

Guam Coral Reef Initiative

August 1998

**Guam Coastal Management Program
Bureau of Planning**

Guam Coral Reef Initiative

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Purpose and Target

There are a number of efforts, aimed toward improving our ability to both manage and preserve Guam's coral reefs, which are being pursued in the name of the Coral Reef Initiative. These efforts are important, and many of them require either support or action by the Guam Coral Reef Initiative Coordinating Committee, the Guam Coral Reef Initiative Policy Advisory Committee, the body politic, or the community at large. This support or action cannot be expected unless there is an understanding of the issues. This information sheet is designed to provide the forum for the advancement of the issues and the educational process. The immediate target audience will be the CRI Committees, the media, and those segments of the community most immediately involved in coral reef issues.

Point of Contact

The Point of Contact for the Coral Reef Initiative on Guam is the Administrator of the Guam Coastal Management Program. This position provides a consistent coordination point for the International and National coral reef initiative efforts, and completes the coordination circle by also serving as Chair to the local CRI Coordinating Committee and Vice Chair to the Policy Advisory Committee.

CRI Coordinating Committee

This Committee is comprised of representatives from the Department of Agriculture, Guam Environmental Protection Agency, University of Guam Marine Laboratory and Guam Coastal Management Program. These agencies have direct responsibility over Guam's coral reefs and provide the management, resource, and research expertise necessary for policy development, education and awareness, and regulatory development. This Committee's members are assigned by the Governor and serves as staff to the CRI Policy Advisory Committee.

CRI Policy Advisory Committee

This Committee was created by the Guam Coral Reef Initiative, through Executive Order 97-10. Its members include representatives of the media, Kids For Coral, the recreational water craft industry, diving industry, marine transportation industry, reef fishermen, pelagic fisheries, and the pertinent government agencies, including; GVB, Commerce, Parks and Recreation, the Legislature, and the Committee is chaired by the Governor's Office.

This Committee has the authority to recommend new policy directly to the Governor, and to cause to be created new legislation or Rules and Regulations which are then transmitted through the Governor to the Legislature.



Paka Clean Up Report

Reef Top Clean Up

Immediately after Super Typhoon Paka, the GCMP was assigned by the Governor to take the lead in organizing clean up efforts for both reef top and deep water debris recovery. A committee of relevant GovGuam agencies and private sector interests first assessed the reefs island-wide through both aerial and drive by reviews, and developed a priority listing for clean-up.

The committee coordinated the acquisition of equipment (gloves, bags, refreshments, masks, snorkels, booties) for volunteers, conducted extensive media information efforts (radio, television and print media interviews), worked with FEMA and Dept. Of Public Works for trash trucks to pick up collected debris, and provided the on-shore leadership for each pick up effort. In all, the reef top collections resulted in the removal of approximately six tons (12,000 pounds) of debris material from the reef flats, including more than 650 pieces of 8' long roofing tin, nearly 200 bags of small debris, doors, chairs and other metal debris.

Deep Water Clean Up

The clean up of debris from Paka in deeper waters was completed on July 14, 1998. Completed by Mr. Pete Peterson of Micronesians Divers Association

under contract from the Government of Guam, the clean up took less than three months and more than 28,000 pounds of debris was recovered.

The Department of Interior and National Oceanic and Atmospheric Administration combined to provide \$150,000 for the clean up, and provided the services of Dr. Michael Crosby, Executive Director for the Science Advisory Board at NOAA in assessing the debris coverage. Dr. Crosby also consulted with the contractor to finalize clean up methods.

The clean up was completed prior to the annual coral spawning, increasing the chances for a successful recruitment of new corals. Reports have been sent to the federal government and to the Governor on this effort.



Paka Debris Field.

National Ocean Conference - June 1998

The U.S. Department of Commerce and U.S. Department of the Navy co-hosted the National Ocean Conference in Monterey, California from June 10-12, 1998. Vice President Al Gore attended for two days, and President and Mrs. Clinton participated on the final day.

Of the 573 invited attendees from throughout the nation, Guam was represented by four persons: Lt. Governor Madeleine Bordallo attended as a panelist on behalf of Governor Gutierrez; Delegate Robert Underwood was invited as a panelist; Dr. Robert Richmond of UOG Marine Laboratory attended, as did Michael Ham of the Guam Coastal Management Program.

