

Lagniappe



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North Atlantic Cod Collapse Reevaluated

The collapse of North Atlantic cod fishery is widely described as the perfect example of overfishing and mismanagement. Few environmental reporters fail to mention this disaster when discussing any ocean fisheries management efforts. Current re-analyses of the causes for the cod collapse focus on “a range of social and political factors that were implicated in the collapse of the stocks, including overfishing, government mismanagement and the disregard of scientific uncertainty.”

However, a new comprehensive analysis of the cod populations of the North Atlantic has taken another approach: looking for similarities and differences in the various discrete stocks throughout the North Atlantic, while measuring differences in growth and reproduction in each stock. When commercial fishery effects are added to this analysis a surprising new conclusion becomes apparent: Environmental factors have been an overwhelming influence all along.

The study by Brian Rothschild, published in the *Transactions of the American Fisheries Society*, finds that a strong negative environmental signal, probably associated with plankton dynamics, was a likely suspect in the cod's disappearance. Spawning stock biomass (SSB - total weight of mature fish) tracked similar trends in all 11 cod stocks: declining from the 1960s through 1975, then increasing through 1985, then falling drastically through the 1990s and remaining low afterwards. Both the population increase after 1975 and the later decline occurred while mortality from fishing was very low. Fishing mortality began to increase as the stocks declined post-1985. During this period, relative growth rates also fell, indicating a problems quite different than simple fishing mortality. Cod stocks did not recover even after a fishing moratorium was implemented.

Researchers have proposed that non-fishery mortality may have been significant (such as that from grey seals). Other studies showed oscillation in ocean currents that caused temperature and salinity changes and possible reduction in the production of the cod's prey species. Rothschild suspects that several factors interacted to cause the population crash, and that this was almost certainly not simply a case of overfishing. That the population effects were similar across the different stocks of the North Atlantic most likely indicate problems at the base of the food web - plankton dynamics.

“These environmental changes were probably as important in influencing declines in cod abundance as the effects of fishing,” said Rothschild. “The standing stock biomass and weight-at-age statistics for various stocks tend to follow the same pattern. However, when fishing is superimposed on top of an unfavorable environment, it appears to accelerate the negative effects of the environment in bringing about a decline.”



Rothschild noted these observations have important implications for ocean fishery management. All of the measurements used in fishery management, such as production, yield-per-recruit, SSB and indices of recruitment tend to measure the effects of fishing while ignoring environmental effects and ecosystem interactions. The current method of rebuilding depleted fish stocks by reducing fishing mortality alone may be extremely simplistic. The study further points to our disturbing level of ignorance of large-scale ocean ecology. Although we have gathered bits of information about various aspects of aquatic systems, it is obvious that, in many cases, what we know is a fraction of what we need to know to make the best management decisions.

- Glenn Thomas

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Record Fish Catches Rebounding

For the first time since the ravages of Hurricanes Rita and Katrina, the Louisiana Outdoor Writers Association is seeing a steady flow of applicants to register record catches each month. For the first two years after the hurricanes, the fish records committee received about one application every other month. That number has climbed to new highs: Anglers are now submitting two to four a month -- a definite indication that the fish are there and the fishermen are back.

The old adage states: "Records are made to be broken," and we see it often within the state's fish records. But every now and then a new "broken" record really stands out from the others. Such is the case with Iota resident Marion Rose's catch in June of this year - a 124.5-pound cubera snapper. Marion broke a 25 year first-place record in the Rod and Reel Saltwater Division held by Mike Hebert, made way back in 1982. Mike slips into second place with his 121.5-pound cubera.



Marion Rose with his cubera
Image credit: Louisiana Outdoor Writers Association

Some other notable new saltwater Rod and Reel first places are Jessica Scallan of Metairie's 7.88-pound grey triggerfish caught in June, and Dylan Gonzales' new record for black drum with the new whopper weighing 79.5 pounds.

However, there is a surprising lack this year of fly fishing applicants. For the entire year, not one fly fishing application has been submitted and the Fly Fishing Division is wide open to many records,

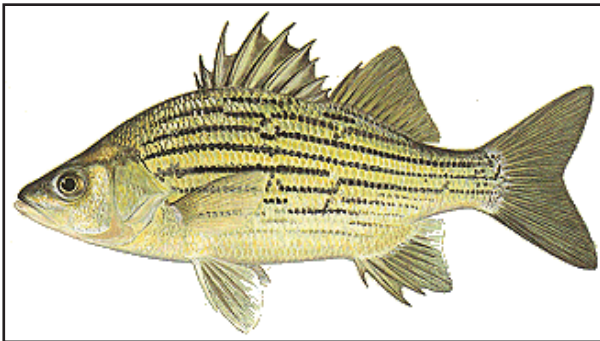
both salt and fresh water. Louisiana fly fishermen may want to visit www.laoutdoorwriters.com and take a good look at the present records and see all the opportunities available to them to enter. This would be a good idea for Rod and Reel division anglers as well, since several new categories are wide open, and many categories will be readily entered.

