

**STATEMENT
OF
NIKOLAO I. PULA, JR.
ACTING DEPUTY ASSISTANT SECRETARY OF THE INTERIOR FOR
INSULAR AFFAIRS**

**BEFORE THE
HOUSE NATURAL RESOURCES COMMITTEE
SUBCOMMITTEE ON INSULAR AFFAIRS, OCEANS AND WILDLIFE**

**REGARDING
H.R. 934, A BILL TO CONVEY CERTAIN SUBMERGED LANDS TO THE
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS IN ORDER
TO GIVE THAT TERRITORY THE SAME BENEFITS IN ITS SUBMERGED
LANDS AS GUAM, THE VIRGIN ISLANDS, AND AMERICAN SAMOA HAVE
IN THEIR SUBMERGED LANDS**

February 25, 2009

Madam Chair and members of the Subcommittee on Insular Affairs, Oceans and Wildlife, I am pleased to appear before you today to discuss H.R. 934. I am Nikolao Pula, Acting Deputy Assistant Secretary of the Interior for Insular Affairs.

H.R. 934 would give the Commonwealth of the Northern Mariana Islands (CNMI) authority over its submerged lands from mean high tide seaward to three geographical miles distant from its coast lines.

The Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America defines the unique relationship between the Northern Mariana Islands and the United States, recognizing U.S. sovereignty but limiting, in some respects, the applicability of federal law. Under the Covenant, the submerged lands off the coasts of the Northern Mariana Islands did not transfer to the CNMI when the Covenant came into force. This was subsequently confirmed by the United States Court of Appeals for the Ninth Circuit Court in the case of *the Commonwealth of the Northern Mariana Islands v. the United States of America*.

As a result, CNMI does not own the submerged lands within three miles of its shores, unlike the states and territories that have been granted submerged lands by the Submerged Lands Act and the Territorial Submerged Lands Act, respectively. Consequences of this decision are that CNMI cannot authorize and control the development of the natural resources or enforce its laws within these three miles.

The Department of the Interior, therefore, supports enactment of H.R. 934.

**TESTIMONY OF
NIKOLAO I. PULA, JR.
ACTING DEPUTY ASSISTANT SECRETARY OF THE INTERIOR
FOR INSULAR AFFAIRS**

**BEFORE THE
SUBCOMMITTEE ON INSULAR AFFAIRS, OCEANS AND WILDLIFE
COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES**

**REGARDING H.R. 860
THE CORAL REEF CONSERVATION ACT REAUTHORIZATION AND
ENHANCEMENT AMENDMENTS OF 2009**

February 25, 2009

Chairwoman Bordallo and members of the Subcommittee, I appreciate the opportunity to appear before you today to discuss the Department of the Interior's coral reef conservation activities. On behalf of Secretary Salazar, I want to congratulate you for introducing H.R. 860, a bill to amend and reauthorize the Coral Reef Conservation Act of 2000.

The plight of coral reefs continues to worsen as global threats mount. A third of the world's coral reefs are now facing extinction – succumbing to the effects of fishing pressure, pollution, and coastal development. Elevated sea surface temperatures are triggering massive coral bleaching events, further stressing the corals and leading to outbreaks of disease. As a result, many corals die. The oceans are becoming more acidic as they absorb greater amounts of carbon dioxide from the atmosphere. And it now appears that absorption of atmospheric carbon dioxide is acidifying the oceans more rapidly than marine scientists predicted even three years ago. Acidified oceans could dissolve the carbonate skeletons of corals and the shells of other organisms. Reversing these trends has never been more urgent.

I am pleased to report to you that Secretary Salazar addressed the Coral Reef Task Force this morning. In opening remarks, both he and Council on Environmental Quality (CEQ) Chair Nancy Sutley assured the Task Force that conserving and enhancing our coral reefs is an environmental priority of the Obama Administration. Last year as a candidate for President, then-Senator Obama stated the following in response to a Science Debate 2008 question on ocean health:

Oceans are crucial to the earth's ecosystem and to all Americans because they drive global weather patterns, feed our people and are a major source of employment for fisheries and recreation. As President, I will commit my administration to develop the kind of strong, integrated, well-managed program of

ocean stewardship that is essential to sustain a healthy marine environment.