The Conference brought together ocean experts from all fields to discuss the U.S. ocean agenda for the next decades. The Guam representatives were the only participants giving talks on the aspects of coral

management. President Clinton announced several new products and efforts, which will not only help Guam develop policy and programs for ocean management, but which will also place Guam at the center of U.S. coral reef efforts.

Following is the talk the Lt. Governor gave for Governor Gutierrez, and the Coral Reef Executive Order signed by the President.

Coral reef and Ocean Resources
"Maintaining A Heritage - Creating An
Endowment
A Paper From Governor Carl T.C. Gutierrez
delivered by
lt. Governor Madeleine Bordallo
Monterey, California - June 11, 1998

"Hafa Adai. Four thousand years ago my ancestors landed their canoes on Guam's shores and decided to stay. My family has been in the ocean management business ever since.

We will never know what that world looked like to those first immigrants. Pristine waters unaffected by man's activities. Reef fish in such abundance and size that food for that day, and the next week, and the next generation was never in doubt. And it was the reefs that made living possible.

Nearly 300 species of coral grow on Guam, with nearly 1,000 species of fish from which to choose. Thousands more species of edible invertebrates and sea grasses. As islanders, the ocean and its resources can never be far from our awareness. Reef fish are a staple on many tables, and so we learn their habitat, the coral reefs.

The resources of the ocean do more than feed us, they bind the community through common effort, and they bind families through the sharing of nature and experiences across generations.

Typhoons bring high seas and ocean surge that could easily wash away half of our villages, and so we learn to appreciate the wall that dissipates the power of the ocean, our coral reefs.

The lagoons and bays that are sheltered by our coral reefs have provided us with recreation, and sea grasses, and the opportunity to develop those communal activities which are the backbone of culture. For the Chamorros, the communal gathering for the juvenile rabbit fish, called mañahac, has always been and continues to be a significant support for the culture and for the economy.

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Here in the late Twentieth Century, we have developed economies based around both active and passive use of our ocean and reef resources. Tuna from Micronesia feeds the world, and much of it passes through Guam's port and airport because we are a transportation hub, and that can continue to provide a productive arm of our economy if we are careful.

Our small island plays host to nearly a million and a half tourists each year, because we have sheltered lagoons outside our hotel doors, and our waters are inviting aquariums to swim in, and that will continue to be our most productive arm of the economy, if we are careful.

The diversity of our reefs attracts divers from around the world. Guam certifies more divers than any other location except the United States, and between the Micronesian islands several hundreds of thousands of introductory dives are made every year. That will continue to provide a productive arm of our economy, if we are careful.

Our reefs are home to families of spinner dolphins, which provides the basis for a whole industry devoted to dolphin watch cruises, and this too can continue to provide a productive arm to our economy, if we are careful.

Sports fishing charters and tourist submarines are important elements of our economy, and can grow to provide new opportunities and new jobs, if we are careful.

Our tourists do not come to Guam because of golf, although they play when they are here. They do not come for the night life, because we are indeed tame compared to larger Asian cities. Our tourism is really simply a form of eco-tourism. Our warm and clean waters, our reef and deep water fishes, our soft, and branching, and plating corals are intriguing. Our tourists come because nature beckons.

But all of this economy comes with a price. As our economy grows, our population grows, and our cost of living goes up. One result is over fishing. More people with more sophisticated fishing equipment, take more and bigger fish.

The development of land, particularly in periods of boom construction, occurs faster than we are able to address, and the result is a loss of land to the ocean. Our soil, made up heavily of unstable clays, erodes into our bays and onto reefs, killing or wounding the very resource we depend upon.

An increased economy means more cars, and more impervious surface, and more pet waste, and more boating, and more beach use, and all of the impacts from these increases. We have confined the use of recreational watercraft to buoyed areas to avoid conflict with other users, but the constant use of these vehicles has created areas where life ceases to exist.

Storm water systems, which were designed to be handled by our bays when our population was small, are now hurting more than they're helping. Sewer systems, designed along mainland standards in a period when federal environmental standards were only being drafted, are inadequate and pollute when they should be relieving pollution. As with other areas, Guam's infrastructure that serves us in the nineties was designed in the sixties and seventies. It is not an infrastructure that will see us into the Twenty First Century.

But corrections to environmental problems can only come with a recognition of the problem, a resolve to correct, and more importantly, a resolve to prevent further degradation. Solutions often seem impossible when we deal with a resource as vast as the ocean, even when limited to simply the reef areas, but in fact we are finding that solutions are quite possible. Allow me to share with you a few of the efforts we are undertaking. By we, I mean the community of Guam, and not just the government.

