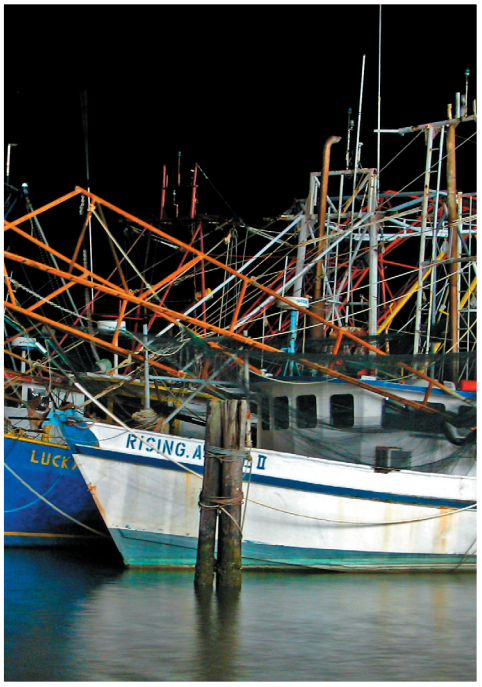

The Gulf: From Overfishing to Healthy Waters

ENVIRONMENT TEXAS
RESEARCH & POLICY CENTER

The Gulf:
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Acknowledgements

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The Gulf: From Overfishing to Healthy Waters

Summary

America's oceans are home to whales, dolphins, sea turtles, fish and an enormous variety of other sea life. But today our oceans are in trouble. Destructive overfishing, pollution, global warming and habitat damage are putting important marine animals at risk. Many populations are in serious decline. The result of this poor care for our oceans is a drastic reduction in fishing opportunities for commercial and recreational fishermen.

In the Gulf of Mexico, almost three in ten (2 out of 7 or 29 percent) federally regulated fish stocks for which there is adequate information are overfished.[1] A little more than three in ten (4 out of 13 or 31 percent) federally regulated fish stocks for which there is adequate information are experiencing overfishing. The Gulf of Mexico Fishery Management Council (Gulf Council or Council) presides over four fisheries that have experienced chronic overfishing in the past. Chronic overfishing is defined as overfishing for six or more years since 1998 when the fishing laws called for overfishing to end. These fish are vermillion snapper, red grouper, red drum and red snapper.[2] Recently the Gulf Council reversed its earlier course and has begun to make the tough decisions required to end overfishing and recover depleted species. Most noteworthy, the Gulf Council has made progress with red snapper and greater amberjack.

Overfished typically means that a fish population has been reduced to below 25% of its original size. When eight out of ten fish of any kind are missing from the ocean, it has profoundly negative effects on the rest of the ocean's animals. The ecosystem is unbalanced and predators may not find enough to eat. **Overfishing** means that a fish stock is being caught faster than it can replace itself and it is therefore heading toward overfished status or if already overfished, not recovering to healthy levels. A **fish stock** is typically a single species of fish but in some cases it is a species located in a specific region that does not mix with populations of the same species elsewhere. A **known fish stock** is one with adequate assessment data to know whether the population is depleted or overfished and whether fish are being caught faster than the population can reproduce (overfishing).

The Gulf Council is one of eight regional fishery management councils that cover U.S. coastal waters. Together with the National Marine Fisheries Service (NMFS), the Gulf Council is supposed to determine how much of each type of fish can be caught on a sustainable basis and establish other types of fishing rules.

Aside from the significant percentage of overfished species, the other salient fact about the health of the Gulf is that most of Gulf fish have not been assessed and their status with regard to being overfished or experiencing overfishing is unknown. The Gulf Council exclusively oversees 54 fish, coral and crab/lobster stocks. The status of almost 90 percent (47 out of 54) of all stocks is unknown/undefined for being overfished and 67 percent (36 out of 54) is unknown for overfishing status.[3] For the vast majority of stocks under its care, the Gulf Council is therefore making decisions in the dark. It does not know how good or bad its overall management regime is. This also means that fishermen could be driving some fish in the Gulf toward depletion and the Gulf Council would not know it. For example, fishermen caught millions of pounds of black drum the Gulf in 2006, but whether this fish is depleted or experiencing overfishing is not known.[4]

In an effort to improve fisheries management nationwide, Congress revised the primary law governing fishing in U.S. oceans, the Magnuson-Stevens Fishery Conservation and Management Act, at the end of 2006. The Magnuson-Stevens Act requires NMFS and the regional fishery

management councils to follow new conservation standards. These rules, called National Standard 1, are now under development. The new law also required NMFS to revise its environmental review process to make it stronger and more integrated with decision making.

