

**TESTIMONY OF
DR. WILLIAM HOGARTH
ASSISTANT ADMINISTRATOR
NATIONAL MARINE FISHERIES SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE**

ON

**EFFECTS OF HURRICANES KATRINA AND RITA
ON THE FISHING INDUSTRY AND FISHING COMMUNITIES
IN THE GULF OF MEXICO**

**BEFORE THE
SUBCOMMITTEE ON FISHERIES AND OCEANS
COMMITTEE ON RESOURCES
U.S. HOUSE OF REPRESENTATIVES**

December 15, 2005

Thank you, Mr. Chairman and members of the Committee, for the opportunity to present testimony on the effects of hurricanes Katrina and Rita on the fishing industry and fishing communities in the Gulf of Mexico. I am William Hogarth, Assistant Administrator of the National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. My testimony today will focus on the impact to the fisheries of the Gulf of Mexico and address seven main areas regarding the extent of damage caused by these extraordinarily powerful storms. I will also provide some thoughts on how the Federal government, the Gulf States, and industry can approach rebuilding efforts.

The Gulf of Mexico is home to a significant share of the U.S. fishing industry, contributing almost 20% of commercial landings and roughly 30% of saltwater recreational fishing trips. Major commercial fisheries in the Gulf of Mexico include finfish, shrimp and oysters, with an estimated value of almost \$700 million per year. Four of the top 10 commercial fishing ports in the Nation were directly impacted by these storms. Further, the Gulf of Mexico has recreational and for-hire fisheries unmatched anywhere in the United States, with 26 million fishing trips taken during 2004. Hurricanes Katrina and Rita had a major impact on both of these sectors as well as on the supporting fishery infrastructure that the commercial harvesters rely upon to operate (e.g., seafood dealers, processors, suppliers) and anglers require to fish (e.g., bait shops, marinas, etc.). While much of the commercial, recreational, and for-hire industries have been severely impacted as a result of the damage caused by these storms, our assessments indicate that many of the most valuable fish stocks in the region are at or above last year's abundance levels and sea food samples indicate no toxic contamination above FDA guidelines. This shows the positive potential to rebuild sustainable and profitable fisheries in the Gulf.

Many of NOAA's capabilities were directly involved in this unprecedented series of storms in the Gulf of Mexico, from hurricane prediction, through hydrographic surveys after the storm to

reopen the shipping channels, to the response to the various petroleum and chemical spills resulting from the storms' damage.

The hurricanes first caused damage to the fishing industry and fishing communities as they came across the Florida Keys into the Gulf of Mexico, before turning north and making landfall on the eastern and western coasts of Louisiana. As a result of the damage caused by these storms, NOAA immediately worked with affected Gulf States to prepare Declarations of Fisheries Disasters. The actions were made through provisions of the Magnuson-Stevens Fishery Conservation and Management Act, which authorizes federal efforts to assess the impacts, restore the fisheries, prevent future failure, and assist fishing communities' recovery efforts after a natural disaster, and the Inter-jurisdictional Fisheries Act, which authorizes federal efforts to assist fishermen and alleviate harm resulting from a natural disaster.

Amount and Extent of the Damage Caused by the Storms

In the immediate aftermath of the storms, NMFS personnel worked cooperatively with Gulf state resources directors and the Gulf States Marine Fisheries Commission (GSMFC) to initiate a damage assessment and recovery strategy. The States of Alabama, Louisiana, and Mississippi indicated their most immediate need was to estimate the extent of infrastructure and vessel damage and to assess impacts on coastal communities with valuable fishing industries.

Each state has prepared an estimate of the damage to the state resources. From this, we now know that there were many kinds of economic impacts resulting from the hurricanes. Man-made infrastructure such as boats, fishing gear, docks, marinas and support facilities was lost. Natural resources, such as wetlands, habitats, and fishing grounds, were also lost. Direct losses were incurred from the disruption in the harvest of seafood by both commercial and recreational sectors. Fishing trips not taken are likely a temporary phenomenon and trips may resume if the infrastructure is rebuilt. However, every trip not taken creates further economic impacts for those suppliers of bait, fuel, ice, lodging, food and other items and processors, wholesalers, and retailers whose business depends on fish catch.

All of the current estimates are preliminary and subject to change as more information becomes available. They do, however, provide insight into the extent of the damage and a minimum value of the economic losses. Below are some examples:

- Losses to man-made infrastructure were estimated to include \$330 million in lost capital infrastructure throughout the Gulf, and in Florida alone an additional \$35 million in lost fishing gear from stone crab and lobster fisheries.
- Losses to natural resources in Louisiana are estimated to be \$104 million in replacement costs for reef rehabilitation and oyster transplant to repair damage to oyster reefs and beds, plus additional millions of dollars for restoration of lost coastal wetlands.