The efforts I will detail are, primarily, Guam efforts. However, I would ask you to remember that these efforts are equaled in the other five U.S. insular areas of American Samoa, CNMI, Puerto Rico, U.S. Virgin Islands, and Hawaii. The islands are dependent upon the reefs and the ocean for survival on a daily, personal basis, and therefore the islands have taken a lead in marine management for years. But now our efforts have been discovered.

◆**Guam Coral Reef Initiative:** Adopted through Executive Order, the Initiative merely formalizes the process that has been working for almost five years. Scientists from the University of Guam Marine Laboratory, regulatory authorities from our Division of Aquatic and Wildlife Resources, resource managers from the Guam Coastal Management Program and water quality authorities from Guam EPA form a coordinating committee which focuses the issues and opportunities in coral reef management. The Initiative also created a Policy Advisory Committee, comprised of representatives from the Governor's Office, the Guam Legislature, the fishing industry, the water craft industry, the dive industry, the maritime transportation industry, the Guam Visitor's Bureau, the members of the

coordinating committee and our most prominent non-governmental organization, Kids for Coral. This committee is authorized to develop and suggest policy, laws, regulations, and activities necessary for the preservation and sustainable use of our reefs and reef resources.



◆ **Kids For Coral:** Begun in 1989 because one student wanted to do something for her community, "Kids" For Coral is a club at St. John's School on Guam. Kids is responsible for helping to raise the public's awareness of our corals and reef problems, and helping other schools around the Pacific develop programs of their own. Ms. Janette Deagle, the teacher who helped for the club and has served as its coordinator since, has seen her children win "runner up" for Region Nine for a Presidential Youth Environmental Award, and win a United Nations Award for Youth, and also win the prestigious Theodore Roosevelt Conservation Award. We feel the voices of these children are so important that we have given them a seat on our coral reef policy advisory committee, with full expectations that they will participate and contribute to the dialogue.

◆ **Pacific Region Coral Reef Initiative Work Plan:**

This is a good example of how well partnerships can work. Assisted, as we have been now for many years, by efforts from Ms. Nancy Fanning at Department of Interior and Dr. Michael Crosby at NOAA, representatives from the four U.S. Pacific Islands met in Hawaii in 1994 and worked through two days of facilitated meetings to develop regional goals and designate leads for achieving agreed upon tasks. Dr. Michael Hamnett and Jerry Norris, from Pacific Basin Development Council coordinated the entire efforts. The product was the only U.S. product available at the first ICRI workshop in the Philippines in 1995, and the region selected the Guam coastal zone manager to deliver the only U.S. presentation as a member of the U.S. delegation.

◆ **U.S. Islands Coral reef Initiative Strategy:**

Again, Ms. Fanning, Dr. Crosby, Dr. Hamnett and Jerry Norris worked together to bring all of the U.S. flag islands, including Puerto Rico and the Virgin Islands together in Hawaii to develop a strategy for coordinated actions in order to maximize funding, expertise, information sharing and products between islands.

◆ **Sea Grant:** The University of Guam has been working with the colleges and universities within the Republics of Palau and the Marshalls, the Federated States of Micronesia, and CNMI to develop a unique approach to Sea Grant status, that of a consortium. All the institutions would be partners, with the University of Guam simply serving as a focal point. Not only would this true partnership maximize the funding available, but would result in a freer flow of information and sharing of expertise.

◆ **Coral Cultivation:** the University of Guam has pioneered new advances in the cultivation of coral species for a variety of uses.

Aside from those uses of nature described earlier (storm control, habitat, food), corals provide more. Corals are essential or highly desirable in both public and home aquariums. They work for us in research labs and are our instruments for monitoring ocean health. Grown corals can be used in mitigation and restoration in areas where reefs have been damaged. Corals are used in bone transplantation and are becoming increasingly important in pharmaceutical development. In addition to these listed uses, corals are also valuable as an ornamental. Coral cultivation is a billion dollar industry waiting to happen, and our Marine Laboratory has developed methods which open the door.

This simple facility is the Marine Lab grow out area. It is simply a set of bins where sea water can be pumped through. Here the young corals attach themselves to rocks and begin their growth.



Page 5 (Monterey Speech Continued)

Within a few months, with very little maintenance, branching corals are already approaching a minimum size for harvesting commercially.