If the National Standard 1 rules are strong and the Gulf Council follows them, fish in the Gulf will improve. Strong, clear rules will lead to: (1) faster rebuilding of overfished fish populations like red snapper, (2) more conserving catch limits for all fish, (3) tangible consequences when fishing limits are exceeded, and (4) pressure to perform more stock assessments so that the health of more fish is known.

If NMFS strengthens the environmental review process to objectively assess the impact of different alternatives on other fish, animals and habitat in the marine environment, then the health of the entire Gulf of Mexico will improve, not just the numbers of individual fish species. But unless NMFS proposes strong National Standard 1 rules on overfishing to back up the Gulf Council's recent decisions and strengthens rules for doing environmental reviews of fishery decisions, the Council could reverse direction and backslide into its old ways.

Threats to Ocean Health

The world's oceans, including the Gulf of Mexico, face multiple threats and as a result, the health of the oceans has declined. U.S and Canadian scientists recently completed the most comprehensive study to date of all impacts on the ocean which showed that over 40 percent of the world's oceans have been heavily affected by one or more threats such as overfishing, pollution and habitat destruction.[5] That means almost one third of the earth's surface has been degraded. In another recent report by the United Nations, scientists concluded that as many as 80 percent of the world's most important fish stocks are exploited just at or beyond their sustainable levels and that extensive damage from destructive bottom trawling has already occurred in over half of the sea beds in coastal areas.[6] Taken together, these reports suggest that a combination of global warming, pollution, habitat destruction from bottom trawling, and overfishing are depleting many fish populations.

The Gulf faces a number of additional threats to its health. These include a seasonal dead zone at the mouth of the Mississippi River the size of Connecticut and Rhode Island combined.[7] In the dead zone there is not enough oxygen to support most sea life. The dead zone is increasing in size as farmers use more and more fertilizer in the Mississippi basin. Oil and gas drilling and production in the Gulf leads to chronic pollution from the water brought up with the oil and gas and occasional large spills such as those that occurred during and after Hurricane Katrina.

Status of Fish in the Gulf

The Gulf Fishery Management Council oversees fishing in federal waters (3- 200 miles offshore) off five states: Alabama, Florida, Louisiana, Mississippi, and Texas. According to the most recent government report, the Gulf Council is exclusively responsible for a total of 54 fish, lobster/crab and coral stocks. The status of 87 percent (47 out of 54) is unknown/undefined for being overfished and 67 percent (36 out of 54) is unknown for overfishing status. This means scientists do not know whether populations of those species are at healthy levels or are being caught faster than they can reproduce.

Of the fish with sufficient information to determine their status, two are currently overfished and four are experiencing overfishing. Overfished fish stocks represent 29 percent of the stocks with adequate information. Thirty-one percent of the stocks with adequate information are

experiencing overfishing, that is they are being caught faster than they can reproduce so the population is declining.

Table 1: Status of Gulf of Mexico Fish Stocks in 2007

Overfished	Overfishing
Red Snapper Greater Amberjack	Red Snapper Greater Amberjack Gag Grouper Gray Triggerfish

Source: National Marine Fisheries Service

Many of the listed fish have been in trouble for years. For example, red snapper was first identified as overfished two decades ago and the current amount of fish that are old enough to reproduce is estimated to be around one to three percent of unfished levels. To provide some context of how depleted this is, the Gulf Council estimates that red snapper will not return to healthy levels until 2032, about 25 years from now.[8] Because overfishing went on for decades, commercial and recreational fishermen along the Gulf Coast have fewer fish to catch and more restrictions on when and where they can go fishing.

