

Summary

Conservation Status

Distribution

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Striped Bass

Unique Identifier: AFCQA01040

Informal Taxonomy: Animals, Vertebrates - Fishes

- Bony Fishes - Other Bony Fishes

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Kingdom	Phylum	Class	Order	Family	Genus
Animalia	Craniata	Actinopterygii	Perciformes	Percichthyidae	Morone

Concept Reference: Robins, C. R., et al. 1991. Common and scientific names of fishes from the United States and Canada. American Fisheries Society, Special Publishing 20. 183 pp.

Concept Reference Code: B91ROB01NAUS

Name Used in Concept Reference: *Morone saxatilis*

Taxonomic Comments: Formerly placed in the genus ROCCUS. Distinct populations occur within Chesapeake Bay and in other areas (Chapman 1990). Wirgin et al. (1989) found unique mtDNA genotypes in the Apalachicola River system, suggesting the continued existence there of a maternal lineage of Gulf ancestry. The family Percichthyidae was recognized by Robins et al. (1991) as possibly polyphyletic but was retained for convenience.

Conservation Status**NatureServe Status****Global Status:** G5**Global Status Last Reviewed:** 20Sep1996**Global Status Last Changed:** 20Sep1996**Rounded Global Status:** G5**Nation:** United States**National Status:**

N5

Nation: Canada**National Status:**

N3?

U.S. & Canada State/Province Status

United States	Alabama (S5), Arizona (SNA), Arkansas (SNA), California (SNA), Colorado (SNA), Connecticut (S3), Delaware (S5), District of Columbia (S4), Florida (SNR), Georgia (S5), Illinois (SNA), Indiana (SNA), Kansas (SNA), Kentucky (SNA), Louisiana (S4), Maine (S5), Maryland (S5), Massachusetts (SU), Mississippi (SH), Missouri (SNA), Navajo Nation (SNA), Nebraska (SNA), Nevada (SNA), New Hampshire (S4), New Jersey (S4), New Mexico (SNA), New York (S4), North Carolina (S4), North Dakota (SNA), Ohio (SNA), Oklahoma (SNA), Oregon (SNA), Pennsylvania (S3S4), Rhode Island (SNR), South Carolina (SNR), Tennessee (SNA), Texas (SNA), Utah (SNA), Virginia (S4), Washington (SNA), West Virginia (SNA)
Canada	New Brunswick (S2), Nova Scotia (S1), Prince Edward Island (S2N), Quebec (SX)

