

**STATEMENT OF CHRIS BERGH, FLORIDA KEYS PROGRAM DIRECTOR
THE NATURE CONSERVANCY, FLORIDA CHAPTER
Regarding H.R. 1205 “Coral Reef Conservation Amendments Act of 2007”
Prepared for the Subcommittee on Fisheries, Wildlife and Oceans
United States House of Representatives Committee on Natural Resources**

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Madam Chairwoman and members of the Committee, thank you for the opportunity to testify on H.R. 1205, the “Coral Reef Conservation Amendments Act of 2007.” My name is Chris Bergh, and I am the Director of Florida Keys Program for The Nature Conservancy’s Florida Chapter. I am honored to have this opportunity to inform you of the work we’ve been doing with our partners in Florida to conserve coral reefs, what more needs to be done, and what it’s going to take to ensure that our reef resources are sustainably managed for generations to come.

The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. With the support of more than 1 million members, The Nature Conservancy has protected more than 120 million acres and 5,000 river miles around the world. We currently have more than 100 marine conservation projects in 21 countries and 22 U.S. states. Through its work with both freshwater and marine species and habitats, the Conservancy helps to connect terrestrial, freshwater and marine conservation efforts by building on the Conservancy's network of partners and innovative approaches developed at sites around the world to pursue integrated coastal conservation.

I would like to start by commending NOAA for the incredible progress they have made identifying, mapping, protecting and managing coral reefs throughout the U.S. over the past five years. They have exponentially advanced our understanding of the extent and health of U.S. coral reefs, and built unprecedented interagency cooperation through the Coral Reef Task Force’s efforts to protect and restore coral reefs. They deserve our respect and continued support for their work.

Coral Reef Conservation Efforts in Florida

Overview:

Southern Florida’s shallow-water (< 20 m) coral ecosystems encompass an estimated 30,801 square kilometers and extend from the Dry Tortugas in the Florida Keys as far north as St Lucie Inlet on the Atlantic Ocean and Tarpon Springs on the Gulf of Mexico. Southern Florida’s coral ecosystems contribute greatly to the regional economy. Coral ecosystem-related expenditures

generated \$4.4 billion in sales, income, and employment and created over 70,000 full-time and part-time jobs in the region during the recent 12-month periods when surveys were conducted.

Florida's coral reefs are essential for our state's physical and economic survival – they protect us from storm waves, create some of our world famous beaches, provide food, support a substantial commercial fishing industry, provide recreation for our residents, and are one of the cornerstones for the state's \$57 billion tourism industry. Yet, Florida's reefs face many of the threats faced by reef systems around the world – over harvesting, coastal development, polluted runoff, invasive species, coral bleaching, and disease. NOAA, indeed, has a big job to do in Florida.

Federally Managed Areas:

Florida Keys National Marine Sanctuary (FKNMS): Few marine environments in the U.S. compare to the Florida Keys in terms of natural beauty and natural resources. The most extensive living coral reef in the United States is adjacent to the 126-mile island chain of the Florida Keys. These coral reefs are intimately linked to a marine ecosystem that supports one of the most unique and diverse assemblages of plants and animals in North America. The 2,800 square nautical mile FKNMS surrounds the entire archipelago of the Florida Keys and includes the productive waters of Florida Bay, the Gulf of Mexico and the Atlantic Ocean.

This complex marine ecosystem also supports tourism and commercial fishing, the economic foundation of the Florida Keys. In the last 20 years the tourism industry has grown to over four million domestic and foreign visitors who drive, fly or cruise each year to the most accessible tropical paradise in the Caribbean Basin. This ecosystem's extensive nursery, feeding and breeding grounds also support a multi-million dollar commercial fishing industry that lands nearly 20 million pounds of seafood and marine products annually.

In recognition of this important environment, the FKNMS was created in 1990. As part of its establishment, a comprehensive management plan and water quality protection program was created for the Sanctuary in concert with the public, a citizen's advisory council, and several federal, state and local government agencies. Management in the state and federal waters is achieved through a cooperative agreement with the State of Florida Department of Environmental Protection and the Florida Fish and Wildlife Conservation Commission.

The Nature Conservancy helped create the FKNMS's comprehensive approach to marine conservation through our recommendations on the Sanctuary's Draft Management Plan and mounted a campaign to urge all Keys residents to participate in development of this plan, which was adopted in 1996. We have diligently studied the region's water quality problems and advocated tirelessly for federal, state and local government funding to upgrade the Keys antiquated wastewater infrastructure to modern standards that will reduce nearshore water pollution. Conservancy staff have served countless hours on the Sanctuary Advisory Council; the first such council in the National Marine Sanctuary System. Today I serve as a "Conservation and Environment" representative on the Council which remains a vital link between NOAA, its state government co-trustees and the people of the Florida Keys.

