



**CORAL REEF CONSERVATION
PROGRAM
2002-2006
EXTERNAL PANEL REVIEW**

**FINAL REPORT
November 30, 2007**

Table of Contents

	Page
Foreword	i
Executive Summary	1
I. Introduction	7
I.1 Introduction To CRCP	7
I.2 Value of Coral Reefs.....	7
I.3 Threats to Coral Reef	8
I.4 Legislative Response to Threats to Coral Reefs	8
II. The External Review Process	10
II.1 External Review Panel.....	10
II.2 Information Sources.....	10
II.3 External Review Meeting	10
II.4 Final Report	11
III. Panel Responses and Recommendations	12
IV. References	31
Appendix A: Charge to the External Review Panel	
Appendix B: List of External Review Panel Members	
Appendix C: <i>Federal Register</i> Notice Request for Public Comment	
Appendix D: Summary of Comments Received in Response to <i>Federal Register</i> Notice	
Appendix E: External Panel Review Meeting Agenda, September 25-27, 2007	

Foreword

This document presents the findings of an External Panel (“Panel”) that reviewed the activities of the National Oceanic and Atmospheric Administration’s (NOAA’s) Coral Reef Conservation Program (CRCP, or “Program”) for the five-year period 2002-2006. The Panel was tasked with assessing the past performance of and providing recommendations for future directions of the CRCP. The results of the Panel’s assessment are provided in the main body of this report.

This is not a consensus document. Rather, it is a compilation of the individual inputs of the Panel members. The inputs are based on the Panel members’ reviews of hundreds of pages of data and summaries of accomplishments provided by staff throughout the CRCP, as well as input provided by more than a dozen stakeholders with an interest in the Program. Stakeholders provided their input directly to the Panel during a three-day meeting in Washington, D.C. in September 2007.

This document is organized as follows. Section I, Introduction, introduces the CRCP, outlines the value of coral reefs, describes threats to coral reefs, and highlights the legislative response to those threats. Section II, The External Review Process, introduces the members of the External Panel and outlines the sources of information used in this document, including a formal External Panel meeting. Section III provides the Panel’s responses to the questions outlined in the Charge to the Panel, as well as recommendations that are derived from those responses. Section IV provides a list of references that are referred to in this report. Appendix A presents the Charge to the Panel. Appendix B provides a list of the Panel members who contributed to this report. Appendix C presents the *Federal Register* notice that announced the External Panel Review and requested comments on the CRCP’s activities. Appendix D provides a summary of comments received in response to the *Federal Register* notice. Appendix E is a copy of the meeting agenda from the External Panel review meeting held in Washington, D.C. in September 2007. Appendix F provides a list of stakeholders who presented at the September 2007 External Panel review meeting.

Executive Summary

Introduction

The Coral Reef Conservation Program (CRCP) was established in 2000 to address the emerging recognition that while coral reefs provide many billions of dollars in economic benefits each year to U.S. states and territories, they are in general decline because of a multitude of stresses and disturbances related to human activities.

The issue of reef decline is international, and the U.S. has an important global leadership role in coral reef issues. Its scientists have been leading figures in International Coral Reef Symposia since 1964. In 1994, as inaugural Chair of the International Coral Reef Initiative, the U.S. organized a global meeting attended by 41 nations that adopted a “Call to Action” and a “Framework for Action” to halt and reverse the decline of coral reefs and associated ecosystems. The Coral Reef Conservation Act (CRCA) of 2000 and the initiation of the crosscutting CRCP are the core elements of the U.S. response to the “Call for Action.”

This report presents the outcomes of an independent Expert Panel’s assessment of the CRCP’s activities over the past five years (2002-2006). CRCP asked the Panel to review the effectiveness and efficiency of the Program in achieving the goals identified in the CRCA and subsequent relevant mandates, and to provide recommendations for ways in which the Program could improve its impact and performance in the future.

The Review Process

Panel members were provided with substantial materials addressing the objectives, operations, and outcomes of CRCP. The Panel then held a meeting with NOAA personnel and numerous stakeholders in Washington, D.C. on September 25-27, 2007. Based on the documentation provided by the CRCP, as well as the presentations and discussions at the meeting, the Panel developed this report. This report was not designed to express consensus among the Panelists, but rather to summarize an amalgam of inputs independently developed by the Panelists. However, due to the level and intersection of experience among the Panelists across many aspects of coral reef science and management, the Panelists strongly agreed on nearly all of the conclusions and recommendations provided in this document.

The Panel has made ten recommendations, each of which is discussed at greater length within the body of this document. In addition, the Panel noted several themes that recurred in stakeholder input. These themes, and the Panel’s recommendations for addressing them, are also presented in this document.

Program Effectiveness

The Panel was highly impressed with the accomplishments of the CRCP to date. The establishment of the CRCP and the many deliverables that it has produced have been remarkable achievements. The Program has changed the context for coral reef ecosystem management

within U.S. jurisdictions. The work conducted thus far in the CRCP has been effective in addressing the needs identified in 2000, and reflects the strong catalytic leadership provided by dedicated, knowledgeable, and energetic individuals within NOAA management.

Despite the excellent work of the CRCP, coral reefs continue to deteriorate. It is clear that the threats, opportunities, and urgency for management action have all increased. While much has been achieved, much more needs to be done. The effectiveness of the program has changed the context of management and created opportunities to build on the foundations of CRCP to draw coral reef issues into the mainstream of government and community management programs.

The Panel was also very impressed with the quality and enthusiasm of the personnel involved in the CRCP, which have brought it to prominence throughout the nation and the rest of the world. The time was highly appropriate for a review and reconsideration of objectives and priorities to allow the CRCP to learn from, and effectively build upon, its experiences toward an even more effective program of activities in the future.

Community Engagement

The Panel was impressed by the Local Action Strategy (LAS) approach, which has established a sound model for successful engagement with communities. This approach can be further developed and strengthened to address the range of management contexts of reefs in the waters of the U.S.

Research and Information

The Panel found that the program has been effective in addressing the research needs identified at the start of the program. The Panel identified a number of areas, particularly in the field of social science, which should be developed to support decision-making, on-the-ground management and community engagement through LAS and the broader CRCP. The Panel recommended the development of consultative processes for identifying research priorities linked to management.

The Panel noted that while research was published and well received in peer-reviewed journals, there is a need for more timely transfer of research findings into information in forms readily accessible to managers and the community.

Resources and Capacity

The resources available to the Program were effectively used, but the Panel concluded that the current level of resourcing severely limits the capacity of the CRCP to help meet the challenge of conserving the coral reefs of the U.S. Hence, the CRCP is now at an inflection point, and needs to move from assessment of threats to coral reefs to effective, on-site action to respond to those threats.

The issue of resourcing and capacity of CRCP is particularly important given the considerable value and geographic scope of the coral reefs for which the U.S. shares management responsibility, and the range and intensity of conservation problems that need to be addressed.

The Panel noted a particular issue in maintaining skilled capacity and field work activities because of the short-term or soft money nature of the program. This leads to trained and experienced staff having to seek alternative employment, contributing to substantial program disruption where field activities are time critical. The Panel recommends a two- or three-year project operational basis so that contracts can be provided for staff and there can be security in forward planning of field work.

National, Regional, and International Issues

The management of coral reefs occurs through the management of the activities and behaviors of people. Two tasks are required for successful management of these activities and behaviors. The first is to promote, reinforce, and mainstream activities and behaviors that are consistent with conservation and sustainable use. The second is to demonstrate the impacts and to promote understanding of, compliance with, and acceptance of constraints or prohibitions of activities and behaviors that threaten coral reefs and related ecosystems.

Within the U.S., management of behaviors requires better coordination of decisions, and of land and fresh water management activities, in areas that may be far from the coasts. Greater collaborative engagement with NOAA partners in the U.S. Coral Reef Task Force (USCRTF, or “Task Force”) would help to address many cross-disciplinary conservation issues, such as protection of coastal watersheds.

Beyond the U.S., the CRCP requires cooperation with regional neighbors whose reefs and marine resources are linked to those in U.S. waters. Further, because of the importance of coral reef resources for subsistence, well-being, and economic development for some of the poorest nations, it is important for NOAA to continue to play a leading role in the ICRI and other global programs.

Panel Recommendations

The recommendations of the Panel are summarized below. Each recommendation is discussed at greater length within the body of this report. In the recommendations, the letter R represents a recommendation from one or more Panelists.

R1: Mission. The CRCP should retain its mission, which has two distinct but linked elements: support of effective management and sound science. Both components of the mission are clear and appropriate. The two need to be linked for the purpose of conserving and restoring coral reef ecosystems.

R1.1 Conduct and support of sound natural and social science in support of effective management should continue to be core elements of the mission of the CRCP.

However, in the future, the CRCP should place greater emphasis on management-relevant science. In addition, the CRCP should ensure that scientific results are communicated to managers in a timely manner and that managers apply those results.

R1.2 The CRCP needs to more clearly specify its niche with respect to other NOAA programs and other U.S. agencies that have responsibility for coral reef ecosystem science and management.

R1.3 The CRCP should expand its leadership role in global programs for management and conservation of coral reefs and related ecosystems.

R2: Goals and Objectives. The CRCP should consolidate, periodically update, and sharpen the goals of the CRCP.

R2.1 The goals of the CRCP should be reconciled with those of the International Coral Reef Initiative (ICRI), the National Coral Reef Strategy, and related programs with respect to conservation and management of coral reefs and related ecosystems.

R3: Priorities. The CRCP should reconsider the balance of its activities.

R3.1 The CRCP should focus more attention and resources on addressing the impacts of climate change and unsustainable fishing on coral reef ecosystems.

R3.2 The CRCP should demonstrate greater transparency in setting CRCP priorities. The CRCP should use enhanced Local Action Strategies (LAS) as a major basis for setting program priorities.

R3.3 The CRCP should establish an inclusive and robust process for periodic review and strengthening of LAS.

R3.4 The CRCP should place greater emphasis on place-based management. The CRCP should develop processes for defining and managing priorities that include local agencies and communities with responsibilities for conservation and sustainable use of coral reefs and related resources.

R3.5. While there needs to be greater CRCP emphasis on activities that support LAS, there remains a national interest in and responsibility for coral reef science and management for important coral reef resources that are not covered by LAS. The CRCP needs to develop an explicit strategy for, and allocate some resources to, addressing these other reef resources.

R4: Resources. NOAA should address the significant mismatch between the current level of resources and the scale of the need for actions to halt and reverse the decline in coral

reefs and related ecosystems. This should be addressed through a range of measures, including: requests for increased Congressional appropriations to the CRCP; improved leveraging of resources from Federal government counterparts and state and territorial governments; large-scale cooperative programs with NGOs and foundations; and a larger, more focused grants program.

R4.1 A higher proportion of resources available to the CRCP should be allocated to its three grant programs; and subject to statutory constraints, the CRCP should modify and streamline its grant programs in order to reduce transaction costs associated with applying for, receiving, and reporting on activities so that more resources are available for project implementation.

R5: Regional Balance. The CRCP should maintain a regional distribution formula, but revise the existing one. The new formula should include more flexibility to address rapidly or newly evolving issues independent of regional formulas. It should allow for expansion of the proportion of resources available for international activities, especially those that provide value-added information and/or conservation to coral reef ecosystems within U.S. jurisdictions.

R5.1 NOAA should place increased emphasis on supporting and effectively participating in ICRI and other international efforts relevant to the CRCP mission.

R6: Science. The CRCP should reconsider its science agenda. The CRCP should implement a transparent, efficient review process that includes managers and scientists from NOAA, the states and territories, and the Coral Centers to reassess and agree upon priorities. The CRCP should develop a more timely flow of information from its science investments in order to provide information needed for effective management.

R6.1 The CRCP should conduct a substantial study of the range and nature of capacity-building requirements for ongoing effectiveness of the CRCP. A small team with expertise in human resource development, marine operations, and environmental management should conduct this study.

R6.2 The CRCP should build provisions for data dissemination and for project evaluation into proposal budgets.

R6.3 The CRCP should revise the funding basis and cycle for the program to ensure two- or three-year forward planning, or longer where appropriate. At the very least, this should include capacity for carry-over funding between financial year reporting periods and the capacity to provide two- or three-year contracts for trained personnel.

R7: Education and Outreach. The CRCP, in partnership with other education-oriented organizations, should provide for better general education and outreach on the threats to coral reefs, the likely social and economic consequences of their loss, and the measures

that can be taken to ensure their continued survival and productivity. NOAA's role in this should be clearly defined and should include use of existing and development of new products, provision of expert information, and development of partnerships explicitly for communication.

R8: Partnerships. NOAA should further strengthen its important strategic partnership with the states and territories through enhanced communication and transparency about the CRCP's overall spend plans and an enhanced LAS process. The CRCP should further engage in additional strategic partnerships with NGOs and academic institutions in order to leverage the CRCP's resources and impacts.

R9: Leadership. NOAA should work with the co-Chairs and members of the USCRTF to review the Task Force's operational context with a view to strengthening the CRCP's voice and the use of the Task Force as a national forum addressing an urgent issue.

R9.1 The CRCP should work with the USCRTF to capitalize on the global leadership the U.S. is providing through the ICRI and the success of the international grants program.

R10: Evaluation. The CRCP should work with local, national, and international partners to develop cost-effective protocols for measuring management performance in conserving and sustaining coral reefs and related ecosystems.

I. Introduction

I.1 Introduction to CRCP

The CRCP was established in 2000 to implement requirements of the Coral Reef Conservation Act (CRCA) of 2000. The CRCP's mission is to support effective management and sound science to preserve, sustain, and restore valuable coral reef ecosystems. The CRCP works with a variety of partners to fulfill this mission, including other Federal agencies; states, territories, and protectorates; and local and national non-governmental organizations (NGOs).

The CRCP is a cross-NOAA partnership that brings together expertise of four of NOAA's Line Offices (National Ocean Service; National Marine Fisheries Service; Office of Oceanic and Atmospheric Research; and National Environmental Satellite, Data and Information Service) to support activities by NOAA and many partners to conserve coral reef ecosystems. The CRCP includes three main components: a National Program, the Coral Reef Conservation Grants Program, and the Coral Reef Conservation Fund. Each of these is described briefly below.

- The National Program provides resources, tools, and services to coral reef managers, scientists, and communities to improve the effectiveness of coral reef management. For example, the CRCP supports a variety of coral reef mapping, monitoring, research, training, and management activities that provide information and tools to help solve key coral reef management issues. The Program also provides support to and hosts the Secretariat for the USCRTF.
- The Coral Reef Conservation Grants Program makes matching grants available to government agencies, NGOs, and academic institutions for coral reef conservation projects in six grant categories: (1) State and Territory Coral Reef Ecosystem Management; (2) State and Territory Coral Reef Ecosystem Monitoring; (3) Coral Reef Ecosystem Research; (4) Projects to Improve or Amend Coral Reef Fishery Management Plans; (5) General Coral Reef Conservation; and (6) International Coral Reef Conservation.
- The Coral Reef Conservation Fund is administered by the National Fish and Wildlife Foundation (NFWF). This Fund helps build public-private partnerships to reduce and prevent degradation of coral reefs and associated reef habitats.

I.2 Value of Coral Reefs

Coral reefs provide many billions of dollars of annual income, primarily from tourism and fisheries, to U.S. states, territories, and protectorates. They are essential to the economies of more than 60 other nations, and supplement the economies of at least 40 others. Over the past 50 years, U.S. coral reefs—like most of the world's coral reefs—have steadily declined. On a year-to-year basis, the process of decline has seemed gradual and the changes small. However, comparisons of data across decades make it clear that the cumulative decline has been substantial. Without serious and concerted action, the decline will continue, leading to the loss of most of the world's coral reefs as functioning and productive ecosystems.

The livelihoods of more than one hundred million people depend on coral reefs. Reefs provide protection for coastal areas, sand for beaches, food for human communities, and feeding grounds for several species of commercial fish stocks. They support the highest known biodiversity of any ecosystem at the phylum level, and create the largest biologically constructed structures on Earth. Coral reefs are among the first features on the planet to be visible as one approaches from space.

I.3 Threats to Coral Reefs

Despite their importance, coral reefs are under increasing threats around the world. Among the leading causes of reef decline are pollution, sediment runoff, overfishing, and the use of fishing devices that injure or destroy reefs. Coral reefs are increasingly showing signs of bleaching and disease. Climate change, particularly warming events, has already increased the occurrence of coral death due to bleaching, and is anticipated to lead to enhanced storm damage, increased runoff and pollution, and reductions in coral growth and reef deposition rates due to changes in water temperatures and chemistry. In some areas, reductions in annual larval settlement are resulting from shifting currents, as well as from increased levels of fishing as terrestrial agricultural systems fail in response to climate change.

I.4 Legislative Response to Threats to Coral Reefs

Congress passed the Coral Reef Conservation Act of 2000 in response to national concern about the decline of coral reefs in U.S. waters. Coral reef decline, however, is not restricted to the U.S. It is a global phenomenon that will require the cooperation and coordination of governments, international organizations, and NGOs to halt and reverse. The U.S. was a founding member of the ICRI, and it has both engaged in and provided leadership to the activities of that organization since its inception in 1995. At a meeting in the summer of 1995, ICRI endorsed a “Call to Action” and established a “Framework for Action.” In addition to a range of policy applications, these documents identify important roles for the scientific community in monitoring and addressing the global decline of coral reefs. More than a decade later, and despite global efforts to preserve, conserve, and restore coral reef ecosystems, there is clearly a continuing decline in both quantity and quality of coral reefs. To many scientists, coral reef decline is a striking symptom of the more general phenomenon of human impact and interlinked global change affecting natural systems and processes. The U.S. economy would suffer significant negative economic impacts if it lost its coral reef systems; the impacts would be catastrophic for many smaller nations whose economies depend entirely, or almost entirely, on the natural resources of the sea.

The situation facing U.S. and global coral reefs in 2007 is even more perilous than it was when ICRI called for action in 1995. The need is urgent for national and global leadership to apply substantial and effective actions to stop and reverse this situation.

This report responds to the specific questions posed in the charge to the Panel as it conducted an external review of the CRCP (see Appendix A). It does not focus on the details of specific CRCP-funded projects. Rather, it seeks to address the overarching issues of program

effectiveness and lessons learned to help guide future management of the CRCP through better coordination with Federal agencies; through its leadership and engagement with the USCRTF; and through enhanced engagement with state, territorial, and NGO stakeholders.

II. The External Review Process

This section introduces the External Review Panel, and describes the process that the Panel adopted to conduct this review. It also describes the sources of information that was used to perform the review, and the process the Panelists used to compile and assess the information provided to them.

II.1 External Review Panel

The External Review Panel was comprised of seven experts in coral reef science and policy. A list of the members of the Panel is provided in Appendix B.