- Losses from incomplete commercial fishing trips resulted in \$490 million in lost dockside commercial revenues, and in Alabama alone an additional \$138 million were realized from incomplete processing of marine products.
- Gulf-wide losses of recreational fishing trips resulted in \$990 million in unrealized revenue from incomplete economic activity which includes lost revenues from restaurants, lodging, marinas, and general tourism.

Short and Long-Term Damage

The short-term recovery and long-term viability of restored fisheries in the affected areas are impacted by the following factors: (1) fishing ground accessibility and damage (dredging, accessibility to fishing grounds); (2) status of infrastructure for fishing activity (fuel, ice, dockage, offloading capabilities); (3) extent of damage to fishing vessels (by fishery, including state and federal waters) and to fishery resources (shellfish and finfish); (4) quality of seafood (toxicity issues); and (5) extent of essential fish habitat damage (estuary, barrier islands, etc). NOAA is currently assessing each of these critical factors.

Fortunately, most of the fishery resource damage will likely be short-term in nature, particularly shrimp and finfish resources—oysters will require a longer period of time to recover. After oyster beds are cleaned and/or replanted, it can take up to two years to grow commercial-size oysters. The shrimp fleet was provided some reprieve when NOAA granted three consecutive turtle excluder device (TEDs) exemptions to provide the industry with an opportunity to fish in areas that would otherwise be unfishable. However, the extensive debris in the water may continue for some time.

The damage to infrastructure and to coastal habitat will have the longest term impacts on Gulf of Mexico commercial, recreational, and for-hire fisheries. Fishers with sea-worthy vessels are able to fish; however, finding areas to offload catch or obtain ice and other support services is problematic.

Effects of the Hurricanes on the Fishery Resources, the Industry, and Communities

In 2004 the value of commercial harvest upon first sale into the marketplace in the areas impacted by hurricanes Katrina and Rita was \$596 million—Louisiana \$293 million, western Florida \$146 million, southeastern Texas \$76 million, Mississippi \$44 million, and Alabama \$37 million. Shrimp are the most valuable species of the region affected by the hurricanes, followed by oysters, and a variety of other finfish and shellfish species.

We estimated the impacts of the hurricanes on fishing activity by comparing fishery landings in September 2005 (after Katrina), with September catches from the same States in 2003 and 2004. In 2003-2004 the average September catches of shrimp and oysters were valued at \$44 million and \$4 million, respectively. Based on figures obtained for September 2005, there was a 97% reduction in shrimp landings and a 94% reduction in oyster landings, representing a combined loss of over \$62 million for the month of September alone. Catches of shrimp and oysters reached nearly 0% during this period. Catches of a number of finfish species were also nearly

zero in September 2005, including menhaden, blue crab, spiny lobster, stone crab, yellowfin tuna, mullets, and freshwater crawfish. Reef fish catches declined by 44% region wide. These reductions in commercial catches have persisted in most of the affected areas since September 2005.

Hurricanes Katrina and Rita impacted recreational fishing from the Florida panhandle through southeast Texas, with additional impacts being felt in southern Florida, particularly the Keys. The recreational fishery is comprised of private trips made in boats or shore fishing, and “for hire” trips on chartered vessels. The region’s recreational fishing industry is valued at over \$6.3 billion annually, with 26 million private recreational fishing trips and 940,000 chartered fishing trips completed in 2004. Due to the effects of the hurricanes, charter vessel economic activity declined 58% in September as compared with September 2002-2004. The most significant declines were in Alabama and Louisiana (66% and 64%, respectively).

Effects on Fishery Infrastructure — Hurricanes Katrina and Rita devastated the shoreside infrastructure and fishing fleet, in a wide swath from Mississippi Sound through the Louisiana Delta, including parts of the Florida Keys, western Louisiana, and eastern Texas. There is no conclusive estimate of the number of fishing vessels sunk or driven ashore, but the U.S. Coast Guard initially estimated the number to be between 3,500 and 5,000. This estimate includes nearly 2,400 commercial vessels and 1,200 recreational boats. NOAA contractors also estimated that in Mississippi and Alabama alone, 452 vessels 30’ and greater in length were sunk or driven ashore. Numerous other vessels still afloat were damaged or nearly destroyed due to the hurricane effects, rendering them unfishable without repairs.

Shore-side infrastructure was devastated in many areas of Mississippi, eastern Louisiana, and Alabama. For example, the two primary fishing ports in Alabama are Bayou la Batre and Bon Secour. Bayou la Batre typically produced about three-fourths of all Alabama seafood landings, with shrimp accounting for 90% of all landed seafood value, and contributing about \$350 million per year to the state economy. From the time of the storm to at least October 8, 2005, no fishing boats were able to leave the port, and most seafood processing plants remained closed as a result of the storm damage.