Why Healthy Fish Populations Are Important

Coastal fishing, the communities and the people it supported, and seafood have all shaped the culture of the Gulf Coast for generations. The Gulf Coast is home to legendary cuisine based on shrimp, crab and fish. Shrimp, red snapper, groupers, pompano, drum, mullet and lobster have been part of the fabric of many coastal communities. The health of the Gulf and many of its fish populations has declined.

Healthy fish populations provide an important economic engine to coastal communities through both commercial and recreational fishing. Gulf commercial fishing in Alabama, Florida, Louisiana, Mississippi, and Texas brought in over $674 million dollars from direct sales off vessels in 2006.[9] Twenty years ago in 1986, the same states brought in over $1.484 billion after adjusting for inflation. These numbers exclude land side processing or subsequent wholesale and retail sales. Commercial fishing value in each state is in the table below. Fish in the Gulf have suffered a huge decline in value.

Table 2: Value of Commercial Landings by State in Millions of Dollars

State	2006	1986*	Percent Decline
Alabama	49	118	-58%
Florida	150	232	-35%
Louisiana	255	601	-58%
Mississippi	22	77	-71%
Texas	197	456	-57%
Total Gulf	$674	$1,484	-54%

Source: NOAA, National Marine Fisheries, Office of Science and Technology, Fisheries Statistics Division. *Inflated to 2006 dollars.
Dollars may not add to Totals due to rounding.

The value of saltwater recreational fishing in the five Gulf Coast states in 2006 based on direct retail sales alone was nearly $5 billion.[10] This includes travel, lodging, food, equipment, and miscellaneous expenses related to fishing like memberships, licenses, and marina fees. If you add the indirect jobs and sales triggered by the direct expenditures, an effect known as the multiplier

impact, the total impact of saltwater recreations fishing is $8.1 billion.[11] In 2006, there were approximately 82,700 jobs tied to recreational saltwater fishing in the Gulf.

The value of saltwater fishing in the Gulf plays an important economic role in the coastal communities of the Gulf, a role that could be larger if sought after fish like red snapper, greater amberjack, and gag grouper were more abundant.

Table 3: Size and Value of Recreational Marine Fishing by State

State	Saltwater Anglers	Retail Sales ($Millions)	Total Multiplier Impact ($Millions)	Jobs
Alabama	153,000	227	379	3,800
Florida (both coasts)	2,002,000	2,998	5,124	51,600
Louisiana	289,000	472	757	7,700
Mississippi	66,000	63	102	1,100
Texas	1,147,000	981	1,793	18,500
Total	3,657,000	$4,741	$8,155	82,700

Source: American Sportfishing Association

Whales, Dolphins, Sea Turtles and Endangered Animals At Risk

The health of the Gulf of Mexico is not just dependent on healthy fish but the status of other important species as well. For example, if the Gulf Council is able to improve the health of fish but other important species are in poor shape because of fishery management policies, the Gulf ecosystem will still not be healthy. Populations of whales, dolphins, sea turtles and other marine mammals in the Gulf of Mexico are affected by the actions of the Gulf Council as well as other factors beyond the Council's control. While whales and dolphins are doing well; sea turtles are not. The number of loggerheads turtles is declining for a variety of reasons, including fishing.

A number of endangered marine mammals, mostly whales, are found in the Gulf of Mexico at various times of the year. There are fin, humpback, northern right, sei, sperm, and a variety of other whales.[11] Many of the other whales like the bryde's, killer, melon-headed, and beaked whales are found in very small numbers.[12] Few strandings (i.e., dead whales washing up on a beach) of these whales occur and interactions with boats and fisheries appear to be minimal. Sperm whales are more common than all other whales in the Gulf. Because most fishing occurs in water less than 200 meters deep and most sperm whales are found in waters that are deeper, there appears to be very little interaction between sperm whales and fishing in the Gulf.

A variety of dolphins inhabit the Gulf of Mexico: bottlenose, spotted, spinner, striped, risso's, fraser's, and others.[13] There is little evidence of significant levels of mortality or injury from fishing for any of these species. Even though open ocean longline swordfish and tuna fishing takes place in the Gulf that could injure or kill dolphins, there are very few reports of dolphin mortality or injury from this fishing. Unfortunately, the same cannot be said for sea turtles.