II.2 Information Sources

To respond to the questions posed in the Charge to the Panel, the Panel collected information from three main sources:

- Approximately 35 responses to a *Federal Register* Request for Public Comment, June 19, 2007. This notice provided the questions that were posed in the Charge to the Panel, announced that an External Panel was being convened, and stated that the CRCP would be holding an External Panel review meeting in September 2007. (A copy of the *Federal Register* notice is provided in Appendix C; a summary of the comments is available at Appendix D).
- A detailed self-assessment of the CRCP, written by CRCP staff, presented in a 500-page bound volume, “NOAA Coral Reef Conservation Program, 2002-20026, September 25-27, 2007, Panelist Materials”. This assessment provided detailed information about program expenditures (including grants) and the types of projects funded by CRCP (e.g., monitoring, mapping, ecosystem and socioeconomic research, management, outreach and training) from 2002-2006. It also described specific program accomplishments during that time, outlined current challenges, and highlighted future aspirations of the CRCP.
- Input provided in statements from stakeholders representing Federal, state, and territorial agencies, NGOs, and academia during an External Panel Review meeting in Washington, D.C. in September 2007.

II.3 External Review Meeting

The CRCP sponsored a three-day External Panel meeting on September 25-27, 2007 in Washington, D.C. (See Appendix E for the meeting agenda.) The first day of the meeting was devoted to presentations from NOAA staff who provided overviews of the CRCP and of each of its major program components. This discussion continued briefly into the second day.

Much of the second day of the meeting was devoted to presentations by, and group discussions with, 16 stakeholders from other Federal agencies; local, state, and territorial governments; and NGOs (see Appendix F for a list of stakeholders). All stakeholders were encouraged to submit written comments as well as their presentation materials. Following the open meetings,

stakeholders met one-on-one with the Panelists to provide additional input. No NOAA staff was present during these conversations.

On the third day of the meeting, the Panelists met with NOAA leadership to learn about the legislative, budgetary, regulatory, and policy frameworks within which the CRCP operates.

II.4 Final Report

The External Review Panel prepared this report based on information provided from the sources described in Section II.2, as well as in separate discussions with stakeholders and NOAA staff. It provides a summary of the individual conclusions and recommendations of the Panelists. The Panel did not seek consensus on any items during the preparation of this document.

Section III of this document provides Panel responses to the questions outlined in the Charge to the Panel, along with recommendations that address those responses.

III. Panel Responses and Recommendations

In this section, the Panelists respond directly to the specific questions posed in the Charge to the Panel, and provide specific recommendations based on those responses. The letter Q, a number, and bold text denote a question or sub-question. The letter R, a number, and italicized text denote a recommendation. The Panel's discussion points follow several recommendations.

Q1 To what extent is the CRCP directing resources and efforts in the appropriate areas to optimize the conservation of coral reef ecosystems?

Q1.1 Mission: Is the mission clear and appropriate to address Program mandates?

The CRCP mission is to support effective management and sound science to preserve, sustain, and restore valuable coral reef ecosystems for future generations.

***RI Mission.** The CRCP should retain its mission, which has two distinct but linked elements: support of effective management and sound science. Both components of the mission are clear and appropriate. The two need to be linked for the purpose of conserving and restoring coral reef ecosystems.*

Both science and management are core functions of NOAA. The CRCP needs to strengthen the linkage between the two in all activities it carries out. CRCP needs to more directly link activities to the current status of coral reefs in the U.S. as it executes its mission. While the Panel was provided with much excellent summary material, the program did not provide, nor did it appear to have readily available, summary information (even rough estimates would be helpful) on reef ecosystem extent, location, threats, condition, use, value, or management within U.S. jurisdictions. The program's activities need to be related to such information.

***RI.1** Conduct and support of sound natural and social science in support of effective management should continue to be core elements of the mission of the CRCP. However, in the future, the CRCP should place greater emphasis on management-relevant science. In addition, the CRCP should ensure that scientific results are communicated to managers in a timely manner and that managers apply those results.*

Research must support reef management goals. Social science research and the integration of social and ecological information should be enhanced. Consideration should be given to pooling some of the individual grant allocations for research into interdisciplinary place-based research. In addition, the utility of research for management should be improved by strengthening outreach and coordination between scientists and managers within NOAA; within the U.S. government; with U.S. states, territories and Freely Associated States; with the nations of the Meso-American, Caribbean, and Pacific regions whose reefs are closely linked with those of the U.S.; and with the other coral reef nations of the world. This outreach and coordination can share

the lessons of experience and the findings of science in order to achieve timely response to the global problem of coral reef decline.

RI.2 *The CRCP needs to more clearly specify its niche with respect to other NOAA programs and other U.S. agencies that have responsibility for coral reef ecosystem science and management.*

The CRCP has a unique role to play both within NOAA and amongst its sister agencies for coral reef ecosystem conservation. As Secretariat to the USCRTF, CRCP has an essential role to play for NOAA as catalyst and coordinator. The CRCA and its associated appropriations provide the CRCP with a unique opportunity to make a difference. At the same time, the CRCP cannot achieve its mission alone. Engagement of other NOAA programs such as the global change program and Sea Grant, as well as other Federal agencies, is needed, which can be accomplished through the USCRTF. This unique niche for the CRCP needs further definition. At the same time, the CRCP needs to encourage more direct action by other agencies in support of the CRCP mission and program, which it can accomplish by strengthening its relationships with state and territorial agencies.

RI.3 *The CRCP should expand its leadership role in global programs for management and conservation of coral reefs and related ecosystems.*

The U.S. government has tremendous influence over international economic, environmental, and other accords. The U.S. has long played an important global leadership role. Its current position as co-Chair of ICRI can provide direct benefits to the U.S. In many cases, U.S. reefs depend on the good health and careful management of other nations' reefs for the supply of recruits to coral and fish communities. Active engagement with the international community enables the U.S. to contribute to and learn from the global lessons of science and management experience. U.S. academic and government research programs are respected globally. The U.S. NGO and foundation community is dynamic and has an increasingly global reach. U.S. citizens and corporations can influence coral reef health on a global scale. Given these strengths, the CRCP should emerge as one of the world's leading programs and build from its current successes. To do so, CRCP will need to collaborate with many ongoing international initiatives, as well as create new collaborations in the areas of applied research, management, education, and advocacy.

Q1.2 Goals and Objectives: Are the goals and objectives clear and appropriate to address the Program mandates?

The National Coral Reef Action Strategy ("National Strategy") is mandated by the CRCA, which outlines the following purposes:

- Preserve, sustain, and restore the condition of coral reef ecosystems.
- Promote the wise management and sustainable use of coral reef ecosystems to benefit local communities and the nation.
- Develop sound scientific information on the condition of coral reef ecosystems and the threats to such ecosystems.
- Assist in the preservation of coral reefs by supporting conservation programs, including projects that involve affected local communities and NGOs.
- Provide financial resources for those programs and projects.
- Establish a formal mechanism for collecting and allocating monetary donations from the private sector to be used for coral reef conservation projects.

The specific themes and goals established for the National Strategy are set out in Table 1.

**Table 1
Themes and Goals of the National Strategy**

Theme	Goal
<p>Theme 1</p> <p>Understanding Coral Reef Ecosystems.</p> <p>Better understanding of complex coral reef ecosystems will improve management and conservation of these valuable resources. The strategy outlines the following major goals to increase understanding of coral reef ecosystems.</p>	<p>1: Create comprehensive maps of all U.S. coral reef habitats.</p> <p>2: Conduct long-term monitoring and assessments of reef ecosystem condition.</p> <p>3: Support strategic research to address the major threats to reef ecosystems.</p> <p>4: Increase understanding of the social and economic factors of conserving coral reefs.</p>
<p>Theme 2</p> <p>Reduce The Adverse Impacts Of Human Activities</p> <p>Reducing the impacts of human activities is essential to conserving coral reef ecosystems. The strategy outlines the following major goals to reduce the adverse impacts of human activities.</p>	<p>5: Improve the use of marine protected areas to reduce threats.</p> <p>6: Reduce adverse impacts of fishing and other extractive uses.</p> <p>7: Reduce impacts of coastal uses.</p> <p>8: Reduce pollution.</p> <p>9: Restore damaged reefs.</p> <p>10: Improve education and outreach.</p> <p>11: Reduce international threats to coral reef ecosystems.</p> <p>12: Reduce impacts from international trade in coral reef species.</p> <p>13: Improve coordination and accountability.</p>

Within the National Strategy, the goals of the Coral Reef Conservation program have been established as presented in Table 2.

**Table 2
Goals and Tools of the CRCP**

Goals	Tools
1. Assess and Characterize U.S. Coral Reefs	1. Map and Monitor
2. Reduce Impacts of Coastal Uses	2. Interagency Compliance with EO 13089
3. Reduce Adverse Impacts of Fishing	3. Socioeconomic Research
4. Reduce Impacts of Pollution and Disease	4. Outreach
5. Improve Use and Effectiveness of MPAs	5. Management (direct and indirect)
6. Reduce Threats to International Coral Reefs	
7. Reduce Impacts of Climate Change	
8. Address Emerging Issues	
9. Program Coordination	

While there is broad commonality among the goals, the sequence reflects the emergence of new issues such as climate change. Reorganizing and consolidating the goals should help clarify the administration of the program.

R2 *Goals and objectives.* *The Panel recommends CRCP consolidate, periodically update, and sharpen its goals.*

The current program has outlined its goals and objectives in a number of important documents and strategies. The stated goals are also quite generic. Goals would be more useful as a management tool, and for evaluation purposes, if they were more specific. The CRCP should reduce the number of goals—setting time-bound, quantitative objectives for the remaining goals—and considering adding place-based goals and objectives.

To maintain the salience of the program, the CRCP should commit to a periodic planning event. Every three years, LAS and national program initiatives should be revised to incorporate new understandings of coral reef issues, science, and management practice.

R2.1 *The goals of the CRCP should be reconciled with those of the International Coral Reef Initiative (ICRI), the National Coral Reef Strategy, and related programs with respect to conservation and management of coral reefs and related ecosystems.*

Such reconciliation would maximize synergies among programs and enable the CRCP to better leverage its impacts.

Q1.3 Priorities and Strategic Planning. Are priorities appropriate to enable the Program to make a significant impact on coral reef conservation? Are there lower priorities that should be elevated, or vice versa, to complete or enhance long-term objectives?

The CRCP's priorities during its first five years reflected the need to quickly mobilize and build support for the program, to assemble a foundation of knowledge about the resource, and to build a culture of action and record of accomplishment. In the first phase, major investments were made in mapping the resource; in working with the jurisdictions to develop LAS focused on "tangible early actions" that could be accomplished in the short term; and in funding a wide range of activities to encourage engagement and test a wide range of approaches to addressing the many goals included in the National Strategy. This balance was reasonable for the start-up phase, given the context and capacities in the early days of the Program. During the review period and at least in part because of work undertaken within the Program, perceptions have changed concerning the urgency of climate change, the Program's balance between supporting science and management, and the role that enhanced, updated LAS should play in determining priorities for information and capacity development.

R3 *Priorities and Strategic Planning. The CRCP should reconsider the balance of its activities.*

R3.1 *The CRCP should focus more attention and resources on addressing the impacts of climate change and unsustainable fishing on coral reef ecosystems.*

Climate change is having notable impacts on coral reefs and the societies that use or depend on them. The CRCP should support applied, integrated social and ecological research that informs management responses to climate change. The CRCP should continue and expand efforts to interpret research results for managers (as was done with "The Manager's Guide to Coral Bleaching") and assist them with developing and applying adaptive management strategies. Educational programs targeted at domestic and international audiences are essential to raise awareness about the impacts of climate change on reefs, and to catalyze behaviors that will reduce the U.S. carbon footprint.

Sustainable coral reef fisheries are an increasingly severe management challenge, especially internationally. Coral reef management options will narrow as valuable marine protein sources disappear through unsustainable fishery practices. In response, other U.S. government agencies such as the U.S. Agency for International Development and bilateral and multilateral donors such as the World Bank are launching new programs targeted at the creation and maintenance of sustainable fisheries. The CRCP should be involved—in conjunction with other NOAA programs—in the development of sustainable fisheries programs and provide leadership in the area of coral reef fisheries management.

R3.2 *The CRCP should demonstrate greater transparency in setting CRCP priorities. The CRCP should use enhanced LAS as a major basis for setting program priorities.*

The CRCP is to be commended for its support of effective coral reef management programs in many locations. The challenges of managing a program that spans much of the world are apparent. The increasing interest of states and territories with authority over coral reef resources in guiding their programs and influencing the priorities of the CRCP is a sign of program maturation, and should be fostered appropriately. Considering that management decisions are made by institutions outside of NOAA in most circumstances, NOAA has the responsibility to work toward effective decentralization of program planning and implementation. Investing in human capacity building and developing performance metrics will help to improve effectiveness of local management, while ensuring NOAA and Congress that financial resources are being used effectively.

The Local Action Strategy process is an effective approach that warrants strengthening. A standardized, but not overly constraining, planning process should underpin all LAS.

R3.3 *The CRCP should establish an inclusive and robust process for periodic review and strengthening of LAS.*

Each LAS should include, as a minimum:

- A vision statement
- Program goals and objectives
- Prioritized activities linked to past activities and future need
- A plan for personnel management
- A timeline
- Performance metrics
- A human capacity development plan linked to performance metrics

The content of each LAS should be developed in consultation with local resource users and other important constituencies. The lead authors of these plans should share their strategies and seek synergies among programs. NOAA management should invest in a review of the LAS process that will result in specific guidelines that standardize LAS plans.

R3.4 *The CRCP should place greater emphasis on place-based management. The CRCP should develop processes for defining and managing priorities that include local agencies and communities with responsibilities for conservation and sustainable use of coral reefs and related resources.*

Effective coral reef management is usually based on engagement of a broad array of local constituencies including scientists, policy makers, resource users, and the general public. The participation of these constituencies in an efficient and inclusive process is frequently key to success. Considerable experience with place-based management exists and should be drawn upon by the CRCP. Such efforts can enhance the cultural appropriateness of decisions affecting local resources, contribute to a sense of ownership

and commitment to program outcomes, and encourage dedication to program sustainability. Such approaches also increase compliance with management regulations—important in locations with limited enforcement capacity. The creation of logical management boundaries and site priorities that are based on local and regional social constructs and ecological functions may help to justify long-term program support and contribute to measurable outcomes.

R3.5 *While there needs to be greater CRCP emphasis on activities that support LAS, there remains a national interest in and responsibility for coral reef science and management for important coral reef resources that are not covered by LAS. The CRCP needs to develop an explicit strategy for, and allocate some resources to, addressing those other reef resources.*

It is estimated that less than half of U.S. coral reef resources are covered by a LAS. The remaining reef areas are away from human population centers. The CRCP should assess the needs for effective conservation of these areas, identify the government agency(ies) with responsibility for providing those services, and carefully assess the CRCP niche in supporting effective management of these areas.

Q1.4 Resources. Is the Program funding the right balance of activities to advance the conservation of coral reefs? Is the overall Program cost-effective? Are available resources adequate to fulfill the Program mission?

As stated above, the Program's balance of activities was appropriate during its first five years, but needs to be reassessed for the future. The CRCP has been cost-effective. Five percent of total budget is spent on administrative costs, which appears to be very reasonable. In addition to administering substantial grant programs, the CRCP also conducts substantial coordination across NOAA, other Federal agencies, and other stakeholders; identifies and disseminates information on lessons learned; and sets many different agendas related to coral reef research, funding, and support. It also provides Secretariat support for the UCRTF.

While the Program has made extremely good use of the dollars provided to it, the continued decline of coral reef ecosystems despite increasing recognition of their importance is a reflection in large part of the inadequate resources directed to the Program.

R4 *Resources. NOAA should address the significant mismatch between the current level of resources and the scale of the need for actions to halt and reverse the decline in coral reefs and related ecosystems. This should be addressed through a range of measures, including: requests for increased Congressional appropriations to the CRCP; improved leveraging of resources from Federal government counterparts and state and territorial governments; large-scale cooperative programs with NGOs and foundations; and a larger, more focused grants program.*

Appropriations for the CRCP need to be increased. Many opportunities for increased investment appear in these recommendations (e.g., capacity building, research, and education). CRCP needs

to prepare a strong case for additional Federal investment in CRCP for NOAA senior management, emphasizing need, NOAA's Federal responsibilities, and the expected positive impacts on coral reef conservation of increased investment based on current Program successes.

However, given the mission of the CRCP and the urgency of the situation, even with a larger appropriation, additional mechanisms are needed to leverage CRCP funds. The CRCP is missing opportunities to use government funds to leverage private funds from NGOs and private foundations that share the CRCP's goals. While the coral grants programs require matching funds, substantially more private funds could be leveraged through medium-term Cooperative Agreements with NGOs and foundations that share CRCP's objectives. In addition, the CRCP, through its role as Secretariat to the USCRTF, should work with other Federal agencies to increase their financial and technical support for achieving the shared objectives of the CRCP and the USCRTF. Finally, means should be explored for increasing the effectiveness of the U.S. Fish and Wildlife Fund as a means for generating financial resources in support of the objectives of the CRCP. An effective fund-raising campaign could serve a dual role by also disseminating information, such as through advertising via high-impact media (e.g., television, radio).

R4.1 *A higher proportion of resources available to the CRCP should be allocated to its three grant programs; and subject to statutory constraints, the CRCP should modify and streamline its grant programs in order to reduce transaction costs associated with applying for, receiving, and reporting on activities so that more resources are available for project implementation.*

The materials reviewed, and the presentations and talking points provided by stakeholders at the Panel review meeting, indicated that the costs in terms of human resources and time for application for, reporting on, and processing the reports of a large number of small grants are disproportionate to the financial risk involved for NOAA. In addition, it appears budgetary and management systems in place limit the ability to provide for adaptive management and to address emerging or changing conservation priorities. The complexity of the application and grant management process may deter important collaborations, especially within the international grants program.

Q1.5 Regional Focus. Is the balance between efforts in the Atlantic and the Pacific appropriate to address the issues in each region? Is adequate effort being spent on international issues?

The current 40/40/20 split between the Pacific, Caribbean Regions, and international/emerging issues has provided certainty to regions, but has limited the Program's flexibility to address emerging and international issues.

R5 *Regional Focus. The CRCP should maintain a regional distribution formula, but revise the existing one. The new formula should include more flexibility to address rapidly or newly evolving issues independent of regional formulas. It should allow for expansion of the proportion of resources available for international activities, especially those that*

provide value-added information and/or conservation to coral reef ecosystems within U.S. jurisdictions.

Coral reefs are linked by currents and the impacts of human uses and activities. U.S. reefs often depend on and are affected by the condition of the reefs of other countries. In the broader global context, the U.S. has much to learn from and to contribute to international lessons about the conservation and management of coral reefs. While international planning and scientific meetings provide a venue for some leaders, managers should be encouraged to exchange experiences through learning networks. The nascent NOAA CRCP learning network warrants increased support and should be linked with other learning networks such as the Locally Managed Marine Area Network and regional and international Tropical Marine Ecosystems Management Symposia. Cross-visits among managers, community leaders, and policy makers involved directly in LAS implementation should be encouraged and supported.

R5.1 *NOAA should place increased emphasis on supporting and effectively participating in ICRI and other international efforts relevant to the CRCP mission.*

With the U.S. and Mexico assuming leadership of ICRI this year, the CRCP has an exceptional opportunity to contribute to and use ICRI as a venue to identify and support additional conservation initiatives.

Q2 How effective have these efforts been in advancing coral reef conservation?

