

Lagniappe



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Whale Sharks: Worth More than Their Weight in Tofu

The largest fish in the sea has been in the news lately, in both good news and not-so-good.

The whale shark (*Rhincodon typus*) is different enough from other fishes that it gets its own family (Rhincodontidae), and is actually most closely related to the slow, bottom-dwelling nurse and leopard sharks. But instead of munching crabs and such, the whale shark is a filter feeder that slowly cruises the ocean surface, growing to as large as 30,000 pounds.



photo credit: The Conservation Report

CITES (Convention of International Trade in Endangered Species) listed it as vulnerable to extinction in 2002: "The life history of this relatively scarce but cosmopolitan tropical and warm temperate species is poorly understood, but it may be relatively fecund and migrates extremely large distances. Catches have declined and populations apparently been depleted by harpoon fisheries in several countries targeting localized concentrations of this huge, slow-moving and behaviorally-vulnerable species, and there is incidental capture in other fisheries. Directed fisheries, high value in international trade, a K-selected life history, highly migratory nature, and low abundance make this species vulnerable to exploitation. In recent years dive tourism involving this species has developed in a number of locations around the world."

In the proposal to list the whale shark, Philippine representatives pointed out that whale shark populations have declined drastically between 1994 and 2000, particularly where they have been hunted. During this period, populations declined by 60 to 70 percent in the Philippines, by 48 percent in India and by as much as 99 percent in South Africa.

The "tofu shark" is highly valued as food in some cultures; whale shark meat is said to be very soft, mild and white (which, like tofu, must be an acquired taste). Though listing by CITES includes no enforcement sanctions, most countries have now have banned the harvest of whale sharks. Some areas where whale sharks are readily observed (Philippines, Mexico) are finding the animals are worth much more as tourist attractors than they ever were as food.

Whale sharks have also been a feature attraction at the Georgia Aquarium in Atlanta. The aquarium has been in the news after losing two of their whale shark specimens to what may have been an ill-advised parasite treatment. The Humane Society has protested that there is no good reason to hold

these special animals, but the aquarists insist that valuable knowledge about the species is being acquired, and the public is learning more about the protection of this species.

Reports of whale shark sightings in the Gulf of Mexico are not uncommon. As more fishing activity is carried further offshore, more and more photos of these animals are brought back. Between 1989 and 1998, aerial surveys were conducted in the open Gulf to count cetaceans – whales and porpoises. Data on sea turtles and whale sharks was also collected, and 119 whale sharks were spotted in 59,530 flight miles. Flight transects were conducted in the area of the continental shelf break: average depth 650 feet.

More whale sharks were seen during the summer season, and the highest concentrations were seen in the area 87 miles southwest of the Mississippi River mouth. Nutrient loading from the Mississippi and Atchafalaya probably supports the high surface productivity sought by these huge filter feeders. Groups of whale sharks (up to 23 individuals) were most common at Ewing Bank, Bright Bank and 28 Fathom Bank.

- Glenn Thomas

Sources:

Burks, C.M., W.B. Driggers, and K.M. Mullin. 2006. Abundance and distribution of whale sharks, (*Rhincodon typus*) in the northern Gulf of Mexico. Fishery Bulletin 104:579-584

CITES species database: <http://sea.unep-wcmc.org/isdb/CITES/Taxonomy/tax-species-result.cfm?displaylanguage=eng&Genus=Rhincodon&Species=typus&source=animals&Country=&tabname=all>

The Conservation Report: <http://www.conservationreport.com/2007/09/marine-whale-sharks-gather-near-mexico.html>

Application Period for Gulf Shrimp Vessel Moratorium Permit Expires Oct. 26

All shrimp vessel owners are reminded that after Oct. 26, 2007, applications for commercial shrimp vessel moratorium permits (moratorium permit) will no longer be accepted or approved. Vessels fishing for or possessing shrimp in federal waters of the Gulf of Mexico have needed a moratorium permit since March 26, 2007. NOAA's National Marine Fisheries Service (NOAA Fisheries Service) identified more than 2,600 vessels that might qualify for a moratorium permit. So far, just over 1,800 moratorium permits have been issued.

