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TESTIMONY OF

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Mr. Chairman and distinguished committee members, welcome to Louisiana and thank you for the invitation to appear today to discuss issues important to Louisiana and the nation. I am John Roussel, Assistant Secretary for the Louisiana Department of Wildlife and Fisheries (LDWF), Office of Fisheries. Unlike my testimony before you in Washington in December on behalf of both the Gulf States Marine Fisheries Commission and the Louisiana Department of Wildlife and Fisheries. I will be talking to you today solely about the impacts of Hurricanes Katrina, Rita, and Cindy on Louisiana's fisheries.

In October, 2005 my department issued an initial evaluation of the impacts of Hurricanes Katrina and Rita on Louisiana's fisheries; portions of that evaluation were included in my previous testimony, and a complete copy of that evaluation was provided to the committee as a follow up to my December testimony. Much of that evaluation was based on very preliminary information and required us to make assumptions about the extent and duration of recovery. We have now had the opportunity to collect additional data to further evaluate the impact of these storms and characterize what has happened since in terms of recovery.

I. Significance of Louisiana's Fisheries

Louisiana is second only to Alaska in terms of commercial fisheries production and home to three of the top six commercial fishing ports in the country. Louisiana's recreational harvest is second only to Florida among the states surveyed by the NOAA Fisheries recreational survey. In recent years Louisiana landed significant portions of the total U.S. commercial harvest, including, 37% of the shrimp, 35% of oysters, 60% of Gulf menhaden and 27% of blue crab, 56% of black drum, 26% of mullet, 28% of all snapper species, and 31% of yellowfin tuna. Louisiana-based recreational anglers caught high proportions of the U.S. recreational harvest, including, 49% of black drum, 73% of red drum, 28% of sheepshead, 32% of southern flounder, and 71% of spotted seatrout from the states surveyed by the Marine Recreational Fishery Statistical Survey (MRFSS).

These fisheries resources are not only important to the social and cultural fabric of our coastal communities, but also provide the state and national economy with an important source of jobs, income, and tax revenues. A recent study of the economic benefits of fisheries, wildlife and boating in Louisiana prepared by Southwick Associates indicates that marine commercial and recreational fishing supported \$2.3 billion in retail sales, 36,700 jobs, \$598 million in salaries and wages and generated \$146 million in federal income tax revenue.

Economic Benefits of Fisheries in Louisiana ¹				
	Retail Sales	Earnings	Jobs Supported	Federal Income Tax Revenue
Saltwater Recreational Finfish	\$435,324,520	\$190,687,663	8,276	\$29,060,206
Shrimp	\$897,496,238	\$192,406,098	13,420	\$55,365,634
Oysters	\$221,939,684	\$47,579,641	3,319	\$13,691,234
Blue Crab	\$223,464,258	\$47,906,481	3,341	\$13,785,284
Menhaden	\$388,635,084	\$83,315,959	5,811	\$23,974,505
Other Marine Finfish	\$169,373,405	\$36,310,432	2,533	\$10,448,473
Total	\$2,336,233,189	\$598,206,274	36,700	\$146,325,336

¹Louisiana Dept. of Wildlife and Fisheries. 2005. The Economic Benefits of Fisheries, Wildlife, and Boating Resources in the State of Louisiana. Prepared by Southwick Associates. Baton Rouge, LA. 34 pp.

II. Past Congressional Assistance

The Gulf region has experienced hurricanes throughout history and as I pointed out in my previous testimony, the U.S. Congress has responded to hurricanes and other disasters by investing in the region's recreational and commercial fisheries through funding to state fisheries agencies to aid in restoring fisheries, management capabilities, fisheries infrastructure and community assets. As a result of hurricanes, floods on the Mississippi River and other environmental and economic disasters, Congress has appropriated disaster funding which was used by the Louisiana Department of Wildlife and Fisheries (LDWF) to restore fish habitat, build and maintain freshwater fish hatcheries, restore and enhance oyster reefs, measure the effects of low oxygen zones on fisheries, measure water quality associated with fisheries for management, aid the fishing industry in marketing Louisiana fishery products, aid individual fishers in directly marketing their catch, remove underwater debris from fishing grounds, and provide direct financial aid to fishers. Federal funds have provided the means to restore and enhance over 9,000 acres of oyster reef on the state's public oyster grounds by providing the substrate oysters need to settle and grow. In another example, Congress provided \$8.68 million in fisheries disaster assistance to the Louisiana shrimp industry in 2003 to help sustain the industry following a fisheries disaster at a time when cheap foreign shrimp imports threatened the economic sustainability of the domestic shrimp fishery. In each of these cases the Louisiana Department of Wildlife and Fisheries, working with the affected industry, developed and implemented a recovery program. We in Louisiana are very appreciative of this assistance

