

Summary

Conservation Status

Distribution

Image

Comprehensive

New Search

**Comprehensive Report:** Record 1 of 1 selected.

<< Previous | Next >>

[See All Search Results](#) [View Glossary](#)***Morone saxatilis*** - (Walbaum, 1792)

Striped Bass

Unique Identifier: AFCQA01040

Informal Taxonomy: Animals, Vertebrates - Fishes

- Bony Fishes - Other Bony Fishes



[Search for Images on Google](#)

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)

Other Statuses

NatureServe Conservation Status Factors

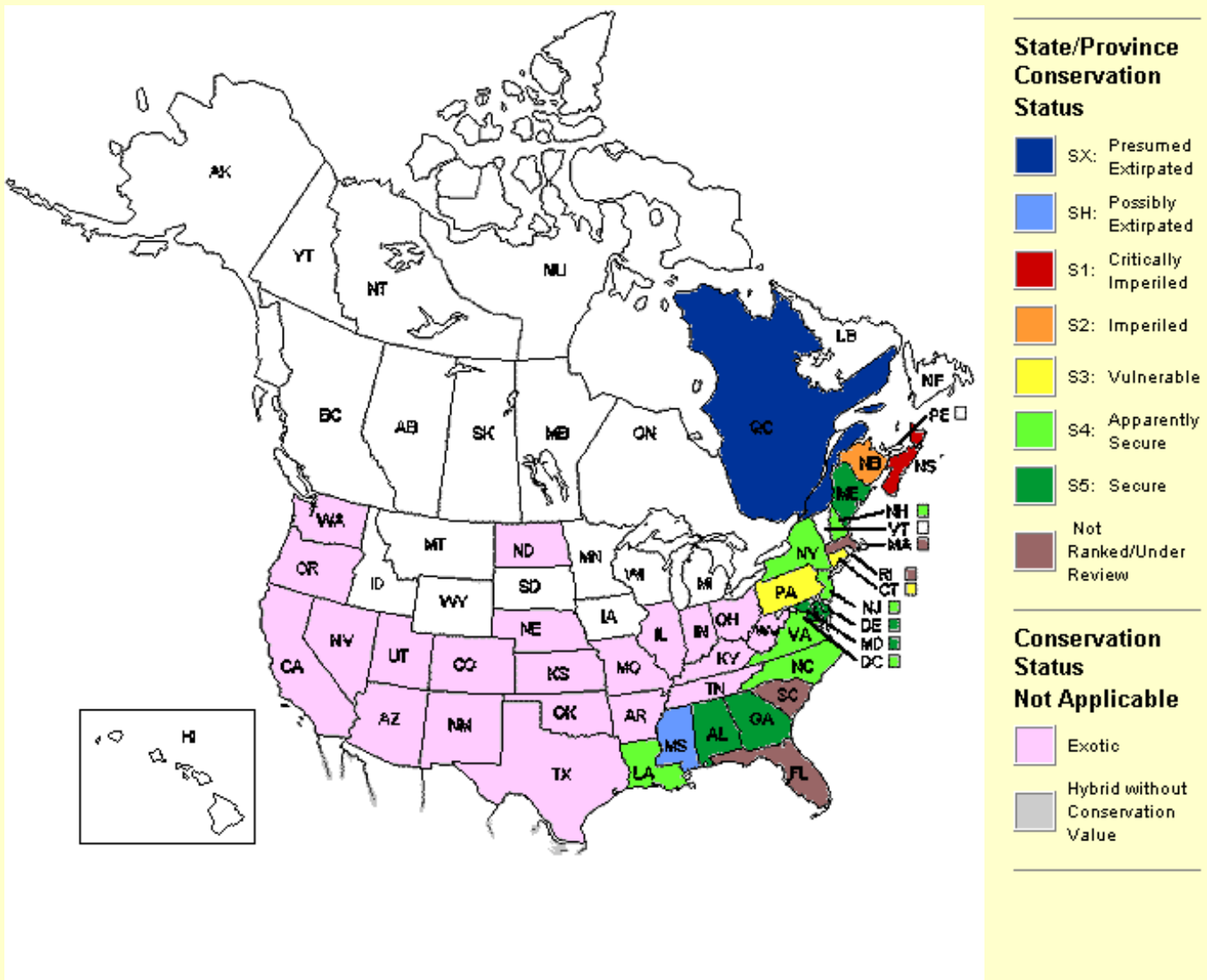
Global Short Term Trend:

Global Short Term Trend Comments: Population in Sacramento-San Joaquin Delta has declined steadily since 1960s (Hassler 1988). Chesapeake Bay population has recovered from large declines that extended through the 1970s (Baker 1994). See GTHREATCOM.

