

White Catfish (*Ameiurus catus*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, October 2020

Revised, October 2020

Web Version, 9/3/2021

Organism Type: Fish

Overall Risk Assessment Category: Uncertain

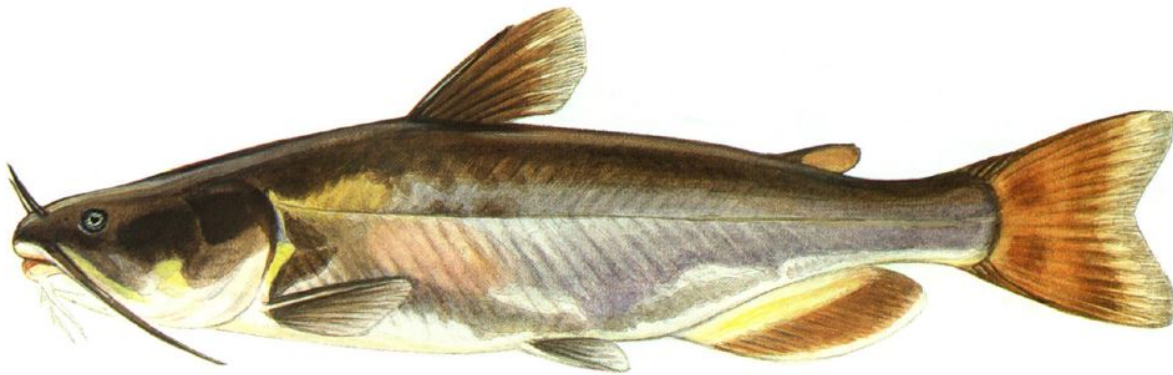


Photo: Ellen Edmonson and Hugh Chrisp. Available through the Public Domain. Available: https://commons.wikimedia.org/wiki/File:White_catfish.jpeg. (October 2020).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2020a):

“North America: Rivers of the Atlantic coastal states of USA from Florida to New York.”

From Fuller and Neilson (2014):

“Atlantic and Gulf Slope drainages from lower Hudson River, New York, to Apalachicola basin in Florida, Georgia, and Alabama; south in peninsular Florida to Peace River drainage (modified from Page and Burr 1991).”

Status in the United States

From Fofonoff et al. (2020):

“They were introduced to the Connecticut, Charles, and Kennebec rivers in New England, and to the Pensacola and drainages on the Gulf (Page and Burr 1991; USGS Nonindigenous Aquatic Species Program 2014). On the West Coast, White Catfish were introduced to the Sacramento River in 1874 (Smith 1896 [*sic*; 1985]; Cohen and Carlton 1995; Dill and Cordone 1997) and to the Columbia River in 1932 (Lampman 1946). In 1938 they were introduced to Puerto Rico (established), [...]”

“In 1874 Livingstone Stone from the US Fish Commission, brought 56 White Catfish (*Ameiurus catus*) from the Raritan River and planted them in the Sacramento River near Stockton, California. These fish survived and spawned, and by 1877 were stocked in 12 counties in the Sacramento-San Joaquin watershed and in southern California. In 1878-1979, 30,000 White Catfish were stocked in 22 counties (Smith 1895). By 1900, there was a major commercial fishery for White Catfish in the Sacramento Delta, which was curtailed in 1953 because of fears of overfishing, but this fish remained an important sport fish (Cohen and Carlton 1995). In a 1980s survey, White Catfish were the most abundant species in the Delta between 1980-1984, and were third in 1993-1999, but dropped to tenth in rank in 2001-2003 (Feyrer and Healy 2003; Brown and Michniuk 2007). In the Yolo Bypass of the Sacramento River, at the head of the Delta, they were the most abundant fish in 1999-2006, comprising 46% of the fish sampled (Sommer et al. 2014). They commonly occur downstream in brackish Suisun Bay at salinities up to 12 PSU (Matern et al. 2002; Moyle 2002).

White Catfish are apparently established, but rare, in the Columbia River and basin. The date of their introduction into the Columbia River basin is uncertain. Unidentified 'catfish' were introduced into Silver Lake on the Cowlitz River, and reached the Columbia River (Smith 1895). In 1930, some White Catfish from California were planted in Blue Lake, near Portland, Oregon, which is adjacent to the Columbia River. A specimen was caught in the Columbia River, near Portland in 1943 (Lampman 1946) and two were caught in lower Columbia Slough, Portland in 2008-2009 (Van Dyke et al. 2009).”

“White Catfish are native to the unglaciated portion of the Atlantic and easternmost Gulf Coastal Plain, north to the Hudson River estuary, but were absent from the glaciated coastal drainages of New England. They have been introduced to the Connecticut River (1960, Whitworth et al. [*sic*] 1968 [*sic*]; Marcy 1976), the Thames River (CT, 1973, Whitworth 1996); the Charles River (MA, 1910-1949, Hartel [et al.] 2002), the Merrimack River (1910-1949, Hartel [et al.] 2002); Kennebec River-Merrymeeting Bay (2001, USGS Nonindigenous Aquatic Species Program 2018) and the Penobscot River (1980, USGS Nonindigenous Aquatic Species Programs 2006). These introductions probably represent a mixture of official and informal stockings. On Florida's Gulf Coast, White Catfish are native to the Apalachicola drainage, but considered introduced to the Choctawhatchee and Pensacola Bay drainages (USGS Nonindigenous Aquatic Species Program 2018). A commercial fisherman reared White Catfish in a pen in Lake Erie starting in 1939. A number of these fish escaped but did not become established (Emery 1985).”