Dry Tortugas National Park: Almost 70 miles (112.9 km) west of Key West lies a cluster of seven islands, composed of coral reefs and sand, called the Dry Tortugas. Along with the surrounding shoals and waters, they make up Dry Tortugas National Park. The area is known for its famous bird and marine life and its military fort.

The Park was established “In order to preserve and protect for the education, inspiration, and enjoyment of present and future generations nationally significant natural, historic, scenic, marine, and scientific values in South Florida.” The park has six explicit management purposes, the first of which is “To protect and interpret a pristine subtropical marine ecosystem, including an intact coral reef community.” The Park supports, without question, Florida’s most pristine reefs.

The Research Natural Area (RNA) in Dry Tortugas became effective Friday, January 19, 2007. The RNA adds a new layer of protection for roughly half of the marine resources of the Park by not allowing fishing or anchoring in a 46-square mile ecological preserve that provides a sanctuary for species affected by fishing and loss of habitat. The RNA complements the adjacent Tortugas Ecological Reserve in the FKNMS, creating the largest no-take marine reserve in the continental United States.

The plan for protecting this area of the Park was developed with broad public participation and the direct involvement of the State of Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission, the FKNMS, fishing organizations, and other interest groups. The Nature Conservancy played an active role in promoting the Dry Tortugas National park RNA and we look forward to working with the National Park Service, Florida Fish and Wildlife Conservation Commission and the FKNMS to ensure that it is fully implemented for the benefit of coral reefs, other marine life and the people who depend upon these resources.

Biscayne National Park: Within sight of downtown Miami, Biscayne National Park protects a rare combination of bay waters, tropical islands, and coral reefs. Visitors can boat, snorkel, SCUBA dive, camp, watch wildlife and enjoy the natural beauty of the Park. The park was established “In order to preserve and protect for the education, inspiration, recreation, and enjoyment of present and future generations a rare combination of terrestrial, marine, and amphibious life in a tropical setting of great natural beauty.” Coral reefs are essential elements of the Park’s marine ecosystem, part of the basis for its commercially valuable fisheries and the chief draw for visitors from all over the world.

Federally Supported Programs:

The Southeast Florida Coral Reef Initiative (SEFCRI): In 2000, the United States Coral Reef Task Force (USCRTF) adopted a National Action Plan to conserve coral reefs. With guidance from the USCRTF, the Florida Department of Environmental Protection and the Florida Fish and Wildlife Conservation Commission coordinated the formation of a team of interagency and non-agency marine resource professionals, scientists, resource users and other stakeholders. This SEFCRI Team first gathered in May 2003 to develop local action strategies targeting coral reefs and associated reef resources from Miami-Dade County, through Broward, Palm Beach and Martin Counties, to improve the coordination of technical and financial support for the

conservation and management of coral reefs. The SEFCRI is targeting this region because the coral habitats are close to shore and co-exist with intensely urbanized areas that lack a coordinated management plan like that of the FKNMS.

The SEFCRI Team is comprised of four focus teams, each responsible for addressing one of the four focus areas of concern: Awareness and Appreciation; Fishing Diving and Other Uses; Land-Based Sources of Pollution; and Maritime Industry and Coastal Construction Impacts. The SEFCRI focus teams have identified issues and threats to coral reefs and are developing and implementing Local Action Strategies (LAS) for their component of the Southeast Florida Coral Reef Initiative, including defining and revising goals, objectives and actions, priority setting, budget development, building implementation teams and tracking progress. Numerous stakeholders participated in the development of Florida's SEFCRI LAS, using a facilitated process including public review and input. The outcome is a coordinated plan to address causes of coral reef degradation and provide a roadmap for successful conservation and management.

Nature Conservancy staff serve on the Fishing, Diving and Other Uses and the Land-Based Sources of Pollution Focus Teams. The Fishing, Diving and Other Uses (FDOU) Focus Team was formed to address the impacts to Southeast Florida's coral reef ecosystems caused by activities such as fishing, diving, and boating. Actions associated with these activities often result in intentional and unintentional impacts that alter reef ecosystems. The FDOU team's primary purpose is to identify these impacts and assess how they affect marine organisms and their reef habitats. Projects were developed to address these impacts by the FDOU LAS and primarily focus on five main issues. They include: identifying the conservation ethics of different reef users; examining the direct and indirect impacts of fishing, diving, and boating to the reef; determining the benefit and proper deployment of artificial reefs; and locating reliable funding sources that will assist FDOU Team projects and goals.