Threats: Decline in Sacramento-San Joaquin Delta is attributed primarily to toxic substances and to entrainment of young in water diversion structures (Hassler 1988). Habitat destruction affected populations in Hudson River, Chesapeake Bay, and Albemarle Sound, resulting in drastic declines in mid-20th century (Hill et al. 1989). Excess harvest contributed the decline along the U.S. east coast in the late 1970s and early 1980s; hatchery production and restrictions on the harvest resulted in population increases in the Chesapeake Bay region by the early 1990s (Diamond 1990). Alterations in habitat quality have eliminated native bass populations from most of original range along Gulf of Mexico; but populations increasing due to stocking (Hill et al. 1989).

Distribution

U.S. States and Canadian Provinces



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

U.S. & Canada State/Province Distribution

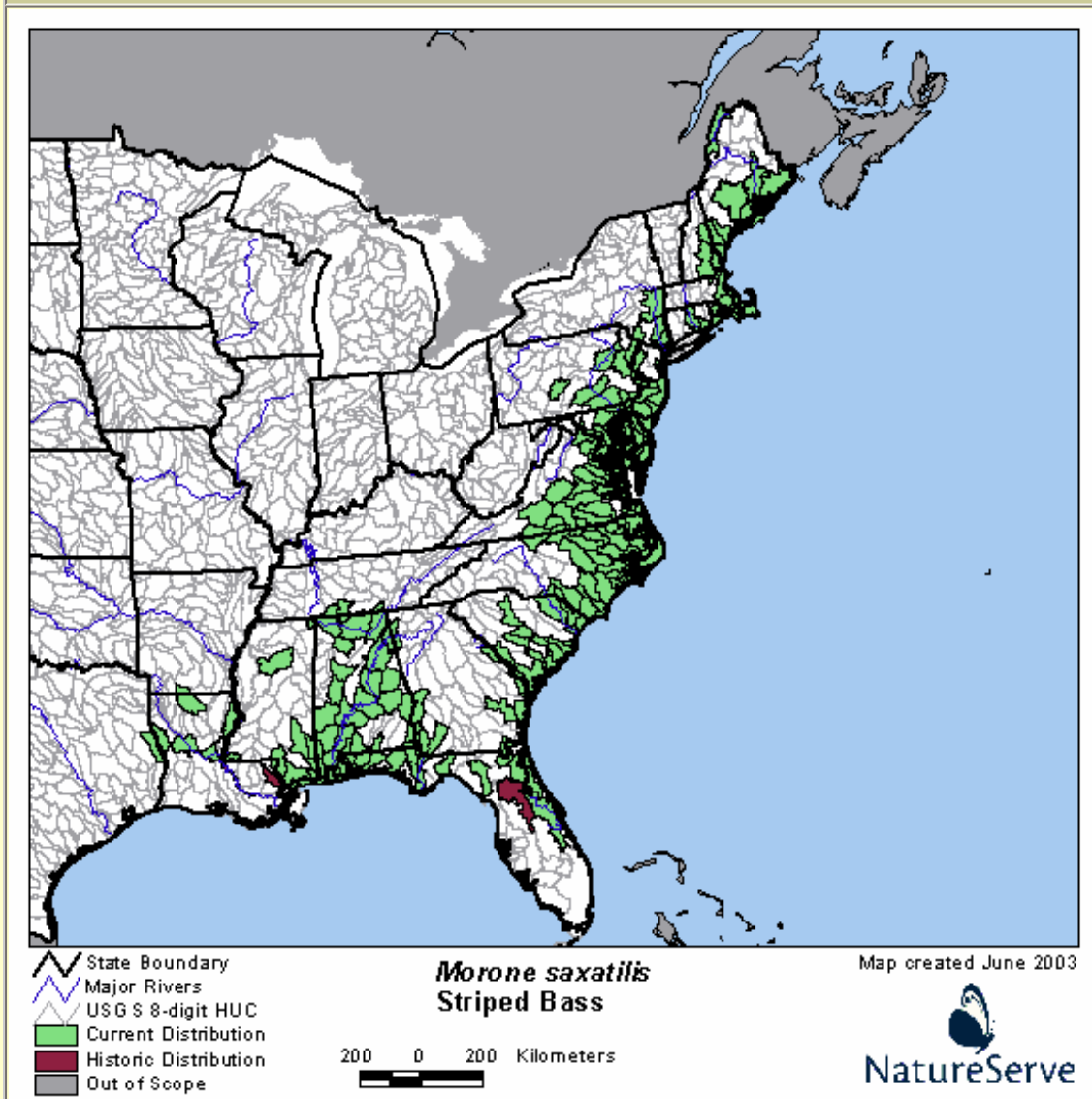
United States	AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MO, MS, NC, ND, NE, NH, NJ, NM, NN, NV, NY, OH, OK, OR, PA, RI, SC, TN, TX, UT, VA, WA, WV
Canada	NB, NS, PE, QC

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. Spawned 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](#)).