provided by Congress in the past. The fishing industries of Louisiana and the Gulf region have never had greater need for assistance than they do now. Other than some portion of the \$199 million appropriated for oyster reef rehabilitation through the U.S. Department of Agriculture Emergency Conservation Program, Congress has not yet invested in the recovery of the fishing industry in the Gulf from the storms of 2005. It is my sincere hope that Congress will once again see fit to invest in the recovery of these impacted resources and industries.

III. Impacts of the Storms of 2005

The impact of the storms of 2005 has been multifaceted and unprecedented. The impacts include the direct loss of resource, loss of ability to produce income from the available resource, loss of physical assets necessary to capitalize on available resource, impacts to habitats, and diminished capacity to effectively manage fisheries resources. The entire coast of Louisiana was impacted by one or more of the storms of 2005 with southeastern and southwestern Louisiana being particularly hard hit. Unless otherwise noted, all of the statistics to follow represent statewide measures to account for the variation in impact across coastal Louisiana.

A. Impacts to Fishery Resources

State fisheries biologists have documented significant direct impacts to two resource categories: oysters and freshwater finfish. Samples taken on the state's public oyster reefs in September, October, and November indicated that combined seed and sack oyster mortality totaled 64%. Seed oyster availability has been reduced by 74% while sack or market size oyster availability has been reduced by 53%. Although we have no data specific to private leases, oyster mortality on private leases would be expected to be similar to that found on public grounds in the area. State biologists documented mortality on public grounds throughout the coast, and the highest mortality occurred in the area east of the Mississippi River, particularly in Lake Borgne, northeast of New Orleans. The central coast areas experienced lower rates of oyster mortality from Hurricanes Katrina and Rita, as well as some oyster mortality in July 2005 from Hurricane Cindy.

The freshwater lakes, bayous, swamps, and marshes in Louisiana's coastal area were also hard hit by Hurricanes Katrina and Rita. Department biologists recorded very low dissolved oxygen levels in water bodies throughout the Pontchartrain basin including Lake Maurepas as a result of storm-related flooding. These low oxygen concentrations led to extensive fish kills, and our biologists believe the freshwater finfish fishery in this area was virtually eliminated for the short term. Likewise on the west side of the state after hurricane Rita, the marshes surrounding Calcasieu, Sabine, White, and Grand Lakes were damaged by salt water inundating fresh marshes and water bodies. These areas are kept fresh by an extensive water control network, and the network itself was damaged as a result of the storms, further slowing recovery. We are continuing to evaluate the status and recovery of our freshwater fisheries as they are an important resource, particularly for the recreational sector.

Direct loss of Resource from Storm-caused Mortality ²	
Resource	Loss
Oyster	\$ 176,386,120 (includes public and private)
Freshwater Finfish	\$ 7,812,120
Total	\$ 184,198,240

²The value of direct losses was calculated by evaluating the current cost to replace the lost resources. In the case of freshwater finfish, the value reported reflects the cost of fingerlings to stock impacted water bodies once the water quality has recovered sufficiently. In the case of oysters, the value reported is the market value of the seed and sack oysters that were killed by the storms.

B. Impacts to Dockside Revenue

In general, fish and shellfish commercial landings in Louisiana were significantly decreased in the post-hurricane (September through December) time frame when compared to this same period the previous year. Hardest hit in the short term were the oyster and menhaden fisheries. The menhaden fishery is highly integrated and almost all of its assets are located at a few sites on the coast. It experienced very severe losses. The oyster fishery was impacted both by loss of available resource and precautionary health closures resulting from the storms.