The three corals seen here are all the same age, about six months. The Marine Lab scientists have shown that through larval fusion, which is nothing more than the placement of polyps from the same parents together, growth rates can be quadrupled, and the branches of the fused corals are thicker and stronger. The smallest here is natural growth rate, the other two have been manipulated through fusion.

The Marine Lab is currently working with private investors to begin a private coral cultivation facility on Guam. The benefits are multiple. Not only is a new economy introduced, but we can take away the excuse for harvesting from our reefs. We can also produce more valuable hybrids through cultivation. This is the very definition of sustainable development.

Just as important, the Marine Lab will be sharing this process with governments and private individuals from throughout the Pacific next week (June 1998) through a workshop to be held at the Marine Lab, thanks to funding from Department of Interior, and help from Nancy Fanning again, and Allen Stayman.

◆ **Coral Transplantation and Reseeding:** Our Marine Lab has successfully completed reseeded and transplanting of corals around Guam's reefs,

and is sharing their insights with the international community. While these procedures can be helpful in assisting small areas of the reef to recover from short term problems, it is only one tool in reef management, and less important than prevention of damage.

Transplanting after Typhoon Paka was one way the community could do something they felt would help the environment. From that sense, in building upon community concern, these procedures are worthwhile.

◆ **Bio-Medical Research:** University of Guam Marine Lab, using a grant from Department of Interior, is beginning research in cultivating two sponges which grow in Guam's waters, and which are so valuable in medical research that a substance they produce is valued at more than \$3 million dollars an ounce. Unfortunately, each sponge produces only microscopic amounts of the substance. More than money, this research is valued for the promises the ocean holds for human applications.

◆ **Marine Preserves:** The public and private sectors of Guam recognized that the rapid expansion of our economy in the 1980s and 1990s had a negative impact on our reefs and reef resources. Just as importantly, we recognized that expanded populations of fishermen and new methods of harvesting, including SCUBA and spear fishing and better nets, all contributed to an over fishing of the resources. In response, we have just established five marine preserves which encompass some 10% of our total reef area. These are no take zones, and not only will these areas provide for passive recreation and tourism, but they will replenish the adjacent reef areas to allow new generations of fishermen to harvest larger catches of larger fish.

◆ **Tuna Cooperative:** Guam is taking a leading role in working with the island Chief Executives from throughout Micronesia in developing cooperative agreements to better manage our fisheries. This multi-billion dollar industry has historically been controlled for the benefit of outside investors. The region, through the Council of Micronesian Chief Executives, is developing agreements to ensure the benefits from the resources is returned to those who are responsible for managing the resources, and who will ultimately pay the price for resources which are unnecessarily depleted.

◆ **Natural Enhancement of our Bays:** In Tumon Bay, one of our new preserve areas, and which is also the center for our tourism, we are about to undertake new infrastructure development which will remove one of the insults to the Bay, storm water discharge. By piping that discharge beyond

the reef and into deep waters, we will allow our most important bay to recover. We will then utilize expertise from the University of Guam Marine Lab and our Department of Agriculture, to revitalize the Bay with species of fish and octopus, and corals which had previously thrived there. Our tourists will be able to begin at one end of the bay, float over a diverse and healthy marine environment to the other end, then walk a beach trail which will inform them of the Bay's past. Of the villages that existed there before western contact. Of the Bay that existed there before human contact. There will be signage to describe the geology, the biology and the history of Guam.

We see this "swim through aquarium" as the next logical step in the public aquarium development in tropical waters. Just as our zoos have evolved from simple cages where humans could stare at confined wildlife to animal parks where humans see the animals in their more natural settings, so too is the aquarium evolving. From the simple glass enclosures of the Chicago Aquarium, to the more complex and natural facilities we see here in Monterey. In tropical waters we have the advantage of going one step further, and putting man back in nature to observe the world we are asking him to protect.

The efforts just listed are dependent upon one thing for success, **partnerships**. The efforts surrounding the international, national, and local coral reef initiatives are success stories simply because all involved have found the way to achieve an equality of interests. We have rejected jurisdictional territorialism and have determined that every player must check their egos at the door. This is the key to coral reef management, and it is the key to ocean management.

If we strive toward developing sustainable strategies, and sustainable policies to guarantee the rights of each generation to enjoy and use the resources of the world's oceans, we will first have to begin to encourage our partnerships. The message that has been generated at every ICRI meeting, and every U.S. opportunity, is that management must begin from the bottom up. The nation must not dictate, but must listen. Follow the example of the coral reef initiative and we will allow the future to provide for itself.