“White Catfish were introduced to Puerto Rico, possibly as early as 1938 in a shipment of Channel Catfish from Baltimore MD (Lever 1996). They are established in several inland reservoirs on the Island (USGS Nonindigenous Aquatic Species Program 2018).”

From Rider and Powell (2018):

“We report on the first record of *Ameiurus catus* (White Catfish) from the Conecuh River, Covington County, AL, and the species-range extension into the Conecuh-Escambia river of Alabama–Florida. This record extends the known geographical range of this species 240 km northeast from the mouth of the Escambia River, FL.”

According to Fuller and Neilson (2014), nonindigenous occurrences of *Ameiurus catus* have been reported in the following States, with range of years and hydrologic units in parentheses:

- Alabama (1960-1999; Cahaba, Guntersville Lake, Lower Choctawhatchee, Lower Coosa, Lower Tallapoosa, Lower Tombigbee, Middle Coosa, Middle Tallapoosa, Mobile Bay, Mobile-Tensaw, Pea, Perdido, Pickwick Lake, Upper Choctawhatchee, Upper Coosa, Wheeler Lake)
- Arkansas (1973-1988; Big, Bodcau Bayou, Illinois, Lake Conway-Point Remove, Lower Ouachita-Smackover, Lower White, Lower White-Bayou Des Arc, Upper Saline)
- California (1874-2012; California, California Region, Central California Coastal, Lower Eel, Lower Sacramento, Monterey Bay, Newport Bay, Pajaro, San Diego, San Francisco Bay, San Joaquin, San Joaquin Delta, Santa Clara, Suisun Bay, Tulare-Buena Vista Lakes, Upper Cache, Upper Sacramento, Upper Yuba)
- Connecticut (1986-1994; Housatonic, Lower Connecticut, New England Region, Thames)
- Florida (1954-2015; Blackwater, Choctawhatchee Bay, Lower Choctawhatchee, Pensacola Bay, St. Andrew-St. Joseph Bays, Yellow)
- Illinois (1965-1991; Copperas-Duck, Lower Illinois-Lake Chautauqua, Middle Kaskaskia, Upper Illinois, Upper Mississippi-Cape Girardeau)
- Indiana (1968-1992; Blue-Sinking)
- Iowa (1980; Copperas-Duck)
- Kentucky (1970-1986; Little Sandy, Little Scioto-Tygarts, Lower Ohio-Little Pigeon, Middle Ohio-Laughery, Ohio Brush-Whiteoak)
- Maine (1980-2019; Lower Kennebec, Lower Penobscot, St. George-Sheepscot)
- Massachusetts (1986-2005; Charles, Lower Connecticut, Merrimack, Middle Connecticut)
- Missouri (1975-1991; Lower Missouri-Moreau, South Grand, Upper Mississippi-Cape Girardeau)
- Nevada (1877-2001; Black Rock Desert-Humboldt, Carson, Carson Desert, Central Lahontan, Central Nevada Desert Basins, Great Basin, Great Basin Region, Lower Humboldt, Middle Carson, Middle Humboldt, Truckee)
- New Hampshire (1996; Merrimack River)
- New Jersey (1994; Raritan)
- North Carolina (1991-2013; French Broad-Holston, Upper New, Upper Tennessee)

- Ohio (1939-1994; Lake Erie, Little Miami, Middle Ohio-Laughery, Muskingum, Tuscarwas, Upper Ohio, Upper Ohio-Wheeling)
- Oregon (1880-1989; Lower Columbia-Clatskanie, Lower Willamette, Middle Willamette, Pacific Northwest Region, Willamette)
- Pennsylvania (1979-1983; Lake Erie, Upper Ohio, Youghiogheny)
- Puerto Rico (1972-2007; Cibuco-Guajataca, Eastern Puerto Rico, Puerto Rico, Southern Puerto Rico)
- Rhode Island (1992; New England Region)
- South Carolina (2019; Calibogue Sound-Wright River)
- Tennessee (1993; Upper Clinch)
- Washington (1880-2003; Banks Lake, Lower Columbia-Clatskanie, Lower Cowlitz, Pacific Northwest Region, Queets-Quinault, Skykomish)

“**Status:** Many of these introductions have led to established populations. The Mississippi report is of a single individual presumably taken after 1989, because it was not reported in two publications in 1989. In apparent reference to its occurrence in the Willamette drainage and Columbia River of Oregon, Bond (1994) noted establishment as uncertain. A single individual was reported from Tennessee on an angler's stringer in 1993 (Burkhead, personal communication). Apparently not established in Arkansas (Robison and Buchanan 1988). Status in Tennessee is unknown.”

No records of *Ameiurus catus* in the aquarium trade were found.

From Arizona Office of the Secretary of State (2013):

“Fish listed below are considered restricted live wildlife: [...] 21. All species of the family *Ictaluridae*. Common name: catfish.”