Decrease in dockside revenue from individual fisheries during the period September through December, 2004 – 2005 ³				
FISHERY	Landings in pounds 2005	% difference from 2004	Value in \$ 2005	% difference from 2004
Blue crab	10,797,915	-25%	\$5,926,153	-32%
Menhaden	48,695,280	-78%	\$1,675,026	-81%
Other saltwater finfish	3,076,600	-64%	\$4,788,777	-47%
Shrimp	36,407,451	-28%	\$49,7594,649	-20%
Oysters	1,405,957	-68%	\$3,977,011	-67%

³Source: Louisiana Department of Wildlife and Fisheries' Trip Ticket Program, 03/2006. Data are preliminary and subject to correction.

C. Impacts to Vessels

Comprehensive values for vessel losses across the state are not currently available, however vessel participation was significantly reduced in the post hurricane (September through December) time when compared to this same period the previous year. Based on a survey from the road early this month FEMA workers in Plaquemines Parish report that 7% of vessels are sunk, 56% are repairable but not yet working, 17% are nothing but debris, and 20% are working. This does not include the vessels still in the marshes or waterways which cannot be seen from the

road. Plaquemines Parish contains the largest volume fisheries port in Louisiana. It is also the third largest fisheries port in the nation by volume. In coastal Louisiana, these workers report that there are 1075 commercial fishing vessels with U.S. Coast Guard case numbers that must be salvaged. This is a preliminary and incomplete number, as there are no comprehensive statistics on how many boats are missing. The heaviest losses to the fleet were near the mouth and east of the Mississippi River and in southwest Louisiana.

Decrease in vessel participation in fisheries during the period September through December, 2004 versus 2005 ⁴			
Fishery	2004 Vessels	2005 Vessels	% Difference
Crab	1,423	703	-51%
Freshwater Fish	474	367	-23%
Menhaden	34	22	-35%
Oyster	634	204	-68%
Saltwater Fish	922	340	-66%
Shrimp	2,944	1,685	-43%
Total	6,431	3,321	-49%

⁴Source: Louisiana Department of Wildlife and Fisheries' Trip Ticket Program, 03/2006. Data are preliminary and subject to correction.

D. Impacts to Docks, Launches, and Marinas

When I testified before you in December, I reported that in November, 34% of Louisiana's commercial and recreational facilities remained closed due to damage from the storms while 48% reported being fully operational. At that time, 7% of the facilities could not be reached by automobile. Today, I can report that 27% of those facilities still remain closed, 55% are now fully operational, and 6% still are not accessible by automobile. The central coast received the least storm damage and has recovered the quickest. The eastern side of the state has experienced slow recovery with some parishes only having 1 to 3 sites that are operational. The western side of the state is faring a little better with nearly half of the recreational sites per parish being operational, however, the commercial sites are recovering more slowly than the recreational sites. The commercial sites in Cameron Parish in southwestern Louisiana were hit very hard and have shown slow recovery with only 2 of 19 sites being operational.

E. Impacts to Participation

The number of commercial fishing trips were significantly reduced during the post hurricane (September through December) time period when compared to this same period the previous year. Although peak license sales typically occur later in the spring, sales of general commercial fishing licenses for the year 2006 have declined by 17% from this time last year, and sales of resident commercial vessel licenses are down by 14%. Sales of commercial licenses to the same individual (that is individuals renewing licenses) are down by 36%. At the same time, sales of non-resident commercial fisherman and vessel licenses are up 13% and 15% respectively. Many people in our coastal communities were displaced by the storm and they have not yet returned. For those of you who have had the opportunity to visit the affected areas, it's clear why people have not yet returned. In many of our communities, basic services such as power, telephone land

lines, drinking water supplies, sewerage, schools and hospitals have not yet returned. Communities are struggling to rebuild.