The people of the islands have a history in ocean use which should be heard. We understand the implications of poor decision-making because we must live with that.

If the nation strives for ocean policy that succeeds, include the voices of the islands in all levels of decision-making, just as we have included all levels of our societies in our decision-making. We will guarantee you success, for we, above all, cannot afford to fail.

Si Yu'os Ma'ase', and from the hearts of the people of Guam, we thank you."

Monterey In A Nutshell

The National Ocean Conference in Monterey was impressive, important, informative and an affirmation of the work being done throughout the nation, including Guam, to restore, protect and intelligently manage the resources which are only renewable if there is wisdom and commitment in our own actions.

Vice President Gore spent two full days at the Conference, and President and Mrs. Clinton spent several hours there. The fact that the two highest leaders in the world committed that much time to a conference is an indication of the level ocean resources commands in this Administration.

There were a series of actions undertaken by the President which were announced at the conference, and which will have immediate and long term consequences for Guam. They are:

Coral Reef Protection Executive Order. This Executive Order is written out elsewhere in this newsletter. It is important to note that the Executive Order recognizes the work that was done by Guam and the other U.S. islands, and the actions called for in the Order are based on the work that was done by the islands. This is a great compliment to all of those who have worked on coral reef issues over the years on Guam. The E.O. calls for federal expenditures of \$6 million.

\$224 million Initiatives to explore, protect and restore the nation's oceans. This includes:

- A) Build sustainable fisheries. More than 2/3 of the world's fisheries are over-exploited.
- B) Modernize U.S. ports to keep them competitive.
- C) Join the Law of the Sea Convention, which internationalizes exploitation, pollution control and other aspects of the world's oceans.

Clean Water Action Plan. This is \$500 million in new monies to reduce pollution flowing into the nation's streams and oceans.

\$12 million to expand exploration.

\$12 million to complete an ocean monitoring system.

Declassification of Naval Bathymetric Charts of the Ocean floor.

The President also directed his Cabinet to, within one year, give him recommendations for a long-term federal oceans policy "so that all the interests will have a voice on a permanent, ongoing basis as (the U.S.)... forges a new strategy to preserve the incomparable natural resources of our oceans and seas."

Coral Reef Protection Executive Order

By the authority vested in me as President by the Constitution and the laws of the United States of America and in furtherance of the purposes of the Clean water Act of 1977, as amended (33 U.S.C. 1251, *et seq.*), Coastal Zone Management Act (16 U.S.C. 1451, *et seq.*), Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801, *et seq.*), National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*), National Marine Sanctuaries Act, (16 U.S.C. 1431 *et seq.*), National Park Service Organic Act (16 U.S.C. 1, *et seq.*), National Wildlife refuge system Administration Act (16 U.S.C. 668dd-ee), and other pertinent statutes, to preserve and protect the biodiversity, , health, heritage, and social and economic value of U.S. coral reef ecosystems and the marine environment, it is hereby ordered as follows:

Section 1. Definitions. (a) "U.S. coral reef ecosystems" means those species, habitats, and other natural resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., Federal, State, territorial, or commonwealth waters), including reef systems in the south Atlantic, Caribbean, Gulf of Mexico, and Pacific Ocean. (b) "U.S. Coral Reef Initiative" is an existing partnership between Federal agencies and State, territorial, commonwealth, and local governments, nongovernmental organizations, and commercial interests to design and implement additional management, education, monitoring, research, and restoration efforts to conserve coral reef ecosystems for the use and enjoyment of future generations. The existing U.S. Islands Coral reef Initiative strategy covers approximately 95 percent of U.S. coral reef ecosystems and is a key element of the overall U.S. Coral Reef Initiative. (c) "International Coral Reef Initiative" is an existing partnership, founded by the United States in 1994, of

governments, intergovernmental organizations, multilateral development banks, nongovernmental organizations, scientists, and the private sector whose purpose is to mobilize governments and other interested parties whose coordinated, vigorous, and effective actions are required to address the threats to the world's coral reefs.

Sec. 2. Policy. (a) All Federal agencies whose actions may affect U.S. coral reef ecosystems shall: (1) identify their actions that may affect U.S. coral reef ecosystems; (2) utilize their programs and authorities to protect and enhance the conditions of such ecosystems; and (3) to the extent permitted by law, ensure that any actions they authorize, fund, or carry out will not degrade the conditions of such ecosystems.