References

- ALLEN, CRAIG R., STEPHEN DEMARAIS, AND R. SCOTT LUTZ. 1994. RED IMPORTED FIRE ANT IMPACT ON WILDLIFE: AN OVERVIEW. TEXAS J. SCI. 46(1):51-59.
- ANDERSON, ALLISON A., CLARK HUBBS, KIRK O. WINEMILLER, AND ROBERT J. EDWARDS. 1995. TEXAS FRESHWATER FISH ASSEMBLAGES FOLLOWING THREE DECADES OF ENVIRONMENTAL CHANGE. SOUTHWEST. NAT. 40(3):314-321.
- Baker, B. 1994. Striped bass success spawns new legislation. BioScience 44(8):520-522.
- Chapman, R. W. 1990. Mitochondrial DNA analysis of striped bass populations in Chesapeake Bay. Copeia 1990:355-366.
- Crance, J. H. 1984. Habitat suitability index models and instream flow suitability curves: inland stocks of striped bass. U.S. Fish Wildl. Serv. FWS/OBS-82/10.85. 61 pp.
- Diamond, G. 1990. Morone saxatilis returns! (The rock are back!). Maryland Magazine, Autumn 1990, pp. 53-54.
- Douglas, Neil H. 1974. Freshwater fishes of Louisiana. Claitor's publ. div. Baton Rouge, Louisiana. 443 pp.
- Etnier, David A. and Wayne C. Starnes. 1993. The Fishes of Tennessee. University of Tennessee Press, Knoxville. 681 pp.
- Everhart, W. H. and W. R. Seaman. 1971. Fishes of Colorado. Colorado Game, Fish and Parks.
- GARDINER, M. AND T.B. HOFF. 1982. DIET OF STRIPED BASS IN THE HUDSON RIVER ESTUARY. N.Y. FISH GAME J. 29 (2):152-165.
- HICKEY, C.R. JR. AND B.H. YOUNG. 1984. INCIDENCE OF MORPHOLOGICAL ABNORMALITIES IN STRIPED BASS FROM THE HUDSON RIVER AND COASTAL LONG ISLAND, NEW YORK. N.Y. FISH GAME J. 31(1):104-108.

- Harrell, R. M., et al. 1990. Culture and propagation of striped bass and its hybrids. Am. Fisheries Soc., Bethesda, Maryland. 323 pp.
- Hassler, T. J. 1988. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest)--striped bass. USFWS Biol. Rep. 83(11.82). US Army Corps of Engineers, TR EL-82-4. 29 pp.
- Hill, J., J. W. Evans, and M. J. Van Den Avyle. 1989. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (South Atlantic)--striped bass. U. S. Fish & Wildl. Serv. Biol. Rep. 82(11.118). 35 pp.
- La Rivers, I. 1994. Fishes and fisheries of Nevada. University of Nevada Press, Reno. 782 pp.
- Lee, D. S., C. R. Gilbert, C. H. Hocutt, R. E. Jenkins, D. E. McAllister, and J. R. Stauffer, Jr. 1980. Atlas of North American Freshwater Fishes. North Carolina State Museum of Natural History. 867 pp.
- Merriman, D. 1941. Studies on the striped bass, *ROCCUS SAXATILIS*, of the Atlantic coast. Fish. Bull. 35, vol. 50:1-77.
- Moyle, P. B. 1976. Inland fishes of California. University of California Press, Berkeley, California. 405 pp.
- Page, L. M., and B. M. Burr. 1991. A field guide to freshwater fishes: North America north of Mexico. Houghton Mifflin Company, Boston, Massachusetts. 432 pp.
- Platania, S.P. 1990. Biological summary of the 1987 to 1989 New Mexico-Utah ichthyofaunal study of the San Juan River. Prepared by Department of Biology, University of New Mexico, Albuquerque, for New Mexico Department of Game and Fish, Santa Fe, under contract 78-516.6-01, and U.S. Bureau of Reclamation, Salt Lake City, UT, under cooperative agreement 7-FC-40-05060.
- ROSS, STEPHEN T. 1996. INLAND FISHES OF MISSISSIPPI. SELECTED SPECIES ACCOUNTS. COAUTHORED WITH W. M. BRENNEMAM, W.T. SLACK, M.T. O'CONNELL, AND T.L. PETERSON. ILLUSTRATED BY D.G. ROSS. DRAFT COPY.
- Raney, E.C. et. al. 1954. Migratory patterns and racial structure of Atlantic coast striped bass. Transactions 19th North American Wildlife Conference (1954): 376-396.
- Rathjen, W.F. and L.C. Miller. 1957. Aspects of the early life history of the striped bass, *ROCCUS SAXATILIS*, in the Hudson River. N. Y. Fish Game J. 4: 43-60.
- 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.
- Smith, C.L. 1985. The Inland Fishes of New York State. New York State Department of Environmental Conservation. Albany, NY. 522pp.
- Sublette, J. E., M. D Hatch, and M. Sublette. 1990. The fishes of New Mexico. University New Mexico Press, Albuquerque, New Mexico. 393 pp.
- Thomson, K. S. et al. 1978. Saltwater fishes of Connecticut. 2nd edition. State Geol. Nat. Hist. Surv. Connecticut Bull. 105. viii + 186 pp.
- WARD, ROCKY, IVONNE R. BLANDON, AND BRITT W. BUMGUARDNER. 1995. HYBRIDIZATION AMONG MEMBERS OF THE GENUS MORONE (PISCES: PERCICHTHYIDAE) IN GALVESTON BAY, TEXAS. TEXAS J. SCI. 47(2):155-158.
- WERNER, R.G. 1980. FRESHWATER FISHES OF NEW YORK STATE. N.Y.: SYRACUSE UNIV. PRESS. 186 PP.
- Wirgin, I. I., R. Proenca, and J. Grossfield. 1989. Mitochondrial DNA diversity among populations of striped bass in the southeastern United States. Can. J. Zool. 67:891-907.