Decrease in the number of commercial trips during the period September through December, 2004 versus 2005 ⁵			
Fishery	2004 Trips	2005 Trips	% Difference
Crab	38,982	16,425	-58%
Freshwater Fish	5,531	4,326	-22%
Menhaden	96	29	-70%
Oyster	13,712	3,103	-77%
Saltwater Fish	6,924	1,989	-71%
Shrimp	30,610	12,765	-58%
Total	95,855	38,637	-40%

⁵Source: Louisiana Department of Wildlife and Fisheries' Trip Ticket Program, 03/2006. Data are preliminary and subject to correction.

Recreational fisheries, including charter fishing, also saw a marked decline in participation in the September to December time frame. Preliminary data from the National Marine Fisheries Service's MRFSS show declines in the number of fishing trips of about 50% for this period from the same period in 2004. The weekly survey to determine charter fishing effort in Louisiana showed that the rate of successful contact with charter boat captains for the November and December 2005 period was 50% of that for the same period in 2004.

F. Estimated Total Infrastructure Loss

The Louisiana State University Ag Center has developed a preliminary estimate of fishing infrastructure loss using two methods. The first method, a form of partial income capitalization, is derived from property appraisal techniques in which the value of a business's infrastructure is calculated as a function of the net income generated by that infrastructure⁶. The second method, a discounted loss approach, is similar to the first method except that net income and infrastructure losses are discounted over a five- year period under the assumption that the status of damage recovery cannot reasonably be estimated beyond that time period⁷.

⁶ American Institute of Real Estate Appraisers. 1983. *The Appraisal of Rural Property*. 11th Edition. Appraisal Institute, Chicago.

⁷ United Nations Economic Commission for Latin America and the Caribbean (ECLAC) and the International Bank of Reconstruction and Development (The World Bank). 2003. *Handbook for Estimating the Socio-Economic and Environmental Effects of Disasters*.

Sector	Range of Estimated Infrastructure Damages ⁸	
	Lower Bound	Upper Bound
Recreational	\$121,538,750	\$358,712,384
Commercial	\$271,983,780	585,152,432
Total	\$393,522,530	\$943,864,816

⁸Louisiana Fishing Community Rebuilding Coalition. 2006. Louisiana Fishing Community Rebuilding Coalition: A Request for Community Development Block Grant Funding.

G. Impacts to Habitat

The direct resource losses described earlier are attributable to short-term damage to fish habitats. Oyster mortality resulted when sediment and vegetation from torn-up marshes was deposited over oyster reef areas. Fish kills from low dissolved oxygen levels are a result of area drainages that have been flooded long enough for vegetation to die, decompose and deplete waters of available oxygen. When these waters drain from flooded areas, low oxygen levels are introduced into adjoining water bodies resulting in widespread fish kills affecting numerous predator and prey species.

Many of you have probably seen the report of up to 100 square miles of Louisiana coastal marsh destroyed as a result of Hurricanes Katrina and Rita. As vegetation continues to green up this spring, we will have a more complete picture of the extent and magnitude of the damage to coastal wetland areas. The presence of debris, both in waterways and in coastal wetlands, is an issue of major concern. Debris in waterways continues to impede water flow and vessel traffic. It also damages or destroys fishing vessels and gear. Further, tanks from coastal oil and gas and transportation stations were scattered throughout the extensive net of water bodies and in the coastal marshes of south Louisiana. These tanks are not all identified, their contents are not identified, and they may not be easily accessible or removable. They will continue to constitute a danger to navigation and fishing as well as a potential environmental hazard.

H. Impacts to Management Potential

The majority of Louisiana's more valuable fisheries operate in state territorial waters under state jurisdiction. For instance, the state's shrimp fishery, its most valuable, operates in both Louisiana and adjacent federal waters and 63% of all shrimp landed between 2000 and 2005 were harvested from Louisiana waters, as were 51% of marine commercial finfish, 35% of menhaden, and 100% of crabs and oysters. My department also sustained significant infrastructure damage from the storm. We lost two coastal facilities with all the vessels and gear that were stored in and around them. Our office in New Orleans is still inaccessible, and our marine laboratory on the barrier island of Grand Terre sustained enough damage that the laboratory building is no longer usable. What this means in terms of the scope of my department's management capabilities is a loss of efficiency and flexibility in our field sampling. The quality and quantity of data we're able to

collect has been affected. The loss of data directly affects the precision of our management recommendations, thereby affecting the fisheries and their economic impact to Louisiana, the Gulf Coast, and the nation.