The Gulf has at least seasonal populations of all six marine turtles listed as either threatened or endangered under the Endangered Species Act.[14] These are; green, leatherback, loggerhead, hawksbill, kemp's ridley, and olive ridley sea turtles. The Gulf contains larger populations of loggerhead turtle than any other species. According to NMFS, the biggest reason for the decline of loggerhead turtle populations is incidental capture in fishing gear.[15]

Based on the number of loggerheads that the government authorizes the shrimping and longlining fishing industries to kill and entrap each year, these two fisheries are responsible for a significant amount of loggerhead mortality and injury. NMFS publishes a Biological Opinion for each fishery that interacts with threatened or endangered species like loggerheads. Through this opinion, NMFS officially gives permission to shrimp trawlers and others to damage an otherwise protected species. In the case of loggerheads, the federal government says that it is permissible for the shrimping and longline fisheries to kill over 4,000 per year and trap, and potentially hurt, 163,000 loggerheads per year in the Southeastern region including the Gulf of Mexico.[16]

According to estimates made by NMFS scientists in 2001 based on using the new, larger Turtle Exclusion Devices on shrimp nets, approximately 2,400 loggerheads per year are killed by shrimping in the Gulf of Mexico alone.[17] Whether the new device for saving turtles really does work 97 percent of the time as the scientists think it does for the purposes of making this estimate is not known. The degree to which the decline in shrimping in the Gulf due to Hurrican Katrina has affected turtle mortality is also not known. What is known is that loggerhead nesting in the Gulf of Mexico is way down.

Evidence of the severe nature of problems with loggerhead turtles can be found in the number of nests on both the Atlantic and Gulf coasts of Florida which has been falling for a decade. These areas represent the majority of nesting in the U.S. On 27 key beaches in Florida, the number of nests was down more than 50 percent from 1998 to 2007, an indication of falling populations of mature females now and a predictor of serious problems for the population 30 years from now when the baby turtles will finally reach sexual maturity.[18]

NMFS and the fishing industry are taking a few actions to reduce loggerhead mortality. NMFS closes some areas for fishing at times of the year when the turtles are present in higher numbers; it has required circle hooks in some longline fisheries and bait changes so that the turtles are less likely to be caught; it has re-designed Turtle Exclusion Devices with larger openings so that larger turtles can escape; it has sponsored additional research and more observers on fishing boats to understand and quantify bycatch better.

Unfortunately, these actions are not enough. NMFS does not stop fishing when the authorized loggerhead deaths and entrapments are exceeded.[19] The number of independent observers on fishing boats counting up dead and dying loggerheads is very small. NMFS needs to take more aggressive actions to protect these sea turtles that have been a part of the Gulf of Mexico's ecosystem for tens of millions of years. For example, fishing ought to stop if authorized deaths are exceeded.

A History of Mismanagement Gives Way to Improvement

The Gulf Council failed for many years to prevent overfishing of red snapper, red grouper, red drum, and vermillion snapper. These fish were subjected to chronic overfishing, that is, too many fish were allowed to be caught for six or more of the last nine years. For many years, the Gulf Council imposed ineffective indirect management measures such as size limits, season limits, and closed areas to reduce catch instead of imposing fixed limits on allowable catch. For years it approved plans for red snapper that relied on reducing unintentional catch (i.e., bycatch) in the shrimp industry with devices that clearly did not produce the reduction in red snapper bycatch that was needed to rebuild the population.

As demonstrated in Table 4, overfishing went on for so long and was so severe that some fish stocks have been depleted to 20 percent or less of their historical numbers. It will take several

decades for some of them to recover. This is especially true for the red snapper, a species that ought to be able to recover faster were it not for its seriously depleted status.