The work conducted thus far in the CRCP has been effective in addressing the needs identified in 2000. The Program and its many deliverables have achieved much and have changed management of coral reef ecosystems within U.S. jurisdictions. The CRCP is now at an inflection point, and needs to move from assessment of threats to coral reefs to on-the-ground, in-the-water actions to respond to those threats.

Despite the excellent work of the CRCP, coral reefs have continued to deteriorate. It is clear that the threats, opportunities, and urgency for management action have all increased. The resources currently available to CRCP severely limit its ability to help meet the challenge of conserving U.S. coral reefs.

Q2.1 Are the science and observation efforts (e.g., research, mapping, monitoring) funded by the Program adequately addressing management needs?

The Program has developed substantial and important baseline data sets for planning and management. While these activities are important, they have tended to emphasize biological and physical attributes of reefs with less emphasis on socio-economic or management effectiveness. Detailed maps of coral reefs provide an important complement to site knowledge derived from socio-ecological monitoring and local non-scientific knowledge. The expenses associated with research cruises and development of multi-layered detailed maps may be precluding increased investment in other critical forms of applied research, direct management, and evaluation.

Q2.1.1 Are they adequately informing and resulting in management actions?

A partial disconnect exists among CRCP monitoring, mapping, and research activities that impedes both timely flow of information and communication of information needs for effective management. The completion of important studies to the point of peer-reviewed publication or advanced graphic products can take some time after completion and analysis of a study or survey. Interim research findings can be critical for management. Developing strategies for more timely dissemination of maps, monitoring information, and research findings should be a priority. Incorporation of other NOAA and Federal data sets, such as those acquired from remote sensing, should be integral to this.

R6 *Science. The CRCP should reconsider its science agenda. The CRCP should implement a transparent, efficient review process that includes managers and scientists from NOAA, the states and territories, and the Coral Centers to reassess and agree upon priorities. The CRCP should develop a more timely flow of information from its science investments in order to provide information needed for effective management.*

A strong emphasis should be placed on well-coordinated interdisciplinary science targeted to address management needs, closely tied to means to ensure that resulting information is effectively channeled into decision-making.

Given the devastating effects of coral disease in the Caribbean Region and its potential for similar impacts in the Pacific Region, the CRCP should ensure that the efforts of the interagency Coral Disease and Health Consortium (CDHC) be effectively supported. The CRCP should build on its leading role in these efforts, supporting geographically coordinated disease sampling and related research, inter-laboratory analysis using standard procedures, and disease impact and mitigation analyses and modeling.

Regular planning meetings between scientists and managers should be required to help strengthen the link between science and management needs. Research plans should include plans for “translation” of scientific findings into management recommendations. Regular efforts should be made to ensure that research findings are intelligible to the public in educational materials.

Q2.1.2 Are the Program’s efforts to build management capacity and support implementation of management actions resulting in effective conservation of coral reefs?

R6.1 *The CRCP should conduct a substantial study of the range and nature of capacity-building requirements for ongoing effectiveness of the CRCP. A small team with expertise in human resource development, marine operations, and environmental management should conduct this study.*

Despite a number of investments by the CRCP, substantial management capacity gaps were identified by many CRCP stakeholders as a priority issue requiring urgent attention. However, the specific capacity needs and priorities have not been identified, nor have the most effective means for capacity development.

While it is clear that needs exist for development of capacity for a number of elements of coral reef management, it is not clear what these are and what their relative priority should be. In the materials presented to the Panel, the term “capacity development” had a number of meanings, ranging from various needs for training of personnel, reassignment of personnel, and provision of equipment. There is a clear need for experts to identify and prioritize capacity needs for the LAS, U.S. agencies, international partners, and NGOs.

R6.2 *The CRCP should revise the funding basis and cycle for the program to ensure two- or three-year forward planning, or longer where appropriate. At the very least, this should include capacity for carry-over funding between financial year reporting periods and the capacity to provide two- or three-year contracts for trained personnel.*

A significant problem in building and maintaining capacity is the loss of capacity because of short-term annual budget cycles or “soft” money. This creates delays or uncertainty of funding, which prompts trained staff to seek financial security. Often, staff will move out of positions for which they have been trained and have acquired initial experience. This loss is dysfunctional and wasteful and hinders the development of national expertise in coral reef management.

The CRCP should develop a detailed plan for capacity development that addresses infrastructure development and scientific and practical management capacity. This plan should be developed by specialists in close consultation with the CRCP and its constituencies. This plan should consider both formal and informal capacity development processes with the intent of supporting the evolution toward decentralized program management. A wide range of interventions including learning networks, peer exchanges, targeted extension, demonstration projects, short courses, and fellowships for graduate-level education opportunities at U.S. academic institutions should be considered.

Q2.1.3 Education and Outreach. Have the Program’s education and outreach efforts been effective in reaching target audiences?

The Program has made many excellent investments in education and materials to build awareness and increase interest in effective management at local and state levels. Nevertheless, an urgent need remains for outreach concerning the national and global significance of the threats to coral reefs, the human activities that are affecting them, and the costs and consequences of their continuing decline. The decline of coral reefs is symptomatic of a more general decline in less “charismatic” marine environments that is

linked with—and as significant as—human impacts on the atmosphere. Broader outreach on the perilous situation of coral reefs is a role that the CRCP should address, and NOAA might pursue most effectively in partnership with internal programs such as Sea Grant and other organizations. In addition to outreach, the CRCP program should be aware of opportunities for learning from field practitioners, community leaders, and resource users through two-way and participatory communication mechanisms.

R7 *Education and Outreach. The CRCP, in partnership with other education-oriented organizations, should provide for better general education and outreach on the threats to coral reefs, the likely social and economic consequences of their loss, and the measures that can be taken to ensure their continued survival and productivity. NOAA's role in this should be clearly defined and should include use of existing and development of new products, provision of expert information, and development of partnerships explicitly for communication.*

These investments will increase the public's awareness of the risks associated with coral reef degradation. The CRCP's budget security and longevity will depend on the creation of a wide constituency of support among the American public and political leadership.

Q2.1.4 Partnerships. Is the Program building and maintaining effective partnerships in support of its mission and mandates?

Partnerships are central to the CRCP achieving its mission. Many collaborative partnerships have been developed through the CRCP. Such partnerships are critical in coral reef management and conservation because of the frequent need to work across boundaries within and between organizations and jurisdictions at all levels. The review Panel identified needs for more explicit means for formalizing long-term strategic partnership (both to leverage funding and actions), and clearer communication to capitalize on opportunities for strategic partnership. These needs exist within NOAA between line agencies and between Headquarters and regional offices, as well as between the CRCP and:

- Other Federal agencies through the USCRTF
- Agencies of jurisdictions involved in Regional Action Strategies
- NGOs
- Academic institutions

The USCRTF should establish a working group to focus on policies of interagency cooperation for making decisions concerning coastal activities so that they comply with EO 13089. According to EO 13089, the Department of Transportation, the U.S. Army Corps of Engineers, the U.S. Department of Agriculture, and the U.S. Environmental Protection Agency must “(a) identify their actions that may affect U.S. coral reef ecosystems; (b) utilize their programs and authorities to protect and enhance the conditions of such ecosystems; and (c) to the extent permitted by law, ensure that any

actions they authorize, fund, or carry out will not degrade the conditions of such ecosystems” (EO 13089, Section 2, Policy). The USCRTF working group should convene an interagency dialogue to solidify this policy. Further, the working group should clarify the inclusion of natural resource impacts and social and cultural matters in cost-benefit analyses for proposed projects. The assessment of cumulative impacts, as required by NEPA, needs to comply more clearly with the intent of the law. This means that assessments should be based on original natural conditions, not necessarily the conditions found at the start of the assessment.

Periodic learning events across the portfolio of sub-programs, such as this External Review, serve as an opportunity to encourage mutual learning and foster commitment to the CRCP. In addition, various foundations, NGOs, and U.S. government agencies have coral reef programs. Collaboration with these entities to identify potential complementary approaches and funding strategies will improve the stability and impact of the CRCP.

The most important partnership for the CRCP is the partnership with the states and territories that have responsibility for managing most U.S. coral reefs. The jurisdictions are on the “front lines” for most management issues, and the CRCP can only be successful if it enables the jurisdictions to achieve shared management goals and objectives. The primary vehicle that the CRCP has used to develop a shared agenda with jurisdictions is LAS. These strategies were developed under specific guidelines that encouraged the jurisdictions to focus their actions on short-term issues. As would be expected, some LAS are stronger than others are, and some have more and some less buy-in from various stakeholders. As the CRCP evolves, the nature of the relationship between the CRCP and the states and territories also needs to evolve. This suggests that there is a need for an adaptive approach to developing and continuing partnerships between the CRCP and the jurisdictions.

R8 *Partnerships.* *NOAA should further strengthen its important strategic partnership with the states and territories through enhanced communication and transparency about the CRCP’s overall spend plans and an enhanced LAS process. The CRCP should further engage in additional strategic partnerships with NGOs and academic institutions in order to leverage the CRCP’s resources and impacts.*

The members of the Panel identified some emerging principles to address this need:

- Build on CRCP accomplishments in defining and advancing the national and local interests in coral reef conservation.
- Recognize evolving roles, responsibilities, and capacities of jurisdictions and NOAA.
- Emphasize complementary responsibilities of NOAA and the states and territories. For example, LAS currently cover only 40% of U.S. coral reefs. Therefore, a proportion of the CRCP’s resources need to be directed towards supporting effective management and sound science for these reefs.

- Ensure that revised and enhanced LAS are at the core of management and science priorities for the jurisdictions. Substantial portions of both the grants programs and the NOAA spend plans should be directed to addressing those priorities.
- Foster linkage with regional and global initiatives in coral reef conservation and management.
- Engage other NOAA programs that have strong links and well-established relationships in the jurisdictions.

Q2.1.5 Leadership. Is the Program providing effective leadership to advance coral reef conservation?

The achievements of CRCP reflect the strong catalytic leadership of NOAA managers. Leadership has been provided by dedicated, knowledgeable, and energetic individuals.

The Panel considers that the full leadership potential of the USCRTF has not yet been realized. Effective participation requires significant effort because of the complex nature of interagency issues and the time required to prepare for and attend meetings in distant locations. The lack of senior engagement by other agencies may reflect a view that coral reefs and/or the USCRTF are not priority issues for them. This presents a challenge for the Co-Chairs and Secretariat to generate the necessary sense of national urgency and constructive policy consideration to develop the role of the USCRTF as a national forum for an increasingly critical issue.

R9 *Leadership. NOAA should work with the co-Chairs and members of the USCRTF to review the Task Force's operational context with a view to strengthening the CRCP's voice and the use of the Task Force as a national forum addressing an urgent issue.*

Members of the Panel note that the U.S. has provided important global leadership on coral reef issues. Its scientists have been leading figures in International Coral Reef Symposia since 1964. In 1994, the U.S. worked with seven other concerned nations to launch ICRI and served as Chair and Secretariat for the first two years of the organization's existence. In the summer of 1995, ICRI organized a global meeting attended by 41 nations that adopted a "Call to Action" to halt and reverse the decline of the world's coral reefs. At the same meeting, ICRI developed a "Framework for Action" to respond to that call. The U.S. continues to play an important leadership role in ICRI and co-Chairs the organization with Mexico. The international grants program of CRCP is a further example of practical U.S. leadership on coral reef issues.

R9.1 *The CRCP should work with the USCRTF to capitalize on the global leadership the U.S. is providing through the ICRI and the success of the international grants programs.*

Q2.1.6 Evaluation. Is the CRCP using appropriate tools and mechanisms to evaluate impacts of funding and measure progress in meeting its goals and objectives?

The current metrics for evaluation are primarily measures of effort or output (e.g., numbers and types of projects funded, number of people trained, numbers and types of publications). These help to determine short-term fiscal accountability, but are not generally useful measures of process and outcomes related to management.

The underlying difficulty is that the basis of coral reef management is to change human behaviors, to remove or minimize impacts, and to develop and adopt the systems of use and care needed to sustain coral reefs. More appropriate metrics of performance would be indicators of environmental change and the activities and attitudes of people in response to the systems of use and care.

Both environmental change and alterations of human attitudes are typically slowly changing parameters. The effects of human behaviors must be interpreted against other dynamics of change in coral reef communities. The adoption and persistence of changed behaviors must be interpreted against other social dynamics that may be unrelated to coral reefs. In both cases, the challenge is to identify cost-effective metrics that are reasonable in the context of total management budgets. Performance metrics should be used to identify progress and opportunities for improvement, and care should be taken to avoid the potential for metrics to be used to penalize underperforming but committed programs. Performance metrics should take into consideration the considerable management challenges that are faced by states and territories.

A solution may lie in linking evaluation to the design of adaptive management. Two recent studies by the National Research Council (2003, 2005), among others, provide excellent discussions on metrics.

R10 *Evaluation. The CRCP should work with local, national, and international partners to develop cost-effective protocols for measuring management performance in conserving and sustaining coral reefs and related ecosystems.*

Multiple methods should be used to develop protocols to measure management performance in conservation and sustainability of coral reefs and related ecosystems. Monitoring guidebooks and programs such as “How is Your MPA Doing?” (Park, Pomeroy and Watson, 2004) or “Socioeconomic Manual for Coral Reef Management” (Bunce et al, 2000) are important to support field efforts and to engage managers and resources users in monitoring. However, they are not a replacement for social science. Comparative scientific work using formal social science methods is also needed to understand complex problems associated with management effectiveness, the influence of context, and program strategic planning. Comparative quantitative methods complemented by detailed case studies are among appropriate social science methods.

Q 3 Building on responses to #1 and #2 above, how can the CRCP improve its impact and performance in the future?

Seven recurrent themes underlie the responses to the first two questions.

Theme 3.1 The need to communicate the results of the Program and achieve broader recognition of the continuing and increasing urgency in the need to manage to halt and reverse the decline of coral reefs.

The program and its partners are producing good information, but there is an urgent need for targeting materials to a broader range of interest groups.

The decline of coral reefs is a symptom of more general stress on marine ecosystems linked to the increase in atmospheric carbon dioxide. These are major challenges for the U.S. Internally, the primary impacts on reefs arise from poor water quality arising from underinvestment in management of wastes and land-based sources of marine pollution, and the depletion of fisheries through removals of key species and associated habitat destruction. Externally, there are links between the well-being of U.S. coral reefs and those of other nations in the same water masses. Overarching these are the effects of ocean warming and acidification linked with climate change.

In conjunction with other NOAA communication efforts, the CRCP needs to develop a strategic framework and action plan that highlights the need for management action to reverse coral reef ecosystem decline. This effort can also be embedded in broader NOAA priority global issues such as watershed management, climate change, and overfishing.

Theme 3.2 The value of the CRCP, the need for its expansion, and the need to adjust the balance among the program elements.

The CRCP was established in 2000. It has addressed its goals and provided a solid basis for the substantial action that is needed to halt and reverse the decline of U.S. coral reefs. The Program is dealing with issues of environmental changes that operate on decadal scales, many of which are driven by much shorter-term economic, social, and political pressures. For more than 30 years, scientists have observed and recorded the decline of reefs and have developed a solid understanding of the human activities that contribute to that decline. Only in the past decade have we reached the point at which substantial economic, social, and political pressures are focusing on coral reef decline and the need for management response.

The work of the CRCP involves both science and management. CRCP must also operate at multiple governmental levels—local, national, and international. Finding the right balance between science and management and among actions at these varied levels remains at the core of the inevitable tensions of implementing the CRCP. For the future, the CRCP needs to adjust the balance that prevailed during its first five years. The CRCP should place a greater emphasis on management, and shift some additional resources away from national efforts (e.g., research in support of the Northwest Hawaiian Islands' designation as a National Monument) towards more resources for local and international work.

Theme 3.3 The centrality of LAS, the need to continue to enhance them, and the need to incorporate place-based strategies within them, while simultaneously clarifying the CRCP's national and international program elements.

LAS break new ground to achieve necessary actions by the jurisdictions, NGOs, corporations, and the human communities that use or have impacts upon reefs. There are many reasons to persist with the LAS approach to creating and sustaining multi-faceted partnerships. The dynamics of each LAS differ, reflecting the social and economic dynamics of its area of operation. There is a need to develop the LAS approach further and to do so in a way that defines core goals, objectives, and scope, and establishes a regionally appropriate framework for adaptive management. LAS also need to target and develop integrated management strategies for priority reef areas within each jurisdiction. It is through such targeted actions that real improvements in reef conditions will be realized. Performance indicators focusing on the effectiveness of key management processes and changes in environmental conditions are also required.

The CRCP has made a good start on the national U.S. program of action. It is important to build upon this start and persist until the activities for conservation and sustainable use of coral reefs and associated ecosystems are accepted and applied as mainstream elements of prudent management of natural assets and biological diversity. In the meantime, it is clear that NOAA—through the CRCP—has an unprecedented opportunity to advance our national and global stewardship of a unique, economically important, and highly threatened resource. Additional investments in CRCP hold great promise for promoting that stewardship at a critical juncture for management intervention.

The current U.S. role as co-Chair of ICRI and the process for reauthorization of the CRCA provide opportunities for demonstrating the achievements of the CRCP and advocating the need for continuation and expansion of the Program.

Theme 3.4 The need for substantial increases in the economic, social science, and governance capacity of the program.

As with most of NOAA's programs, investment in the understanding of the human dimensions of resource issues has lagged behind bio-physical research. This is problematic, since social and ecological systems are coupled and effective management interventions depend on an understanding of social dynamics and institutional capacity. Resource users, for example, respond to coral reef conditions and decide how to exploit or conserve them based, at least in part, on social and institutional values. Management interventions must meet multiple social and biological goals and be designed to be institutionally feasible.

NOAA has recently started a major initiative to apply relevant social science to its programs, and the CRCP should coordinate its efforts with this initiative. The CRCP should invest in its capacity to understand the human dimensions of coral reefs by hiring social science personnel and supporting applied research projects that directly support management interventions. This research should be linked with biological research and mapping efforts. The specific content of the work should be directed by the LAS process, but the CRCP may benefit from considering the questions and methods reviewed in the NOAA Social Science Strategy for MPAs.

The CRCP should invest in capacity to understand the human dimensions of coral reefs by hiring social science personnel and supporting applied research projects that directly support management interventions.

Theme 3.5 The need for greater transparency on, and decentralization of, CRCP decision-making and action.

A consistent theme of stakeholder input was a perceived lack of transparency about how decisions are made regarding the allocation of CRCP resources. This includes the proportion of total funds going to the grant programs compared to the NOAA spend plan, as well as how decisions are made as to what would be included in the spend plan. The perceived lack of transparency needs to be addressed. However, NOAA must ensure that it is transparency and not consensus that stakeholders are seeking. The issue of transparency is difficult for Federal agencies, given the complex decision-making constraints under which they operate. However, how and why decisions are made—especially those involving funding—are important to CRCP stakeholders. Developing and instituting a process of clearer and unambiguous communication to stakeholders on funding decisions needs to be a priority for CRCP management.

The NOAA central offices should also begin to develop a plan for decentralization of decision-making, monitoring activities, data management, and other key program activities with a short-term (6-year) and long-term (12-year and beyond) plan in mind. NOAA management should focus attention of development of local capacity for many of the functions it currently undertakes. The development of a plan for human capacity development in states and territories is a high priority. NOAA management should retain some degree of program oversight to ensure that the activities of the various jurisdictions are complementary and that performance metrics are met, or that strategies are developed to respond to deficiencies.