Biloxi is the principal Mississippi fishing port, with Pass Christian and Pascagoula traditionally serving as satellite fishery ports. In 2003, Gulfport-Biloxi commercial fishery participants caught 17.4 million pounds of fish with a market value of \$26.8 million dollars, ranking it 22nd in revenue of all commercial ports in the Nation. Most docking facilities and marinas were destroyed or severely damaged. The docking facilities that are open are only partially operational. In Biloxi, only 60% of the capacity at the four operational commercial docks is usable. Of its two recreational docks, one is 80% operational as of mid-November 2005. All three of Biloxi’s marine haul-out facilities are destroyed and not operating. Pass Christian’s commercial fishing industry is centered around its main harbor, which was nearly completely destroyed.

The lack of harbor facilities has made it extremely difficult to obtain ice and fuel in Mississippi. By early November, the few Mississippi shrimpers who were working had to use fuel already

held in storage, or they travelled to Alabama for diesel and trucked ice from inland grocery stores.

None of Biloxi's three boatyards and builders are currently operating. Additionally, all four of the fishing gear, electronics, welding, and smaller repair shops are closed with severe damages, if not destroyed completely.

The situation is similar in parts of Louisiana, although surveys there are not yet complete. The fishing infrastructure of the ports of Empire, Plaquemines and other ports south of New Orleans were nearly destroyed and are not functioning.

Seafood Imports and Exports — Preliminary import and export data for four ports indicate that the storms severely disrupted trade. The ports of New Orleans, Mobile, Port Arthur, and Tampa accounted for an average of \$51 million in fishery imports and \$3.4 million in exports during September 2000-2004. In September 2005, imports declined 52% and exports 10% as compared with earlier years. This is due on the import side to the lack of infrastructure, and on the export side to the loss of fishing capacity and infrastructure.

Effects on Fishery Resources — Effects of the storms on the abundance, distribution and the safety of seafood in the northern Gulf are being evaluated by state agencies, as well as by NOAA and other federal agencies. By far, the worst resource devastation has occurred in oyster populations. According to the Mississippi Department of Marine Resources, approximately 90% of Mississippi oyster beds were damaged and disrupted by Hurricane Katrina. Although officials have found active beds, they do not expect oysters to be able to be harvested for at least another two years. Currently, 100% of Mississippi's oyster fleet is out of work because of Hurricane Katrina. Oyster populations in parts of Louisiana were similarly affected.

In contrast, it appears that populations of shrimp and finfishes in offshore areas of the northern Gulf of Mexico were not significantly impacted. Annual surveys of the shrimp and bottom fish populations of the Northern Gulf have been conducted by the NMFS Pascagoula Laboratory each fall since 1972. Despite the destruction of the Pascagoula laboratory, staff was able to conduct the survey beginning in October 2005 using the NOAA research vessels *OREGON II* and *GORDON GUNTER*. Preliminary results of this survey indicate that shrimp and bottom fish abundance was the same or slightly higher than in the fall of 2004, with shrimp and other valuable species relatively abundant and widely distributed. Studies conducted in Barataria Bay, Louisiana, also indicated shrimp and fish abundance at near normal levels and water temperatures and salinities near normal.

Seafood quality — Considerable attention has been focused on the impacts of the hurricanes on the safety and quality of seafood for consumption. Within two weeks following landfall of Katrina, NOAA scientists began sampling seafood species for evidence of hydrocarbons, persistent organic pollutants, and bacterial contamination. These efforts were coordinated with the Food and Drug Administration, the U.S. Environmental Protection Agency (EPA), U.S. Department of the Interior, and the health and marine resource agencies of the affected States. NOAA used its research vessels and chartered commercial fishing vessels to obtain representative samples. To date, seafood samples indicate no toxic contamination above FDA guidelines, and

in only a few cases do seafood samples exceed the much more restrictive EPA guidelines. Enhanced monitoring activities for seafood safety will continue because of the potential for delayed uptake of pollutants in the food chain.

Effects on Coastal Wetlands and Habitats — Coastal wetland habitats are critical to virtually every commercial and recreationally important living marine resource in the northern Gulf, since estuaries and brackish marshes are breeding and nursery grounds for most species. Louisiana alone has 40% of the remaining coastal marshes in the continental United States. The barrier islands provide protection for both the wetlands and cities and towns adjacent to them. These hurricanes caused significant damage to wetlands and to offshore-barrier islands which protect them.

Total wetlands loss has been conservatively estimated to be over 100 square miles in eastern Louisiana alone due to these storms. This represents at least a four-fold increase as compared to annual average wetlands loss estimates provided by the U.S. Geological Survey.