Table 4: Overfished and Overfishing Stocks – Recent Gulf Council Actions

Species	Measures of Population Remaining	Notes on Population & Recent Council Actions (Year Plan Proposed)
Red snapper	1.5%	Very good fish management plan that takes affect in 2008 fishing season. Annual catch limit for 2008 reduced to 5 million pounds for commercial and recreational fishermen. Federal catch limit for recreational fishermen reduced from four to two per day. When snapper are rebuilt the catch limit will be at least two to four times higher. (2007)
Greater amberjack	19%	Good fish management plan that includes accountability measures that reduce catch in future years if too many caught in the current year. (2008)
Gag grouper	39%	Some controversy about this assessment so the Gulf Council is waiting for updated fish stock assessment data to make final decisions. However, catch limits are likely to go down and good accountability measures likely to be taken. (2008)
Gray triggerfish	20%	Fish management plan will rebuild population in six years. The plan for accountability measures in all Gulf fisheries will include gray triggerfish. (2008)

Sources: Specific Gulf of Mexico Fishery Management Council fishery management plans.
See End Notes #20

What is also notable about this table is that the Gulf Council has finally begun to address these historically overfished fish stocks in their most recent fishery management plans. In a major reversal in 2007, under pressure from new Magnuson-Stevens Act requirements, environmental lawsuits and NMFS, the Gulf Council started to make decisions that were in line with what its independent scientists had been saying about saving the red snapper, greater amberjack, gray triggerfish, and gag grouper. For example, the Gulf Council recommended a plan in 2007 that reduced red snapper catch to the levels advised by its scientists and demanded that the shrimp industry radically cut back on bycatch of young red snapper or be shut down in its traditional fishing areas. In a move still protested by charter boat and recreational fishermen, the Council severely reduced both the length of the season for red snapper and halved the number of fish each recreational fisherman could keep from four to two per day in federal waters.[21]

For greater amberjack, the Gulf Council's proposed plan also sets a science based annual catch limit and for the first time ever it imposes automatic 'paybacks' or reductions in allowable catch for the next year if fishermen go over their limit in the current year. The reductions, also known as accountability measures, will be imposed by the NMFS regional administrator and are not subject to Council action.

National Environmental Policy Act Helps Create Success Stories in the Gulf

Like every federal agency contemplating a major action that affects the environment, the Gulf Council and NMFS must prepare a comprehensive analysis of the environmental impact of that proposed action and its alternatives on the ecosystem before the decision is made. In the past, the environmental review, or environmental impact statement, was often done after the major decisions were made and did not examine ecosystem impacts comprehensively.

Partly for this reason, the revised Magnuson-Stevens Fishery Conservation and Management Act required NMFS to review its National Environmental Policy Act (NEPA) compliance process to strengthen and make it more integrated with fishery management decisions. Congress instructed the agency to use NEPA in the process of making decisions, not justifying the decisions after the fact as NMFS had often done. Rather than following Congressional direction, NMFS has proposed changes that will weaken the NEPA process, unnecessarily restrict both the content and timing of public comments, and result in fishery management council and agency decisions that do not reflect adequate consideration of all the most important environmental factors.

An example of the value of a well executed NEPA process in the Gulf shows that this can be more than just a bureaucratic exercise. A provision in the 1996 version of the Magnuson-Stevens Act required all councils to identify areas of Essential Fish Habitat which are underwater areas of high species density and vulnerable habitat. In 1998 the Gulf Council identified these areas, concluding that the entire Gulf of Mexico under U.S. control was Essential Fish Habitat but that nothing much needed to be done to protect these places from fishing impacts, such as trawling nets that bounce along the bottom, boat anchoring, and use of bottom longlines that can tear up structure on the bottom and destroy fragile coral.

Environmentalists sued successfully based on the government's failure to comply with NEPA. The lawsuit said that the Gulf Council and NMFS had not adequately considered a range of alternative actions to preserve the habitat and had not adequately looked at the environmental impacts of doing so little to preserve these sensitive underwater places.[22]

Because of the successful NEPA lawsuit, from 2002 to 2004 the Gulf Council re-examined its identification of Essential Fish Habitat and measures to protect these areas. This culminated in an environmental review, called an Environmental Impact Statement which proposed a number of important actions to protect corals and other habitat, especially the most vulnerable areas of Essential Fish Habitat called habitat areas of particular concern from physical damage from fishing. Because of NEPA and the process it requires, NMFS and the Gulf Council were forced to systematically identify threats to these special places and develop real policies to prevent further damage.[23] These policies include:

1. A ban on bottom anchoring over coral reefs in habitat areas of particular concern.
2. A ban on use of trawling gear, bottom longlines, buoy gear and traps on all coral reefs in the Gulf of Mexico
3. Require a breakaway chain on bottom trawling gear when used on other marine habitats
4. An education program for recreational and commercial fishermen to show them how to protect coral reefs.