We at the Department of the Interior pledge to do our part to fulfill the President's commitment to ocean stewardship. The coastal lands and waters of the oceans and Great Lakes we manage across 35 coastal states and territories are of enormous recreational, biological, and cultural value to the Nation. Over 254 National Park Units and National Wildlife Refuges on the coast conserve and protect places where people connect with the ocean, and provide communities the ability to preserve their cultural heritage and economic livelihood. The 1.71 billion acres of the Outer Continental Shelf that we manage are crucial to securing our energy independence and obtaining renewable energy. We also work with our insular areas to assist them in ensuring that the coral reefs on which their island communities depend will be there for future generations.

The Department has been conserving coral reef ecosystems since 1908, when President Roosevelt established the Key West National Wildlife Refuge and in 1909 when he established the now Hawaiian Islands National Wildlife Refuge. Many of the healthiest and most endangered coral reefs in the world are part of the Department of the Interior's portfolio; more than 5 million acres in all. As the Nation's principal conservation agency, the Department takes seriously its mission to protect and restore these coral reefs, tropical islands, and adjacent submerged ecosystems for the benefit of future generations. DOI bureaus are working with our fellow members of the Coral Reef Task Force to do just that, to increase our understanding and response to the urgent threats of coral bleaching and disease brought on by climate change and ocean warming, and informing our efforts to protect and restore coral reefs from the effects of pollution, fishing and overuse.

I want to convey to you, Madam Chairwoman, and to the members of the Subcommittee, the Secretary's appreciation for the fact that your bill includes statutory authorization for Department of the Interior coral reef conservation programs, and a damage assessment and compensatory recovery process for all of our coral reefs. I can assure you the Administration shares your interest in protecting coral reefs, and we will follow up with a letter providing specific comments on HR 860.

CORAL REEF TASK FORCE

Currently, Executive Order 13089 on coral reefs established the Secretary of the Interior as co-chair of the Coral Reef Task Force (Task Force), along with the Secretary of Commerce, and establishes the foundation for cooperation among the twenty-two Federal, state, territorial, and freely associated state members of the Task Force. The Department fully supports the Task Force's cooperative conservation approach to advancing common coral conservation goals, needs, priorities, and challenges.

The Department is not currently authorized to carry out coral-related activities under the Coral Reef Conservation Act. With this in mind, I should note that five Departmental bureaus and offices conduct programs that contribute to improving our Nation's scientific understanding of coral reefs. These include technical assistance and direct grants to the

states, territories and private partners in support of local action strategies. These bureaus and offices also conduct field-based coral conservation through joint scientific research and monitoring, response to damage and injury events, and cooperative conservation and collaborative management of marine-managed areas with states and territories. We support reauthorization language that provides comprehensive authority for the Department to coordinate its programs in support of our efforts as co-chair of the Task Force.

In addition, although the Federal government has clear statutory authority to address coral reef damage from groundings in designated protected areas such as national park units and national marine sanctuaries, our authority to respond to groundings that occur outside of such areas is more limited. The Administration believes that making such authority applicable to appropriate Federal agencies involved in coral reef conservation would enable the Federal government to more effectively respond to damaging events. Appropriate authority would allow agencies to respond to events and recover from the responsible party the costs of this response and any damage that may have occurred. However, we would like to work with the Subcommittee to ensure that nothing in this Act would alter the liability of any person under any other provision of law.

Let me first provide a bit of background on the Coral Reef Task Force and the Department's role in that group.

