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BEFORE THE HOUSE RESOURCES SUBCOMMITTEE ON FISHERIES AND OCEANS REGARDING NATURAL RESOURCE IMPACTS AND RESTORATION OF NATIONAL WILDLIFE REFUGES & OTHER LANDS ACROSS THE GULF COAST

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Mr. Chairman, Members of the Committee, my name is H. Dale Hall and I am the director of the U.S. Fish and Wildlife Service. Thank you for the opportunity to discuss the devastating effect Hurricanes Katrina and Rita have had on our national wildlife refuges and other valuable natural resources across the Gulf Coast from the Florida panhandle through Louisiana and the East Texas coast.

On behalf of all of our employees, I think it's important to say here that we recognize we've got many challenges ahead. We know there are still significant needs across the Gulf Coast that our employees and many others are working hard to try to meet. Thousands of citizens are still reeling from the emotional trauma of losing loved ones, homes, and other personal belongings. Our own employees are among them. We are under no illusions about the breadth of need out there.

The first priority should always be the well being of citizens affected by these storms. And as the people of Louisiana, Mississippi, Alabama, and Texas pick up the pieces and begin putting their lives back together, we want to be ready when they once again have the time to enjoy national wildlife refuges and other natural places to hunt, fish, hike, canoe, and watch the amazing wildlife we are working with partners to conserve and restore.

But I also want to emphasize that Refuges played another significant role during the storms: the natural resource hit they absorbed helped lessen the danger to people and structures. While the damage remained significant, how much worse would it have been without the storm buffering effects of the remaining coastal wetlands and Refuges?

When Katrina struck the Gulf Coast, our people responded in large numbers. They worked with others through the Incident Command Team and our National Interagency Fire Center to rescue more than 4,500 people, cleared more than 14 miles of roads, opened emergency corridors, and provided access to the Louisiana Heart Hospital for starters. Indeed, even as nearly 50 Service employees and their families lost much, if not everything, as thousands of other citizens did, our employees were out there almost immediately working to help others in need. Service employees continue to make outstanding contributions to the recovery effort across the Gulf Coast.

Damage to Service-Owned Facilities

The Service has over 130 national wildlife refuges in the southeast, of which 66 were affected. Additionally, 3 national fish hatcheries and 12 other Service facilities were impacted. The majority of these Service-owned facilities were, at one time, closed due to the impact of the hurricanes. Most have since been reopened, albeit at a much reduced capacity to provide services. The exception is Sabine National Wildlife Refuge in southwestern Louisiana, which remains closed because of the presence of large piles of potentially hazardous debris that pose a risk to human safety. Examples of damages to refuge facilities include:

- Destruction of administrative buildings;
- Destruction of public facilities such as restrooms, boardwalks, and boat ramps;
- Destruction of roads and bridges;
- Breaching of levees and dikes;
- Loss of motor vehicles and vessels;
- Damage to water control structures; and
- Loss of office and maintenance equipment.

Damage to Natural Resources

In addition to damaging and destroying Service facilities, the hurricanes wrought extensive damage on important natural resources throughout the region. Our National Wildlife Refuges were no exception. Beach dunes and coastal marshes that provide essential wildlife habitat and protect vital coastal infrastructure were washed away or severely eroded. Freshwater marshes that serve as nurseries for migratory waterfowl and important commercial fish species were inundated with salt water, exposed to ocean tides, or converted to open water. Severe winds leveled large tracts of forest that serve as important habitat for cavity nesting birds and other species. Specific examples sustained to natural resources on refuge lands include:

- Transformation of approximately 118 square miles of coastal wetlands and marshes to open water across Southeastern Louisiana. These wetlands once served as buffers that diminished the power and devastation of hurricanes and other storms;
- Breton NWR, one of the islands comprising the hard-hit Chandeleur barrier island chain, lost approximately 50 percent of its land mass;
- An estimated 234 square miles of coastal wetlands and bottomland forests have been damaged on national wildlife refuges. This represents expanses of coastal marshlands along the Louisiana/Mississippi coast and important inland systems like the Atchafalaya basin;
- Primary and secondary dunes that protect inland areas and provide habitat for the Alabama beach mouse were destroyed, and beaches along the Alabama coast that normally host nesting sea turtles were washed away;
- More than 70 percent of cavity trees used by Red-cockaded Woodpeckers in Big Branch Marsh NWR were destroyed; and
- Thousands of acres of coastal and freshwater marshes were ripped, torn, or washed away impacting hundreds of acres of wintering habitat for a wide variety of migratory birds, waterfowl and aquatic organisms. For example, 70 percent of the continent's mottled ducks are found in coastal Louisiana and the Texas.

Katrina and Rita have also impacted ecosystems that support many threatened and endangered species in ways that may not be readily apparent. The impact to highly imperiled freshwater mussels and gulf sturgeon in the rivers of Lake Pontchartrain and in the Pearl, Pascagoula, and Escambia River Systems has yet to be assessed. Rare natural dune systems that support endangered beach mice populations along the Gulf Coast have been heavily damaged by hurricanes two years in a row. Hurricane Katrina caused significant changes in some of the coastal habitats that support the recovering Gulf Coast population of listed brown pelicans. Though the full extent of this type of damage to our natural resources is not immediately measurable, we are working with colleagues at the United States Geological Survey, state fish and wildlife agencies, the U.S. Army Corps of Engineers, the Environmental Protection Agency, and conservation organizations like Ducks Unlimited and The Nature Conservancy to determine the full extent of impacts from the most devastating hurricane season in several decades.

The loss of these valuable habitats and ecosystem functions is akin to losing functional levees. Tulane law professor Oliver Houck is attributed with calling the vast wetlands that once occurred between New Orleans and Grand Isle, Louisiana, as "horizontal levees," as important, or more so, than the vertical levees built by man. It has long been recognized that oyster reefs, coral reefs, marshes, barrier islands and bottomland hardwood wetlands serve to dull the teeth of storms and their potential damage. Research has shown that for every 2.7 miles a hurricane travels over these natural structures, the resulting storm surge is reduced by one foot. See U.S. Army Corps of Engineers, 1961 Interim Survey Report: Mississippi River Delta at and Below New Orleans, Louisiana. New Orleans District, December 29, 1961. Historically, a solid mass of wetlands, oyster reefs and slowly meandering bayous wove their way for nearly 100 miles from New Orleans south to the Gulf of Mexico. Over the past half century, that has changed.

In the 1970's and 1980's, Louisiana coastal wetlands were being lost at a rate of up to 48 square miles per year. That loss has now been "reduced" to 24 square miles per year, a rate that simply cannot be sustained. Indeed, the trend needs to be reversed. As we move forward in addressing the significant challenges that face us in rebuilding the Gulf Coast, we must keep in mind that while levees protect people, wetlands protect both people and levees. Wetland restoration must be a part of any rebuilding plan if we are to address future risks to human safety.

In the subsiding environment of coastal Louisiana, conversion of wetlands to open water has resulted in large areas of a system that no longer maintain their vertical elevation and vegetative cover. Unfortunately, those subsiding and "deeper" large areas of the Louisiana coastal ecosystem more efficiently transmit storm surges than would shallower, healthy vegetated areas that have maintained their elevation. Louisiana coastal marshes are geologically among the youngest lands in the United States. Historically fed by sediment laden waters from the Mississippi River, these marshes were in a continual building process. Since construction of the mainline Mississippi and Atchafalaya River levee system, however, the rich soils from over 30 percent of the U.S. drainage are now being deposited off the edge of the continental shelf at a rate exceeding 10 tons per second.

How to restore a semblance of the depositional functions of the river to the marshes will pose significant challenges, but challenges that must be met nonetheless. These challenges should be faced head on with the welfare of the American people as the constant goal. The effort, however, must be collaboratively orchestrated between the federal, state and

local governments, and must include academia and professional organizations and societies. No long term solution can be expected from any single entity, but must occur through cooperation and collaboration from a myriad of sources.