The degree of decentralization in program management should be linked and justified through demonstrated relevance to local management efforts as demonstrated by LAS and state and jurisdictional leadership support during program-wide evaluations every six years. Some reef-related activities that do not involve LAS, as well as leadership activities through the USCRTF and ICRI, are best managed centrally by NOAA personnel.

NOAA should give attention to increasing transparency and decentralization in program management so that CRCP stakeholders have a clearer sense of understanding and involvement in how and why decisions are reached, especially those involving funding.

Theme 3.6 Administration and financing

The CRCP is currently operating on a short-term basis, on soft money appropriated annually. This process is inefficient, and presents particular difficulties for a program that is working to manage a complex system characterized by multi-year or decadal changes in response to impacts or management. The lack of multi-year grants or carry-over funding significantly constrains the overall effectiveness of many facets of this program.

The period of greatest uncertainty prior to appropriation of funds coincides with critical spawning or breeding periods of many reef organisms. Delayed funding approvals mean that field project approvals and expenditures cannot occur until after the necessary time for management, monitoring, or research actions. When the unspent funds are returned, the mismatch between the funding cycle and optimal timing for field work continues. The CRCP needs to address the problem of funding lag for field efforts by developing a mechanism that allows for fund carry-over and multi-year projects.

The matter of a lack of job security for people employed by the program was discussed earlier, but the loss of capacity and experience is a significant impediment.

Much of the work of the CRCP is delivered through small grant projects. In some instances (especially for small international NGOs), this is an effective approach. However, several presenters argued that the time requirements, costs, and processes for fund application and reporting are disproportionate to the funds provided. This fact serves as a significant disincentive for potential participants. The CRCP needs to look at how it can work with partners to implement strategic partnerships through multi-year grants and longer-term cooperative agreements.

The inadequacy of current resources and the practical difficulties of the short-term nature of current program funding have been discussed, but the long-term success of the program will be reflected in NOAA's ability to "mainstream" coral reef issues. A need exists to develop a transitional strategy that incorporates increased funding in the immediate future, but uses CRCP funding to leverage sustainable funding from jurisdictions and other partners in the long term.

Theme 3.7 Strategic New Initiatives

Poor management of watershed lands and the chemical and biological contamination of waters and wastes flowing from them is a major factor driving the decline of coral reefs. This is a complex cross-jurisdictional and multi-jurisdictional issue that must be addressed with urgency by NOAA and USCRTF partners. Watershed-based management research initiatives are needed. These may be addressed by a revised and enhanced LAS process that can build a new agenda for watershed-based management and provide more opportunities for contact with local jurisdictions. NOAA and its USCRTF partners need to raise the urgency and the importance of cross-jurisdictional and multi-jurisdictional issues arising from management of watershed lands, with a view to enhancing or developing effective management and supportive research.

Congress has recently recognized the importance of the need to manage deep, cold water coral communities in U.S. waters. Members of the Panel welcome this addition and note that the dynamics of cold water corals and human impacts upon them are different in many ways from those of shallow warm water coral communities, which are the current focus of the CRCP. The CRCP program addressing warm water corals should be enhanced, and a distinct and additionally funded program should be created for cold water corals.

IV. References

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**APPENDIX A
CHARGE TO THE EXTERNAL REVIEW PANEL**

Charge to Reviewers

The charge to the External Review Panel is to evaluate the success of the Coral Reef Conservation Program (CRCP) in meeting the purposes of the Coral Reef Conservation Act of 2000 and other mandates during 2002–2006, and to provide recommendations that the CRCP may use to improve the Program. The specific charge to the Panel is to evaluate past performance and provide recommendations for future improvement by addressing the following questions and topics:

- 1) **Is the CRCP directing resources and efforts in the appropriate areas to optimize the conservation of coral reef ecosystems?**
 - **Mission** – Is the mission clear and appropriate to address Program mandates?
 - **Goals and Objectives** – Are the goals and objectives clear and appropriate to address the Program mandates?
 - **Priorities and Strategic Planning** – Are priorities appropriate to enable the Program to make a significant impact on coral reef conservation? Are there lower priorities that should be elevated, or *vice versa*, to complete or enhance long-term objectives?
 - **Resources** – Is the Program funding the right balance of activities to advance the conservation of coral reefs? Is the overall Program cost-effective? Are available resources adequate to fulfill the Program mission?
 - **Regional Focus** – Is the balance between efforts in the Atlantic and the Pacific appropriate to address the issues in each region? Is adequate effort being spent on international issues?

- 2) **How effective have these efforts been in advancing coral reef conservation?**
 - **Application of Results to Resource Management** – Are the science and observation efforts (e.g., research, mapping, monitoring) funded by the Program adequately addressing management needs? Are they adequately informing and resulting in management actions? Are the Program's efforts to build management capacity and support implementation of management actions resulting in effective conservation of coral reefs?
 - **Education and Outreach** – Have the Program's education and outreach efforts been effective in reaching target audiences?
 - **Partnerships** – Is the Program building and maintaining effective partnerships in support of its mission and mandates?
 - **Leadership** – Is the Program providing effective leadership to advance coral reef conservation?
 - **Evaluation** – Is the CRCP using appropriate tools and mechanisms to evaluate impacts of funding and measure progress in meeting its goals and objectives?

- 3) **Building on responses to #1 and #2 above, how can the CRCP improve its impact and performance in the future?**

**APPENDIX B
LIST OF EXTERNAL REVIEW
PANEL MEMBERS**

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**APPENDIX C
FEDERAL REGISTER NOTICE
REQUEST FOR PUBLIC COMMENT**

33742

Federal Register / Vol. 72, No. 117 / Tuesday, June 19, 2007 / Notices

(including hours and cost) of the proposed collection of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and/or included in the request for OMB approval of this information collection; they also will become a matter of public record.

Dated: June 14, 2007.

Gwellnar Banks,

Management Analyst, Office of the Chief Information Officer.

[FR Doc. E7-11764 Filed 6-18-07; 8:45 am]

BILLING CODE 3510-12-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Coral Reef Conservation Program External Review

AGENCY: Coral Reef Conservation Program, NOAA, Department of Commerce.

ACTION: Request for public comment.

SUMMARY: The Coral Reef Conservation Act of 2000 supports effective management and sound science to preserve, sustain, and restore valuable coral reef ecosystems. The NOAA Coral Reef Conservation Program (CRCP or Program) is a partnership among four NOAA Line Offices (i.e., the National Ocean Service, the National Marine Fisheries Service, the National Environmental Satellite, Data, and Information Service, and the Office of Oceanic and Atmospheric Research) working on coral reef issues. The program carries out, directly and in partnership with scientific, private, government and nongovernmental groups, a wide range of coral reef-related activities, including mapping and monitoring, management and capacity building, strategic research, and education and outreach.

In order to evaluate and improve the success of its efforts to understand and conserve coral reefs, the CRCP is undertaking a comprehensive external review of the program. To this end, the CRCP is seeking external feedback, including public comment, on the program's approach to balancing competing priorities.

An independent contractor will summarize all comments received in response to this request and will provide them to an expert review panel scheduled to convene in late September 2007.

DATES: Your comments must be submitted no later than July 19, 2007.

ADDRESSES: This announcement contains guidance on how to provide feedback, including some of the questions for which the CRCP is seeking comment. The questions are also available for download via the Internet on the CRCP Web site at <http://www.coralreef.noaa.gov/review.html>. You may submit comments electronically via e-mail to crpc.comments@noaa.gov. You may also submit comments in writing to: CRCP, c/o Roger Griffis, 1305 East-West Highway, Sta. 10122, (N/ORM), Silver Spring, Maryland 20910.

FOR FURTHER INFORMATION CONTACT: Roger Griffis by mail at CRCP, NOAA, 1305 East-West Highway, Sta. 10122, (N/ORM), Silver Spring, Maryland 20910 or phone: (301) 713-3155 ext. 152 or e-mail: roger.b.griffis@noaa.gov or visit the CRCP Web site at <http://www.coralreef.noaa.gov/review.html>.

SUPPLEMENTARY INFORMATION: The CRCP's external review will encompass program activities between 2002 and 2006. An independent, external panel of seven experts in coral reef and natural resource science and management will convene for a three day meeting in late September 2007 to review materials and information about the CRCP, develop findings, and make recommendations.

The program is seeking input on the questions listed below. Please note that you do not need to address all questions, and the CRCP welcomes additional input on topics not covered in the questions listed.

Although the CRCP is the most interested in obtaining feedback based on the public's interaction and experience with the Program, background information concerning the CRCP and its activities is available from the CRCP Web site at <http://www.coralreef.noaa.gov/review.html>. The CRCP is seeking input on the following questions:

- Is the Program focusing efforts on the right suite of activities to advance coral reef conservation?
- Are the Program's efforts in various geographic areas appropriate to address the issues in each region?
- Are the Program's science and observation efforts (e.g., research, mapping, and monitoring) adequately addressing management needs, and

informing and resulting in management actions?

- Have the Program's education and outreach efforts been effective in reaching the proper audiences?
- Is the Program providing effective leadership and building useful partnerships to advance coral reef conservation?

• How can the CRCP improve its impact and performance in the future?

An electronic version of these questions is available on the CRCP Web site at <http://www.coralreef.noaa.gov/review.html>.

(Optional) When you submit your comments, you are welcome to provide background information about yourself, such as your organization(s), area(s) of expertise, and experience with the CRCP. This information will be used by the independent consultant who will compile and summarize the comments.

Public comments may be submitted from June 19, 2007 [publication date], through July 19, 2007 [30 days after].

Dated: June 13, 2007.

David M. Kennedy,

Program Manager, Coral Reef Conservation Program, National Oceanic and Atmospheric Administration

[FR Doc. 07-2990 Filed 6-18-07; 8:45 am]

BILLING CODE 3510-08-M

DEPARTMENT OF DEFENSE

Office of the Secretary

Nationwide TRICARE Demonstration Project

AGENCY: Department of Defense.

ACTION: Notice extending deadline for demonstration project.

SUMMARY: The Demonstration is also referred to as the Operation Noble Eagle/Enduring Freedom Reservist and National Guard Benefits Demonstration. This notice is to advise interested parties of the continuation of the Demonstration in which the DoD Military Health System addresses unreasonable impediments to the continuity of healthcare encountered by certain family members of Reservists and National Guardsmen called to active duty in support of a Federal/contingency operation. The Demonstration scheduled to end on October 31, 2007, is now extended through October 31, 2008.

FOR FURTHER INFORMATION CONTACT: Office of the Assistant Secretary of Defense for Health Affairs, TRICARE Management Activity, TRICARE Operations Directorate at (703) 681-0039.

**APPENDIX D
SUMMARY OF COMMENTS
RECEIVED IN RESPONSE TO
FEDERAL REGISTER NOTICE**

**Comment Summary
Responses to June 19, 2007 *Federal Register* Notice
Coral Reef Conservation Program External Review, 2002-2006**

Comment Summary
Responses to June 19, 2007 Federal Register Notice
Coral Reef Conservation Program External Review, 2002-2006

This document summarizes the responses to a Request for Comment that was posted in the *Federal Register* on June 19, 2007 by NOAA's Coral Reef Conservation Program (CRCP). The Request for Comment was intended to solicit feedback on the programs and activities that the CRCP has supported in its efforts to conserve coral resources for the five years between 2002 and 2006. The Request for Comment posed six questions:

- Is the Program focusing efforts on the right suite of activities to advance coral reef conservation?
- Are the Program's efforts in various geographic areas appropriate to address the issues in each region?
- Are the Program's science and observation efforts (e.g., research, mapping, and monitoring) adequately addressing management needs, and informing and resulting in management actions?
- Have the Program's education and outreach efforts been effective in reaching the proper audiences?
- Is the Program providing effective leadership and building useful partnerships to advance coral reef conservation?
- How can the CRCP improve its impact and performance in the future?

The CRCP received approximately 35 responses to this notice. A list of the respondents is provided at the end of this document in Appendix A. Respondents included Federal, state and local agencies and organizations with responsibilities for coral reef conservation and management; fisheries councils; non-governmental organizations; and individuals with an interest in coral reef issues.

The responses are provided anonymously in this summary. If the reader is interested in the source of a particular comment, Appendix B provides the names of the respondents and their specific comments.

The remainder of this document provides a summary of the comments that are provided in Appendix B.

Q1: Is the Program focusing efforts on the right suite of activities to advance coral reef conservation?

In general, commenters stated that the threats identified in the National Action Plan and addressed by the CRCP are the right ones to address to advance coral reef conservation, although one commenter stated that the intensity and timeliness of the Program's efforts are not sufficient to address the severity and scope of the coral reef crisis. One commenter remarked that insufficient funding is directed at reducing and prohibiting other identified threats, such as unsustainable coastal development, overuse from tourism,

and pollution and runoff. Another commenter stated that while the threats addressed by CRCP are the right ones to address, they are not of equal importance, and that increasing sea surface temperatures and ocean acidification pose the greatest threats to coral reefs. Still another commenter reported that misuse/overuse by recreational activities is a key threat that was not fully vetted by the National Action Plan. One commenter suggested that the program should triage the most addressable coral reef threats that lead to impacts that can be controlled, such as land-based sources of pollution, and not focus on issues such as global warming.

Several commenters addressed CRCP's distribution of funding. Most commenters stated that the mix of activities and the allocations to those activities make sense. One commenter is encouraged by the program's recent focus on restoration. However, several commenters stated that funding distribution is an issue. One commenter felt that disproportionate funding has been allocated to activities related to "reducing the adverse impacts of fishing" and "improving the use and effectiveness of MPAs." Another commenter felt that funding is disproportionately allocated to mapping and monitoring relative to the "central mission" of saving reefs; by contrast, another commenter noted that mapping and monitoring activities are extremely important to the protection of reefs. The latter commenter also stated that funding and efforts aimed at reducing fishing are being given to agencies with no statutory authority to implement regulations to manage fishing activities. One commenter stated that politics play more of a role in funds distribution than do conservation needs.

One commenter noted that the funding for coordination activities, at 20 percent of total funding, seems a bit high, but acknowledged that the cost might reflect the reality of managing multiple systems and programs. Similarly, one commenter noted that State and Territory ecosystem funding, coupled with fishery management, makes "management" much larger than the other spend plan categories. Another commenter noted that the majority of the Program's personnel costs are to support positions based in Washington D.C. The commenter suggested better distribution of funding for positions within areas where there are coral reefs, because local jurisdiction staff members are responsible for providing detailed reports and information, developing local action strategies, and coordinating efforts to better conserve and manage coral reef resources. Two commenters stated that the CRCP should not be funding programs that are in direct conflict with stated goals of the National Action Plan and National Action Strategy, or that are in conflict with efforts or policies of local jurisdictions or administrations. (These commenters did not provide examples of such programs.) One commenter cited the lack of funds for equipment use (boats, vehicles, maintenance and staff support) for research and monitoring efforts, as well as support staff and project managers to ensure completion of projects.

One commenter noted that the majority of funds for implementation of LAS projects are leveraged by the jurisdictions from the funds that are received from the CRCP, and are therefore not implemented primarily with CRCP funding.

One commenter pointed out that of the \$26 million awarded annually to NOAA, a significant percentage of that funding is not directly linked to LAS or other priorities identified by the US Coral Reef Task Force (UCRTF).

One commenter stated that the Program is not focusing on the right suite of activities. This commenter stated that the Southeast Florida Coral Reef Initiative has failed to address the issues affecting reefs in that area, such as sewage outfall and the disposal of medical and industrial waste into Florida waters, and that the Coral Reef Program is not adequately focusing on this issue.

Commenters provided many suggestions for the CRCP concerning the program's investments. A few comments discussed the issue of transparency within CRCP with respect to its funding process and decision-making. Comments on this issue included:

- CRCP needs more transparency with regard to the relationship between project funding and local resource management priorities as defined by the jurisdictions (two commenters).
- CRCP needs to better communicate how it allocates funds to improve the status of coral reef resources (two commenters).

Several commenters provided suggestions for modifications to the distribution, amounts, or purposes of funds across the spend plan categories, as can be seen in the following comments:

- Increase funding for Reducing Global Threats to Reefs and Reducing Impacts of Climate Change.
- Pursue more programs in the categories of General Coral Reef Conservation and International Coral Reef Conservation.
- Increase focus on the Climate Change goal.
- Secure funding for large-scale projects, such as watershed restoration to address land-based sources of pollution and the need for a marine laboratory in American Samoa.
- Redistribute funds from some of the more expensive programs such as research cruises and mapping to the State and Territorial Management and Monitoring Grants and the General Coral Reef Conservation Grants.
- Include more emphasis on the science and management of restoration.
- Shift resources from monitoring the decline of reefs to restoration.

- Increase funding for (and partnership with) NOAA's MPA center to ensure effective use of this tool.
- Increase funding for deeper coral reef research.
- Support increased emphasis on research, monitoring, and restoration for Endangered Species Act listed corals.
- Increase funding for research so that it is commensurate with other categories, or even higher. Because this would result in lower funding for other areas, more overall funding is needed.
- Reduce the REA component to tow surveys and redirect the funds to local monitoring efforts through expansion of the State and Territorial Monitoring Grants.
- Address the causes of increasing sea temperature and acidification in addition to studying the impacts of those threats.
- Funnel more funds internationally since conservation efforts in developing countries, where most reefs are located, pale in comparison to those undertaken by the US.

Several suggestions focused on CRCP's support to the development of local capacity for coral reef activities, both through programmatic-level support and funding. One commenter noted that CRCP-funded projects are led by staff from various agencies who offer in-kind support to the local jurisdiction and who must perform coral reef responsibilities in addition to their other jobs. This often makes it difficult to get the coral funded projects off the ground, completed in a timely manner, and implemented with proper oversight and management. Specific suggestions on this topic included:

- Assess local support (e.g., positions and management), including staff capacity and project management skills, to ensure that programs and projects are completed. The planning methods that are suggested in the All Islands strategy would help build the kind of project planning, implementation, and evaluation capacity that is needed in the islands.
- Provide more funding to the jurisdictions through the management and monitoring grants to enable implementation.
- Place greater emphasis on building on-site capacity for reef conservation and protection, especially marine protected areas (MPAs).
- Increase support for local conservation programs.
- Place a mid-level staff member (in addition to Coral Fellows) within each jurisdiction to support conservation activities at local level (two commenters).
- Fund local positions within key government agencies to implement projects.

- Each Federal oversight agency (e.g., EPA for ASEPA, USWWF/NOAA for DMWR, NSF for ASCC, NPS/DOI for NPAS) should fund a position that would oversee projects and coordinate efforts among the local agencies.
- Projects and funding directed to LAS should be coordinated with the jurisdictions. Applicants for NOAA Coral Program grants should be required to communicate initially with jurisdictional POCs to find ways to collaborate and ensure they are addressing the needs of the unfunded LAS priority projects, as well as other local coral conservation priorities identified by POCs.
- Task local marine and wildlife resource management agencies to lead initiatives and projects related to reducing impacts of fishing and the creation and strengthening of MPAs.
- Direct that funding provided for coral reef conservation under the Western Pacific Regional Fisheries Management Council not be used to support programs that are in direct conflict with the stated goals of the National Action Plan and the National Action Strategy, efforts underway within the jurisdictions, or policies of local administrations (two commenters).
- Secure additional funding (\$37 million) to complete LAS projects identified in 2002-2003.
- Fund the acquisition of high-resolution imagery and the strengthening of local capacity by training a team of local GIS managers in remote sensing techniques to map their coral reef at a more meaningful scale.