Endemism: occurs (regularly, as a native taxon) in multiple nations

U.S. & Canada State/Province Distribution

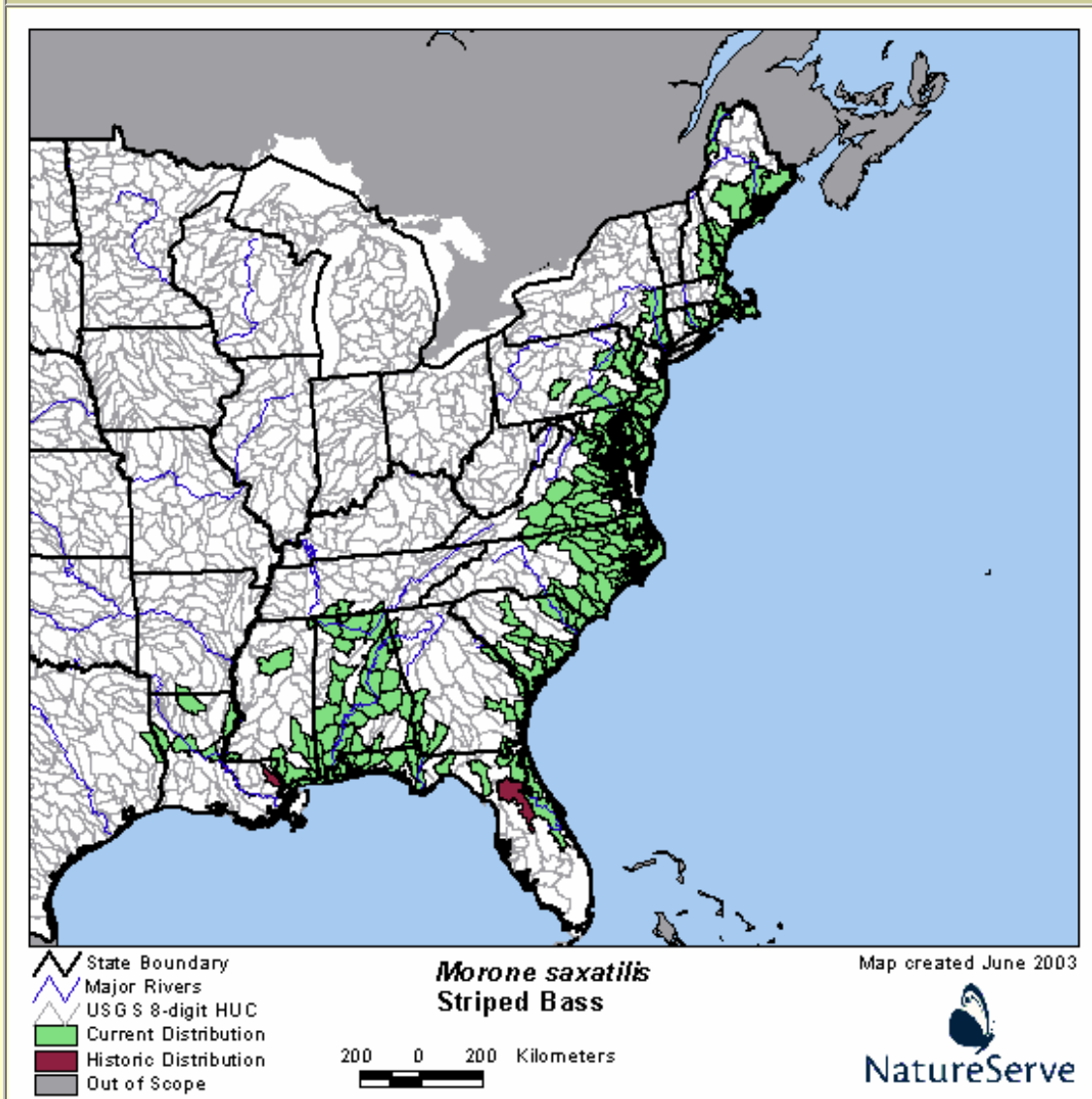
United States	AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MO, MS, NC, ND, NE, NH, NJ, NM, NN, NV, NY, OH, OK, OR, PA, RI, SC, TN, TX, UT, VA, WA, WV
Canada	NB, NS, PE, QC

Range Map

No map available.

Global Range Comments: Native to Atlantic Slope drainages from St. Lawrence River, Canada, south to St. Johns River, Florida, and Gulf slope drainages from western Florida (Suwannee River) to Lake Pontchartrain, Louisiana; aside from some remnant populations, native Gulf Coast striped bass no longer occur in historical range (Crance 1984). Introduced widely in inland areas of U.S. and on Pacific coast, where has spread north to British Columbia and south to northern Baja California. Also introduced in USSR, France, and Portugal (Hill et al. 1989).

U.S. Distribution by Watershed (based on multiple information sources)



Economic Attributes

Economic Comments: Formerly large commercial catches have declined in many areas along the Atlantic coast; major

commercial fishery continues in Albemarle Sound (Hill et al. 1989). Commercial landings along the U.S. east coast were 8-14 million pounds/year from 1960 to 1970, up to 14.7 million pounds in 1973, down to 3.5 million pounds by 1979 (Diamond 1990). Most major South Atlantic coastal rivers support a recreational fishery (Hill et al. 1989). Propagation and management of striped bass in inland waters followed discovery of reproducing land-locked population in Santee-Cooper Reservoir in South Carolina. The wiper, a striped bass-white bass hybrid, is extensively cultured in U.S. Important sport fish in Sacramento-San Joaquin Delta, California (see Hassler 1988), and in certain areas along Atlantic coast.

Management Summary

Management Requirements: See Harrell et al. (1990) for information on culture and propagation methods.