Background on Coral Reef Task Force

Issued in June 1998 by President Clinton, Executive Order 13089 established the U.S. Coral Reef Task Force, which gave impetus for the Coral Reef Conservation Act of 2000. Besides the Co-Chairs (Interior and Commerce), other interested Federal members are the Departments of Agriculture, Defense, Homeland Security (in particular the U.S. Coast Guard), Justice, State and Transportation, the Environmental Protection Agency (EPA), the National Aeronautics and Space Administration (NASA), the National Science Foundation and the Agency for International Development. The States of Florida and Hawaii, the United States territories (Guam, the U.S. Virgin Islands, American Samoa, Commonwealth of the Northern Mariana Islands, and Puerto Rico), and the freely associated states of the Marshall Islands, Federated States of Micronesia, and Palau were also asked by the Task Force to join, and they have played an invaluable role. The governors of the U.S. territories, the presidents of the freely associated states, and the All Islands Coral Reef Committee provide significant guidance and direction for the Task Force.

Interior's interest in the Task Force stems in part from the fact that it has over 5 million acres of coral reefs and associated habitats under its jurisdiction, mostly in National Wildlife Refuges and National Park Units. Within the Department, the Office of Insular Affairs (OIA), the Fish and Wildlife Service (FWS), the National Park Service (NPS), the Minerals Management Service (MMS), and the U.S. Geological Survey (USGS) have responsibilities for coral reef research and conservation.

In 2000, the Task Force developed and approved a National Action Plan to Conserve Coral Reefs, a comprehensive program of research, mapping, monitoring, conservation and management, to carry out the mandate of the Executive Order. In 2002, the National Oceanic and Atmospheric Administration (NOAA), with the Task Force, developed a national action strategy under the provisions of the Coral Reef Conservation Act to prioritize the activities in the Plan. The Task Force has subsequently undertaken steps that have resulted in major advances in coral research and conservation efforts.

Of particular interest for this Subcommittee is the cooperation provided by the states and territories in developing and implementing local action strategies for conserving their coral resources. At its Fall 2002 meeting, the Task Force adopted the “Puerto Rico Resolution”, establishing threat-based priorities for action. These include land-based sources of pollution, over fishing, recreational misuse, lack of public understanding of the needs and importance of shallow-water coral reefs, and disease and climate change/coral bleaching.

In each jurisdiction, the decisions on what actions to undertake were based on community input, generally through extensive public meetings, so this is a locally driven set of priorities that contribute to national goals for coral reef conservation. Support for the local action strategies is one of the keys to coral reef protection.

Also, in August 2006, the Department and NOAA agreed to increase the coordination of national park units, sanctuaries, estuarine reserves, and refuges to develop a seamless network to protect and conserve these areas, including coral reefs under their respective jurisdictions. This agreement will facilitate and enhance scientific understanding and conservation of these special resources and increase coordination with our state, public, and private partners.

ACTIVITIES OF INTERIOR AGENCIES

The Department of the Interior conserves, protects, and manages more than 35,000 miles of coastline, 252 island and coastal parks and refuges, as well as 1.71 billion underwater acres of the Outer Continental Shelf. Our scientists conduct extensive ocean, coastal, and Great Lakes research and mapping to predict, assess, and manage impacts on coastal and marine environments. In collaboration with our partners, the Department integrates effective multiple-use management from upland ecosystems to deep oceanic waters.

Interior has taken a leadership role in national, regional, and local efforts to build the long-term engagement with non-Federal partners to meet goals for coastal and ocean ecosystem and economic health. It has initiated departmental mechanisms to improve coordination of coastal and ocean activities across the bureaus that are responsive to regional priorities established by the states, and effectively meet departmental strategic goals. Through these efforts, Interior has expanded its effectiveness within the ocean and coastal community at the state, regional, and national levels.

In order to facilitate that coordination, the Department recently created the Ocean and Coastal Activities Coordinator position. The Coordinator is responsible for managing the Department's broad oceans and coastal-related mandates and bringing together the Department, other Federal, state, local and tribal governments, and non-government organizations in order to more effectively manage the Department's diverse and complex resources to be better stewards of, and collaboratively manage, our Nation's resources. The Coordinator is responsible for providing departmental policy guidance in accordance with the direction established in Executive Order 13366. This order established a Cabinet-level committee referred to as the Committee on Ocean Policy (COP).