The Small Print: Trademark, Copyright, Citation Guidelines, Restrictions on Use, and Information Disclaimer.

Note: Data presented in NatureServe Explorer at <http://www.natureserve.org/explorer> were updated to be current with NatureServe's central databases as of **February 2005**.

Note: This report was printed on **May 18, 2005** .

Trademark Notice: "NatureServe", NatureServe, NatureServe Explorer, The NatureServe logo, and all other names of NatureServe programs referenced herein are trademarks of NatureServe. Any other product or company names mentioned herein are the trademarks of their respective owners.

Copyright Notice: Copyright © 2005 NatureServe, 1101 Wilson Boulevard, 15th Floor, Arlington Virginia 22209, U.S.A. All Rights Reserved. Each document delivered from this server or web site may contain other proprietary notices and copyright information relating to that document. The following citation should be used in any published materials which reference the web site.

Citation for data on website including Watershed and State Distribution maps:

NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.4. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: May 18, 2005).

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."

NOTE: Full metadata for the Bird Range Maps of North America is available at:

<http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf>.

Full metadata for the Mammal Range Maps of North America is available at:

<http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf>.

Restrictions on Use: Permission to use, copy and distribute documents delivered from this server is hereby granted under the following conditions:

1. The above copyright notice must appear in all copies;
2. Any use of the documents available from this server must be for informational purposes only and in no instance for commercial purposes;
3. Some data may be downloaded to files and altered in format for analytical purposes, however the data should still be referenced using the citation above;
4. No graphics available from this server can be used, copied or distributed separate from the accompanying text. Any rights not expressly granted herein are reserved by NatureServe. Nothing contained herein shall be construed as conferring by implication, estoppel, or otherwise any license or right under any trademark of NatureServe. No trademark owned by NatureServe may be used in advertising or promotion pertaining to the distribution of documents delivered from this server without specific advance permission from NatureServe. Except as expressly provided above, nothing contained herein shall be construed as conferring any license or right under any NatureServe copyright.

Information Warranty Disclaimer: All documents and related graphics provided by this server and any other documents which are referenced by or linked to this server are provided "as is" without warranty as to the currentness, completeness, or accuracy of any specific data. NatureServe hereby disclaims all warranties and conditions with regard to any documents provided by this server or any other documents which are referenced by or linked to this server, including but not limited to all implied warranties and conditions of merchantability, fitness for a particular purpose, and non-infringement. NatureServe makes no representations about the suitability of the information delivered from this server or any other documents that are referenced to or linked to this server. In no event shall NatureServe be liable for any special, indirect, incidental, consequential damages, or for damages of any kind arising out of or in connection with the use or performance of information contained in any documents provided by this server or in any other documents which are referenced by or linked to this server, under any theory of liability used. NatureServe may update or make changes to the documents provided by this server at any time without notice; however, NatureServe makes no commitment to update the information contained herein. Since the data in the central databases are continually being updated, it is advisable to refresh data retrieved at least once a year after its receipt. The data provided is for planning, assessment, and informational purposes. Site specific projects or activities should be reviewed for potential environmental impacts with appropriate regulatory agencies. If ground-disturbing activities are proposed on a site, the appropriate state natural heritage program(s) or conservation data center can be contacted for a site-specific review of the project area (see [Visit Local Programs](#)).

Feedback Request: NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see [Contact Us](#)). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.