Debris Cleanup

As previously mentioned, Sabine National Wildlife Refuge remains closed due to the vast amount of debris, including potentially hazardous debris that is piled throughout the marsh. It has been estimated that over nine million cubic yards of debris, including between 115,000 to 350,000 gallons of hazardous liquids and gases, are spread over 1,770 acres of marsh. While the problem is most severe at Sabine, other refuges, including Bayou Sauvage, Cameron Prairie, Lacassine, Bon Secour, and Delta are strewn with tons of debris including tractor trailer containers, household appliances, propane tanks, chemical drums, and organic material. Exact costs for removing this debris have yet to be determined, but the preliminary cost estimate for debris clean-up and recovery of subsurface tanks could range from $10 to $50 million at Sabine National Wildlife Refuge alone.

Supplemental Funding

On September 21, the Service received the authority to transfer $10 million in emergency funds for emergency operations. These funds were used to cover the cost of emergency management, including the cost of emergency teams that conducted Service recovery and relief efforts.

In December, the Service received $30 million in supplemental funding for the repair and reconstruction of facilities necessary to restore operational capabilities. By Memorial Day, these funds will be obligated. The majority of these funds have been expended on projects such as:

- Over $4.7 million to repair the Maxent Levee at Bayou Sauvage NWR;
- Over $3 million per refuge to repair facilities at Loxahatchee NWR, Mississippi Sandhill Crane NWR and National Key Deer NWR;
- Over $700,000 to replace damaged vehicles and equipment at refuges throughout the region;
- Over $600,000 to repair roads and bridges at Big Branch Marsh NWR; and
- Over $300,000 per refuge to repair trails, boardwalks, campgrounds, fences, signs, docks and parking areas at Bayou Sauvage NWR, Big Branch Marsh NWR, and Bon Secour NWR

In addition, the Administration has requested additional supplemental funding of $132.4 million for Service-related clean-up and facility repair needs. Projects that would be completed under this request include items such as:

- $30 million to repair levees, dikes and water control structures at Sabine NWR and Cameron Prairie NWR, and at Bayou Sauvage NWR, where the Maxent Levee not only provides wildlife habitat but also supports flood control for East New Orleans;
- Over $13 million to repair facilities, roads, and bridges at Mississippi Refuges;
- Over $24 million to remove hazardous and other debris at Sabine NWR and other refuges throughout the region;
- Over $9 million to repair facilities at Sabine NWR and over $11 million to repair facilities at other refuges throughout the region; and
- Over $3 million to repair public infrastructure at Sabine NWR and $2 million for beach renourishment at Breton NWR.

A complete table of prioritized damages to be addressed with supplemental funding, both that which we have already received and that which has been requested, is included in the attached table.

Conclusion

Mr. Chairman, our employees are working hard each day to aid in the recovery from last year's devastating storms. The supplemental funds we have received helped the Service conduct emergency operations and begin to restore operational capabilities to facilities throughout the Gulf Coast. The additional funds we have requested will help us address our most critical needs at the 81 Service-owned facilities impacted by hurricanes during the 2005 season, including 66 national wildlife refuges, three national fish hatcheries, and 12 other Service-owned facilities. In the coming years, we hope to restore our refuges to places Americans can come to hunt, fish, hike, canoe, and watch amazing wildlife, and we are ready to assist the States and private landowners in restoring the habitats that support healthy people, healthy wildlife, and a

healthy economy.

But as we make progress in all these areas, it must be understood that short term restoration efforts can only heal the present wounds. The long term stability of the Gulf Coast, its people and its economy will depend on our willingness to face difficult problems that are long term in nature, recognize that no long term solution will be effective without natural buffer restoration, and that legitimate risk analyses should drive economic and human safety decisions.

Thank you again for the opportunity to be here. I would be happy to answer any questions you might have.