From Illinois DNR (2015):

“The following aquatic life categories will be considered approved for aquaculture, transportation, stocking, importation and/or possession in the State of Illinois. [...] White Catfish *Ameiurus catus*”

All species of the family *Ictaluridae* are considered part of New Mexico's Group III on the Director's species importation list (New Mexico Department of Fish and Game 2010). Group III species “may be for live non-domesticated animals that present minimal or manageable concerns that will require specific provisions that must be met prior to issuing an importation permit to address health, safety or well-being of the public, domestic livestock or to native wildlife and their habitats.”

Means of Introductions in the United States

From Fuller and Neilson (2014):

“Intentional stocking for sport and food. Whitworth (1996) points out that because of this species' high tolerance for salinity, the original movement to large rivers in Connecticut could

have been a natural range extension. Primary source of stocked fish in Kentucky is the James River, Virginia (Clay 1975). Stock planted in Indiana is from southeastern Virginia (Nelson and Gerking 1968). It is frequently stocked in fee-fishing lakes and other private waters. Pflieger (1997) indicated that specimens recorded from natural waters in Missouri may represent escapes from such situations.”

From O’Rear (2012):

“White catfish have also colonized reservoirs and waterways in southern California via the state’s intricate water-supply conveyance system, in addition to being introduced to a number of other waterways (e.g., the Russian River and its tributaries, Ruth Reservoir on the Mad River in northern California, the Eel River, and Clear Lake).”

Remarks

This ERSS was previously published in November 2017. Revisions were completed to incorporate new information and conform to updated standards

From Fuller and Neilson (2014):

“Yerger (1977) and Dahlberg and Scott (1971) considered the White Catfish as introduced into the Chattahoochee River. However, Mettee et al. (1996) believe it is native to the Chattahoochee based on its abundance; Boschung (1992) listed it as introduced only west of the Apalachicola; and Lee et al. (1980 et seq.) reported it as native. We have chosen to regard it as native to the Apalachicola-Chattahoochee drainage based on early records and zoogeographic pattern. The Apalachicola-Chattahoochee drainage is commonly the western edge of the distributional range of upland species that occur further to the east, as White Catfish do. This species was introduced into California under the common name of “Schuylkill catfish” (Dill and Cordone 1997).”

Ameiurus catus has been intentionally stocked outside its native range within the United States by State fishery managers to achieve fishery management objectives. State fish and wildlife management agencies are responsible for balancing multiple fish and wildlife management objectives. The potential for a species to become invasive is now one important consideration when balancing multiple management objectives and advancing sound, science-based management of fish and wildlife and their habitat in the public interest.

Information was searched for using the valid name *Ameiurus catus* and the synonym *Silurus catus*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2020), the current valid name of this species is *Ameiurus catus* (Linnaeus 1758). The original valid name of this species is *Silurus catus*. The following names are synonyms of *Ameiurus catus*: *Pimelodus albidus*, *Ichthaelurus kevinskii*, *Amiurus lophius*, *Pimelodus lynx*, *Ichthaelurus mccaskei*, *Amiurus niveiventris*.

From ITIS (2020):

Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Ictaluridae
Genus *Ameiurus*
Species *Ameiurus catus* (Linnaeus, 1758)

Size, Weight, and Age Range

From Froese and Pauly (2020a):

“Max length : 95.0 cm TL male/unsexed; [IGFA 2001]; common length : 30.5 cm TL male/unsexed; [Hugg 1996]; max. published weight: 9.8 kg [IGFA 2001]; max. reported age: 14 years [Schwartz and Jachowski 1965]”

Environment

From Froese and Pauly (2020a):

“Freshwater; brackish; demersal; potamodromous [Riede 2004]; depth range 10 - ? m.”

From NatureServe (2020):

“This catfish inhabits sluggish lower reaches of coastal streams, sloughs, warmwater lakes, reservoirs, farm ponds, and tidal freshwater estuaries; it requires water above 20 [°] C in summer.”

From Fofonoff et al. (2020):

“White Catfish (*Ameiurus catus*) [...] tolerate temperatures from near 0 [°] C in ice-covered rivers in winter, to 31 [°] C (Kendall and Schwartz 1968; Page and Burr 1991). Adults tolerate salinities up to 14 PSU in the laboratory and have been reported at 12 to 14.5 PSU in the field (Kendall and Schwartz 1968; Jones et al. 1978; Murdy et al. 1997).”

Climate

From Froese and Pauly (2020a):

“Subtropical; 46°N - 27°N”

From Fofonoff et al. (2020):

“White Catfish (*Ameiurus catus*) range from cold-temperate to subtropical climates [...].”

Distribution Outside the United States

Native

The native range of *Ameiurus catus* is entirely within the United States, see Native Range in Section 1.

Introduced

From Britton and Davies (2006):

“In August 2005, a recreational angler captured a catfish from a lake called Epsom Stew Pond, located on Epsom Common, Surrey, southern England (51°200 060 N; 0°180 090 W) that was identified initially as an albino *Ictalurus punctatus* [...] the species was actually *Ameiurus catus* (L., 1758), with the defining characters being the anal fin ray count and morphology of the caudal fin.”