Ecology & Life History

Reproduction Comments: Spawns as early as mid-February in Florida, as late as June-July in St. Lawrence River; see Hill et al. (1989) for more detail on specific areas, and Crance (1984) for spawning in relation to temperature in various areas. Eggs hatch in 2-3 days. Males usually sexually mature in 1-3 years, females in 4-6 years (Middle Atlantic region). Spawns in large aggregations (Moyle 1976). See Hassler (1988) for review of life history in Sacramento-San Joaquin Delta, California. See also Crance (1984).

Ecology Comments

Gregarious. Year-class success appears to be determined during first 2 months of life, may be correlated with environmental conditions during larval stages (Hill et al. 1989). Growth and development rates vary widely, depending on conditions. Parasitic infection rarely cause mortalities in wild populations unless fishes are under stress (Hill et al. 1989). Summer die-offs are common in reservoirs (Sublette et al. 1990).

Habitat Type: Freshwater

Non-Migrant: Y

Locally Migrant: Y

Long Distance Migrant: Y

Mobility and Migration Comments: Native and some other populations anadromous. Certain stocks along Atlantic coast north of Cape Hatteras may make extensive migrations along coast, moving north in spring and south in fall (extent of migration varies among individuals and populations). May ascend rivers as far as 320 km during spawning migrations (usually only 40 km or less). Populations along South Atlantic coast of U.S. apparently do not make extensive coastal migrations that are typical of stocks in Middle and North Atlantic; generally South Atlantic populations are endemic to individual river systems (Hill et al. 1989).

Marine Habitat(s): Near shore

Estuarine Habitat(s): Bay/sound, River mouth/tidal river

Riverine Habitat(s): BIG RIVER, Low gradient, MEDIUM RIVER, Moderate gradient

Lacustrine Habitat(s): Deep water

Habitat Comments: Marine and estuarine coastal species that moves far upstream in channels of medium to large rivers during spawning migrations. In coastal areas, typically within 6 km of shore. Adults in inshore areas use wide range of substrates. Widely introduced in lakes and impoundments. Some populations complete life cycle in freshwater. In colder months seeks warmest water available at depths greater than 1.5 m. See Hill et al. (1989) and Crance (1984) for habitat suitability index model and details on various environmental requirements and tolerances (e.g., temperature, dissolved oxygen, salinity, toxicants). Uses rivers, tidally influenced fresh waters, and estuaries for spawning and nursery areas (Thomson et al. 1978). Preferred spawning areas often shallow (0.3-6.1 m) and turbid, from tidal zone to a few hundred

km upstream (usually within 60 km of coast). Often seeks areas with strong turbulent flow and substrate of rock and/or fine gravel. Spawns over rocky shoal in or near mixing zone of river water and reservoir water at Lake Powell, Utah. Eggs semibouyant, drift and sink slowly; in riverine populations, current of about 30 cm/sec reportedly required to keep eggs afloat and prevent death due to settling on bottom (though this may vary with differences in egg buoyancy in different regions). Juveniles apparently prefer clean sandy bottom but have been found over gravel, rock, and (rarely) soft mud; may or may not move to areas of higher salinity in first summer/fall (varies with locality).

Adult Food Habits: Invertivore, Piscivore

Immature Food Habits: Invertivore, Piscivore

Food Comments: Larvae feed on zooplankton (e.g. Copepoda, Cladocera), young primarily consume zooplankton & other invertebrates (e.g. Copepoda, Cladocera, Amphipoda, mysids); adults are predatory on fishes and larger crustaceans (Hassler 1988). When available, threadfin shad or gizzard shad often the major food for adults. Within the above categories, striped bass are basically opportunistic feeders.

Length: 200 centimeters

Population/Occurrence Delineation

Group Name: FISHES WITH ANADROMOUS POPULATIONS

Use Class: Freshwater

Subtype(s): Spawning & Rearing Area, Rearing & Migration Area

Minimum Criteria for an Occurrence: Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a given location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals (including eggs and larvae) in appropriate habitat. For anadromous populations, occurrences are based on collection or reliable observation and documentation of one or more spawning adults, redds, other evidence of spawning, or larvae or juveniles in appropriate spawning/rearing habitat.