Shrimpers who have obtained a moratorium permit do not need to do anything else, but may want to spread the word about this deadline. NOAA Fisheries Service first required commercial shrimp vessel permits in December 2002. Vessels eligible for a moratorium permit must have been permitted before Dec. 6, 2003. The vessel is still eligible for a moratorium permit even if it was sold to a new owner after Dec. 6, 2003.

In addition, an owner who sold a qualified vessel or otherwise lost use of their qualified vessel (i.e., damage, sinking, unaffordable repairs, repossession) may be eligible. If, prior to Sept. 26, 2006, the owner obtained a new vessel permit for the same vessel or a replacement vessel of at least five net tons that is equipped for offshore shrimp fishing, then the vessel is eligible for a moratorium permit.

NOAA Fisheries Service permit records are the sole basis for determining eligibility. A person who believes he/she meets the permit eligibility criteria based on ownership of a vessel under a different name, as may have occurred when ownership has changed from individual to corporate or vice versa, must document his/her continuity of ownership. If you own a shrimp vessel and you think your vessel qualifies for a moratorium permit, please contact the Permits Branch at: NOAA Fisheries Service

Southeast Regional Office, Permits Branch, 263 13th Avenue South, St. Petersburg, FL 33701 - Phone: 727-824-5326; FAX: 727-551-5747

Applications for a moratorium permit also are available on NOAA Fisheries Service's Southeast Regional Web site - <http://sero.nmfs.noaa.gov>. The application may be filled out online, or printed and mailed to the permits branch at the address above, along with all other pertinent information and payments.

Commercial vessel moratorium permits for Gulf shrimp are fully transferable, with or without the sale of the vessel. The owner who is transferring the permit must sign on the reverse of the permit, and the signature must be notarized. The person who is to receive the transferred permit must ensure the transfer information on the reverse of the permit is complete and return the permit and a completed application for transfer to the permits branch.

Renewal of a commercial vessel moratorium permit for Gulf shrimp is contingent upon compliance with the recordkeeping and reporting requirements. A commercial vessel moratorium permit for Gulf shrimp that is not renewed will be terminated and will not be reissued during the moratorium. A permit is considered to be not renewed when an application for renewal, as required, is not received within one year of the expiration date of the permit.

Spotted Seatrout the Top Catch for Gulf Anglers Third Year in a Row

Marine recreational anglers caught more than 37 million spotted seatrout in 2006, according to new data included in "Fisheries of the United States – 2006," a report just issued by NOAA Fisheries Service. Spotted seatrout was the most popular catch among marine recreational anglers in the Gulf of Mexico. The top catches in other regions were striped bass (North Atlantic), summer flounder (Mid-Atlantic), spot (South Atlantic), chub mackerel (Pacific), black rockfish (Pacific Northwest) and yellowstripe goatfish (Western Pacific).

The report showed the 2006 catch of 475 million fish was up 11 percent over the previous year and marked the highest recreational catch total in the last 10 years. Overall harvest levels also increased, nosing up 18 percent to nearly 214 million fish. While anglers are keeping about 20 percent more fish than a decade ago, they are also releasing their catch more often. Of the 475 million fish caught by anglers in 2006, 262 million (55 percent) were released alive.

Coastal recreational fishing continues to be one of the most popular outdoor sports. In 2006, more than 13 million Americans fished along the Atlantic, Gulf and Pacific coasts, roughly the same number as 2005. These anglers took 89 million saltwater trips in 2006, a 5 percent increase over the previous year.

These statistics were compiled by NOAA Fisheries Service from in-person and telephone interviews with recreational fishermen. Currently, the agency is engaged in a joint state-federal initiative to better answer the questions of who fishes, where anglers fish and what they catch.

Aquatic Ecosystem Management: Part 1 – Terminology and Concepts

Prior to human influence, all aquatic ecosystems evolved into unique, delicate balances of predator and prey. These typically cyclical relationships ensured that neither predator nor prey overwhelmed the resources provided by the local environment.

This partitioning of resources encourages a broad range of organisms (biodiversity) in the ecological community. As the understanding of these complex natural systems grows, biologists are beginning to realize the role of biodiversity in the successful functioning of aquatic ecosystems. This series of articles will examine ecosystem management with this first article focusing on terminology and concepts, while the second article will discuss human-induced problems and the final article will focus on solutions to the problems.