Of other interest is a pending freshwater record by Roland Lasseigne of Maurice. When verified (in 30 day rebuttal waiting period at present) Roland's 95-pound fish will be a new record for flathead catfish. Also in the "un-official ugliest fish division" is Arthur Scanlan's pending new first place record for a 14.9 pound bearded brotula, a prehistoric looking marine species. The bearded brotula has to be one of the strangest looking saltwater fish to come out of the Gulf of Mexico! Opportunities abound to become a part of fishing history.

The Louisiana Outdoor Writers Association has been the keeper of the Louisiana State Fish Records since 1940. For further information contact the Fish Records Chairman Bill Ford, at: fishrecords@yahoo.com.

Family Profile: Moronidae – the Temperate Basses

The Family Moronidae is comprised of only one genus (*Morone*), with four predaceous species naturally confined to North America found in fresh, brackish and salt waters. Temperate basses are important food and sport fishes, renowned for their taste and fighting ability. As a result, this group of sport fish has been widely transported outside of their native ranges, particularly striped bass which are now found in Russia, France and Portugal, and almost every reservoir in North America. To help supplement the angling and dining demand, fishery biologists have cultured hybrids of several species, which are also popular in aquaculture operations. This article will focus on the three temperate bass found in Louisiana (white, yellow and striped), along with the most common of the hybrids (hybrid striped bass).



Yellow Bass
Image credit: Iowa DNR

Yellow bass (*Morone mississippiensis*) are the smallest of the temperate basses, growing to about 16 inches with a maximum weight around 2.5 pounds. As the name suggests, they have a yellowish coloration on their back, sides and belly. They also have seven to nine bold stripes running from head to tail, with the ones below the lateral line, near the anal fin, interrupted and offset. Despite the restricted range and small size, yellow bass are popular sport fish, but have a tendency for overpopulation in ponds and small lakes. They live in schools, feeding on fish, crustaceans and insects

from the mid-depths to the surface. Yellow bass are often found in backwaters and quiet pools of lowland rivers, lakes and reservoirs. Spawning runs upstream are made during the spring.

In Louisiana, yellow bass are a popular panfish; most people call them "barfish." Good populations occur in big rivers, reservoirs and even brackish bayous. In fast-flowing rivers, yellow bass will locate away from the fastest current. Last year, the Louisiana Outdoor Writers Association added a category for yellow bass records in the state.

White bass (*Morone chrysops*) grow to 18 inches, possibly reaching 7 pounds in some places, but the Louisiana state record is just over 4 pounds (Randy Dubuc – 4.13 pounds, 1986). These fish are

also commonly referred to as “barfish.” They have silvery to white coloration, with six to nine narrow stripes, sometimes interrupted below the lateral line. The characteristic that most clearly separates white bass from yellow bass is the separation of the spiny and soft portions of the dorsal fin (versus connected by a membrane in yellow bass). White bass are often found in moderately clear waters of large streams, lakes, and reservoirs over firm sand, gravel and rocks. They often school in open waters, feeding primarily on fish, insects and crustaceans, which are located by sight rather than scent. White bass are important sport fish and can be caught with minnows and minnow-imitating lures (white or silver jigs, spoons, rattling plugs). They are a bit more strongly-flavored than most other panfish. White bass also migrate in the spring from the large rivers up into smaller streams for spawning.



White Bass
Image credit: Duane Raver, U.S. Fish and Wildlife Service



Striped Bass
Image credit: Duane Raver, U.S. Fish and Wildlife Service

Striped bass (*Morone saxatilis*) are the largest of the temperate basses. The state record is a 47.5-pound fish caught in Toledo Bend (James Taylor - 1991) and the world record is a 78.8-pound, 53-inch, 20-22 year old behemoth caught off the New Jersey coast. Striped bass anglers often argue that these are the hardest-fighting fish that swim. Striped bass are more fusiform (torpedo-shaped) than the other temperate basses, with silvery sides, and six to nine uninterrupted stripes on the upper side.

This delicious food fish is a very important sport and commercial fish throughout its range. Populations along the Atlantic coast generally have an anadromous life cycle, spawning in fresh water and then feeding in estuaries or coastal waters. Those in the more southern drainages tend to have reduced migrations or restrict migrations to fresh water (termed potamodromous). Habitat alterations (dam construction) and environmental degradation caused many of the original populations of striped bass to suffer, resulting in strict management quotas and restocking programs which are facilitating an impressive stock recovery.