“[...] introductions of *A. catus* into countries outside of North America have been rare. Records suggest the only introductions have been into the Philippines in 1935 (Juliano et al., 1989) [...]”

From FAO (2020):

“Status of the introduced species in the wild [in the Philippines]: Not established”

Means of Introduction Outside the United States

From Britton and Davies (2006):

“The *A. catus* specimen in southern England was probably a discarded ornamental fish. As albino *I. punctatus* specimens are available from North America as ornamental fish, it may be that this fish was imported mistakenly as this species and sold to an aquarium or pond owner, who subsequently introduced it into the lake, perhaps as it outgrew its surroundings.”

From FAO (2017):

“Reasons of Introduction [in the Philippines]: 1) aquaculture”

Short Description

From Fuller and Neilson (2014):

“Generally similar to Blue Catfish (*Ictalurus furcatus*) and Channel Catfish (*I. punctatus*), but can be distinguished by the presence of a dusky or black adipose fin, shorter anal fin base, and lower degree of forking in the caudal fin.”

From Page and Burr (2006):

“The White Catfish is normally gray to blue-black above - without a dark blotch at the dorsal fin base, white to light yellow below, and has a dusky black adipose fin and white or yellow chin barbels. Very large individuals are blue-black above and white or blue below. The White Catfish has a moderately forked caudal fin, and an anal fin with a short base, a rounded outline, and 22-25 rays. There are 11-15 fairly large sawlike teeth on the rear edge of the pectoral fin spine, and 18-21 rakers on the 1st gill arch.”

Biology

From Fofonoff et al. (2020):

“White Catfish (*Ameiurus catus*) are freshwater fish that often occur in estuaries. Male and female catfish do not have obvious morphological differences. They mature in 1-2 years, at 152-211 mm (Jones et al. 1978). Spawning occurs at 21-30 C in nests built near sand or gravel banks (Jones et al. 1978). The nests are up to 0.9 m across and 0.45 m deep. Wang (1986) reported nests 'in hollowed tubes, large cans, crevices or cement or rocky jetties'. Females contain 1000-3500 eggs. During spawning, the male and female embrace in a head-to-tail fashion, with the males' tail curled around the female's head. The eggs are very adhesive and laid in small clusters. They are usually guarded by the male, but sometimes by both parents. They take 6-7 days to hatch at 24-29 C (Jones et al. 1978; Jenkins and Burkead [*sic*] 1994 [*sic*; 1993]). Prolarvae remain in the nest until the yolk-sac is absorbed. When the yolk-sac is absorbed, fin-ray development is complete, and the fish are juveniles, starting at ~14 mm. Juveniles swim in dense schools in shallow water (Jones et al. 1978; Wang 1986).

White Catfish (*Ameiurus catus*) range from cold-temperate to subtropical climates and tolerate temperatures from near 0 C in ice-covered rivers in winter, to 31 C (Kendall and Schwartz 1968; Page and Burr 1991). Adults tolerate salinities up to 14 PSU in the laboratory and have been reported at 12 to 14.5 PSU in the field (Kendall and Schwartz 1968; Jones et al. 1978; Murdy et al. 1997). Their habitats include 'sluggish, mud-bottomed pools, open channels, and backwaters of small to large rivers', and fresh to brackish portions of estuaries (Wang 1986; Page and Burr 1991). White catfish are omnivorous and eat aquatic plants, benthic invertebrates, and small fishes. In the San Francisco estuary, young fish (~40 mm long) feed on corophiid amphipods, mysids, and chironomid midge larvae. As they grow, they include larger invertebrates, carrion, and fishes, but still feed largely on invertebrates (Moyle 2002). Surprisingly, growth rates of White Catfish in the Delta are slow, compared to East Coast and California lake/river populations, possibly because of a dense population, or a lack of forage fish (Schafter et al. [*sic*] 1997). Predators include larger fish, birds, and humans.”

Human Uses

From Froese and Pauly (2020a):

“Gamefish: yes”

From Fofonoff et al. (2020):

“On the West Coast, White Catfish were introduced to the Sacramento River in the late 1800s where they became a thriving commercial fishery in the Sacramento Delta through 1953 when commercial fishing ended. They are still an important sportfish in the region.”

“Fisheries- By 1880, six years after the introduction of the White Catfish to the San Francisco estuary, a substantial fishery was established. Smith (1896 [*sic*; 1895]) quotes the California fish commissioners' report: 'The produce of the few fish of this species, imported in 1874, now annually furnishes a large and valuable supply of fish food to people in the interior of the State. The value of all the fish of this species now caught annually and consumed as food would more than equal the annual appropriation made by the State and placed at the disposal of the fish commissioners.’”

Diseases

No OIE-reportable diseases (OIE 2020) were found to be associated with *Ameiurus catus*.

According to Poelen et al. (2014), *Ameiurus catus* is the host of the following parasites and pathogens: *Diplosomulum ictaluri*, *Dacnitoidea cotylophora*, *Cleidodiscus pricei*, *Dichelyne robusta*, *Alloglossidium corti*, *Alloglossidium kenti*, *Contracaecum*, roundworms (Nematoda), *Edwardsiella ictaluri*.