To stem the long term decline of Louisiana wetlands, NOAA, the U.S. Army Corps of Engineers, the U.S. Department of the Interior, the U.S. Environmental Protection Agency, the United States Department of Agriculture, and the State of Louisiana have been participating in programs funded under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA). CWPPRA sponsors projects to stabilize and rebuild wetlands by water diversions, control structures and physical rebuilding of the marshes to protect the shoreline from erosion and supply vital fisheries habitat. NOAA collected and analyzed remote sensing imagery and conducted on site inspections to identify coastal and shoreline impacts and to determine the status of existing projects. The analysis determined that all nine projects performed as designed and eight of the nine projects suffered almost no damage from the hurricanes. The success rate of these projects represents a wise investment of resources and an effective multi-agency restoration program. Further NOAA analysis (from lower resolution aerial imagery and site visits) indicates that an additional 29 CWPPRA and Community-based restoration projects in Louisiana suffered little or no damage from the hurricanes.

In addition, the U.S. Coast Guard estimates about eight million gallons of oil were released from nine onshore facilities located in the Louisiana Delta where large oil storage tanks were breached during Hurricane Katrina. As of this date, this is the only documented oil spill volume from the hurricanes. Although some has been recovered, much still remains in the environment including 5-6,000 acres of wetland marsh habitat that was oiled. Clean-up activities in these areas are ongoing, and NOAA is monitoring for the potential uptake of hydrocarbons in seafood species.

Rebuilding Gulf Fisheries

Like other industries in the region, rebuilding of Gulf fisheries will be accomplished through industry efforts, private insurance, and state and federal assistance. Federal financial assistance includes direct assistance through the Federal Emergency Management Agency and low-interest loans through the Small Business Administration. In addition, NOAA, in partnership with the States and Regional Fishery Management Council, is working to more fully assess the impacts and develop appropriate management approaches to rebuild and restructure fisheries in the Gulf.

The most important criterion to consider in developing rebuilding plans is the need to rationally rebuild fishery infrastructure (processing facilities, docks, vessels, etc.) to ensure that our efforts result in sustainable fisheries, and do not result in recreating our current challenges of over capitalized fisheries.

For example, the Gulf shrimp fishery was marginally profitable due to overcapitalization and the effects of vast shrimp imports. A capacity reduction, or buyback program, could improve the profitability in the fishery, assist the reduction of bycatch, and aid the recovery of overfished reef fish. However, some shrimp fisheries in the region are not currently limited access. Without limited access measures throughout the region, a buyback program might simply shift effort and overcapitalization from one fishery to another, without resulting in an actual reduction in overall fishing effort. Efforts to rebuild and re-structure the shrimp fisheries should aim to make them more profitable and able to compete in the international market for shrimp by marketing superior product of locally caught shrimp. Additionally, less shrimp fishing effort will improve the conservation of currently overfished stocks such as red snapper.

How Can the Federal Government Assist the States, Localities and the Region in Planning for How the Fishing Industry and Communities Could Look in the Future?

NOAA has broad capabilities to assist in the rebuilding of coastal wetlands and coastal communities. Existing institutional relationships among NOAA, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and other federal and state agencies have developed effective strategies to stem the decline and help to rebuild wetlands and barrier islands. These “natural” protections are the first line of defense in building more storm resilient coastal communities.

In addition to wetlands habitat rebuilding, NOAA’s Coastal Zone Management Program, the Coastal Services Centers and its Sea Grant institutions have considerable expertise in coastal land use and zoning, shoreline restoration, and community development. We are currently evaluating how these NOAA activities can be brought to bear to assist local and state governments in making the important decisions necessary to make these coastal communities more storm ready and resilient to future hurricanes.

How Can We Protect the Identity and Viability of the Coastal Communities?

As we plan for the rebuilding of the fisheries and their supporting communities, it is essential that we recognize and defer to local institutions in making critical decisions affecting the lives of coastal residents of the northern Gulf. Local institutions, including the Gulf States Marine Fisheries Commission and the Gulf of Mexico Fishery Management Council, will be instrumental in determining how to rebuild fisheries infrastructure in a way that ensures sustainable populations and economically viable fisheries. Local decision makers can craft the specifics of the rebuilding of the fisheries and communities of the area, using technical assistance and expertise supplied by the federal government. The existing fishery institutions in the Gulf area are used to working within broad federal guidelines, such as the Magnuson Stevens Fishery Conservation and Management Act, but crafting their solutions to be sensitive to local concerns. Similarly, Coastal Zone Management authorities, Coastal Service Centers and Sea Grant

institutions of NOAA have developed effective federal-state-local partnerships and working relationships. NOAA stands ready to assist with the rebuilding of the fisheries and the fishing-dependent communities of the Gulf of Mexico affected by these devastating hurricanes.

Thank you, Mr. Chairman, for holding this important hearing. I would be pleased to answer questions posed by you and members of the Committee.