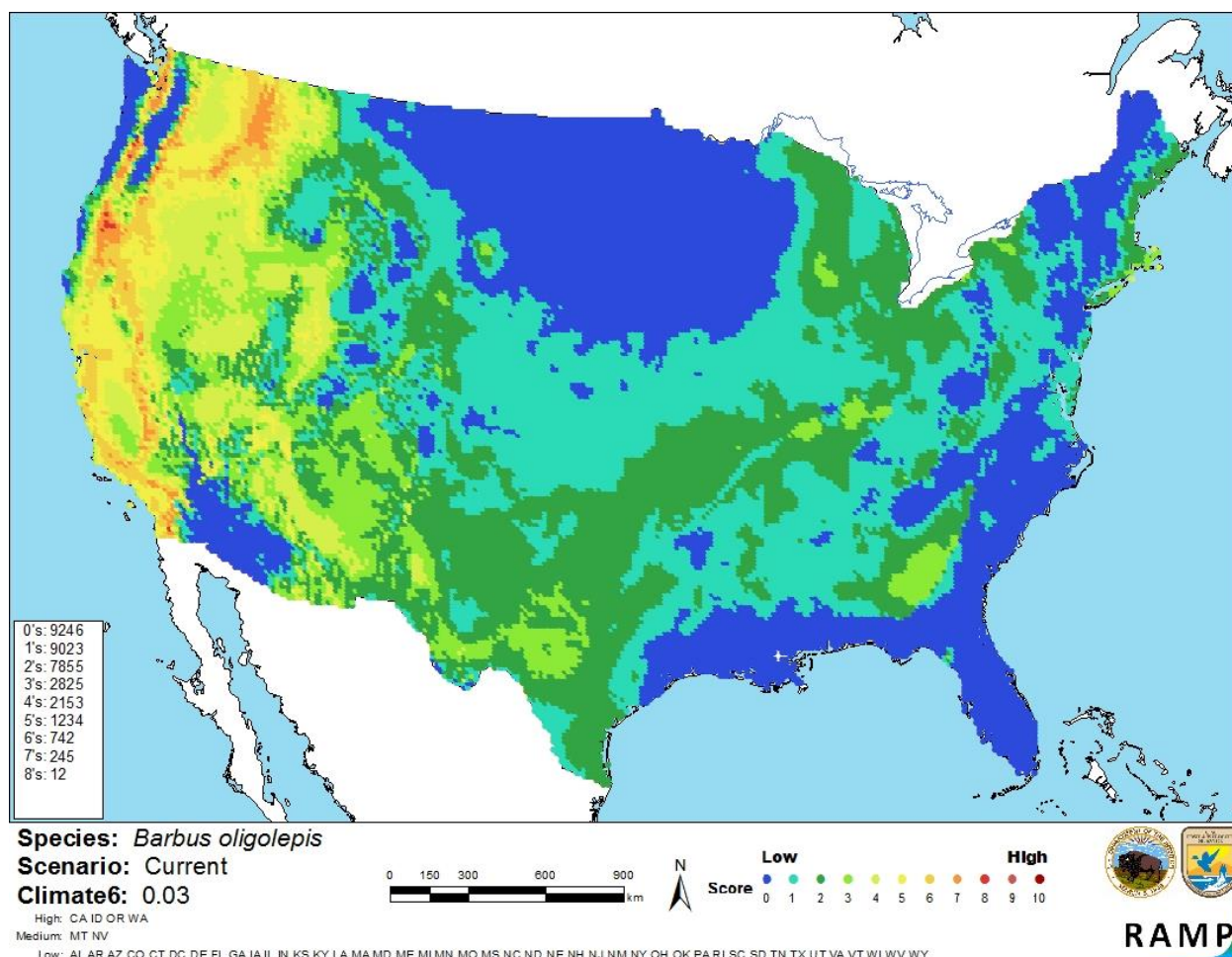
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean distance) was high in small areas of the Pacific Northwest, medium in most locations west of the Rocky Mountains, and low elsewhere. Climate 6 score indicated a medium climate match overall for the contiguous U.S. Scores between 0.005 and 0.103 are classified as medium match; Climate 6 score for *B. oligolepis* was 0.030.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations in Turkey, south of the Marmara Sea, selected as source locations (red) and non-source locations (gray) for *B. oligolepis* climate matching. Source locations from GBIF (2017).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *B. oligolepis* in the contiguous United States based on source locations reported by GBIF (2017). 0=Lowest match, 10=Highest match.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

| Climate 6: Proportion of<br>(Sum of Climate Scores 6-10) / (Sum of total Climate Scores) | Climate Match<br>Category |
|------------------------------------------------------------------------------------------|---------------------------|
| $0.000 \leq X \leq 0.005$                                                                | Low                       |
| $0.005 < X < 0.103$                                                                      | Medium                    |
| $\geq 0.103$                                                                             | High                      |

## 7 Certainty of Assessment

There is little information available on the biology and ecology of *B. oligolepis*. No introductions of the species have been reported, so impacts of introduction remain unknown. Given the relatively little amount of information available on *B. oligolepis*, the certainty of assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Barbus oligolepis* is a cyprinid fish native to northwestern Turkey. The species has a medium climate match to the contiguous U.S., and based on climate match information, it is plausible that *B. oligolepis* could establish populations if introduced into areas of the western U.S. There are no reports of introductions of *B. oligolepis* outside of its native range at present. Freyhof (2014) noted that *B. oligolepis* has been able to cope with threats in its native range and remain abundant, suggesting adaptability. Without known introductions from which to draw expectations of potential impacts to the U.S., the overall risk assessment for *B. oligolepis* is uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

## 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.**

- Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2017. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (June 2017).
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- Froese, R., and D. Pauly, editors. 2017. *Barbus oligolepis* Battalgil, 1941. FishBase. Available: <http://www.fishbase.org/summary/Barbus-oligolepis.html>. (August 2017).
- GBIF (Global Biodiversity Information Facility). 2017. GBIF backbone taxonomy: *Barbus oligolepis* Battalgil, 1941. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/5207183>. (September 2017).
- Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. US Fish and Wildlife Service.
- Tokatlı, C., E. Köse, N. Arslan, Ö. Emiroğlu, A. Çiçek, and H. Dayıoğlu. 2016. Ecosystem quality assessment of an aquatic habitat in a globally important boron reserve: Emet



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59(2/3/4):116-141.

Yalçın Özdilek, Ş., and R. I. Jones. 2014. The diet composition and trophic position of introduced Prussian carp *Carassius gibelio* (Bloch, 1782) and native fish species in a Turkish River. Turkish Journal of Fisheries and Aquatic Sciences 14:769-776.

## 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.**

Turan, D., M. Kottelat and F. Güler Ekmekçi. 2009. *Barbus niluferensis*, a new species of barbel (Teleostei: Cyprinidae) from Nilüfer River, Turkey, with re-description of *B. oligolepis*. Zootaxa 1981:15-28.