Another topic that garnered a few comments is the use of funding for field implementation. Comments on this topic included:

- Increase percentage of funding allocated to field implementation activities that contribute to in-situ conservation of reefs.
- Increase grant funding to partners who undertake field implementation.
- Focus funding on “on-the-ground” activities, such as improving water quality, developing and implementing restoration techniques, and increasing enforcement of existing regulations.

A few comments addressed issues concerning the US Coral Reef Task Force (USCRTF) and the All Islands Council (AIC), as follows:

- CRCP needs to more effectively engage other Federal agencies represented on USCRTF and secure genuine commitment to work together with local jurisdictions.
- CRCP needs to have more frequent phone calls and more effective interaction at USCRTF meetings with POCs and during scheduled site visits.

- Steering committee calls need to be re-assessed as a communications mechanism. The current process of having all issues discussed and decided on phone calls across 10 time zones with over 20 individuals may not be the best approach to gaining input and insight. (Three commenters)
- USCRTF should amend Objective 5 of the Reef Managers' Guide to read: "Address the impact of global change, coral bleaching, and reef health on reefs and people, and support efforts at the local, state, national, and global levels to reduce emissions of greenhouse gases."
- USCRTF processes for following up on, and responding to, issues raised by NGOs in their public comments needs to be greatly improved. Public comments from NGOs and private citizens located within the geographic regions that contain coral reefs deserve appropriate responses.
- CRCP should increase funding for the AIC Secretariat to increase policy support, communication and coordination between the CRCP, other Federal agencies, and the jurisdictions.

Three comments addressed the need to assess program activities and their results over time. One commenter stated that CRCP should define the current balance between studying, assessing, and mapping coral reefs and the direct actions to manage them, and examine whether it has changed over the years of the program. Another commenter recommended the development of metrics on the amount of time CRCP-sponsored planning, reporting, and meetings compared to the time devoted to research and monitoring, regulations and enforcement, public educations and awareness, and other management activities. The commenter stated that it seems that much time is devoted to planning, reporting, and meeting at the expense of real management. One commenter stated that better communication needs to be established to identify a clear strategy with SMART (Specific, Measurable, Achievable, Realistic, Time) objectives, and that the final measure of progress should be tied directly to reef health indicators.

Q2: Are the Program's efforts in various geographic areas appropriate to address the issues in each region?

Several commenters responded that the Program's geographic reach is appropriate. They cited the support to the states, territories, and commonwealths in the Pacific and Caribbean, where most US coral reefs are located. Two commenters noted that CRCP's technical support and human resources have enabled the initiation of new coral reef conservation programs where none existed before, or have greatly enhanced the ability and capacity of coral jurisdictions to expand on previous efforts. Another commenter stated that the program has used diverse locally identified projects and programs to address local issues, and that some of the broader, cross-cutting programs, such as assessment, monitoring, and MPAs, address both local concerns and regional and national priorities.

Several commenters noted shortcomings in domestic coral reef programs. One commenter stated that the CRCP does not adequately address South Florida. According to this commenter, no management plan exists for reefs in that area. Another commenter reported that the Caribbean region is under-funded, considering the “dire situation” there. A third commenter suggested that CRCP allocate resources in a manner that reflects the distribution of US coral reef ecosystems. The commenter noted that a recent NOAA report identifies Florida as the area with the greatest area of potential reef ecosystems, yet the current allocation of resources is weighted disproportionately toward the Pacific. Another commenter stated that CRCP needs to consider requests from Guam with respect to innovative strategies that deal specifically with that island and its coral resources.

Several commenters suggested the CRCP should extend its reach to include an international component. One commenter suggested that more regional and international collaboration is needed for effective resource management. Another commenter stated, “A truly effective program must involve all reef systems, not just domestic ones,” and suggested that a much greater share of the 20% of discretionary funds should be used for international projects. Other specific suggestions on this topic include:

- CRCP needs to increase protection for the Gulf of Mexico, which faces unique threats from oil and gas exploration. Except for the Flower Garden Banks, Gulf reefs are unprotected from destructive fishing practices and would benefit from fully developed action plans.
- Greater investment in conservation of reefs in the (non-US) greater Caribbean and South Pacific regions will be essential to save US reefs.
- In the Samoan Archipelago, there is a need for coordination with other islands within the archipelago. American Samoa is lumped with Hawai’i, Guam, and CNMI for coral reef conservation activities, and lacks support for ecologically-based regional approaches to reef management because of a lack of coordination with Samoa and other countries (two commenters).
- Because of their sovereignty, FAS are ineligible for, or restricted in the amounts they can receive from, CRCP grants. A redistribution of some internal NOAA funding to support the work of NGOs in the FAS would result in increased coral reef conservation.
- Deep-sea and cold water corals merit the attention of the USCRTF.

One issue touched upon by three commenters is CRCP’s contribution to the Micronesian Challenge. Two commenters supported increased involvement in the Challenge; one commenter wants funding for the Challenge to be redirected. Here are the specific comments addressing the Challenge:

- In the Freely Associated States, CRCP should find a way to support local coral reef conservation initiatives such as the Micronesian Challenge.

- CRCP should assist in mediations between the US State Department and the jurisdictions with regard to foreign assistance for coral reef issues. CRCP should support the Micronesian Challenge, as have several other countries and organizations including the Secretariat of the Pacific Environmental Programme, the South Pacific Applied Geoscience Commission, The Nature Conservancy, and Conservation International.
- Despite public opposition to more MPAs in the CNMI, much funding has been diverted to support the Micronesian Challenge, which requires setting aside 30% of marine areas in the CNMI as no-fishing areas. Instead, more of the funding that is going to the Micronesian Challenge should be provided to LAS projects and fisheries data management programs.

Q3: Are the Program’s science and observation efforts (e.g., research, mapping, and monitoring) adequately addressing management needs, and informing and resulting in management actions?

Commenters strongly praised the Program’s research, mapping, and monitoring efforts, stating that the CRCP is doing a good job informing and addressing management needs. Others cited positive outcomes resulting from partnering efforts, such as a coral disease monitoring program funded by CRCP that taught local marine biologists to identify and map coral disease in American Samoa. Commenters cited several specific examples of products and activities that have been particularly useful, as highlighted here:

- Research is yielding a wealth of important diagnostic information that will help coral reef managers understand causal stress-response linkages, and provide the basis for better informed policies.
- CRED has been useful in helping to identify which reef fish are over-fished and need to be protected (two commenters). CRED has also provided much needed data on remote shoreline areas in Hawai’i.
- RAMP and other research cruises provide valuable scientific data to support effective coastal resource management decisions (three commenters).
- The LAS process has been beneficial in raising awareness and for focusing on important issues and problems.
- Mapping projects have provided much useful information about coral reef sources that can be used for management decisions. In particular, the Program’s mapping, monitoring, and documentation regarding the coral reef ecosystems of the Northwestern Hawaiian Islands were instrumental in bringing national and international attention to the scale and uniqueness of those ecosystems.
- The coral bleaching handbook has been a very effective tool for communicating to management audiences.

- NOAA's international partnerships are extremely important in terms of leveraging US funds to achieve common objectives, particularly on the research side, and to empower managers to take the research findings and use them to improve their management effectiveness. (two commenters)
- The opportunities provided by workshops and participation in NOAA cruises have helped managers to better understand coral reef issues.

One commenter stated that mapping and monitoring consume too much of the budget. According to this commenter, management needs are highly political in nature, so although NOAA research has documented major threats to coral reefs from global warming and ocean acidification, policy makers at upper levels have ignored or selectively interpreted research findings. This commenter states that NOAA scientists have apparently deferred to policy makers to address or fail to address the concerns suggested by their research.

One commenter noted that it is difficult to evaluate the degree to which management actions have resulted from CRCP's efforts. Another commenter stated that he is not sure that the monitoring efforts supported by CRCP are geared to answer specific management questions, and that there are likely not enough resources in CRCP to develop a monitoring program for one jurisdiction that will provide representative and statistically defensible conclusions about improvements, or lack thereof, in coral reef ecosystems. One commenter stated that he was not sure whether mapping and monitoring programs have provided the information needed by managers, particularly in the more remote regions such as the Eastern Caribbean. Another commenter specifically noted that it is unclear how RAMP final reports are ultimately used, but that these efforts need to translate into national policy.

Two commenters suggested that CRCP work to improve assessment of the Program itself, as seen in these comments:

- Strengthen efforts to monitor program results by developing assessment criteria, monitor projects, and measure impacts.
- Formulate SMART objectives that directly address improvement of the health of the resource.
- Carefully analyze the relative conservation benefit of the use of the funds that are provided for coral reef research.

Several comments focused specifically on levels or distribution of funding, such as:

- Additional support for equipment (boats, maintenance) would benefit local projects. (three commenters)

- Support long-term water quality monitoring. (three commenters)
- Fund acquisition of high resolution imagery, and strengthen local capacity by training teams of local GIS managers in remote sensing technologies to map the extent of their coral reefs at a more meaningful scale.
- Fund more diver surveys to ground truth the resources in some mapping areas.
- In-field management may be receiving too few funds relative to research, monitoring, and mapping.
- Increase funding for scientific studies that address coral reef health.
- Increase funding for research on the cumulative impacts on nearshore reefs from beach dredge and fill projects.
- Increase funding for inshore and offshore creel surveys for Guam, CNMI and American Samoa to allow assessment of status and condition of reef fish stocks and effectiveness of fishery conservation and management measures.
- Consider redirecting funds from more costly programs (e.g., cruises and mapping) to Management and Monitoring Grants and General Coral Reef Conservation Grants.
- Additional funding is needed for mapping and monitoring to provide input that can be used to design appropriate management measures to protect sensitive coral areas.
- Explore funding for NOAA RAMP cruises for the FSM, Palau, and Marshall Islands, affiliates of the US who possess significant coral reef resources.
- In Hawai'i, the annual allocation for monitoring is barely enough to undertake monitoring activities on two islands, and does not allow for development of a statewide, integrated long-term monitoring program.
- Underfunding of fisheries monitoring programs appears to be a concerted effort to ensure that a lack of information is used to justify the establishment of new MPAs.
- A reduction in the cruise schedule can assure managers of meaningful data while allowing some funds to be reprogrammed for on-the-ground monitoring activities that are underway and at a much finer scale in each jurisdiction.

One commenter suggested that NFWF allow indirect costs in budgets, and that it review its cost share policy with non-governmental organizational partners.

Other comments focused on additional tools and research that are needed, including:

- Many of the basic tools, such as bathymetry and habitat maps, are limited.
- Research is needed to understand that quantities, sources and sinks of pollution, as well as larval transport pathways, so managers can develop effective strategies to address threats to reefs and evaluate coral reef recovery rates.

- CRCP could do more with marine disease, since it could be considered a response variable for entire ecosystem health. A focus on good diagnostics would be appropriate.
- We need sound data or detection techniques to adequately measure whether mitigation measures on land are eliminating or minimizing impacts to downslope coral reefs.
- Exogenous factors (e.g., trade, alien species, illegal fishing, pollution/disease) need to be effectively monitored to understand the relative impact of such exogenous threats compared to those that are being addressed through local actions.
- More emphasis should be placed on adaptive management that goes beyond monitoring, and tests hypotheses about potential management options on reefs. Adaptive management tests scenarios experimentally, then changes them if the results are not up to a defined standard.
- An array of sensors to monitor oceanographic conditions, similar to the one that has been established for the NWHI, is needed in the main Hawaiian Islands to understand the currents throughout the archipelago and patterns of connectivity.

Several commenters focused on the timeliness, availability, and utility of products and services resulting from CRCP funding. Comments included:

- Timely reporting of CRED missions requires some improvement, as the results allow jurisdictions to allocate resources, assess strategies, and define management efforts to address prevalent coral reef protection issues.
- More timely release of bathymetric and habitat characterization information. Comprehensive maps of areas in Federal waters have been withheld from Council and public, limiting ability to address essential fish habitat mandates and coral reef conservation efforts in the EEZ.
- Conduct research cruises less frequently, and allow data to be analyzed and provided to local jurisdictions in a more timely manner.
- The long delay in analyzing and reporting data from the 2002 and 2004 monitoring surveys is disappointing.
- Reports containing data analyses for 2003, 2005, and 2007 have not been provided to Guam, and may not be available for another two years. It is important that the jurisdiction receive this data in a more timely manner.
- Data in monitoring projects should feed one central database that can be queried for summary information (e.g., species status, location specific habitat information).
- As a result of scale, maps have not been very useful and accurate for local resource managers.
- Because maps are digital, resource managers without training or access to desktop GIS systems still underutilize maps that are available.

- The new acoustic maps are not useful. In Broward County, the best reef resources are shown as pavement on these maps.

A few commenters suggested improving coordination or involvement with other partners.

- CRCP should better coordinate with the Western Pacific Fisheries Management Council to enhance science or conservation representation. CRCP should work with the Governors, who appoint Council members, to make them aware of the lack of this representation.
- CRCP can expand its cooperative efforts to other partners, both within NOAA and with other agencies, such as the International Fisheries Offices.
- Involve more Federal agencies in LAS, as some Federal agencies have the same needs and issues as states, territories, and Freely Associated States.

Q4: Have the Program's education and outreach efforts been effective in reaching the proper audiences?

Several commenters stated that it appears that the CRCP has provided extensive education and outreach support to coral reef conservation, or has funded educational or outreach activities that are undertaken by local organizations. Examples from commenters include:

- Thanks to the activities of the CRCP, more educational materials and activities related to coral reef protection are available than ever before.
- The CRCP at NOAA is clearly the world leader in disseminating information to the scientific and coral reef management communities, through development resources, workshops, and the engagement of staff.
- CRCP has made research results and academic discussions on issues related to coral reefs available to the users, especially to educators.
- CRCP has provided opportunities for educators to see researchers work in the field, which is a very important experience for them.
- Fact sheets on the State of Coral Reef Ecosystems if the US is a useful summary of the US reefs are doing.
- Local programs in Hawai'i, which have been partly supported by the CRCP, have clearly raised the level of awareness about the threats to coral reefs.
- RARE Pride has built local capacity and has enhanced the CRAG education and outreach work.. Outreach efforts reach schools, villages, youth groups, churches, and teachers.

- Due to education and outreach by CRCP and others, there is likely now an increased awareness by the general public that coral reefs are in trouble due to global warming, and there is a groundswell of public support for action to address this problem.

Some commenters reported that the education and outreach efforts do not go far enough, or do not focus on the right topics. One commenter noted that there is little education and outreach support for individual government agency education and outreach programs within American Samoa because the resources in the grant do not allow for this support with all the other goals and objectives that must be reached within the LAS. Another commenter noted that limited resources and focus have been applied to raising awareness about coral reefs across the general US public, and that more focus should be placed on ensuring that children and policy makers who do not live near coasts understand and care about how their actions impact coral reefs. Still another commenter noted that CRCP outreach focuses more on the positive than on some of the very real threats and challenges faced in conserving coral reefs. One commenter noted that there is less awareness among the general population of the impacts of overfishing on coral reefs, and that although there may be support among the general population for more MPAs, such support is not focused enough to overcome the opposition to MPAs from highly vocal fishing interests.

Despite acknowledgement that CRCP undertakes or supports many outreach and educational activities, however, several commenters stated that it is difficult to measure the effectiveness of those efforts; to determine whether programs have reached the right audiences; and whether this has translated into increased awareness and changes in behavior. One commenter stated that it is difficult to tell how much important information generated about the causes of coral reef demise— and what citizens can do about it—is getting down to the level of schools, communities, consumer groups, utilities, and local governments. One commenter noted that outreach efforts in Hawai'i have not translated into more political and financial support for the management of coral reef ecosystems by the state legislature, while another noted that the Program's efforts have not reached the highest levels of government (e.g., the White House). One commenter recommended that to learn whether outreach and education efforts are successful, CRCP should support basic surveys of people's attitudes and awareness toward reefs to get a baseline, then resurvey the same population after several years.

Commenters provided several suggestions related to funding for outreach and education. Two commenters suggested that CRCP take advantage of the US role as co-coordinator of the International Year of the Reef in 2008 by providing funding to develop and distribute key awareness materials to aid in

local or national efforts. Another commenter stated that more funds and guidance need to be directed to the jurisdictions for support for communities to start local NGOs that can share in the responsibilities of outreach and education. One commenter specified that the National Science Foundation should fund locally appropriate educational curricula in schools and community colleges in American Samoa, which would provide the basis for building future scientists and managers in that jurisdiction.

Some commenters focused on the content of the outreach/education and the intended audiences:

- Move from general education and outreach messages (e.g., coral reefs are valuable, important, and under threat) to more specific messages directed at garnering and focusing specific actions which can and should be supported, such as expansion of MPAs, upgrading of sewage treatment plants, and better management of construction runoff.
- NOAA could publish something like, “Ten Things I Can Do to Save Reefs.”
- More attention should be placed on the scientific findings and potential applications produced by the CRCP’s science and observation line agencies. These scientific findings need to be translated in a manner that can be understood and easily accessed by the layperson.
- More effort needs to be put into educating the public on identifying and acting on land use problems that cause runoff onto reef ecosystems.

Some comments focused on the intended audiences for CRCP outreach and education:

- The information the CRCP generates can be used for social marketing, to craft targeted messages to different segments of the public to elicit their personal commitment to protecting reefs. (two commenters)
- More outreach to fishermen, women’s and men’s organizations, and pastors is needed to make outreach truly effective.
- More outreach and education for ethnic communities who are not familiar with local laws.

Q5: Is the Program providing effective leadership and building useful partnerships to advance coral reef conservation?

Commenters strongly praised the CRCP for its leadership and partnership-building successes, often citing partnerships in particular as critical to the success of coral reef conservation efforts at the local level.