Hybrid striped bass (HSB) are combinations of white and striped bass. The benefit of this cross-breeding is “hybrid vigor,” the term used to explain the rapid growth and hardiness exhibited in hybrids. Hybrids incorporate some of the best characteristics of the parent species - larger size of striped bass and hot weather tolerance of white bass. Although they do not reach the massive size of the striped bass, they get much larger than white bass but have a shorter life span. The Louisiana state record is a 16.25-pound fish caught in Lake Pontchartrain (William Hungerford - 2000). They are silver in coloration with white on the underbelly. The lateral stripes are similar to those in striped bass, but are often broken in the area behind the pectoral fin and below the lateral line. Unlike most other hybrids, HSB are fertile and have been observed spawning in methods similar to the other temperate basses.

The two types of HSB are the “original cross” (aka palmetto bass) and the sunshine bass. The palmetto bass is a cross between female striped bass and male white bass; while the sunshine bass is the reciprocal cross between female white bass and male striped bass. Although they possess similar growth characteristics, the sunshine bass are becoming more popular due to the ease of collecting sexually mature female white bass over the much larger, and scarcer, sexually mature female striped bass. Although HSB are often stocked as sport fish, production is rapidly expanding in the world aquaculture realm with a U.S. growth from 400,000 pounds in 1987 to about 10.6 million pounds in 2001. This growth is a response to a market void created by the decline of natural fishery stocks of striped bass and increased market demand for fish in general.

- Craig Gothreaux

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New Jersey Division of Fish and Wildlife - <http://www.state.nj.us/dep/fqw/recmarst.htm>

Survey Seeks Input on Marine Research Needs

Anyone interested in Gulf of Mexico coastal and marine issues is invited to complete a survey that will help scientists and funding agencies prioritize regional research and informational needs. Participants can help shape the future direction of Gulf of Mexico research, discovery and information dissemination by identifying the topics they believe are most important. The survey, which takes approximately 10 minutes to complete, is available online at <http://masgc.org/gmrp>.

Resources that help scientists and managers understand the natural and human-caused impacts on the Gulf are limited, yet coastal and marine concerns continue to rise. Current topics of concern include stewardship of natural and cultural resources, ecosystem and human health, marine operations, natural hazards and the ocean’s role in climate.

This survey and other stakeholder input will be used to develop a regional priorities plan for the Gulf of Mexico research community. The plan will assist research-based organizations collaboratively work to address the most-pressing needs.

The Gulf of Mexico Research Prioritization and Information Needs project is coordinated regionally by the Florida, Louisiana, Mississippi-Alabama and Texas Sea Grant programs and engages federal, state, university, non-governmental and international organizations. The project is funded through the National Oceanic and Atmospheric Administration. For more information, contact Steve Sempier, Sea Grant Gulf of Mexico research coordinator, at stephen.sempier@usm.edu or (662) 325-5509.

THE GUMBO POT

Smoked King Mackerel

This recipe provided by Quenton Fontenot at Nicholls State University, who is chief editor of **Recipes for Recovery: A Cookbook of Louisiana Seafood Recipes**, assembled for the Louisiana Chapter of the American Fisheries Society. For copies of this interesting and unusual cookbook, contact Kristi Butler (kbutler@wlf.louisiana.gov)

Cookware:

Large mixing bowl
Smoker

Ingredients:

Enough king mackerel to fill your smoker. Thin steaks or cutlets are best.
Granulated sugar, brown sugar, or turbinado sugar (dark brown, fine-grained, crunchy sweetener made by the concentration of sugarcane juice WITHOUT the use of any chemicals).
Sea Salt

Methods:

Prepare the “wet pickle” in a bowl or deep dish by mixing 2/3 cup of the sugar of your choice (I prefer the turbinado sugar) and ½ teaspoon of salt per liter of water and stir until all is dissolved. Make enough “wet pickle” to completely cover all of your fish cutlets. Put the cutlets in the solution and refrigerate all for 4-5 hours. Pat the cutlets dry with paper towels, arrange on smoker racks so that none of the pieces are touching, and place racks in smoker with a full pan of water and hickory or mesquite chunks as desired (don’t use too much wood). On my smoker it takes about three hours until the fish is done, but your smoker may work faster (as little as 45 minutes) or slower. When the exterior of the fish has turned a deep honey brown, it should be ready to eat. Can be refrigerated for up to a week.

“I tried for many years with little success to prepare good smoked fish; several different marinades were tried, but all were equally unsatisfying. Then I learned about a method called “wet pickling” or “brining” and the quality of my smoked fish increased greatly. The sugar in the “wet pickle” gives the smoked fish a delicious, light honey-sweet taste. I also got an electric smoker (the purists will groan as they read this) because it provides a constant low temperature that is perfect for smoking fish. King mackerel is my favorite (and my wife’s and our cats’ too), but any fish with a relatively high oil content is good. Snapper and mullet are also especially fine!” – Dave Nieland



Laura Lawton, winner 2006 LSI Rodeo, with 43-pound King.

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