Without a thoughtful NEPA process open to broad ranging public comments and reasonable deadlines for commenting, this important conservation victory could not have been achieved. Despite such successes, NMFS recently proposed changing the scope of NEPA comments and shortening the period allowed for comments to as little as fourteen days. These proposals would take protections backwards and weaken the NEPA coverage of fishery and habitat management decision making.[24] The proposed changes for environmental reviews and public access to the decision making process will not serve the Gulf Council or fishermen well either. The changes are likely to make such reviews more contentious rather than less contentious.

Recommendations

For the National Marine Fisheries Service

In December 2006, Congress unanimously approved changes to federal laws governing U.S. fisheries by reauthorizing the Magnuson-Stevens Fishery Conservation Act. Currently, the Bush administration is preparing rules to implement the new law. The administration should enact strong, clear rules that implement Congress' intention to end overfishing. The regulations should follow these important conservation principles:

- **There must be strong conservation rules that sustain healthy fish populations, including numerical annual catch limits on the amount of fish that can be caught**. Catch limits should be set to absolutely minimize the potential for overfishing. Because stock assessments are uncertain to a degree and the ocean is an unpredictable and dynamic place, catch limits should be set with plenty of room to stay clear of the overfishing level.

- **Decisions about annual catch should be based on science**, **not self interest**. Independent science advisors must set limits on the amount of fish caught. In the past, fishery managers often ignored the advice of independent scientists and the limits were set at unsustainable, high levels.

- **The rules need to be enforced**. If catch limits are exceeded, there must be consequences. Fishing should be stopped or catch limits lowered for the next fishing season. Fishery managers and fishermen should be held accountable.

For the Gulf Fishery Management Council

The changes enacted into the new Magnuson-Stevens Act were in direct response to the failure of the Gulf Council and other councils to prevent overfishing, quickly rebuild overfished populations, and act in accord with scientific advice. The Gulf Council has reversed course and is now beginning to use the recommendations of its science advisors on catch limits, accountability measures and other matters. Clearly, the Gulf Council is starting to take the changes mandated by the revised Magnuson-Stevens Act to heart. That is a giant step forward for protecting the health of the Gulf and its marine ecosystem. Unfortunately, the Council is working in the dark on the vast majority of fish stocks it is supposed to manage. Between 67 percent (for overfishing) and 90 percent (for depleted) of Gulf fish stocks have inadequate information on the size of the population, how many fish are being caught, or what the sustainable level of fishing is. Knowing the health status of only 10-33 percent of the fish is not good enough. The Gulf Council must narrow the gap between known and unknown fish stocks.

For the Gulf Council and National Marine Fisheries Service

The Gulf Council should ask NMFS to strengthen the proposed NEPA process and make it as open to public comment as possible. The current proposal has a number of significant flaws that can't be fixed without a total rewrite. This rewrite should include:

1) Continued reliance on the time-tested and well litigated NEPA process and documents like the Environmental Impact Statement (EIS).

2) Setting reasonable timeframes for the public to render comments on EIS's. Minimum times in use today should be preserved, giving the public at least 45 days to comment on proposals.

3) Encouraging the broadest possible set of alternative solutions be included for consideration in the NEPA process. Narrowing the scope of potential solutions or cutting off debate about different solutions too early in the process is not conducive to public participation or creative solutions.

4) Excluding certain categories of decisions from NEPA analyses without first determining if they are actions with significant environmental impacts is the wrong approach. Defining away NEPA coverage in the guise of categorical exclusions or 'frameworks' as the proposal does will lead to more contention, not less.

The goal of any revisions to the fishery management NEPA process should be to make it: (1) more accessible to the public; (2) more transparent in how decisions are made; (3) more open to alternatives suggested by those outside the traditional process; and (4) as broad as possible in its assessment of impacts of fishery decisions on the marine ecosystem.

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