Comments about CRCP’s leadership and support to partnerships included:

- CRCP is providing effective leadership and building useful partnerships to advance coral reef conservation given internal and external politics, needs, challenges, and opportunities.
- CRCP is particularly strong in personnel and approach.
- CRCP has convened or been a part of the major coral reef conservation meetings throughout the world.
- CRCP has helped to highlight innovative approaches to conservation and encourage others to participate.
- The coral reef conservation program is providing effective scientific leadership and is building useful partnerships across the planet. The workshops and networks I have been in as a result of NOAA CRCP's efforts have been particularly effective.
- By funding a number of partners that are developing innovations in coral reef conservation, the CRCP is enhancing its leadership.
- CRCP has started to build more effective partnerships. Pacific Islands MPA Community (PIMPAC) was developed through support of the CRCP. PIMPAC members include many government and local NGO partners, as well as a resource team comprised of the Community Conservation Network, Locally Managed Marine Area Network, The Nature Conservancy and the Micronesia Conservation Trust. The CRCP has also been partnering more directly with The Nature Conservancy at many levels in both the Pacific and the Caribbean on many efforts including resilience, sustainable finance, site-based management planning, management effectiveness, and climate change
- Coral Reef Task Force and related meetings have brought people together within states, territories, and commonwealths with federal partners unlike ever before.
- CRCP supports important regional processes that are providing leadership in coral reef conservation. These include the Pacific Islands Marine Protected Area Community (PIMPAC) and others.
- LAS planning efforts have contributed even more to coordination and collaboration at the local level than the meetings. Agency stove pipes have become more permeable, much more collaboration is going on between agencies and organizations at all levels, and concerted efforts have been mounted to try and mitigate the threats to coral reef ecosystems that were simply not there before.
- LAS have been quite successful in focusing efforts on priority threats and have been utilized in various ways by the local jurisdictions to prioritize actions and leverage support.
- NOAA is a partner in a global program of Targeted Research on Coral Reefs to help build capacity for management in countries where the majority of reefs are found. Such international

programs can galvanize key action on the ground, garner the attention of the press, and help leverage additional resources from other institutions to address many of the problems facing reefs outside the U.S. and the Freely Associated States of the Pacific.

- The All Islands Coordinating Committee and its interaction with the Task Force and CRCP office have brought state, territorial, and commonwealth coral reef managers closer together than any other endeavor. Some of the tensions between the All Islands Committee and the CRCP staff have contributed to closer working relationships among the POCs.
- The USCRTF has been a major boon for the International Coral Reef Initiative as well and helped keep several important policy initiatives on the radar screen of international conventions and other fora. Maintaining links with international initiatives remains key to generating the kind of global support that will be required to protect the world's coral reefs.
- Promoting socioeconomic monitoring of coral reefs, in addition to the bio-physical monitoring that has been the traditional approach of monitoring efforts, has been a major breakthrough.

Some commenters reported that the Federal Program is directing the activities of local programs.

- There is a feeling in the islands that the Federal government is trying to dictate priorities and projects to local agencies, rather than supporting projects identified by agencies via their LAS. One issue is increased pressure to create more MPAs.
- It is difficult to promote (local or regional) fishery management programs if there is a preconception from leadership that fishing is the only activity where more regulations are needed, as opposed to activities that contribute to contamination, pollution, and sedimentation.

Commenters offered several suggestions to CRCP for improving its leadership or perceptions of leadership. Some suggestions addressed the relationship between CRCP Headquarters and local jurisdictions that implement coral reef conservation activities, such as:

- The Program has too much focus on leadership in Washington, DC with not enough support for the development and support of local leaders and partnerships.
- Ratio of CRCP staff at Headquarters versus in the jurisdictions needs to be evaluated. More resources are needed in the jurisdictions.
- More support is needed for building capacity within the jurisdictions to enable them to better manage their coral reef resources.

- Leadership shows little confidence and support in the ability of local staff to build effective partnerships and leadership. This causes doubt at the local level in the national level's ability to provide true leadership and guidance that will assist local efforts.
- CRCP needs to address policy at the federal level, in order to be an example to territories' local governments. NOAA should advocate federal policy that is in the best interests of the jurisdictions' coral reef resources and critique federal actions and projects that would negatively impact these resources.
- We need creative leaders that take risks with innovative solutions and that can recognize the value of trusting reputable local natural resource managers.
- The Program should show leadership in reducing greenhouse gas emissions.
- We are concerned about NOAA's support to the Western Pacific Regional Fisheries Management Council (WesPac). WesPac is a federal institution that is undermining local jurisdictions' missions. Guam has used resources to counter the misinformation propagated by WesPac. These resources could have been better spent.

Commenters also addressed ways to improve partnerships; most comments addressed the role of other Federal agency partners. One commenter notes that the Program needs more consistent engagement from other Federal agency partners, although another commenter stated that the goal of greater engagement of Federal partners has been less than successful. A strategy of identifying federal navigators for each LAS seemed to work in places like Hawaii and Florida where many Federal agencies already had regional staff. One commenter stated that more partnerships with local government decision makers and local NGOs would be helpful, as many decisions about coral reef management and restoration are made at the local level rather than by state or federal coral reef resource managers. One commenter recommended out-year planning with partners based on common conservation needs, priorities, threats, and challenges; he stated that this could help NWRS address a significant lack of capacity for managing the coral areas under its realm of responsibility

The CRCP's role on the US Coral Reef Task Force garnered several comments. Comments included the following:

- The CRCP can provide better leadership in the effectiveness of the US Coral Reef Task Force Meeting. With the high level staff from various other Federal agencies sitting at the table, critical priority issues can be addressed with some level of commitment from members of the committee.

- The USCRTF needs to be more aggressive about defining its purpose, goals, and objectives, which should create a clear set of priorities and needed actions to achieve conservation goals. The Task Force needs to establish better ways to ensure that objectives are being met. Perhaps the entire body of the US Coral Reef Task Force should meet on a two-year schedule instead of twice a year.
- CRCP should improve the effectiveness of USCRTF meetings. The TF meetings have tended to try to cover too many disparate topics at once, settling on providing more superficial updates, while sacrificing the opportunity to probe and understand one or two key priority issues more in depth. Also, a disproportionate number of NOAA staff attend the meetings held in the jurisdictions, some of whom appear to be fairly superfluous, using limited resources with minimal apparent benefit to coral reef conservation.

Other comments included:

- CRCP should engage in more rigorous review and evaluation processes.
- Guam is concerned about the potential impact of the move of 8000 Marines from Okinawa to Guam, and the role that CRCP might play in that move. More time and money needs to be spent on mitigation models that compensate the people of Guam for the destruction and/or increasing use of coral reef resources that will be impacted by such development projects.

Q6: How can the CRCP improve its impact and performance in the future?

Commenters provided numerous suggestions for improving the CRCP's performance and impact. Major areas in which comments were provided include:

- Program funding and expenditures and grants processes
- Program management
- Program partnerships, task forces, and committees
- Program activities and priorities
- Program communication
- Program assessment

Comments within each of these major areas are provided on the following pages.

Program Funding and Expenditure; Grants Processes

More money needs to be funneled to where the reefs are.

Better link internal and external funding needs to the same suite of priorities. As a part of this process, develop criteria for funding allocations and priorities that can and are agreed to with the jurisdictions.

More funding for local positions to manage coral reef conservation projects.

Provide more support for building local capacity.

Develop long-term strategies and funding to support science education, scholarship, and jobs.

Increase funding for scientific research and reef and water quality monitoring.

More funds should be spent via external review process that requires joint PIs between NOAA and outside partners.

Better link internal and external funding needs to the same suite of priorities. As a part of this process, develop criteria for funding allocations and priorities that can and are agreed to with the jurisdictions.

Help with capacity issues by providing more opportunities for the purchase of larger equipment such as vehicles and boats. In the past, the general policy has been to reject capital purchases.

Seriously consider completely revamping the grants process.

Grants online needs to be improved. Problems cited include a lack of timely technical support from the help desk. The program needs considerable revision to make the process more user-friendly and effective, accompanied by more training in the local jurisdictions.

Program management

Streamline the federal portion of the program.

Eliminate management overlap (e.g., the NOAA Coral Reef Management Fellowship program has five different NOAA program coordinators/managers.)

Allocate more resources to on-the-ground conservation and less on meetings bureaucracy and paperwork, which take time and resources away from conservation efforts.

- Revise the Fellows program to better meet the needs of the local jurisdictions. CRCP should explore some different approaches, depending on the needs of the local jurisdictions, such as:
 - Very short-term fellowships for highly skilled professionals to meet specific and critical needs
 - Training/educational opportunities for existing local staff (e.g., GIS training, social marketing training, data management and analysis, etc.) resulting in certifications or degrees, with full financial support
 - Internships for recent local graduates (e.g., the Micronesia Challenge/PIMPAC “champions” project)

Program leadership

- Change how Federal government operates in the US Pacific Islands. Allow local government to participate in planning for research; promote traditional language and knowledge in education and outreach activities; involve more fishermen in activities; encourage local programs to disseminate information; avoid efforts to influence or dictate to local agencies to support Federal agendas that are not consistent with traditional cultures and values.

Improve SEFCRI impact and performance by allowing EPA to take a leadership role in its management.

Program partnerships, task forces, and committees

Increase focus on supporting regional partnerships as, ecologically, we are more closely tied to non-US island chains.

Continue to build partnerships and cooperative efforts for research, monitoring, and mapping.

Cooperative efforts can significantly reduce costs and expand the amount of work that can be accomplished.

NOAA can build on its established relationships with its external partners such as the three research institutes for more activities.

Develop more international partnerships to pursue research efforts associated with coral reef conservation that are of common interest to the United States and the international community.

CRCP could improve its relations with the All Islands Committee and the POCs. I think there have been times when NOAA headquarters staff have decided to initiate planning processes or to impose uniform requirements on states, territories, and commonwealth that have been unnecessarily restrictive or prescriptive. In some cases, there has been an unwillingness to consider other options.

Restructure the format of Task Force meetings to make them more useful with less frequency of meetings of the whole USCRTF.

The US Coral Reef Task Force Meetings could serve as a vehicle to share information on the goals and objectives of NOAA towards improving the health of the resources. The roles of the various Federal agencies on the task force are unclear, as are the contributions they will make toward the improvement of the coral reefs or to the support of the jurisdictions.

USCRTF meetings could be more efficient and effective. Perhaps focus on some of the bigger policy issues, such as climate change, at the spring meetings in Washington, DC. The fall meetings in the jurisdictions could then focus on specific themes more important to that place.

The All Island Committee (AIC) of the USCRTF is an under-used institution with respect to driving policy. The AIC are representative agents of the resources that will be impacted by decisions made by

the CRCP, and the federal government. It is imperative to use the expertise and influence of the members of the AIC to determine policy.

Program activities and priorities

Establish a national marine sanctuary in the reefs of Southeast Florida, or ask the state of Florida to designate protected status (e.g., Outstanding Florida Waters, MPAs, Aquatic Preserves) to the reefs of Southeast Florida.

Compel the state of Florida to enforce the NPDES program [to reduce land-based sources of pollution into shoreline areas].

Do not spend money on streamlining the permitting process. Streamlining permitting will only allow many destructive practices to continue.

More support for implementation on-the-ground, especially in terms of building and strengthening local capacity (staff, training, equipment, etc.).

Fund threat and cultural awareness training for all local coral reef partners on all threats to coral reef ecosystem.

Increase allocation and attention on in-situ conservation of reefs. This should focus on supporting efforts to develop and institutionalize approaches that are proving effective in coral reef conservation.

Increase attention on develop sustainable approaches to coral reef conservation.

Increase attention on Learning Networks (groups of practitioners work together to share effective program approaches).

Increasing the precision of satellites will have will make the coral reef conservation program products more relevant to the scale at which reef managers operate.

Program communication

More clearly define the goals of NOAA's CRCP and identify ways to measure the success of the program on conservation, protection and restoration of the coral reef resources.

Listen to the needs of the territory.

CRCP needs to create a program monitoring apparatus or process for concerns to be pursued.

More openness about, and consultation on, NOAA spend plan decisions would greatly improve relations between NOAA headquarters staff, the POCs and All Islands Committee and make the CRCP more effective. The CRCP spend plan should be directly linked to the priority needs identified by the jurisdictions, which will require close consultation with jurisdictional POCs before spend plan decisions are made, not after.

- Improve communication between the CRCP and the POCs by testing new ideas and working out problems (e.g. Grants Online, and grant application templates, tracking and reporting systems) before implementing them and making them requirements.
- Improve coordination of requests for information and response timelines to avoid duplicative requests and unnecessary urgency.
- Expand the type of communication efforts that resulted in products like the Coral Bleaching Handbook.
- Undertake periodic reporting to Congress.
- Conduct more tailored outreach to the public on results of research and monitoring, performance of management interventions, intensity of threats, etc. to give people a sense of what they can do personally to help protect reefs. The message needs to be, "It's not just government's job, it is the responsibility of all of us to protect coral reefs."
- Better communication and support. The coral reef resources are within the jurisdictions. Many decisions made by NOAA are not fully understood by the jurisdiction or were made without consultation from the jurisdiction and/or appropriate parties. There needs to be better communication conveying the direct benefits of the chosen suite of activities and the responsibilities of each of the CRCP participating line offices with regard to the project. CRCP could be more effective through greater communication and transparency with the local jurisdictions. It is unclear to the jurisdictions how the CRCP sets its internal priorities and this has led to some friction. Conflict can often be avoided with frequent, open communication, and building strong professional relationships. Key staff should also make it a priority to spend quality time with the jurisdiction points of contact at TF meetings and during scheduled site visits and really listen to their needs, instead of just approaching them when deadlines are looming or the CRCP has a need from the jurisdiction.
- The amount of reporting and request for information from the various CRCP programs needs to be addressed. There is not enough time or staff to deal with additional reporting requirements. A more effective and efficient way of obtaining progress reports or information needs to be established.

Program assessment

- Create state level report cards or score cards on the health of coral reef ecosystems in the US.
- Create a scorecard that assesses other US Government and state agencies in terms of how coral reef friendly their policies and business practices are.

Appendix A
Respondents to
Request for Public Comment
CRCP External Review Program

1. US All Islands Coral Reef Committee
2. American Samoa Coral Reef Advisory Group (Meredith Speicher)
3. Community Conservation Network (Scott Atkinson)
4. Christopher Boykin
5. Cry of the Water
6. Richard Dodge, National Coral Reef Institute
7. Peter Craig, National Park of American Samoa
8. Quenton Dokken
9. Andrew Gude
10. Michael Guilbeaux
11. Gulf of Mexico Fishery Management Council
12. Michael Hamnett
13. Drew Harvell
14. Drew Martin
15. Marea Hatzios, World Bank
16. Hawaii (Athline Clark)
17. Mark Hixon
18. Ove Hoegh-Goldberg, University of Queensland
19. Jill Komoto
20. Martin Moe, Jr.
21. Jennifer Ann Moore
22. Tom Moore
23. Trina Leberer, Nature Conservancy Micronesia Program
24. Oceana
25. Alida Ortiz
26. Palm Beach County Reef Rescue
27. John Ogden, Florida Institute of Technology
28. Sierra Club
29. Andrew Shepard, NOAA Undersea Research Center
30. Western Pacific Regional Fishery Management Council
31. World Wildlife Fund
32. Phil Dustan*
33. Robert Stone (NOAA)*
34. Vangie Lujan, Guam

*Informal responses

Appendix B Summary of Comments CRCP Federal Register Notice	
Comment	Commentor
<i>Q1: Is the Program focusing efforts on the right suite of activities to advance coral reef conservation?</i>	
<p>Comment:</p> <p>The threats identified in the National Action Plan are the right ones to address to advance coral reef conservation.</p> <p>Suggestions:</p> <ul style="list-style-type: none"> • Strengthen management capacity of local agencies by placing a mid-level staff member (in addition to Coral Fellows) within each jurisdiction to support conservation activities at local level • More frequent phone calls and CRCP staff having more effective interaction at USCRTF meetings with POCs and during scheduled site visits to listen to issues and needs. Current process (steering committee calls) needs to be re-assessed as communications mechanism. • More effectively engage other Federal agencies represented on USCRTF and secure genuine commitment to work together with local jurisdictions. Require that applicants for NOAA CRCP grants communicate initially with jurisdictional POCs to ensure that they are addressing the needs of unfunded LAS priority projects and other local coral conservation priorities. • More transparency with regard to relationship between project funding and local resource management priorities as identified by jurisdictions. • Secure additional funding (\$37 million) to complete LAS projects identified in 2002-2003. • Secure funding for large-scale projects, such as watershed restoration to address land-based sources of pollution and need for marine laboratory in American Samoa. • Focus funding on priority projects and activities that are not LAS projects. • Increase funding for the AIC Secretariat to increase policy support, communication and coordination between the CRCP, other Federal partner agencies, and the jurisdictions. • Redirect funding for conservation carried out by Western Pacific Regional Fisheries Management Council to support LAS. Do not fund programs that are in direct conflict with stated goals of National Action Plan and National Action Strategy, or that are in conflict with efforts or policies of local jurisdictions or administrations. 	<p>US All Islands Coral Reef Committee</p>
<p>Comments:</p> <ul style="list-style-type: none"> • Coral reef funds support relatively small projects that are undertaken by the local government agencies. There are no funds to support large projects that would improve the health and understanding of our coral reefs, such as research facilities, learning centers, and infrastructure projects that address direct impacts to our coral reefs. • American Samoa lacks funds for equipment use (boats, vehicles, 	<p>American Samoa Coral Reef Advisory Group</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>maintenance, staff support) for research and monitoring efforts, support of facilities, and support staff and project managers to ensure completion of specific projects.</p> <ul style="list-style-type: none"> • CRCP-funded projects are led by staff from various agencies who are essentially in-kind support from the local jurisdiction and who must perform coral reef responsibilities in addition to their other jobs. This often makes it difficult to get the coral funded projects off the ground, completed in a timely manner, and implemented with proper oversight and management. • Local support (e.g., positions and management) needs to be assessed. We lack staff capacity, including project management to ensure that projects and programs get completed. <p>Suggestions: Fund local positions within key government agencies to implement projects. Each Federal oversight agency (e.g., EPA for ASEPA, USWWF/NOAA for DMWR, NSF for ASCC, NPS/DOI for NPAS) should fund a position that would oversee the projects and coordinate efforts among the local agencies. The majority of the personnel costs are to support positions based in Washington D.C. We suggest better distribution of funding for positions within areas where there are coral reefs. Local jurisdiction staff members provide detailed reports and information, develop local action strategies, and coordinate efforts to better conserve and manage the coral reef resources.</p>	
<p>Comments:</p> <ul style="list-style-type: none"> • Mix of activities and breakdown of allocations makes sense. • Coordination at 20% seems a bit high, but that might be the reality of managing all of the system and programs. <p>Suggestions:</p> <ul style="list-style-type: none"> • Investment in mapping and remote sensing should be producing useful models and products, so more resources could be allocated to monitoring, ecosystems research, direct management, and education and outreach. • Define the current balance point between studying/assessing/mapping coral reefs and direct action to manage them, and examine whether it has changed over the years of the program. 	<p>Michael Guilbeaux, Community Conservation Network</p>
<p>Comments:</p> <ul style="list-style-type: none"> • No. <p>Southeast Florida Coral Reef Initiative’s (SEFCRI’s) unwilling to address major issues affecting our reefs, such as sewer outfall pipes that discharge 400 million gallons a day of partially treated sewage, and medical and industrial waste onto the reef tract of Southeast Florida.</p> <p>A project looking at Best Management Practices (BMPs) for Coastal Construction and other activities around coral reefs has refused to address BMPs for beaches</p>	<p>Stephanie Clark, Cry of the Water</p>

Appendix B
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CRCP Federal Register Notice