Ecosystems are characterized by composition (abiotic and biotic components), structure (organization) and function (movement of energy and nutrients). An ecosystem includes all the organisms living in an area and the physical environment with which those organisms interact. For aquatic ecosystems, the size of the area can vary from a puddle to an ocean, yet the general trophic (feeding) structures are very similar. This similarity is based on the two major processes associated with ecosystems: nutrient recycling and energy flow (Figure 1).

The nutrient recycling process recognizes the fact that planetary nutrients are finite; therefore, must be reused and reincorporated over time through a myriad of potential pathways. These pathways are fueled by the second process of energy flow, which alludes to the reality that ecosystems need a continual source of energy to replace the loss of heat energy. The combination of these two processes, utilizing the natural resources found locally, provide the palette for which the intricate ecological landscape can be painted.

To illustrate trophic biology, a recreational farm pond will be used as an example. The most important group is the autotrophs (self-feeders), which are those organisms that can utilize inorganic sources of both carbon and energy. Photosynthetic autotrophs (i.e. phytoplankton, algae) use sunlight to energize the conversion of carbon dioxide into biomass. This primary production is subsequently transformed into the tissues of heterotrophs (other-feeders), which use organic molecules both as a source of carbon and as a source of energy.

These consumers can be divided into herbivores (i.e. shad, minnows), detritivores (i.e. worms, crawfish), omnivores (i.e. catfish, sunfish), and carnivores (i.e. bass, garfish). These various groups all play a role in recycling the nutrients by direct consumption or by decomposition, both effects releasing energy back into the environment through the form of heat. While these are broad classifications, the same basic structure exists in all aquatic ecosystems, with the community size, available nutrients and local species being the only limitations and/or sources of variation.

Aquatic ecosystems have been vitally important to the proliferation of the human race. Ironically, humans are now in the position to bring ruin to these invaluable resources.

The idea of whole-ecosystem management is relatively new when compared to the long history of human impacts on the aquatic realm. Overharvest, environmental degradation and the redistribution of aquatic species are examples of the need for a holistic type of management. It is only after many species, and the ecosystems in which they interact, have suffered extreme alteration that fisheries managers have begun to shift away from the single species approach to address crises in the loss of

biodiversity. Effective ecosystem management must focus on long-term sustainability of both natural and human communities, and this can best be accomplished by considering all of the ecological, economic, political and socio-cultural factors.

- Craig Gothreaux

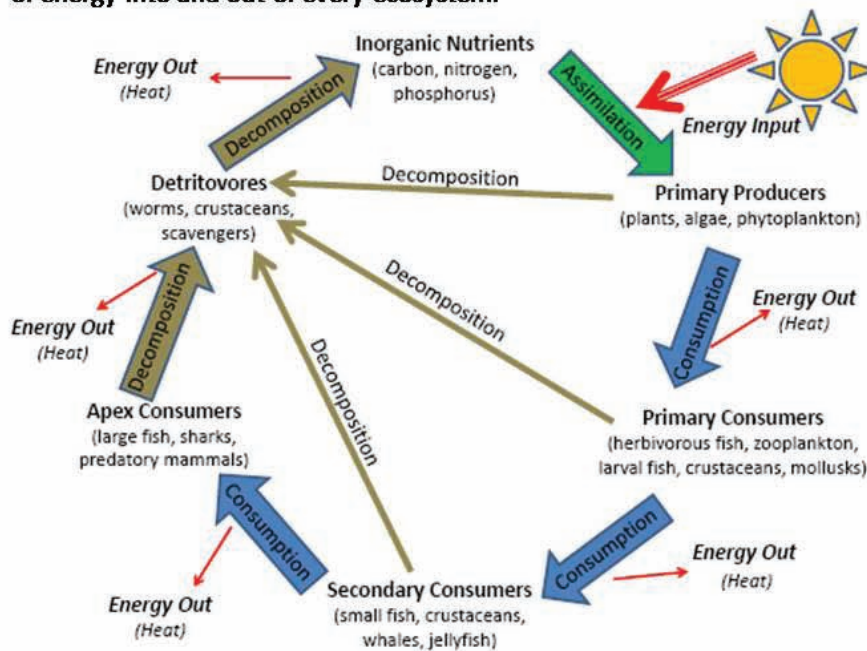
Sources:

Kohler, C.C. and W.A. Hubert, editors. 1999. *Inland fisheries management in North America*. 2nd Edition. American Fisheries Society, Bethesda, Maryland.