The COP and its subsidiary interagency bodies - including the Interagency Committee on Ocean Science and Resource Management Integration, co-chaired by CEQ and the Office of Science and Technology Policy - comprise an effective mechanism for resolving issues related to ocean, coastal, and Great Lakes issues among the agencies.

Office of Insular Affairs

The Secretary of the Interior has administrative responsibility for coordinating Federal policy with regard to the territories of Guam, American Samoa, the U.S. Virgin Islands (USVI), and the Commonwealth of the Northern Mariana Islands (CNMI), and administering the financial assistance for the freely associated states under the Compacts of Free Association. With an annual budget of over \$400 million, OIA provides significant financial and technical assistance to the U.S. territories and the freely associated states. OIA expects to receive \$979,000 for fiscal year 2009 to fund coral reef protection and management initiatives.

Excluding Puerto Rico, the U.S. territories and freely associated states total fewer than 2,000 square miles in aggregate, but are distributed over more than 3,000,000 square miles of ocean - an area equivalent to the conterminous U.S. -- representing a significant portion of waters under U.S. jurisdiction. They also are home to some of the most extensive and biologically diverse coral reef ecosystems in the world. Islanders have harvested these resources for a wide-range of utilitarian, symbolic and ornamental functions since prehistoric times. The sea is an important food source in both the Caribbean and in the Pacific, where it supplies an estimated 90 percent of the animal protein consumed by Pacific Islanders. Coral reefs also protect these island communities from coastal erosion and storm damage, provide habitat to numerous species, and support important tourism and recreational industries. Rapidly growing populations, poor land-use practices, and over-exploitation of near-shore resources have severely degraded or threaten many of these ecosystems.

With the majority of coral reefs located in the insular areas, OIA plays a critical role in the national effort to develop effective programs to sustainably manage and protect coral reef resources. The Office works closely with the islands, and our Task Force partners, to identify and implement a broad scope of management actions from education and outreach to the establishment of marine protected areas and protection of these areas. Each island jurisdiction has established its own local advisory committee(s) for strategic

planning and priority setting. OIA has also supported the development and implementation of pioneering resource management efforts in the freely associated states, including the development of a blueprint for creating a national system of protected areas for the Federated States of Micronesia, natural resource assessments of the atolls of the Marshall Islands and protection of critical marine resources in the Republic of Palau.

Local action strategies discussed briefly above form the basis for a significant portion of the annual grant awards which are jointly administered by OIA and NOAA. Members of the Task Force periodically evaluate progress and identify new priorities and actions for the local action strategies. OIA, NOAA and other Task Force agencies are working with the local coral reef advisory groups to identify short and long-term priority needs to improve their coral reefs.

Through financial and technical assistance, OIA has supported the development of several new initiatives. Among these is the Micronesia Challenge, one of the most ambitious and visionary initiatives to address coral reef protection. Launched at the Task Force meeting in Palau in 2006, the region's heads of governments committed to protect at least 30 percent of near-shore marine resources and 20 percent of terrestrial resources across Micronesia by 2020. Covering over 2.5 million square miles of ocean, the Micronesia Challenge represents more than 20 percent of the Pacific Island region – and 5 percent of the largest ocean in the world. The Challenge will help protect at least 66 known threatened species, 10 percent of the global total reef area and 462 coral species – that is 58 percent of all known corals. OIA supports the Micronesia Challenge providing funding for local resource planning projects and participation on advisory and planning committees that assist the jurisdictions in meeting the objectives of the Challenge.

Funds provided by OIA, in partnership with NOAA, have helped Guam and the CNMI develop significant plans to restore key watersheds. Restoration of these watersheds will alleviate the effects of run-off and other threats to the adjacent coral reefs in Guam and CNMI.