I. Impacts to Seafood Safety and Public Perception

National media reports following Hurricanes Katrina and Rita and subsequent de-watering of New Orleans have led to negative consumer ideas about the quality and safety of post-hurricane harvested seafood products. My staff has received many inquiries questioning seafood safety from all over the country. Extensive testing of water quality and fish tissue by state and federal agencies has confirmed that Louisiana seafood products remain safe and wholesome. However, public perception and consumer confidence questions combined with reductions in product availabilities have influenced the market share of our seafood products

IV. Congressional Assistance

A. Business Opportunities for Fishers

In the course of discussions with local fishers about how to start the fisheries industry's recovery in Louisiana, they have consistently expressed frustration with the Small Business Administration (SBA) loan program. Many fishers don't have the resources to qualify for a conventional loan. They may not have insurance on their vessel, certainly after the storm they have no collateral, and because of loss of their homes/offices, they may not have complete business records. Several have reported that the process is so lengthy that by the time they received their loan, they had completed the work they hoped to finance with it. Amendments to the SBA requirements should be considered so that more fishers can qualify, or alternatively outright grants should be considered to "jump start" the industry. Either way, the need is immediate.

B. Rebuild Commercial and Recreational Infrastructure

Much of the infrastructure that is needed for operation of commercial and recreational fisheries to operate was swept away by the force of these violent storms. In their aftermath, it is uncertain how much and what types of infrastructure will be rebuilt in these areas. In other parts of the nation, there are examples of waterfront areas historically utilized by commercial fishing that have been replaced by condominiums, casinos, or recreational harbor facilities.

An opportunity now exists to empower interested local agencies, such as parish government economic development districts, to develop waterfront properties that would be limited to use for recreational and commercial fishing infrastructure. Such facilities could be leased to operators for different aspects of their operations. By having local government oversight, a balance of interests would be maintained for access by all fishery participants.

Louisiana has successfully used federal monies through the Federal Aid in Sport Fish Restoration Program (Wallop-Breaux) to develop fishing and boating access facilities. Present annual appropriations under this program are inadequate to fully address current needs. There is also additional interest in the program since the hurricanes, as local governments try to respond to the needs of their citizens to rebuild this infrastructure.

Sponsors utilizing federal funds under Louisiana's Boating and Fishing Access program are required to maintain these public facilities for 25 years. Currently, local governments lack funding resources to approach the rebuilding of boating and fishing access facilities. Thus, some of these important access facilities, as well as the local businesses that depend on them, will be further impacted. Funding construction and repair of recreational facilities using the State's long-term experience will help provide for recovery of our important recreational fishing industry.

C. Direct Financial Assistance to Harvesters and Vessel Owners

In 2003, Congress provided \$35 million in fisheries disaster assistance to the U.S. shrimp fishery from which Louisiana received an allocation of \$8.6 million. With support of the Louisiana shrimp industry, the LDWF used its trip ticket data and a suite of criteria to identify and qualify shrimp fishers for various levels of direct financial assistance payments under U.S. Department of Commerce NOAA Grant NA03NMF4520310 administered by the LDWF. Trip ticket data could again be used to identify eligible fishers and vessel owners for potential distribution of lump-sum grants to harvesters. Grants to harvesters and vessel owners could be used as direct assistance for personal needs or to repair and/or replace damaged vessels, fishing and navigation equipment.