Comment	Commentor
and beach maintenance. Use of BMPs during construction can greatly reduce land based sources of erosion, minimizing the need for dredge and fill projects that can damage or destroy reef.	
<p>Comment:</p> <ul style="list-style-type: none"> Encouraged by recent focus on restoration. <p>Suggestions:</p> <ul style="list-style-type: none"> Shift some resources from monitoring the decline of reefs to restoration. Research undertaken during restoration will help understand coral reef decline and resilience. Disappointed by decision to ignore deeper coral reef ecosystems. When funds become available, they should be used to continue deeper coral research. 	<p>Andrew Shepard, University of North Carolina- Wilmington (UNCW)</p>
<p>Comments:</p> <ul style="list-style-type: none"> Suite of activities is very appropriate. Majority of tools now available to enhance coral reef conservation have been included. <p>Suggestions:</p> <ul style="list-style-type: none"> If priority is conservation of coral reefs, increase percentage of funding allocated to field implementation activities that contribute to in-situ conservation of reefs. Many in-field activities are being carried out by partners; therefore, increase grant funding to partners who undertake field implementation. Encourage use of multi-stakeholder and community-based approaches to coral reef management. 	<p>Scott Atkinson, Community Conservation Network</p>
<ul style="list-style-type: none"> The priorities for activities in which the Council is involved are sufficient for the management activities of the Council in the Gulf of Mexico. 	<p>Gulf of Mexico Fishery Management Council (FMC)</p>
<p>Comment:</p> <ul style="list-style-type: none"> CRCP is focusing its efforts on the right suite of activities and has strived to balance a range of outside interests, political considerations, and other factors. <p>Suggestion:</p> <ul style="list-style-type: none"> <ul style="list-style-type: none"> Triage the most addressable coral reef threats and focus conservation efforts on these. NOT global warming-related issues, but impacts that can be controlled, such as land-based sources of pollution and sedimentation. 	<p>Andrew Gude, US Fish and Wildlife Service (USFWS)</p>

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Comment	Commentor
<p>Suggestions:</p> <ul style="list-style-type: none"> • While CRCP has supported projects on elkhorn and staghorn corals in the past, it should support increased emphasis on research, monitoring, and restoration for ESA-listed corals. These efforts will assist in recovery of the ESA-listed species, which in turn will support recovery of other coral species. • Funding should focus on "on-the-ground" activities, such as improving water quality, developing and implementing restoration techniques, and increasing enforcement of existing regulations. 	<p>Jennifer Ann Moore, NOAA Fisheries Service</p>
<p>Comment:</p> <ul style="list-style-type: none"> • Funding seems to be disproportionately allocated to mapping and monitoring relative to the central mission of saving reefs. <p>Suggestions:</p> <p>Greater emphasis should be placed on building on-site capacity for reef conservation and protection, especially via marine protected areas.</p> <p>MPAs are an essential tool that should be more greatly emphasized. Increased funding for and partnership with NOAA's MPA Center will be essential to ensure effective use of this tool.</p>	
<p>Comment:</p> <ul style="list-style-type: none"> • State and Territory ecosystem management funding is the single largest listed item. That coupled with the fishery management item makes "management" huge in relation to the other categories. • Mapping and monitoring are extremely important. <p>Suggestions:</p> <ul style="list-style-type: none"> • Funding for research should be increased to be at least commensurate with other categories and hopefully at a higher level. This would be at the expense of other components, which means that more funding is needed overall. • Matching requirements for research funding should be removed or greatly reduced. It is often difficult for researchers to find specific matching funds for research projects. • CRCP could include more emphasis on the science and management of restoration. The function of the NOAA restoration center in coral reef conservation is not clear. • CRCP support to local conservation programs might be increased. 	<p>Richard Dodge, National Coral Reef Institute, Nova Southeastern University</p>
<p>It would useful to develop some metrics on the amount of time devoted to CRCP sponsored planning, reporting, and meetings compared to the time devoted to research and monitoring, regulations and enforcement, public education and</p>	<p>Michael Hamnett, University of Hawai'i</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
awareness, and other management activities. It seems like a lot of time is devoted to planning, reporting and meeting at the expense of real management.	
<p>Suggestions:</p> <ul style="list-style-type: none"> • There is still a substantial need for building capacity to plan and manage projects that will have a positive, measurable ecological impact. The planning methods that are suggested in the All Islands strategy would help build the kind of project planning, implementation, and evaluation capacity that is needed in the islands. • Jurisdictions have identified a need for NOAA’s CRCP to place a mid-level staff member (not an intern/fellow) within each jurisdiction with the experience and resources to work side-by-side with POC's to support conservation activities at the local level, and to bridge this gap. 	<p>Michael Hamnett, University of Hawai’i</p>
<ul style="list-style-type: none"> • It is not clear how the program elements relate to local action strategies or the priorities of local resource management agencies 	<p>Michael Hamnett, University of Hawai’i</p>
<p>Comments:</p> <ul style="list-style-type: none"> • In principal, the threats identified in the National Action Plan are the right suite of threats to advance coral reef conservation. • While over half the projects outlined in the LAS report have been implemented, the majority of funds raised to date for implementation are NOT from the CRCP. The jurisdictions, especially Hawaii and Florida, have done an outstanding job of leveraging the funds that have been received from NOAA. • One key threat area that was not fully vetted in the National Action Plan was impacts from the misuse/overuse by recreational activities. <p>Suggestions:</p> <ul style="list-style-type: none"> • If the Local Action Strategies are a priority for the USCRTF, then this should be at least ONE of the major criteria used in funding allocation and decision-making within the CRCP. Additional comments on this are included below. • 	<p>Athline Clark, Hawai’i Division of Aquatic Resources</p>
<p>Comments:</p> <ul style="list-style-type: none"> • It is not clear whether the CRCP is funding projects that address local resource management priorities identified by the jurisdictions and what criteria is required. At present only about 10% of the funding received by NOAA goes out the door to support the on-the-ground efforts within the jurisdictions and elsewhere. • Of the approximately \$26 million awarded annually to NOAA, a significant 	<p>Athline Clark, Hawai’i Division of Aquatic Resources</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>percentage of funding is not directly linked to the LAS or the other priorities identified by the USCRTF.</p> <p>Suggestions:</p> <ul style="list-style-type: none"> • There is a need for more transparency as it is unclear to the jurisdictions how the CRCP sets the spend plan priorities. More open communication on how NOAA's CRCP allocates funds to improve the status of coral reef resources. • The CRCP spend plan should be directly linked to the priority needs identified by the jurisdictions, the Coral Reef Conservation Act, and the USCRTF, which will require close consultation with these groups before spend plan decisions are finalized. • Projects and funding directed to LAS to address the needs identified by the jurisdictions should be coordinated with the jurisdictions. Applicants for NOAA Coral Program grants should be required to communicate initially with jurisdictional POCs to find ways to collaborate and ensure they are addressing the needs of the unfunded LAS priority projects, as well as other local coral conservation priorities that POCs can identify. Project results should be provided to the local jurisdictions. There is also a need to focus on priority projects and activities identified by the jurisdictions that are not LAS projects. • It is critical that more funding is provided to the jurisdictions for funding through the management and monitoring grants to enable implementation in the jurisdictions. • With the increasing reporting, tracking and performance measures requirements that are now being added to the list of administrative requirements that must be followed to continue to receive the grants, the need for staff has become far greater, which results in even less on the ground achievable results. • There is a need for funding available for coral reef conservation under the Western Pacific Regional Fisheries Management Council to be directed to support the needs and priorities of the local jurisdictions and their Local Action Strategy priorities and not to fund programs that are in direct conflict with the stated goals of the National Action Plan and the National Action Strategy or the efforts underway within the jurisdictions, and/or the policies of the local administrations. 	
<p>Comment:</p> <ul style="list-style-type: none"> • The coral reef conservation program at NOAA is focusing its efforts and resources on the right suite of activities to advance coral reef conservation at a global scale. The continuous development of new products, and the integration of products into conservation strategies, has been of great benefit to reef managers in the United States as well as internationally. 	<p>Ove Hoegh-Goldberg, University of Queensland</p>
<ul style="list-style-type: none"> • We already understand the major threats to coral reefs, as well as the types of actions that must be taken to mitigate them. There is no need for more research 	<p>John Ogden</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
wish lists. Research must be nested within the context of management and have two important goals: (1) to verify the efficacy of management and to adjust it as necessary, and (2) to try to understand how corals and coral reefs work over large geographic scales within ecoregions and under different management regimes.	
<p>Comment:</p> <ul style="list-style-type: none"> • Yes. The program is comprehensive, and uses a mix of tools, including grants and partnerships to encourage participation by academia, the private sector, NGOs and local communities, all of whom are stakeholders in healthy reefs and the long term benefits they provide to society and the planet. <p>Suggestion:</p> <ul style="list-style-type: none"> • Funnel more funds internationally since conservation efforts in developing countries, where most reefs are located, pale in comparison to those undertaken by the U.S. Yet, these are extremely important sources of biodiversity, livelihoods, nutrition and income to hundreds of millions of people. 	
<p>Comments:</p> <p>CRCP may be focusing on the “right” suite of activities, but perhaps the intensity and timeliness of these efforts is not sufficient to deal with the severity and scope of the coral reef crisis. Through support for the Local Action Strategies (LAS), the jurisdictions have been able to focus the funding received to identify threats within the jurisdiction.</p> <p>For 2007 Spend Plan, unclear how the priorities for the suite of activities were determined. The deliverables of each activity and their respective application(s) to local jurisdictions’ needs are also unclear. This needs to be communicated in a more effective manner to the local jurisdictions and reflect that consultation with the local jurisdictions occurred.</p> <p>Better communication needs to be established to identify a clear strategy with SMART (Specific, Measurable, Achievable, Realistic, Time) objectives. The final measure of progress should be tied directly to reef health indicators. The goal should be to achieve a significant improvement in resource health.</p> <p>One activity the CRCP can consider is the development, utilization, and/or support of non-governmental organizations (NGOs). NGOs play a crucial role in natural resource conservation and have traditionally served as catalysts for positive change.</p> <p>CRCP should address collaboration with regional organizations, the international</p>	<p>Evangeline Lujan, Guam</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
community, and NGOs in terms of information sharing and successful management strategies regarding coral reefs.	
<ul style="list-style-type: none"> • More funding is needed on-the-ground for implementation at the jurisdictional level. Efforts to increase funding for the coral program and for coral reef conservation in other agencies such as the Department of Interior have not yet resulted in significant gains. NOAA should consider the redistribution of funds from some of their more expensive programs such as research cruises and mapping, to the State and Territory Management and Monitoring Grants and the General Coral Reef Conservation Grants. • Certain components of the cruises have been less beneficial to the jurisdictions, such as the REAs, due to the methods selected and lengthy delays in analyzing the data meant to support local management actions. Oceanographic and tow data are also useful for assessing regional trends in coral reef ecosystem health over time. Perhaps the cruises could be conducted less frequently, allowing for the data to be analyzed and provided to the local jurisdictions in a timelier manner. Perhaps the REA component could be reduced to just the tow surveys and the funds redirected to local monitoring efforts through expansion of the State and Territory Monitoring grants, to better meet the needs of the local jurisdictions in answering their management questions. • Maps have proved less useful and accurate for local managers, due to scale. Funding should be focused on acquisition of high resolution imagery and the strengthening of local capacity by training a team of local GIS managers in remote sensing techniques to map the extent of their coral reefs at a more meaningful scale (within acceptable confidence limits). • Funding for coral reef conservation under the Western Pacific Regional Fisheries Management Council could be better utilized to support the needs and priorities of the local jurisdictions, and the policies of the local administrations. 	Trina Leberer, Nature Conservancy Micronesia
<p>Comments:</p> <p>Yes, in general, CRCP is focusing efforts on the suite of coral reef conservation activities laid out by the Coral Reef Conservation Act of 2000.</p> <ul style="list-style-type: none"> • Overwhelming effort and funding allocated from National Program and Coral Reef Conservation Grant Program to activities related to “reducing the adverse impacts of fishing” and “improving use and effectiveness of MPAs”. Not enough funding is being directed at reducing and prohibiting other identified threats such as unsustainable coastal development, overuse from tourism, and 	WesPac

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>pollution and runoff.</p> <ul style="list-style-type: none"> Funding and efforts aimed at reducing fishing and MAP are being given to agencies with no statutory authority to implement regulations to manage fishing activities. <p>Suggestions:</p> <ul style="list-style-type: none"> Local marine and wildlife resource management agencies should be tasked to lead initiatives and projects related to reducing impacts of fishing and the creation and strengthening of MPAs. 	
<p>Comment:</p> <ul style="list-style-type: none"> The National Coral Reef Action Strategy (NAS) categories of threats appear sufficiently broad to cover the range of threats to coral reef ecosystems and the types of actions which should be taken to address those threats. The threats are not of equal importance. The trends of increasing sea surface temperatures and ocean acidification pose the greatest threats to the survival of coral reefs globally. <p>Suggestions:</p> <ul style="list-style-type: none"> The program should address the causes of these threats (increasing sea temperature, acidification), whereas so far the Program addresses only the impacts. The Coral Reef Task Force should amend its Objective 5 of the Reef Managers' Guide to read as follows: "Address the impact of global change, coral bleaching, and reef health on reefs and people, and support efforts at the local, state, national, and global levels to reduce emissions of greenhouse gases." 	Sierra Club
<p>Comment:</p> <ul style="list-style-type: none"> The CRCP has done well in identifying its six program categories and its ten primary goals. WWF believes these categories and goals capture the appropriate programmatic scope of coral reef conservation efforts. <p>Suggestions:</p> <ul style="list-style-type: none"> NOAA should pursue more programs in the categories of General Coral Reef Conservation and International Coral Reef Conservation. As compared to other categories, these two more fully encompass the broad purpose of CRCA and the global nature of coral conservation. 	WWF

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<ul style="list-style-type: none"> • Increase the percentage of program funding serving two goals: Reducing Global Threats to Reefs, and Reducing Impacts of Climate Change. • Focus international program funds on fewer, larger grants in the most critically important areas. Concentrating resources would enable greater impact in CRCP’s highest priority areas. • Increase focus on the Climate Change goal. The CRCP can best address climate change issues using a varied approach including research, prevention, and adaptation. 	
<p><i>Q2: Are the Program’s efforts in various geographic areas appropriate to address the issues in each region?</i></p>	
<p>Suggestion:</p> <p>The Coral Reef Conservation Program should extend its geographic reach to include:</p> <ul style="list-style-type: none"> • The Gulf of Mexico: Faces common as well as unique threats, including oil and gas exploration. Except for Flower Garden Banks, Gulf reefs are unprotected from destructive fishing practices and would benefit from fully developed local action plans. • Deep-sea and cold water corals: New species are discovered with almost every research dive. Value of these discoveries warrant attention of USCRTF. 	<p>Oceana</p>
<p>Suggestion:</p> <p>Expand program to include an international component. Specific examples include:</p> <ul style="list-style-type: none"> • Samoan Archipelago: Need for coordination with other islands within archipelagos. American Samoa lacks support for ecologically-based regional approaches to coral reef management because of lack of coordination with Samoa and other countries. • Freely Associated States: Find ways to fund FAS to support local coral reef conservation initiatives such as Micronesian Challenge. 	<p>US All Islands Coral Reef Committee</p>
<p>Comment:</p> <p>American Samoa is often lumped together with Hawaii, Guam, and CNMI for coral reef conservation activities. We lack support and coordination with islands within our own island archipelago, and are often lacking support for ecologically based, regional approaches to coral reef management.</p> <p>Suggestion:</p>	<p>American Samoa Coral Reef Advisory Group</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
Expand program to include an international component.	
<p>Comments:</p> <ul style="list-style-type: none"> • Program very responsive to geographic needs in various regions. • It appears as a diversity of locally identified projects and programs have been supported to address local issues. Broader, cross cutting programs (assessment, monitoring, MPAs) seem also to have the same attention to local concerns as well as regional/national priorities. 	<p>Michael Guilbeaux, Community Conservation Network</p>
<ul style="list-style-type: none"> • Caribbean region is under-funded considering dire situation there. • Politics play more of role in funds distribution than do conservation needs. 	<p>Andrew Shepard, UNCW</p>
<p>Comment:</p> <ul style="list-style-type: none"> • No (South Florida). • We currently have no management plan for our reefs. <p>Suggestion: This could be improved with better local management.</p>	<p>Stephanie Clark, Cry of the Water</p>
<ul style="list-style-type: none"> • The program has provided support in the major coral reef regions of the world. • For bio-diversity, greater emphasis could be placed on the parts of the U.S. and affiliates that have the most diverse reefs. This would include the Pacific region. 	<p>Scott Atkinson, Community Conservation Network</p>
<ul style="list-style-type: none"> • Yes, in the Gulf. 	<p>Gulf of Mexico FMC</p>
<ul style="list-style-type: none"> • As far as I am aware. 	<p>Andrew Gude, USFWS</p>
<ul style="list-style-type: none"> • Geographic balance seems appropriate. 	<p>Drew Harvell, Cornell University</p>
<ul style="list-style-type: none"> • Greater investment in conservation of reefs in the greater Caribbean and South Pacific regions will be essential to save US reefs. 	<p>Mark Hixon, OSU</p>
<ul style="list-style-type: none"> • The CRCP should allocate resources with some regard to the distribution of US coral reef ecosystems. A recent NOAA report identifies Florida as the area with the greatest area of potential coral reef ecosystems. While resource allocation cannot be made on the basis of potential area of the resources alone, the current allocation of resources seems weighted disproportionately (2x) towards the Pacific. 	<p>Richard Dodge, National Coral Reef Institute, Nova Southeastern University</p>
<p>Comment:</p> <ul style="list-style-type: none"> • To the degree to which the programs efforts are being driven by local 	<p>Michael Hamnett, University of Hawai'i</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>resource management priorities, I would say they probably are appropriate. But, from looking at the 155 individual funding elements in CRCP FY'07 spend plan, I cannot connect most of those program elements with needs in the geographic areas served by the CRCP.</p> <p>Suggestion:</p> <ul style="list-style-type: none"> Applicants for NOAA Coral Program grants should communicate with jurisdictional POCs to find ways to collaborate to ensure they are addressing the needs of the unfunded LAS priority projects and other local coral conservation priorities that POCs can identify. 	
<p>Comment:</p> <ul style="list-style-type: none"> CRCP has provided substantial support to the states, territories, and commonwealths in the Pacific and Caribbean where the U.S. coral reefs are situated. This has enabled the initiation of new coral reef conservation programs where none existed before, or has greatly enhanced the ability and capacity of coral jurisdictions to expand on previous efforts. <p>Suggestions:</p> <ul style="list-style-type: none"> Now that Papahānaumokuākea Marine National Monument will be funded under the Sanctuaries Program, there is a need to reassess how the funds under the CRCP are allocated to this effort and if funds could not be better spent where the real impacts are occurring, in the locations where people live instead of the remote islands. 	<p>Athline Clark, University of Hawai'i</p>
<p>Comment:</p> <ul style="list-style-type: none"> The geographic areas covered by NOAA are appropriate within the regions that they are engaged. In respect to the Great Barrier Reef, I believe that has been adequate support -- especially in the understanding is being generated alongside the work of the Great Barrier Reef Marine Park Authority, as to how bleaching events transpire and affect our region. <p>Suggestion:</p> <ul style="list-style-type: none"> There is a compelling need to increase the precision of the satellite products down to the one kilometer and below (if possible). At the present scale, many of the products are not operating at the scale of the manager. 	<p>Ove Hoegh-Goldberg, University of Queensland</p>
<ul style="list-style-type: none"> The CRCP could be more open and consider requests and/or input from Guam with respect to innovative strategies that deal specifically with 	<p>Evangeline Lujan, Guam</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>Guam.</p> <ul style="list-style-type: none"> • The CRCP needs to trust reputable, established local resource managers and give them the space and money to conduct projects that support the overarching mission of coral conservation. The Point of Contacts for each jurisdiction should at a minimum be consulted when a project is conducted in the jurisdictions. These projects should also support the work of the LAS. • More regional/international collaboration is necessary for effective resource management. By working with our international partners, we can share experiences and knowledge and learn about what is occurring in each region. • CRCP should assist in mediations between the US State Department and the jurisdictions with regard to foreign assistance for coral reef issues. For example, the Micronesian Challenge, which includes several countries and international organizations such as SPREP, SOPAC, TNC, and Conservation International, is a regional effort that needs to be supported by CRCP. 	
<p>Comment:</p> <ul style="list-style-type: none"> • The FAS have observer status on the US Coral Reef Task Force, are included in the tri-annual report on the Status of the Coral Reefs of the United States and the Pacific Freely Associated States, and are eligible for State and Territory Monitoring Grants (but for a lower amount of funding than the Territories and Commonwealths). But due to their sovereignty, they are ineligible for State and Territory Management Grants, and instead have to compete for the smaller amounts of funding available under the General Conservation and International Grants. In terms of aerial extent, biodiversity, and resource health, their coral reef ecosystems are incredibly important to US coral reef conservation efforts. <p>Suggestion:</p> <ul style="list-style-type: none"> • In lieu of increased funding, a redistribution of some of the internal NOAA funding to support more of the innovative work of the local conservation NGOs in the FAS would most likely result in a greater return for coral reef conservation. 	Trina Leberer
<p>Comments:</p> <ul style="list-style-type: none"> • In general, the program’s efforts address the need identified by local jurisdictions in the LAS. • In CNMI, much funding has been diverted to support Micronesian Challenge, which calls for setting aside 30% of marine areas of CNMI 	WesPac