The Natural Resources Assessment Surveys program of the Marshall Islands has also received significant support from OIA's coral reef initiative. Assessments of the coral reefs have been completed with OIA support and technical assistance from Fish and Wildlife Service for Majuro, Rongelap, Namu, Mili, Ailinginae, and Ailuk Atolls. Local communities are using these assessments to develop and carry out marine resource management plans for their atolls. The assessments of Ailinginae Atoll served as the basis for declaring it a World Heritage Site.

OIA has joined the National Park Service (NPS) and a consortium of universities known as the Joint Institute for Caribbean Marine Studies (Rutgers, University of North Carolina at Wilmington, University of the Virgin Islands and University of South Carolina) to establish a new marine research and education center in St. Croix, USVI. The Salt River Bay Marine Research and Education Center (MREC) will support research and education programs that will address the rapidly declining health of coral reef ecosystems throughout the Caribbean and other tropical regions of the world. The MREC will also

support science-based management for two new marine parks in St. Croix and throughout the region, provide student education and promote public awareness of the economic and cultural heritage of the tropical ocean.

OIA has contributed \$670,000 for the planning and design of the facility. With the feasibility study and environmental assessment completed, the stage is set to begin the design phase. The proposal is to build the MREC not only as a center of excellence for marine research and education, but also as a "green demonstration project" for the NPS and the insular areas. It would be among the first marine research centers and NPS facilities to be designed to use renewable energy sources such as wind and solar power and to minimize impacts to surrounding sensitive habitats such as the watersheds and adjacent marine areas.

OIA continues to focus its coral reef program on improving the health of coral reefs in the U.S.-affiliated insular areas to ensure long-term economic and social benefits through enhanced local management and protection.

U.S. Fish and Wildlife Service

The FWS manages 15 National Wildlife Refuges (NWR) and four Marine National Monuments either in consultation or as a co-manager with NOAA that include globally significant coral reefs. FWS also protects and restores reefs and other species and habitats, enforces laws, and works with other countries to foster reef conservation worldwide. Virtually all of these approaches are founded upon partnerships--collaborative efforts with other Federal agencies, state, local, and territorial governments, and concerned private groups. In combination, these dedicated partners are helping reduce the threats to coral reefs and conserve these vital parts of our global heritage.

National Wildlife Refuges: FWS manages 11 coral reef National Wildlife Refuges in the Pacific, which include more than 5 million acres of coral reefs and adjacent ocean habitat, and 4 coral reef refuges in South Florida and the Caribbean totaling about 756,000 acres. FWS also co-manages the 89 million acre Papahānaumokuākea Marine National Monument (with NOAA and the State of Hawaii) and has overall management responsibility, in consultation with NOAA, for the Marianas Trench, Rose Atoll, and the Pacific Remote Islands Marine National Monuments, which together encompass 125 million acres. NOAA has primary management responsibility, in consultation with FWS, for fishery-related activities in the new monuments. FWS will work closely with NOAA to ensure the protection of all monument resources.

The FWS Refuge System's marine national monuments and refuges are the world's largest and most ecologically comprehensive collection of unified, fully-protected marine areas managed under a "wildlife first" conservation mandate. These remote NWRs serve as natural laboratories that scientists use as baseline examples of relatively undisturbed coral ecosystems. Even in these remote areas, the effects of ocean acidification and other global impacts are being observed. To ensure long-term conservation goals are achieved, FWS is developing and implementing Comprehensive Conservation Plans for all coral

reef refuges. The FWS works closely with NOAA and others on many research projects. Of note is the world-class Palmyra Atoll Research consortium, a close partnership with The Nature Conservancy and a group of universities prominent in marine research. In close consultation with their Federal and local partners, refuges are also developing and employing innovative tools for managing coral reefs, including habitat restoration, education and outreach, law enforcement, research and monitoring, and improving the public's recreational enjoyment of the refuges.