D. Rehabilitate Fishery Resources Directly Impacted

1. Oysters

Oyster reef on the state's public oyster grounds provides the substrate oysters need to settle and grow. Direct oyster mortalities resulting from the 2005 storms have reduced statewide oyster stocks on the public grounds to 64% of pre-storm levels. Due to the oyster industry's reliance on the public grounds as a source of seed oysters for transplant to private leases and for a significant percentage of the annual harvest, there is immediate need for funding for rehabilitation and restoration of reefs on the public oyster grounds. Following Hurricane Andrew in 1992 Congress funded U.S. Department of Commerce NOAA Grants NA36FL0090-01 and NA96FK0188. Under the former, the LDWF hired fishermen to clean oyster reefs in the areas impacted by the storm; both grants provided funds for new reef substrate. Congressionally-funded reef restoration and enhancement projects followed Hurricane Lili and Tropical Storm Isidore (U.S. Department of Commerce NOAA Grant NA03NMF4520316) in 2003. Another Congressional appropriation for reef restoration was received following Hurricane Ivan (U.S. Department of Commerce NOAA Grant NA05NMF4540035) in 2004. This grant was approved immediately before the passage of Hurricane Katrina, and the funds were used to hire oyster fishers to assess the extent of storm impact to over 150 square miles of public oyster seed grounds in eastern Louisiana.

As I mentioned previously there is an existing appropriation through the U.S. Department of Agriculture's Emergency Conservation Program which in part is for oyster reef rehabilitation. Other than in Louisiana in response to Hurricane Andrew in the early 1990's, this program has

not been used to direct disaster assistance to rehabilitate oyster resources and in that case it was limited to oyster resources on private oyster leases. At that time LDWF assisted the U.S. Department of Agriculture in administering the disaster relief and the LDWF again stands ready to assist. The current appropriation differs in that the appropriation language includes rehabilitating public oyster grounds and there appears to be an obstacle to the effective use of this appropriation to rehabilitate the public oyster ground reefs. Apparently there is a \$200 thousand "cap" on awards to a single entity. Since the state fishery agencies are the only entities postured to efficiently rehabilitate these public oyster reefs and have successfully used Congressional appropriations through the U.S. Department of Commerce on multiple occasions, applying this cap to state agencies would at best severely limit but in reality essentially eliminate any opportunity for this appropriation to address the reef rehabilitation needs on public oyster grounds.

2. Freshwater Fisheries

Evaluations of the direct loss of freshwater fishes as a result of hurricanes in 2005 indicate that vast areas of freshwater habitat east of the Mississippi River and in west Louisiana were severely impacted. Storm surge in excess of 18 – 20 feet inundated freshwater areas with saltwater killing many freshwater fish. Biological samples taken months after the storm prove that virtually 100% of the freshwater game fish in the heavily impacted areas were lost. Recovery of these areas to pre-storm conditions will require a commitment to re-establish freshwater habitat and associated freshwater fishes.

As freshwater habitat recovers, a massive restocking effort must be established to recover storm-impacted water bodies. The use of existing state hatchery facilities as well as partnerships with other state and federal hatcheries must be used in such a large undertaking. Hatchery facilities damaged by the hurricanes must be repaired immediately to provide its maximum capability to produce fingerlings.

Louisiana's valuable freshwater fishery resource is a national treasure enjoyed by fishers from across the country and deserves an all-out recovery effort.

E. Debris Removal in the Fishing Grounds

Congressional funding for debris removal programs could provide funding for identifying snags which then may be removed by fishermen, commercial divers, barge operators, salvage crews, etc. in order to make the shallow water bayous, bays and lakes safe for boat traffic. As I mentioned earlier, following Hurricane Andrew Congress funded fisheries rehabilitation. Under U.S. Department of Commerce NOAA Grant NA36FL0090 the LDWF hired fishermen to clean oyster reefs in the areas impacted by the storm. Also subsequent to Hurricane Andrew, Congress funded U.S. Department of Commerce NOAA Grant NA76FK0431 to LDWF in 1997 to address debris on fishing grounds using an existing state program administered by the Louisiana Department of Natural Resources. Underwater obstructions such as oil field debris, sunken vessels, and other large equipment and material that interfered with offshore commercial fishing operations were located and removed. In inshore waters the program restored fish habitat and fishers' access to the water by controlling noxious aquatic vegetation.

As you've toured coastal Louisiana and heard her citizens speak for themselves about the losses they've experienced and their hopes for the future, please remember that Louisiana's fisheries are vitally important to the state, the region and the nation. We have been set back more than anybody could have imagined. We know we have resources available for harvest; the storms severely affected our ability to harvest them. Our citizens have a strong will to get back on the water, but lack the means. We ask for your investment to help our citizens lead the state of Louisiana to recovery.