Molles, M.C., Jr. 2002. *Ecology: Concepts and Applications*. 2nd Edition. McGrawHill, Boston.

Figure 1. Aquatic ecosystem nutrient cycle and energy flow.

This figure illustrates the recycling of finite nutrients through the processes of assimilation, consumption, and decomposition. The recycling process is fueled by a continuous external energy supply (the sun), which is harnessed by autotrophs (those organisms that can derive energy from inorganic sources). These autotrophic primary producers are the basis of every food web, because the heterotrophs (those organisms that must derive energy from organic sources) rely on food sources as fuel. The by-product of feeding and decomposition is heat loss, thus illustrating the flow of energy into and out of every ecosystem.



Big Bass in Rivers? You're Kidding Me!



Andrew Rypel

(Editor's note: this article won the 2007 American Fisheries Society's annual student writing contest for Andrew Rypel, a PhD student at the University of Alabama. I requested permission to reprint it here for several reasons: Andrew writes well and understands how his research ties to the real world. His work has important implications about the management and appreciation of any Southern river – gt)

As the sun tucks away behind the swampy skyline, I stand in waders at the Sipsey River boat landing discussing fishing, religion and this year's cotton crop with Joe Price, a 73-year-old retired farmer. "The river hasn't changed much," he says. I smile—half because I enjoy the nostalgia and half because it affirms my hypothesis that this river is still quite natural and also because any other statement might keep me up at night.

The Sipsey River, situated in west-central Alabama, is a special place for a number of reasons. Considered one of the 10 natural wonders of Alabama, the Sipsey is teeming with big fish, baldcypress trees and healthy freshwater mollusk populations. Its splendor has remained in large part because there are no dams on the Sipsey River, a very rare attribute of rivers worldwide. What this means is that during wet periods (winter in Alabama), the river floods in dramatic fashion and humans do nothing about it. In late spring, the river falls back inside its banks but leaves behind pockets of water on the landscape (<1 acre), deemed floodplain lakes.

The connection between these lakes and the main channel, I believe, is crucial to the unchanging quality of the Sipsey River fishery. Largemouth bass populations are particularly healthy. The Sipsey River supports some of the best largemouth bass fishing around and this has flown under the radar—perhaps as the well-kept secret of a few. Fish over 8 lbs. are common enough that it doesn't take a Ph.D. in crankbaits or a \$50,000 bass boat to catch one. Why does such an ecosystem produce these sized fish?

I have been investigating the Sipsey River fishery for over a year to evaluate how unregulated streamflow affects fish populations. Although I'm studying 10 different species, for now I'd like to tell you about the largemouth bass. Size-at-age data indicates that growth rates are high, much higher than statewide averages. Floodplain lakes are also loaded with juvenile (current year's) bass during spring and early summer, suggesting that these are critical spawning and nursery habitats. Moreover, strength of annual largemouth bass cohorts indicates strong correlations with annual streamflow. Years of lower streamflow supports stronger largemouth bass year classes than higher flows years. Conversations with regional fisheries managers suggest similar ecological patterns operating in other river floodplain ecosystems.

Southern reservoirs are the epicenter of largemouth bass fishing in America. In 2006, 10 of 14 Bassmaster's series tournaments are taking place in southern reservoirs, including the championship. In short, bass fishing is a big business and is important to many as a hobby to improve upon as well as a way to reconnect with nature. Why have unregulated rivers been ignored as places of high quality fishing or even as models of healthy ecosystems?

Maybe we just didn't think of it. After all, it is somewhat surprising that these swampy rivers produce lunkers. Or maybe it is because so few unregulated rivers remain. Bass fishing is a fairly recent phenomenon which has blossomed in the last 30 years, a timeframe through which dams had been erected on most rivers. Additionally, most of our unregulated rivers are located in regions of low human population which may limit word of mouth. Of course, I hope in writing this I'm not destroying the well-kept secret of many a savvy southern fisherman. I am interested in finding out why unregulated rivers promote healthy, fast-growing fish populations and transferring this knowledge to a regulated setting where hydrology is under our control. The goal is to restore a more natural hydrograph which would result in a better fishery and bigger fish.