Coral Reef Conservation, Restoration, and Protection: One FWS goal is to ensure that human activities do not adversely affect coral reefs or species, such as endangered fish, corals, and sea turtles that rely on healthy reefs. FWS programs for endangered species protection, coastal habitat restoration, fisheries management, and review of Federal actions, as well as direct assistance to states and territories, all help to conserve coral reefs. FWS is also statutorily designated to comment on Clean Water Act section 404 permits and other water-related development activities under Federal authorization or permit. Under the Fish and Wildlife Coordination Act, FWS biologists regularly coordinate with Federal, state, territorial, and private groups during project development to ensure that coral reef fish and wildlife are considered with other project-related features and adverse impacts to coral reef ecosystems from coastal and near-shore marine projects are avoided or reduced. When planned projects result in the unavoidable loss of coral reef ecological functions, FWS biologists assist project sponsors in the development of appropriately scaled compensatory mitigation based on scientifically acceptable methods, such as the habitat Equivalency Analysis model, and in accordance with U.S. Army Corps of Engineers requirements. When accidents result in harm to reefs, FWS works with partners to assess the damage and expedite reef recovery.

FWS also engages in proactive coral reef conservation efforts such as the protection of coastal habitats before they are degraded or the restoration of coral reefs and coastal habitats through the FWS Coastal Program and the National Coastal Wetlands Conservation Grant Program. Other conservation efforts include conducting surveys of coral reefs near proposed development projects to assess potential impacts, developing recommendations to preserve the integrity of reefs, and deploying navigational aids in areas to prevent boat groundings and anchor damage.

Office of Law Enforcement: FWS protects U.S. and global coral reef resources by enforcing U.S. laws and treaties that regulate international and interstate trade in coral, live rock, and reef species. As the agency primarily responsible for enforcing the Convention on International Trade in Endangered Species (which protects all stony corals and many reef species), the FWS inspects shipments arriving at U.S. ports of entry and exports of U.S. and foreign coral reef species that are shipped to other countries to ensure compliance and works to detect and deter smuggling. In a partnership effort, FWS and NOAA developed and distributed the Guide to Indo-Pacific Corals in International Wildlife Trade, a reference for U.S. wildlife inspectors and enforcement officers in other countries, to assist international efforts to control the trade of coral. FWS law enforcement officers also help safeguard U.S. coral resources by investigating unlawful interstate commerce in reef species.

International Conservation of Coral Reefs: FWS is fostering the conservation of reefs in other countries through training and education programs, as well as projects that promote the conservation of species and habitats within a watershed framework. Among the important habitats linked to coral reefs and targeted for conservation are seagrass beds and mangrove forests. The Western Hemisphere Program sponsors protected area manager training through two international programs -- Mexico/RESERVA and Brazil/AMUC. The program also awards small grants to promote the involvement of local communities and organizations in coral reef conservation activities. Within the Freely Associated States, FWS works closely with the Department's Office of International Affairs on projects designed to reduce coral reef impacts and has a significant role with the U.S. Army Space and Missile Defense Command in the conservation and management of coral reefs at Kwajalein Atoll. Additionally, FWS, in collaboration with the State Department, implements Wetlands for the Future (under the Convention on Wetlands of International Importance), a grants program aimed at building the capacity of Latin American and Caribbean resource personnel to more effectively manage wetlands. Under this initiative, coral reefs have received increased attention in recent years.

National Park Service

The National Park Service Organic Act directs the NPS to conserve the natural and cultural resources of the parks, provide for their enjoyment, and to leave them unimpaired for future generations. The NPS manages ten park units with coral reef habitats in South Florida, the U.S. Virgin Islands, Hawaii, Guam, and American Samoa. The NPS takes seriously its mission to conserve and restore the exceptional biological and recreational values of coral reef parks for their biodiversity and enjoyment by 1.5 million visitors per year. To accomplish this mission, the NPS is incorporating multiple scientific disciplines into management and restoration actions to conserve and restore coral reef resources, in partnership with states, other Federal agencies, and academia.