(b) Exceptions to this section may be allowed under terms prescribed by the heads of Federal agencies:

- (1) during time of war or national emergency;
- (2) when necessary for reasons of national security, as determined by the President;
- (3) during emergencies posing an unacceptable threat to human health or safety or to the marine environment and admitting of no other feasible solution; or
- (4) in any case that constitutes a danger to human life or a real threat to vessels, aircraft, platforms, or other man-made structures at sea, such as *cases of force majeure* caused by stress of weather or other act of God.

Sec. 3. Federal Agency Responsibilities. In furtherance of Section 2 of this order, Federal agencies whose actions affect U.S. coral reef ecosystems, shall, subject to the availability of appropriations, provide for implementation of measures needed to research, monitor, manage, and restore affected ecosystems, including, but not limited to, measures reducing impacts from pollution, sedimentation, and fishing. To the extent not inconsistent with statutory responsibilities and procedures, these measures shall be developed in cooperation with the U.S. Coral Reef Task Force and fishery management councils and in consultation with affected States, territorial, commonwealth, tribal, and local government agencies, nongovernmental organizations, the scientific community, and commercial interests.

Sec. 4. U.S. Coral Reef Task Force. The Secretary of the interior and the Secretary of Commerce, through the Administrator of the National Oceanic and Atmospheric Administration, shall co-chair a U.S. Coral Reef Task Force ("Task Force"), whose members shall include, but not be

limited to, the Administrator of the Environmental Protection Agency, the Attorney General, the Secretary of the Interior, the Secretary of Defense, the Secretary of State, The Secretary of Transportation, the Director of the National Science Foundation, the Administrator of the Agency for International Development, and the Administrator of the National Aeronautics and Space Administration. The Task Force shall oversee implementation of the policy and Federal agency responsibilities set forth in this order, and shall guide and support activities under the U.S. Coral Reef Initiative (CRI). All Federal agencies whose actions may affect U.S. coral reef ecosystems shall review their participation in the CRI and the strategies developed under it, including strategies and plans of State, territorial, commonwealth, and local governments, and, to the extent feasible, shall enhance Federal participation and support of such strategies and plans. The Task Force shall work in cooperation with State, territorial, commonwealth, and local government agencies, nongovernmental organizations, the scientific community, and commercial interests.

Sec. 5. Duties of the U.S. Coral Reef Task Force.

(a) **Coral Reef Mapping and Monitoring.** The Task Force, in cooperation with State, territorial, commonwealth, and local government partners, shall coordinate a comprehensive program to map and monitor U.S. coral reefs. Such programs shall include, but not be limited to, territories and commonwealths, special marine protected areas such as National Marine Sanctuaries, National Estuarine Research Reserves, National Parks, National Wildlife Refuges, and other entities having significant coral reef resources. To the extent feasible, remote sensing capabilities shall be developed and applied to this program and local communities should be engaged in the design and conduct of programs.

(b). **Research.** The Task Force shall develop and implement, with the scientific community, research aimed at identifying the major causes and consequences of degradation of coral reef ecosystems. This research shall include fundamental scientific research to provide a sound framework for the restoration and conservation of coral reef ecosystems worldwide. To the extent feasible, existing and planned environmental monitoring and mapping programs should be linked with scientific research activities. This Executive order shall not interfere with the normal conduct of scientific studies on coral reef ecosystems.

(c) **Conservation, Mitigation, and Restoration.** The Task Force, in cooperation with State, territorial, commonwealth, and local government agencies, nongovernmental organizations, the scientific community and commercial interests, shall develop, recommend, and seek or secure implementation of measures necessary to reduce and mitigate coral reef ecosystem degradation and to restore damaged coral reefs. These measures shall include solutions to problems such as land-based sources of water pollution, sedimentation, detrimental alteration of salinity or temperature, over-fishing, over-use, collection of coral reef species, and direct destruction caused by activities such as recreational and commercial vessel traffic and treasure salvage. In developing these measures, the Task Force shall review existing legislation to determine whether additional legislation is necessary to complement the policy objectives of this order and shall recommend such legislation if appropriate. The Task Force shall further evaluate existing navigational aides, including charts, maps, day markers, and beacons to determine if the designation of the location of specific coral reefs should be enhanced through the use, revision, or improvement of such aids.