From CABI (2019):

“Enteric septicaemia of catfish (ESC) is caused by the bacterium *Edwardsiella ictaluri*, which belongs to the Enterobacteriaceae family (Hawke et al., 1981). ESC is one of the most important infectious disease problems in the commercial catfish industry in the USA. [...] the bacterium has been isolated from related North American catfish including blue catfish (*I. furcatus*), white catfish (*Ameiurus catus*), brown bullhead (*A. nebulosus*) (Hawke et al., 1981) and wild tadpole madtom (*Noturus gyrinus*) (Klesius et al., 2003).”

From Froese and Pauly (2020a):

“Cystoopsis Infestation, Parasitic infestations (protozoa, worms, etc.)”

According to Froese and Pauly (2020b) *Ameiurus catus* is the host to the following parasites: *Bolbophorus ictaluri* and *Lernaea catostomi*.

Threat to Humans

From Froese and Pauly (2020a):

“Harmless”

From O'Rear (2012):

“However, their heavy use of food items produced by or affected by managed wetlands may make them dangerous for human consumption since the managed wetlands contribute to the methylation of mercury.”

3 Impacts of Introductions

From McCarraher and Gregory (1970):

“Thurston Lake, California, at one time contained a balanced population of *A[rchoplites]*. *interruptus*, brown bullhead, *Ictalurus nebulosus* (Lesueur) and largemouth bass. Following the introduction of white catfish, *Ictalurus catus* (Linnaeus) [*Ameiurus catus*], in 1933, *A. interruptus* disappeared.”

The following information discusses *potential* impacts to native fish species from *Ameiurus catus* introductions.

From O'Rear (2012):

“One large catfish species that has been widely introduced outside its native range that has not been assessed for predation effects on native fishes is the white catfish (*Ameiurus catus*). Of particular concern is the increasingly abundant white catfish population in Suisun Marsh, a brackish-water network of tidal sloughs in the San Francisco Estuary that is vital habitat for declining native fishes, as well as species that support fisheries. To address this issue, I examined the diet of large juvenile and adult white catfish over a year. I found that they mainly ate abundant amphipods and either introduced fishes or native fishes that are widespread and abundant. [...] The diets revealed that white catfish present little threat to at-risk fishes. However, their heavy use of food items produced by or affected by managed wetlands may make them dangerous for human consumption since the managed wetlands contribute to the methylation of mercury.”

“In Clear Lake, Lake County, the proliferation of white catfish occurred concomitant with declines in native fishes such as hitch (*Lavinia exilicauda*; Dill and Cordone 1997), on which white catfish had been found to feed (Miller 1966). Recently, an increase in white catfish numbers in Suisun Marsh, the central part of the San Francisco Estuary, has happened concurrent with decreases in native fishes such as longfin smelt (*Spirinchus thaleichthys*) and delta smelt (*Hypomesus transpacificus*; O'Rear and Moyle 2009, 2010), which have also been recorded as prey for white catfish (Turner 1966). However, it is unknown if white catfish predation has contributed to these changes.”

“Miller (1966) reported that white catfish from Clear Lake fed on a wide variety of fishes [hitch (*Lavinia exilicauda*), sculpins (*Cottus* spp.), bluegill (*Lepomis macrochirus*), tule perch (*Hysterocarpis traski*), black crappie (*Pomoxis nigromaculatus*), and common carp (*Cyprinus carpio*)], in addition to frogs, aquatic insects, and clams. However, Mississippi silversides became the dominant food item of Clear Lake white catfish after the silversides were introduced for gnat control (Moyle 2002),”

Ameiurus catus are a restricted species in Arizona.

4 History of Invasiveness

The history of invasiveness for *Ameiurus catus* is classified as Data Deficient. *A. catus* had been introduced through intentional stocking, become established, and subsequently spread to new areas. One statement was available that attributes the disappearance of a native species to the introduction of *A. catus*. However, there was no supporting information available for that statement and the scientific defensibility could not be assessed. There are other instances where native fish species declined in abundance after the introduction of *A. catus*, but in those cases it is not clear that *A. catus* is the driving factor in those changes.

5 Global Distribution



Figure 1. Known global distribution of *Ameiurus catus*. Observations are reported along the East Coast, West Coast, in the Midwest, Texas and Puerto Rico. Map from GBIF Secretariat (2020).