Mapping Guidance: Conceptually, the occurrence includes the entire freshwater area used by the population, including spawning, rearing, and migration areas. For anadromous populations, an occurrence should extend from the most upstream spawning areas downstream to the ocean. However, it is desirable (and practical) to subdivide this sometimes very large occurrence, sometimes overlapping with many other spaghetti-like occurrences extending down from the upstream spawning areas to the ocean, into separate source features or sub-occurrences, labeled with a feature label that reflects the life history stage in that area. Moreover, it may make practical sense to treat the areas downstream of spawning and/or rearing areas as a mixed element animal assemblage: Freshwater Salmon Migration Corridor. This negates the need to separately map each occurrence down to the ocean from its upstream spawning location. Information about areas with different life-history uses can be generated by using best professional judgment by district or regional fish biologists and may or may not incorporate specific locational information from spawning surveys or other surveys.

Separation Barriers: Dam lacking a suitable fishway; high waterfall; upland habitat.

Alternate Separation Procedure: For anadromous populations and migratory populations that have distinct and separate spawning and nonspawning areas, the area used by each population whose spawning area is separated by a gap of at least 10 stream-km from other spawning areas within a stream system is potentially mappable as a distinct occurrence that extends down to the ocean (but see mapping guidance), regardless of whether the spawning areas are in the same or different tributaries.

For other (e.g., nonanadromous) populations in streams, separation distance is 10 stream-km for both suitable and unsuitable habitat. However, if it is known that the same population occupies sites separated by more than 10 km (e.g., this may be common for migratory, nonanadromous populations), those sites should be included within the same occurrence. In lakes, occurrences include all suitable habitat that is presumed to be occupied (based on expert judgment), even if documented collection/observation points are more than 10 km apart. Separate sub-occurrences or source features may usefully document locations of critical spawning areas within a lake.

Separation Justification: The separation distance is arbitrary but was selected to ensure that occurrences are of manageable size but not too small. Because of the difficulty in defining suitable versus unsuitable habitat, especially with respect to dispersal, and to simplify the delineation of occurrences, a single separation distance is used regardless of habitat quality.

"Restricted movement is the norm in populations of stream salmonids during nonmigratory periods," but there is considerable variation in movements within and among species (Rodriguez 2002). Redband trout in Montana had

October-December home ranges of 5-377 m, consistent with small movements observed for radio-tagged brook trout and cutthroat trout during fall and winter (Muhlfeld et al. 2001). For nonanadromous populations, little is known about juvenile dispersal (e.g., how far fishes may move between their embryonic developmental habitat and eventual spawning site).

In summer and fall, radio-tagged cutthroat trout in Strawberry Reservoir in Utah had single-month home ranges that were usually about 3-4 km in maximum length (Baldwin et al. 2002). In the Blackfoot River drainage, Montana, radio-tagged westslope cutthroat trout moved 3-72 km (mean 31 km) to access spawning tributaries (Schmetterling 2001). This indicates that migratory but nonanadromous populations may use extensive areas and that one should not invoke the 10-km separation distance without considering the full extent of the population.

Date: 11Mar2003

Author: Hammerson, G., and L. Master

Notes: This Specs Group comprises fish species that include anadromous populations (may also include nonanadromous populations), such as lampreys, sturgeons, herrings, shads, salmonids, and smelts.

Criteria for marine occurrences (Location Use Class: Marine) have not yet been established. These may not be needed for marine occurrences of species that likely will be dealt with as mixed element assemblages (e.g., Salmonid Marine Concentration Area).

Feature Descriptor Definitions:

Spawning Area: area used for spawning but not for rearing or migration.

Rearing Area: area used for larval/juvenile development but not for spawning or migration.

Migration Corridor: area used for migration but not for rearing or spawning.

Population/Occurrence Viability

Authors/Contributors

Element Ecology & Life History Edition Date: 08Nov1995

Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see [Local Programs](#)) and other contributors and cooperators (see [Sources](#)).

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Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003.

Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B. E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

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