It's a refreshing sunset at the Sipsey landing—not just because the baldcypress trees rise from the river water as if Jack planted his bean stalk here about a thousand times, or because of Joe's fish-filled cooler, but because we know this is a special place, largely untouched by human hands. The air seems fresher and we know that big fish (and snakes!) are swimming in this river. I imagine that this is how nature was intended to be enjoyed and how many rivers looked a thousand years ago.

(Originally published by the American Fisheries Society, used with permission. Fisheries • vol 32 no 4 • april 2007 • www.fisheries.org)

Interim Measures for Gulf of Mexico Red Snapper and Shrimp Fisheries Extended – Recreational Snapper Season Closing

(Note: Fishery regulators have delayed announcing the closure of the recreational red snapper season until the status of interim regulations was finalized. With the announcement below, it appears that the planned Oct. 31 closure will remain: See <http://www.wlf.louisiana.gov/fishing/recreational/saltwater/seasons/> for the final announcement.)

NOAA Fisheries Service announced that it is extending interim regulations for the Gulf of Mexico red snapper and shrimp fisheries. The interim measures are intended to address overfishing of red snapper in 2007, and the temporary rule also amends regulations for the distribution of Gulf of Mexico red snapper 2008 individual fishing quota (IFQ) allocations.

Interim measures were implemented by the Secretary of Commerce (NOAA Fisheries) to reduce overfishing until such a revised fishery management plan (FMP) can be implemented. The original measures could remain in effect for no more than 180 days, but are being extended for an additional 186 days after the public has had an opportunity to comment and while the Gulf Fishery Management Council prepares measures to address overfishing on a permanent basis.

NOAA Fisheries Service determined interim measures were needed to temporarily address overfishing of red snapper in 2007 while the Gulf of Mexico Fishery Management Council (Gulf Council) developed additional, long-term measures to end overfishing and rebuild the red snapper stock. The final rule for the interim measures published on April 2, 2007, and these measures will expire on Sept. 29, 2007.

In June 2007, the Gulf Council approved long-term measures to reduce red snapper harvest and bycatch. These long-term measures are proposed through Amendment 27 to the Reef Fish FMP and Amendment 14 to the Shrimp FMP (Amendment 27/14), which are currently under Secretarial review. Amendment 27/14 will not be implemented before the interim measures expire; therefore, NOAA Fisheries Service is extending the interim measures.

In summary, the interim measures to be extended will:

- Continue the commercial red snapper minimum size limit at 13 inches total length.
- Maintain the red snapper bycatch mortality reduction goal in the shrimp fishery to 50 percent of the bycatch mortality that occurred during 2001-2003.
- Maintain the total allowable catch of red snapper for 2007 at 6.5 million pounds (mp), resulting in a commercial red snapper quota of 3.315 mp and a recreational red snapper quota of 3.185 mp.
- Maintain the recreational red snapper bag limit at two fish per person per day.
- Continue the prohibition of the captain and crew of for-hire vessels from retaining the recreational bag limit.

Distribution of IFQ Allocations

Amendment 27/14, if approved and implemented, will reduce the commercial red snapper quota from 3.315 mp to 2.55 mp. If the amendment is approved, the new lower quota (2.55 mp) may not be implemented in time for NOAA Fisheries Service to distribute 2008 IFQ allocations. In that case, NOAA Fisheries Service would have to issue allocation based on the higher quota currently in effect and then revoke some of the allocation later if the lower quota is implemented. Because this would be disruptive to the industry and administratively burdensome, this final temporary rule amends the regulations to distribute and issue 2008 IFQ allocations based on the more restrictive 2.55 mp quota proposed in Amendment 27/14.

The proposed rule for Amendment 27/14 has not been published in the Federal Register yet. Once published, NOAA Fisheries Service will be seeking public comment on the rule.