The Land-Based Sources of Pollution (LBSP) Focus Team was formed to address impacts to corals resulting from both point and non-point land based sources of pollution. Many of these point and non-point sources of pollution result in unintentional but very real stresses on coral reef ecosystem health. The aim of the projects in the local action strategy for this focus area is to characterize the extent and condition of the coral reef tract and to quantify, characterize, and prioritize the land-based sources of pollution that need to be addressed based on identified impacts to the reefs. Due to the research nature of many of the LBSP projects, the LBSP Team has a Technical Advisory Committee whose members are leading research scientists in the fields of coral reef ecology, water quality, geology, chemistry, and biology.

The Nature Conservancy is staffing up to engage more deeply with this important effort to protect and manage the reefs off Florida's southeastern peninsula.

The Nature Conservancy's Coral Conservation Leadership

Florida Marine Assessment and Comprehensive Wildlife Conservation Strategy (CWCS): In 2006 The Nature Conservancy's Florida Chapter completed its own internal Florida Marine Assessment and completed a contract with the State of Florida Fish and Wildlife Conservation Commission to produce the marine portion of the Florida Comprehensive Wildlife Conservation Strategy. This Assessment consolidated the best available science and expert opinion and

identified a portfolio of marine sites that, if effectively conserved, should sustain the plants, animals and natural communities found in Florida's marine environment. This rigorous assessment pointed to Dry Tortugas, the lower Florida Keys, upper Florida Keys, Biscayne Bay and segments of the southeast Florida marine ecosystem as high priority sites, particularly for protection of the coral reef and associated species. Devising site specific management strategies in collaboration with their federal, state and local government managers and then implementing those strategies are the next steps toward effective conservation of Florida's coral reefs. This should progress hand-in-hand with state implementation of the highest priority strategies identified in the CWCS.

Florida Reef Resilience Program (FRRP): The FRRP was initiated through discussions between the State of Florida, The Nature Conservancy (TNC), the National Oceanic and Atmospheric Administration (NOAA), and the Great Barrier Reef Marine Park Authority (GBRMPA). The FRRP is designed to improve understanding of reef health in the Florida Keys and Southeast Florida region, and to identify factors that influence the long-term resilience of this marine ecosystem. With this knowledge in hand, coral reef managers and users can work toward resilience-based strategies that maximize the benefits of healthy reefs while seeking to improve the condition of those that are less healthy. Ultimately the FRRP seeks to improve ecological conditions of Florida's reefs and economic sustainability of reef-dependent commercial enterprises.

Resilience concepts can provide a powerful tool for science, management, and reef user communities to organize around. Understanding the biological and human dimensions of reef resilience will help inform efforts to reduce negative impacts of stresses on reefs while capitalizing on the values of healthy reefs. This information can be used to examine and adapt existing management and use approaches and develop new strategies. The potential effects of future disturbances such as bleaching events and algal blooms, and environmental alternations such as global climate change, can be evaluated and planned for.

The Nature Conservancy is leading the coordination of the FRRP's as a whole and its four primary strategies; Annual Disturbance Response Monitoring (DRM), Remote Sensing Refinement, Human Dimensions and Outreach.

The DRM program examines coral size, diversity and condition within discreet regions of the reef from Dry Tortugas to the St. Lucie inlet. This provides essential information about which regions have been healthier and more resilient for the past several hundred years and in recent years. By conducting DRM surveys during the late summer when heat stress on coral is greatest we are also able to determine the ability of corals in these regions to resist and/or recover from coral bleaching. With three years of DRM data collected and analyzed by 2008 we will be in a position to make cutting-edge recommendations about management of Florida's coral reefs. The NOAA General Coral Reef Conservation Grant Program has been instrumental in funding this important work.

The FRRP Remote Sensing Refinement project is being carried out in cooperation with the University of South Florida's Institute for Marine Remote Sensing and in close collaboration with NOAA's Coral Reef Watch staff. The FRRP's experimental, remote sensing-derived 1km

squared sea surface temperature and degree heating week maps are a huge step in the direction of pin-point prediction of bleaching and other impacts linked to heat stress (e.g. coral disease, harmful algal blooms, etc.). Bringing these experimental maps up to the level of accuracy of Coral Reef Watch's 50km squared maps will require continued experimentation, ground-truthing and data processing but it will yield tremendous advances in this technology.