6 Distribution Within the United States

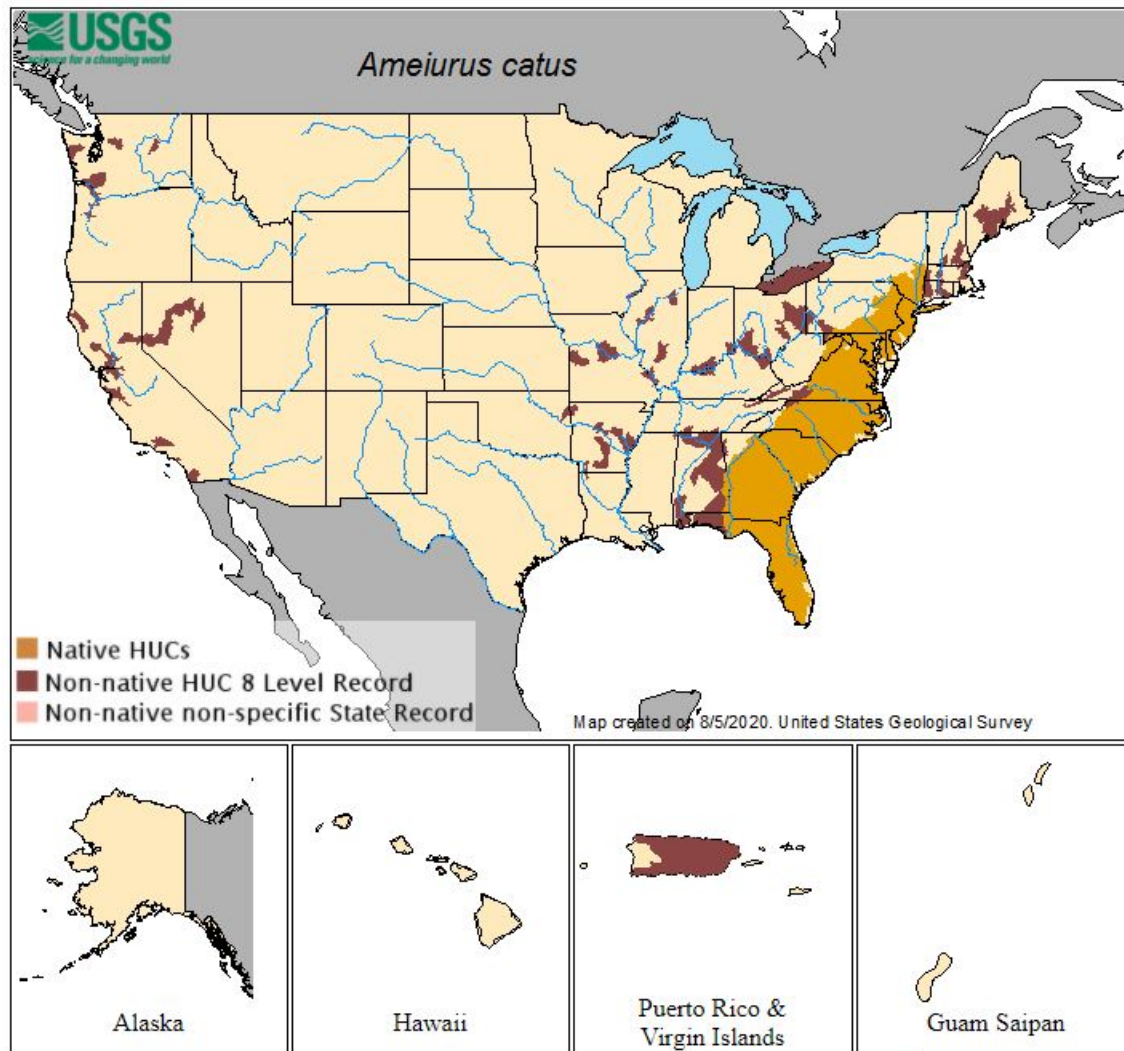


Figure 2. Known distribution of *Ameiurus catus* in the United States. Map from Fuller and Neilson (2014).

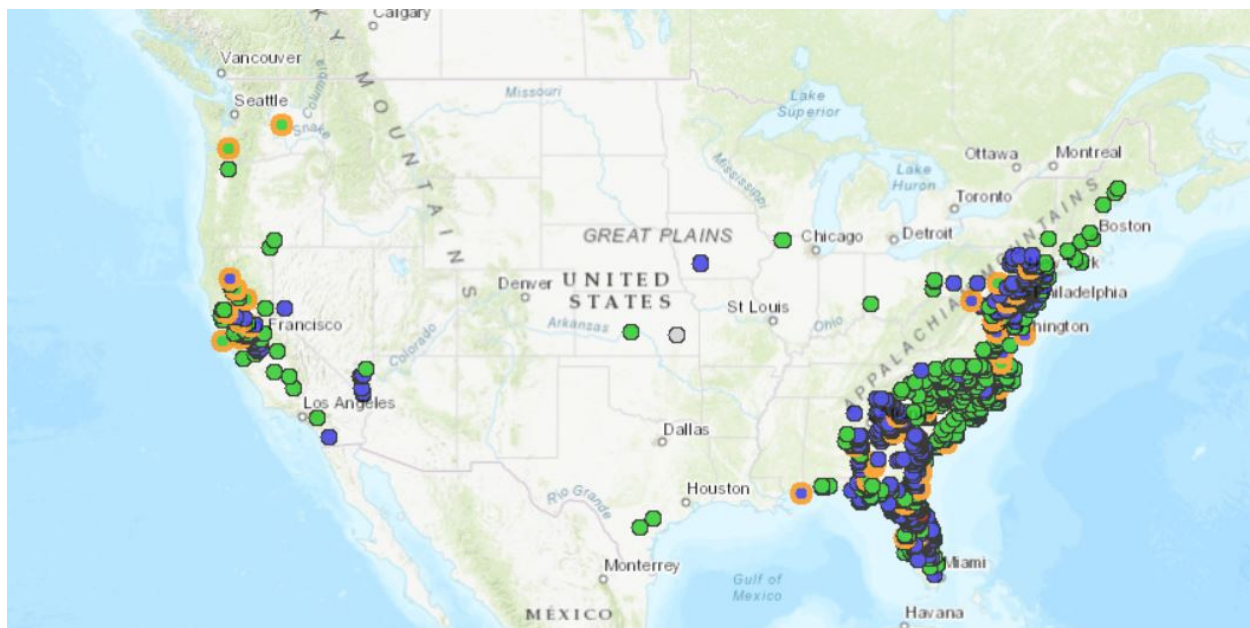


Figure 3. Known distribution of *Ameiurus catus* in the United States. Map from BISON (2020).