The negative impacts associated with fishing have severe consequences for the ecological integrity of coral reef parks and reduces their recreational, economic, and cultural value to local communities as places to catch fish, to snorkel and dive. Marine reserves, marine-protected areas where fishing is restricted or prohibited entirely, were recently established in three coral reef parks to restore the size and abundance of ecologically and recreationally important fish and shellfish. In 2007, the NPS established a Research Natural Area (RNA) in Dry Tortugas National Park in South Florida after years of civic engagement with park stakeholders and support from the State of Florida. The RNA protects coral reefs, fish, and seagrass beds from fishing and anchor damage and is immediately adjacent to the Tortugas Ecological Reserve managed by NOAA. Similar "no-take" marine reserves were established at Virgin Islands Coral Reef National Monument (St. John) and Buck Island Reef National Monument (St. Croix) to restore tropical marine ecosystems and the species they support.

Scientifically rigorous monitoring programs conducted by the parks, the South Florida/Caribbean Inventory and Monitoring Network, and NPS partners are critical to successful adaptive management of these reserves. The NPS is working with partners to further evaluate the performance and potential restorative effects of these coral reef reserves. In 2006, the NPS and U.S. Geological Survey (USGS) sponsored an international workshop on research and monitoring of Caribbean parks and reserves. In 2007, USGS initiated State Partnership Program grants for “Restoring Ecological Integrity and Resilience in Coral Ecosystems: The Role of Marine Reserves in Florida and the U.S. Virgin Islands” as a collaborative effort among USGS, NPS, NOAA, state agencies, and universities to investigate the ecological functioning of coral reef systems in reserves.

NPS monitoring and assessment programs are providing critical information on coral bleaching and disease brought on by climate change and ocean warming, and informing state and Federal efforts to protect elkhorn and staghorn corals under the Endangered Species Act. These efforts highlight the value of monitoring and research programs, as well as the urgent need to increase the resistance of corals reefs to bleaching and disease by improving water quality and restoring intact fish and invertebrate communities. For example, in 2005 and 2006, a wide-range of hard coral species in the Virgin Islands suffered from extensive bleaching and disease at Buck Island Reef National Monument on St. Croix, and Virgin Islands National Park on St. John, triggered by elevated sea surface temperatures. At Virgin Islands National Park, the NPS South Florida and Caribbean Inventory and Monitoring Network intensified the frequency of coral monitoring programs during and after the event. Without this extensive monitoring effort, park managers would not have known the extent of bleaching or learned that an outbreak of white plague disease was primarily responsible for coral mortality, which was the most devastating loss since Hurricane Hugo in 1989.

Similar efforts to assess and monitor coral reefs are occurring at Biscayne National Park in Florida, which contains 172,500 acres of coral reefs, mangrove shorelines, seagrass beds, and estuaries. At Pacific islands units of the National Park System in Hawaii, American Samoa, and Guam that conserve some of the most biologically diverse coral reefs in the world, efforts are underway by the parks and the Pacific Islands Inventory and Monitoring Network to assess and monitor coral reefs and address threats to their health.

U.S. Geological Survey

The USGS is a world leader in natural sciences. The USGS serves the Nation by providing reliable scientific information through conducting research, monitoring and assessments, and mapping to improve our understanding of the natural world. The USGS works cooperatively and in partnership with other DOI Bureaus, other Federal agencies, State institutions, and island nations to identify and address priority information needs that relate to coral ecosystems.

USGS coral research focuses on understanding the ecology and health of coral ecosystems. USGS research centers, field stations, and expertise in marine and coastal science are providing resource managers with information that is vital to conserving and restoring the Nation's coral ecosystems, which encompass shallow coral reefs, adjacent seagrass and mangrove habitats, and deep-water corals. This is accomplished by developing a better understanding of natural and anthropogenic threats and how various stressors alter the structure and function of coral reef communities. USGS scientists are developing better techniques to measure the timing and patterns of coral larvae dispersal and recruitment, improving the understanding of coral polyp interactions with pathogens to better understand coral diseases, the role fish and marine animals play in the viability of coral ecosystems, and the relationships between water quality and coral health and disease. In addition, high resolution mapping and habitat characterization are utilized to help assess reef health and change, growth and development, and the effects of storms and sediments on reefs.