The FRRP is just as interested in how people use and value Florida's coral reefs as we are in the condition of the reefs themselves. A TNC-funded human dimensions study being implemented by University of Massachusetts Amherst is working on the answers to these questions in the Florida Keys while SEFCRI-funded projects look at the same issues on the mainland. These projects are further integrated with a new study led by NOAA National Ocean Services Special Projects to deeply explore the socioeconomic contributions of the Keys reefs and reef-related tourism to the economy of the Florida Keys.

Finally, the FRRP is serving as an outreach and communication hub in a variety of ways. It is linking the FKNMS and SEFCRI by virtue of its geographically comprehensive approach to Florida reef science and conservation. It is linking reef managers, scientists, other non-governmental organizations and reef users through their representation on the FRRP Steering Committee. And it is serving as an information exchange venue in public workshops and, in 2008, a culminating conference at which new data and management recommendations will be presented.

Staghorn Coral Restoration Project: Staghorn corals are only found in Florida and the Caribbean and are important to many stakeholders in these regions. Loss of staghorn coral from a major die-off in the 1970s and 80s has contributed to the decline of coral reefs in the Keys today. This species and the related elkhorn coral were added to the Endangered Species List in 2006.

The Nature Conservancy has kicked off an innovative project aimed at restoring degraded reefs in the upper Florida Keys by transplanting fragments of staghorn coral that may restore damaged reefs to a healthy condition. The project began with staghorn coral colonies that naturally settled onto a privately owned, underwater "live rock farm" in the Upper Keys. To supplement this site, 100 additional colonies were collected from the surrounding area. These were added to the underwater nursery, fragmented and cemented onto platforms.

In the fall of 2005, the Conservancy completed genetic testing of the corals in the nursery and others in the area. In May 2006 volunteer divers helped transplant these corals to predetermined locations throughout the Upper Keys. For one full year, Conservancy scientists will test the transplanted staghorn fragments to see how various characteristics, like genetic variation, distance from shore and transplanting configurations, contribute to or hinder coral growth, survival and spawning.

Discovering how to restore staghorn coral to the entire Florida reef tract will help scientists understand how to rebuild the Keys coral reef. The Conservancy is currently developing new partnerships to replicate this effort in Biscayne National Park, off Broward County and in the lower Florida Keys.

Critical funding for the Staghorn Coral Restoration Project has been supplied by the NOAA Community Restoration Program and the Conservancy's Global Marine Initiative.

Coral Reefs are a Priority for The Nature Conservancy

Across the oceans, The Nature Conservancy is promoting a worldwide effort to conserve coral reefs and the rich diversity of life in tropical waters. By helping create networks of ecologically connected protected areas that are resilient in the face of growing local and global stresses, we can ensure the survival and long-term viability of Earth's invaluable coral reefs.

The Conservancy's marine program in Florida is part of a broader effort across the Conservancy to address threats to coral reefs. Drawing on input from the world's experts on coral reefs, The Nature Conservancy has created a vision for tropical marine conservation that enhances the prospect of survival for coral reefs. This vision will catalyze efforts to:

- Expand the area of coral reef and related habitats that is protected;
- Improve the effectiveness and financial security of tropical Marine Managed Areas; and
- Build the principles of resilience into design and stewardship of managed areas.

In the Pacific, together with local communities, non-governmental partners and local, regional, state and federal governments, the Conservancy is currently working to identify and help to manage biologically important marine areas, not only in Hawaii, but in the Freely Associated States - Federated States of Micronesia and Palau, the Republic of the Marshall Islands – as well as Papua New Guinea, Indonesia, and the Solomon Islands. Coral reefs in the Pacific are essential to the food security of the region's coastal population today and their hope for a better future for tomorrow - a future in which reefs continue to provide the fish for protein, and a resource that can form the basis for the increasingly important tourism sector so important to many Pacific nations. The Conservancy and other international NGOs are developing partnership agreements with national governments to assist these countries in developing networks of managed areas to help assure the health and resilience of their coral reef resources.

These efforts have yielded not only conservation results, but have improved our understanding and provided insights to managers in other jurisdictions about the science of coral reef conservation. They have also taught important lessons about the need to work closely with communities to ensure conservation strategies support and are informed by socio-economic realities. The Conservancy has worked closely with the Coral Reef Task Force so that these experiences may inform their efforts, but also to lend our science, capacity and resources to address shared priorities in the U.S. states and territories.