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Ameiurus catus* was generally high throughout the contiguous United States. High match was found throughout the native range of this species along the Atlantic Coast, as well in introduced areas in western States and in the Midwest. No areas of low match were found. The overall Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.876, high (scores of 0.103 and greater are classified as high). All States in the contiguous United States received high individual Climate 6 scores.

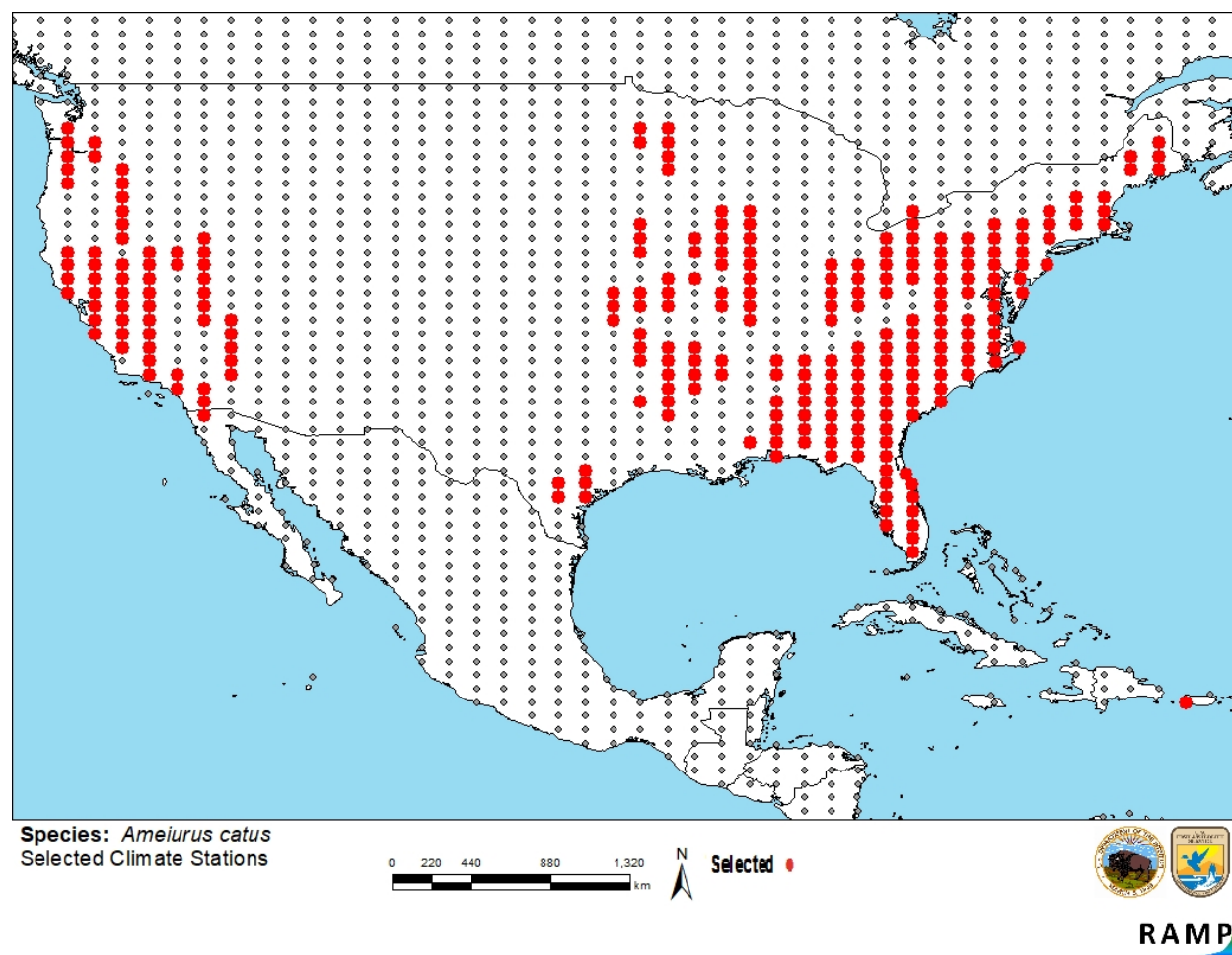


Figure 4. RAMP (Sanders et al. 2018) source map showing weather stations in the United States, Puerto Rico, Canada, and Mexico selected as source locations (red; United States, Puerto Rico, Canada, Mexico) and non-source locations (gray) for *Ameiurus catus* climate matching. Source locations from GBIF Secretariat (2020). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