(d). **International Cooperation.** The Secretary of State and the Administrator of the Agency for International Development, in cooperation with other members of the Coral Reef Task Force and drawing upon their expertise, shall assess the U.S. role in international trade and protection of coral reef species and implement appropriate strategies and actions to promote conservation and sustainable use of coral reef resources worldwide. Such actions shall include expanded collaboration with other International Coral Reef Initiative (ICRI) partners, especially governments, to implement the ICRI through its Framework for Action and the Global Coral Reef monitoring Network at regional, national, and local levels.

Sec. 6. This order does not create any right or benefit, substantive or procedural, enforceable in law or equity by a party against the United States, its agencies, its officers, or any person.

Signed

WILLIAM J. CLINTON

THE WHITE HOUSE
June 11, 1998

Some Final Monterey Thoughts

Guam Delegate Robert Underwood appeared on a panel of experts immediately prior to the Presidents remarks, and provided thoughts and information related to Ports and sea transportation. His remarks

were insightful and addressed both Guam's port in specific and U.S. ports in general, including the importance of ports to islands, and the need for continual upgrading of facilities. His remarks spoke directly to the opportunities which may be available through the \$224 million dollar initiatives announced by the President.

Special thanks go to CRI Policy Advisory Council members; Mr. Tom Ahillen (Matson Lines) for the information he provided on sea transportation issues; Ms. Dot Harris (Department of Commerce) for her information on fisheries, and; Ms. Janette Deagle for the slides she provided. All of this information was put to use either in formal remarks, or in discussions at the Conference.

New Coral Reef Initiative Funding

Department of Interior and NOAA have announced new funding for CRI projects in the U.S. islands. The total amount available is \$245,000, which will be divided evenly between the six islands, meaning that Guam will receive \$40,000. Projects are those listed in the priority lists developed for the U.S. Islands Coral Reef Strategy Workshop in September 1997. The projects Guam is submitting for funding are:

1. Coral Reef Restoration: Dr. Charles Birkland and Dr. Gustav Paulay at UOG Marine Lab will complete a two year study on coral recruitment changes over time. \$8,000
2. Coral Reef Restoration: Dr. Robert Richmond at UOG Marine Lab will continue work on cultivation, reseedling and transplanting of corals. \$5,000
3. Village to Village Coral Road Show. UOG, BOP, GEPA, and Dept. of Agriculture will develop a coral reef educational show, aimed at those 16 years and above, to be taken to Guam's villages for evening meetings, to include lecture, discussion, printed materials, live specimens, and audio-visual equipment. \$10,000
4. Educational Incentives: purchase of aquariums, microscopes, and other equipment to be made available to school children who wish to participate in the various science fairs, and who want to concentrate their projects on coral reef ecosystem related issues. UOG Marine Lab and Guam Aquaculture Facility will be able to, where appropriate, assist the students by providing live corals and reef fishes which have been cultivated rather than harvested. \$7,000

5. Educational CD: The government agencies will work with Kids For Coral and Marine Mania, both coral related youth clubs, to develop a CD ROM on Guam's coral reefs for use in both public and private school classrooms, and which can be distributed free of charge throughout Micronesia and other interested island areas. \$10,000.

We have already been informed that there will be additional monies next year as well. The government agencies on Guam recognize the efforts of the Department of Interior and NOAA in securing the funding for the islands, and offer Guam's thanks.

Live Coral Spawning on the Internet

Kuentos Communications established a web page during the last coral spawning (July 15-19), which displayed live coverage of the event throughout the world. This site is still on-line and can be reached at <http://live.guam.net>.

Tumon Reef Restoration

In addition to the infrastructure up-grading currently occurring in Tumon as part of the \$53 million bond project, the Marine Lab and Department of Agriculture will be spearheading a project which will revitalize some of the reef areas.

This project is being funded in great part by Duty Free Shoppers through proceeds from their annual Tournament of Champions golf classic. DFS is working in partnership with GVB, and Marine Lab will be soliciting assistance from Kids For Coral and Marine Mania, as an opportunity for the young adults to do some hands on reef restoration.

For Further Information

For information on the Guam Coral Reef Initiative, or on specific projects regarding coral reefs and reef ecosystems on Guam, contact: Michael Ham, Guam Coastal Management Program - 475-9672, Dr. Robert Richmond, UOG Marine Lab, 735-2188, Gerry Davis, Department of Agriculture, 735-3984, or Michael Gawel, Guam EPA, 475-1662.

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