Recommendations for the improvement of the Coral Reef Conservation Act

- Increase the authorization of appropriations for NOAA to \$50 million annually to provide the resources for the agency to implement the national coral reef action plan developed under the Act and to support implementation of local action strategies to conserve coral reefs. We appreciate the increase in the authorization of appropriations included in H.R. 1205, but would urge the Committee to consider increasing to \$50 million. This level of funding is necessary to make necessary progress in effective conservation of coral reefs.
- Add an authorization of appropriations to support Department of the Interior coral conservation efforts. Despite the strong role in coral conservation played by the Office of Insular Affairs, National Wildlife Refuges, National Parks, U.S. Geological Survey, and

FWS Office of Habitat Conservation, the Department of the Interior is not currently included in the Act. We strongly support the provision in H.R. 1205 that would authorize \$4 million for the Office of Insular Affairs. However, the Conservancy would suggest that these funds be more broadly available than only for Community-based Conservation grants described in Section 209 of the bill. We strongly support both provisions and feel that the grants in Section 209 would be appropriate, but should not be the exclusive use of these funds.

- Add an authorization of appropriations to each of the co-chairs to support the operation of the U.S. Coral Reef Task Force, facilitate inter-agency coordination at the regional level and, in the case of the Department of the Interior, to fund intra-departmental coordination among the various Interior agencies undertaking activities related to coral reefs:
 - \$500,000 to the Secretary of the Interior
 - \$250,000 to NOAA.

We are grateful for the inclusion of this provision in H.R. 1205.

- The Act should include authority to support recovery of coral reef resources after vessel groundings to allow agencies (NOAA, Department of the Interior, state and territorial governments) to hold responsible parties liable for the cost of response and restoration and provide increased funding to put in place aids to navigation, moorings, and other boater awareness efforts to prevent groundings. Ensure that monies recovered are directed to restoration or mitigation activities in the jurisdiction where the damage occurred.
- Amend the Act to provide NOAA and the Department of the Interior the authority to enter into multi-year cooperative agreements with states and local governments, academic institutions, and non-governmental organizations to carry out activities to implement the National Coral Reef Action Strategy. We appreciate the inclusion of this modification in H.R. 1205.
- The Act should be amended to authorize \$8 million annually for the creation of a Community-based Conservation grants program to provide support for local communities and their partners to work through appropriate Federal and State entities to prepare and implement plans for the increased protection of coral reef areas of high priority to the communities. The grants should support planning and other efforts that:
 - support achievement of the goals and purposes of the CRCA;
 - are developed at the community-level;
 - utilize watershed-based approaches;
 - provide for coordination with Federal and State managers; and
 - build upon local approaches or models, including traditional or island-based resource management concepts.

The Nature Conservancy strongly supports this section in H.R. 1205 and we appreciate the attention to the need to engage local communities in conservation activities.

- Redefine “conservation” to include resilience. Conservation and management of coral reefs is a complex and challenging task that involves responding to immediate threats to the health of corals – such as incompatible fishing practices – to mass bleaching which is caused by changes in ocean temperatures that result from larger scale patterns. One of the tasks facing managers is to not only stop those local threats, but to use strategies to manage coral reef ecosystems for resilience and recovery in the face of threats they cannot always control. The Act should be amended to embrace the concept of resilience as a fundamental principle of coral reef conservation, promoting the return of those conditions that allow natural recovery to occur.

- Amend the definition of “coral,” “coral reef”, and “coral reef ecosystem” for greater accuracy and to include associated habitats: The health of coral reef ecosystem depends on the quality of marine environment in its adjacent areas. Coral reefs are affected by activities that go on all around them and their health is connected to the health of associated habitats such as mangroves and sea grass beds. Therefore, coral reef management strategy should be integrated into the overall coastal zone management strategy to minimize impact from coastal and marine-related activities to coral reef. The intent is to define a balanced natural coral reef with representative diversity, abundance and overall measurable good health to be maintained by effective directed management of human activities affecting coral reefs and contributing factors associated with adjacent areas.

With these changes, we believe the Coral Reef Conservation Amendments of 2007 will enable us to make tremendous strides towards protecting our nation’s coral reefs.

Thank you for the opportunity to provide input on H.R. 1205 the “Coral Reef Conservation Amendments Act of 2007.” I would be happy to answer any questions.