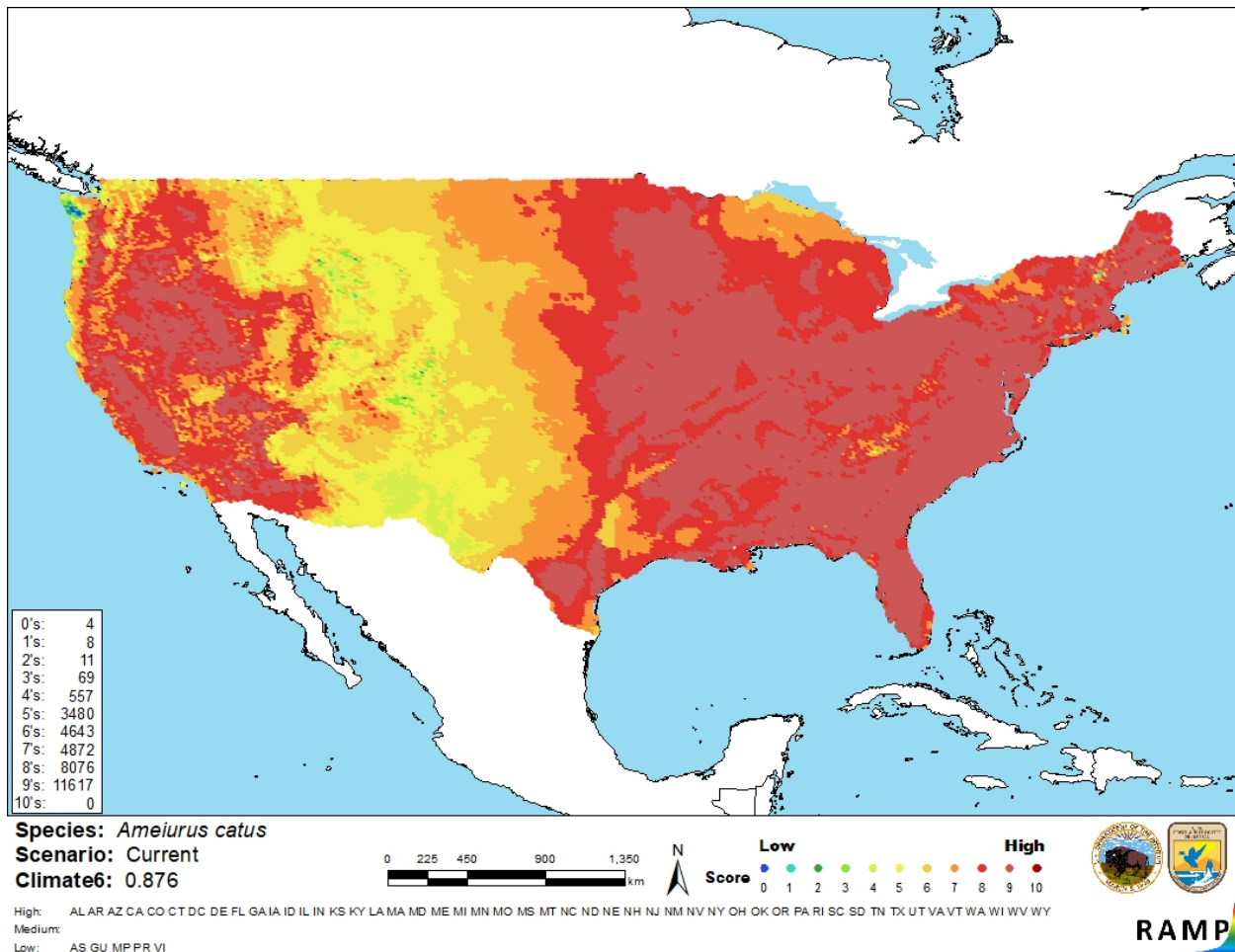


Figure 5. Map of RAMP (Sanders et al. 2018) climate matches for *Ameiurus catus* in the contiguous United States based on source locations reported by GBIF Secretariat (2020). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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. Adequate information is available on the biology and ecology of *Ameiurus catus*. The native and introduced range of this species is well documented. Information on potential impacts was available but supporting information was lacking, preventing the evaluation of the scientific defensibility of the information.

9 Risk Assessment

Summary of Risk to the Contiguous United States

The White Catfish, *Ameiurus catus* is a freshwater catfish native to the Atlantic Coast of the United States from New York to Florida. The history of invasiveness is classified as Data Deficient. This species has been introduced widely outside the native range for commercial and gamefish purposes, many of which have resulted in established populations. Most introductions have occurred within the contiguous United States. *Ameiurus catus* are a restricted species in Arizona. Individuals have also been reported in the United Kingdom and the Philippines, but these populations are not known to be established. Some native fish species have declined after the introduction of *A. catus*; however, those declines were not shown to be the direct results of the introduction. The overall climate match for the contiguous United States was High. All individual States received High individual Climate 6 scores. The certainty of assessment is Low. The overall risk assessment category for *Ameiurus catus* is Uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): Data Deficient**
- **Overall Climate Match Category (Sec. 7): High**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks, Important additional information: No additional remarks.**
- **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.

Arizona Office of the Secretary of State. 2013. Live wildlife. Arizona Administrative Code, Game and Fish Commission, Title 12, Chapter 4, Article 4.

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