NOAA Fisheries Service prepared a Regulatory Impact Review (RIR) and a Final Regulatory Flexibility Analysis (FRFA) that augments the findings of the initial interim rule's RIR. The FRFA is available from the Sustainable Fisheries Division of NOAA Fisheries Service's Southeast Regional Office at 263 13th Avenue South, St. Petersburg, FL 33701. Electronic copies of the final rule may be obtained from the Federal Register Web site at: <http://www.gpoaccess.gov/fr/index.html>. (Select "Final Rules and Regulations" and search on "red snapper") For more information see <http://sero.nmfs.noaa.gov/> or call (727) 824-5305.

Fisheries Disaster Assistance Program Approved by Congress — LDWF Announces Meetings

The Louisiana Department of Wildlife and Fisheries (LDWF) presented general information on the new \$41 million federal fisheries disaster assistance program at a series of public information sessions, Sept. 25-27, sponsored by the Louisiana Recovery Authority (LRA) and Office of Community Development (OCD). The LRA and OCD presentations outlined the proposed guidelines for the Fisheries Infrastructure and Assistance Program, funded by a \$19 million allocation of CDBG funds approved by the LRA.

Following the LRA presentation, LDWF reviewed the new \$41 million federal fisheries disaster assistance program and its intended uses. Funding for a federal fisheries disaster assistance program, aimed at directly assisting fishing industry participants, has been sought by Louisiana fishing industry leaders, state officials and the Louisiana congressional delegation as part of the recovery funding package following Hurricanes Katrina and Rita.

The Louisiana Wildlife and Fisheries Commission will be briefed on the federal funding assistance program during their monthly meeting, scheduled for Thursday, Oct. 4, at 9:30 a.m. in Baton Rouge at LDWF headquarters.

To solicit input from fishery organizations, representatives and stakeholders, LDWF will host a series of meetings scheduled for Oct. 4-12 at LDWF headquarters at 2000 Quail Drive in Baton Rouge. LDWF will be meeting with individual fishery sectors at the following times:

- 1:00 p.m., Thursday, Oct. 4, 2007 – Charter Boat and Recreational Fisheries
- 9:30 am, Friday, Oct. 5, 2007 – Shrimp Fisheries
- 1:00 p.m., Friday, Oct. 5, 2007 – Menhaden Fisheries
- 9:30 am, Monday, Oct. 8, 2007 – Oyster Fisheries
- 1:30 p.m., Monday, Oct. 8, 2007 – Crab Fisheries
- 9:30 am, Tuesday, Oct. 9, 2007 – Crawfish Fisheries
- 9:30 am, Friday, Oct. 12, 2007 – Freshwater and Saltwater Commercial Finfish Fisheries

THE GUMBO POT

Gaspergou Courtbouillion



Photo Credit: Duane Raver, U.S. Fish and Wildlife Service

There are a million ways to make fish courtbouillion, and they're all good. This one is richer and thicker than many, because it starts with a roux. I think that gaspergou (freshwater drum, or just "gou") is the best fish for this recipe, being very firm and sweet. Just about any other fillet can be used, but softer fish (like catfish) needs to be cooked very gently and stirred little or not at all, to keep it from falling to bits (see <http://www.seagrantfish.lsu.edu/pdfs/lagniappe/2002/05-01-2002.pdf> for an old-fashioned version that includes the catfish head).

Gou is available year-round at the little fish markets near the big rivers and off-and-on at the big markets. To catch your own, use small crawfish, river or grass shrimp, or worms. -GT

Ingredients:

3-4 pounds gaspergou fillets, cut into chunks
1 onion, 1 bell pepper, 1 cup celery, chopped
3/4 cup vegetable oil
1 cup flour
2 quarts water
2 bay leaves
Seafood Magic and other Cajun seasoning mix to taste (your choice)
4 cloves garlic
1 small can tomato paste
1 can Rotel tomatoes
1/2 cup chopped green onions
1 bunch parsley chopped
1 lemon

Make the roux. Cook the chopped onion, bell pepper, celery, and half the garlic gently in the roux. Add the water, tomatoes, tomato paste, and the bay leaves. Season lightly with the seasoning mixes and simmer for an hour. Add the rest of the garlic, the green onions, parsley, lemon juice, and enough additional seasoning mix to get the taste right. Stir well, then add the fish. After about 15 minutes, stir one more time, very gently so as not to break up the fish. Serve over rice.

For more information, contact your local extension agent:

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