Resource managers are particularly concerned with impacts of climate change, ocean acidification, land-based sources of pollution, fishing and the loss of reef biodiversity. USGS research is providing new information on the effects of climate change on coral reefs to resource managers that will help promote effective mitigation and adaptation strategies in management plans that address coral ecosystems in a warming environment and an ocean experiencing increasing acidification. In American Samoa, USGS scientists are investigating coral resilience and adaptation to increased ocean temperature; in the Caribbean, Pacific and Florida investigations of paleo-history, coral bleaching, metabolism and calcification rates are providing information to managers on the effects of climate change and sea level rise. In Hawaii, USGS scientists are investigating how improved management of uplands can improve coral health. In Florida's Dry Tortugas and the U.S. Virgin Islands, USGS scientists, in collaboration with NPS, are evaluating the efficacy of marine protected areas (no-take marine reserves) to sustain and restore populations of fishes, corals, and sea turtles. USGS is also working very closely with FWS and the Palmyra Atoll Research Consortium in the conservation and restoration of the Palmyra Atoll, recently designated a Ramsar wetland of International importance.

Minerals Management Service

As steward of our Federal offshore lands known as the Outer Continental Shelf (OCS), the Minerals Management Service (MMS) is responsible for balancing the development of our Nation's oil and natural gas, renewable energy and marine mineral resources with the protection of the human, marine, and coastal environments. The MMS environmental programs directly support informed decision-making on energy and non-energy mineral planning and development activities for the OCS.

MMS environmental programs in the Gulf of Mexico OCS include research in and monitoring of coral reefs in the Flower Garden Banks National Marine Sanctuary and investigation of coral growth on OCS oil and gas structures. Since the early 1970s, MMS has supported a comprehensive program of mapping and multidisciplinary study and monitoring of the East and West Flower Garden Banks, located in a petroleum-rich area

in the Gulf of Mexico. The Flower Garden Banks are a pair of topographic features, topped by an array of reef-building corals and associated organisms. MMS continues to support a long-term monitoring effort, co-sponsored by NOAA's Office of National Marine Sanctuaries, to assess the health of the coral reefs and evaluate changes in the coral community. MMS uses this information to evaluate the adequacy and effectiveness of current lease stipulations in protecting the important biological resources of the Flower Garden Banks, containing some of the highest live coral densities. To date, scientific assessments show that the corals of the East and West Flower Garden Banks are in exceptionally healthy condition due in part to their distance from shore and the fact they are surrounded by deep water.

A total of 38 other topographic features in the Gulf of Mexico OCS, many of which contain significant coral communities, are also protected by MMS from activities that could negatively affect them. Because little is known about some of these topographic features, several new MMS research initiatives are in development to further investigate many of them and determine the extent of coral development in unexplored areas.

The MMS is also supporting an extensive study of coral growth on man-made OCS structures. At present, there are approximately 3,772 platforms operating in the northern Gulf of Mexico OCS, most of them located offshore from Louisiana and Texas. The installation of platforms has provided thousands of artificial islands, affording suitable substratum for settlement of shallow-water marine organisms including reef-building corals. Coral species diversity and abundance has been found to be moderately high. Study results will provide direct information on the genetic similarities of corals established on man-made platforms and those occurring on natural reefs, including the Flower Garden Banks.

The MMS also has an extensive program in partnership with NOAA and USGS investigating deep-water coral habitats in the Gulf of Mexico OCS with the same philosophy of coral reef preservation as for shallow-water coral reefs. The goal of this project is to investigate new coral sites in the deep Gulf of Mexico and characterize them in terms of coral habitat characteristics, biology, ecology, and genetic connectivity. These investigations will provide managers with information needed for the protection of these deep coral resources as energy exploration and development extends into deeper water.

To reprise, Madam Chair, you can tell that the Department of the Interior is heavily invested in the protection of the world's coral reefs. We will provide a follow-up letter on the provisions of H.R. 860 that involve the Department's work and look forward to working with you on this legislation as the bill moves forward.