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>as no-fishing areas. Fisheries management measures put into place in CNMI demonstrate an increase in abundance of nearshore fishery resources. Public does not support more MPAs. Despite these facts, funding is still being diverted away from LAS projects and fisheries data management programs, and toward Micronesian Challenge and MPAs.</p>	
<p>Comment:</p> <ul style="list-style-type: none"> • The Program provides an important function in administering and overseeing grants that supplement the limited funds available to states and territories and have resulted in more conservation activities than otherwise would have occurred. The Program also provides significant technical support and human resources to supplement those of the states and territories. “Capacity building,” especially when directed at training “locals,” is another important aspect of the Program. • While the LAS may be appropriate, they may not be sufficient. Comments by NGOs have raised issues not covered by the LAS, or have identified areas they feel are not adequately addressed by the LAS. Public comments submitted by CORALations cite numerous compliance problems with the sewage treatment system administered by the Puerto Rico Aqueduct and Sewer Authority (PRASA), and raise questions over the efficacy of the Consent Decree negotiated by EPA with PRASA. The Local Action Strategy for Puerto Rico, on the other hand, identifies Land-Based Sources of Pollution as an LAS area, but does not include upgrading of the sewage treatment system as a priority project. Instead, it cites a project to “Improve compliance and enforcement of laws, rules, and regulations related to construction and land development permits in order to prevent deterioration of coral reef habitats.” <p>Suggestions:</p> <ul style="list-style-type: none"> • Task Force process for following up on, and responding to, issues raised by NGOs in their public comments needs to be greatly improved. The public comments, especially from NGOs and private citizens located within the various geographic regions, are extremely valuable and deserve appropriate responses. 	<p>Sierra Club</p>
<p>Suggestion:</p>	<p>WWF</p>

Appendix B Summary of Comments CRCP Federal Register Notice	
Comment	Commentor
<ul style="list-style-type: none"> The Program should strengthen and expand its international efforts. The CRCA requires a global scope for the successful completion of its purpose. To successfully “preserve, sustain and restore” coral reefs, as the CRCA mandates, a truly effective program must involve all reef systems, not just domestic ones. A much greater share – or even all – of the discretionary 20% should be used to fund international projects. 	
<i>Q3: Are the Program’s science and observation efforts (e.g., research, mapping, and monitoring) adequately addressing management needs, and informing and resulting in management actions?</i>	
<p>Comment:</p> <ul style="list-style-type: none"> Yes. CRED program will provide data to identify reef fish that are over-fished and need to be protected in American Samoa. CRCP-funded coral disease project in American Samoa included local marine biologists who learned how to monitor coral for disease, which built local capacity. Research cruises are valuable for information that leads to management decisions. Successful at producing maps of US and FAS coral reef resources. <p>Suggestions:</p> <ul style="list-style-type: none"> Additional support for equipment use (e.g., boats, maintenance) would benefit local projects. Support tools like bathymetry, habitat maps, and long-term water quality monitoring in jurisdictions. Focus funding on acquisition of high resolution imagery; strengthen local capacity by training teams of local GIS managers in remote sensing technologies to map extent of their coral reefs at a more meaningful scale. Conduct research cruises less frequently, allow data to be analyzed and provided to local jurisdictions in more timely manner. Consider redirecting funds from more costly programs (e.g., cruises and mapping) to Management and Monitoring Grants and General Coral Reef Conservation Grants. Hold workshops on coral bleaching, monitoring, social monitoring in the jurisdictions to allow locals who implement program to participate. 	<p>US All Islands Coral Reef Committee</p>
<p>The Program provides useful services, information, and partnering support.</p> <ul style="list-style-type: none"> CRED provides data to know which reef fish are over-fished and need to be protected. DMWR’s coral monitoring program has allowed local researchers to recognize the problems, gather data, and provides it to management and advocate conservation. Both CRED and the monitoring program have gathered a significant amount of information to better inform managers and scientists about our coral reefs, 	<p>American Samoa Coral Reef Advisory Group</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>allowing us to identify threats to reefs to allow proper management and conservation.</p> <ul style="list-style-type: none"> • The CRCP has encouraged partnering. One example of this partnering was seen with a oral disease project with Dr. Greta Aeby and Dr. Thierry Work (funded through CRCP), which included local marine biologists as part of the team. Local marine biologists were able to learn from these experts and are now monitoring for coral diseases. They were also able to better understand the scope of the threat that coral diseases pose here in American Samoa. • American Samoa supports the State of the Coral Reef Report and believes it is an excellent way to summarize our knowledge, includes a very wide range of contributors, and stimulates thought and research to increase our knowledge. <p>Suggestions:</p> <p>Timely reporting of CRED missions requires some improvement, realizing that providing the results allows jurisdictions to allocate resources (i.e., CRCP funding), assess strategies and define management efforts to address prevalent coral reef protection issues.</p> <p>Additional support for equipment use (boats, maintenance) could greatly benefit research projects.</p> <p>Better coordination with the Western Pacific Fisheries Management Council. Fisheries Councils have much representation from fishermen, but little science or conservation representation. Council could do more to provide support and leadership on reef fish conservation. CRCP could work with Governors (who appoint Council members) to make them aware of the lack of representation of scientists and conservation representatives on the Councils.</p> <p>CRCP should do more work with the staff of Fisheries Councils to support more conservation-minded policies for reef fish.</p>	
<p>Need a comprehensive water quality-monitoring program for the reefs of Southeast Florida. Look at nutrients, heavy metals, contaminants from medical and industrial waste pumped to ocean outfalls.</p> <p>LADS maps were a good first step. However, we have little faith in the new acoustic maps. For example, in Broward County the best reef resources—such as field of Staghorn coral, monument corals more than 20 feet across, and nearshore areas with some of the highest diversity of coral cover— are shown as pavement on these maps.</p> <p>Suggestion:</p> <ul style="list-style-type: none"> • More diver surveys to ground truth the resources in some of these mapping areas. • Increase funding for scientific studies that address coral reef heath and water quality monitoring. • Fund research on the cumulative impacts on nearshore reefs from beach dredge and fill projects. 	<p style="text-align: center;">Stephanie Clark, Cry of the Water</p>
<ul style="list-style-type: none"> • CRCP activities closely aligned with managers (Fishery Management 	<p style="text-align: center;">Andrew Shepard,</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>Councils, NMFS, Sanctuaries).</p> <ul style="list-style-type: none"> • Not sure whether true for more remote regions (e.g., eastern Caribbean). 	UNCW
<p>Unsure if the mapping and monitoring programs have provided the information needed by managers.</p> <p>A large amount of funding has been allocated to these efforts. NOAA should carefully analyze the relative conservation benefit of this use of funds. Priority of in-field management may be receiving too little funds relative to research, mapping, and monitoring.</p>	Scott Atkinson, Community Conservation Network
<ul style="list-style-type: none"> • CRCP surveys and products are extremely useful in American Samoa. • Workshops, opportunities for participation on NOAA cruises in the Pacific have been helpful. • NOAA staff have tried to accommodate our needs and requests, such as deploying their acoustic logger in areas we helped select, and providing satellite time to track 5 "off-season" sea surface drifters that the territory (CRAG) purchased in cooperation with CRCP. <p>Suggestions:</p> <ul style="list-style-type: none"> • Timely reporting of results. Long delay in analyzing and reporting data from 2002 and 2004 monitoring surveys is disappointing. 	Peter Craig, National Park of American Samoa (NPAS)
<p>Comment:</p> <ul style="list-style-type: none"> • They are to the extent that funding is available. <p>Suggestions:</p> <ul style="list-style-type: none"> • Additional funding is needed, particularly for mapping and monitoring, to provide input that can be used to design appropriate management measures to protect sensitive coral areas. 	Gulf of Mexico FMC
<p>Comment:</p> <ul style="list-style-type: none"> • CRCP's science and observation efforts are adequately addressing the management needs, and informing and resulting in management actions. <p>Suggestion:</p> <ul style="list-style-type: none"> • FWS should engage NOAA in advance and plan out-year coral monitoring activities to address the lack of NWRS capacity. • Involve more Federal agencies in LAS, as some Federal agencies have the same needs and issues as states, territories, and Freely Associated States. 	Andrew Gude, USFWS
<ul style="list-style-type: none"> • Data in the monitoring projects should feed one central database that can be queried for summary information (i.e., species status, location specific habitat information) 	Jennifer Ann Moore, NOAA Fisheries Service
<p>Suggestions:</p> <ul style="list-style-type: none"> • The rate of decline of some reef systems argues for a more aggressive, hypothesis testing approach than mere monitoring. More emphasis on adaptive management that goes beyond monitoring and tests hypotheses about potential management options on reefs needs to be instituted. Adaptive management 	Drew Harvell, Cornell University

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>actually tests scenarios experimentally, and then changes them if they are not working up to the standard expected.</p> <ul style="list-style-type: none"> CRCP could do more with marine disease, since it can be considered as a response variable for entire ecosystem health. A focus on good diagnostics would be very appropriate. 	
<p>Comment:</p> <ul style="list-style-type: none"> The LAS process has been extremely beneficial in raising awareness and for focusing on important issues and problems. <p>Suggestion:</p> <ul style="list-style-type: none"> At least in Florida, the LAS could use more funding for on-the-ground activities. 	<p>Richard Dodge, National Coral Reef Institute, Nova Southeastern University</p>
<p>Comment:</p> <ul style="list-style-type: none"> It is difficult to evaluate the degree to which management actions have resulted from CRCP's efforts. 	<p>Richard Dodge, National Coral Reef Institute, Nova Southeastern University</p>
<p>Comment:</p> <ul style="list-style-type: none"> I am not sure that the monitoring efforts supported by CRCP are geared to answer specific management questions. Designing and implementing effective monitoring programs that are scientifically defensible and reasonably priced is difficult. HCRI supported monitoring activities in West Hawaii for over five years before we could actually see the impact of fisheries replenishment areas. I am not sure there are enough resources in the CRCP to develop a monitoring program for one jurisdiction that will tell you in some representative and statistically defensible way whether coral reef ecosystems are getting healthier or not. 	<p>Michael Hamnett, University of Hawai'i</p>
<p>Comments:</p> <ul style="list-style-type: none"> The CRCP's science and observation efforts are addressing some management needs and informing management actions. The CRED program in the past 2 years has partnered with all the resource agencies in Hawaii to do baseline surveys around all the main Hawaii Islands and to provide much needed data on remote shoreline areas. The mapping program has been successful in producing maps of coral reef resources. In Hawaii, the amount allocated annually (\$115,000) for monitoring is barely enough to undertake monitoring activities on 2 islands. It does not allow for the development of a statewide integrated long-term monitoring program. <p>Suggestions:</p> <ul style="list-style-type: none"> As a result of scale, maps have not been very useful and accurate for local resource managers. Also, maps are mainly a digital product and without 	<p>Athline Clark,</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>access to desktop GIS are still be under-utilized by the resource managers who most need to know where the coral resources are located for permitting approvals. There needs to be efforts to not only produce and provide the maps but focused efforts to ensure that training and resources are provided to the agencies so that they will use them.</p> <ul style="list-style-type: none"> • Basic tools like bathymetry, habitat maps and long-term water-quality monitoring are essential for coral reef resource managers to understand the extent and types of reef resources and the influence of threats such as land based sources of pollution on reefs. However, many of these basic tools are limited. • There is a significant array of sensors to monitor oceanographic conditions in the NWHI. A corresponding array is needed in the main Hawaii Islands to understand the currents throughout the archipelago and patterns of connectivity. • Research is needed to understand the quantities, sources and sinks of pollution, and larval transport pathways, so that managers can develop effective strategies to address threats to reefs, and evaluate coral recover rates. • There is a need to assess whether cruises should be considered ‘monitoring’ activities in subsequent years after baseline data is provided. The data provides a snapshot in time but rigor of the data when it is only collected one every couple of years is questionable. Perhaps this program could be undertaken on a less frequent basis and still assure managers of results. A less intensive cruise schedule may allow some of the funds to be reprogrammed for the on-the-ground monitoring activities that are also underway and at much finer scale in each jurisdiction. • We need sound data or detection techniques to adequately measure whether mitigation measures on land are eliminating or minimizing impacts to down slope coral reefs. Tools and research techniques that allow managers to better isolate key cause and effect parameters are needed. 	
<p>Comment:</p> <ul style="list-style-type: none"> • There is a general feeling in the reef management community that the Coral Reef Conservation Program is doing a good job at informing and addressing management needs. The web site is very effective. • Projects like the coral bleaching handbook have been very effective tools for communicating to management audiences. 	<p>Ove Hoegge-Goldberg, University of Queensland</p>
<p>Comment:</p> <ul style="list-style-type: none"> • Exogenous factors (e.g., trade, alien species, illegal fishing, pollution/disease) may originate in areas outside local control. This needs to be effectively monitored to (1) understand the relative impact of such exogenous threats compared to those which are being addressed through local actions and (2) revise the program of interventions if it is not effective by focusing on only those issues over which local jurisdiction allows intervention. • Research is yielding a wealth of important diagnostic information that will help coral reef managers understand causal stress-response linkages, and 	<p>Marea Hatzios, World Bank</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>provide the basis for better informed policies.</p> <ul style="list-style-type: none"> • NOAA's international partnerships are extremely important in terms of leveraging US funds to achieve common objectives (particularly on the research side), reach out to the international community (particularly the developing world) to build capacity in these countries to assess the state of coral reef health, conduct experimental research to understand ecosystem response, and empower managers to take the research findings and use them to improve their management effectiveness. 	
<ul style="list-style-type: none"> • Guam has benefited from several mapping, monitoring and research projects. The benthic habitat mapping project provided important baseline data that has served as a basis upon which more detailed data has been developed. The NOAA Pacific Rapid Assessment Monitoring Program (RAMP) cruises have been conducting data collection for Guam. Comments: • The Pacific RAMP is an unprecedented endeavor that will provide valuable scientific data to support effective coastal resource management. Guam has the option of receiving raw data upon request and has received preliminary reports. • Reports containing data analysis have not been provided to the jurisdiction in a timely manner. This final report for 2003, 2005, and 2007 will not be available for another two years. It is critical that Guam obtain this report in a timely manner. • However, it is unclear how RAMP final reports are ultimately used. These efforts need to translate to national policy. <p>Suggestions:</p> <ul style="list-style-type: none"> • The CRCP should explore funding for the NOAA RAMP cruises for the FSM, Palau, and the Marshall Islands, affiliates of the United States who possess significant coral reef resources. • Results should help formulate future SMART objectives that directly address improvement of the health of the resource. 	<p>Evangeline Lujan, Guam</p>
<p>Comments:</p> <ul style="list-style-type: none"> • RAMP has collected a diverse array of information needed by resource managers, and NOAA is expediting the synthesis of this information into a format managers can use to inform management decisions. • Underfunding of fisheries monitoring programs appears to be a concerted effort to ensure that a lack of information is used to justify establishment of 	<p>WesPac</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>new MPAs.</p> <p>Suggestions:</p> <ul style="list-style-type: none"> • More timely release of bathymetric and habitat characterization information. Nearshore benthic habitat maps are available for public; comprehensive bathymetry and habitat characterization of areas in Federal waters have been withheld from Council and public, limiting ability to address essential fish habitat mandates and coral reef conservation efforts in EEZ. • Increase funding for inshore and offshore creel surveys for Guam, CNMI and American Samoa to allow assessment of status and condition of reef fish stocks and effectiveness of fishery conservation and management measures. 	
<p>Comments:</p> <ul style="list-style-type: none"> • NOAA’s mapping and monitoring products have been very high quality and very valuable. In particular, the Program’s mapping, monitoring, and documentation regarding the coral reef ecosystems of the Northwestern Hawaiian Islands were instrumental in bringing national and international attention to the scale and uniqueness of those ecosystems. • Mapping and monitoring currently consume proportionately too much of the budget. Management needs are highly political in nature, so while NOAA research has documented major threats to coral reefs from global warming and ocean acidification, policy makers at upper levels have ignored or selectively interpreted research findings. NOAA scientists have apparently deferred to “policy makers” to address (or fail to address) the concerns suggested by their research. There are similar issues with research and monitoring documenting overfishing. The fishing lobby is so strong that the managers in some states and territories are afraid to use even use the word “overfishing,” and refer instead to “fishery management” issues. 	<p>Sierra Club</p>
<p>Comment:</p> <ul style="list-style-type: none"> • As a whole, the CRCP provides effective leadership and builds valuable partnerships for coral conservation. WWF is pleased that CRCP projects include some of the finest coastal science and observation efforts in the world. • There are two possible improvements to NFWF’s program management: 1) allowing indirect costs in budgets; and 2) reviewing its cost share policy with non-governmental organizational partners. • CRCP can expand its cooperative efforts to other partners, both within NOAA and with other agencies, such as the International Fisheries Offices. • CRCP should strengthen its efforts to monitor program results by developing assessment criteria, monitor projects, and measure impacts. • Share results with end users and others interested. 	<p>Sierra Club</p>

Appendix B	
Summary of Comments	
CRCP Federal Register Notice	
Comment	Commentor
<i>Q4: Have the Program's education and outreach efforts been effective in reaching the proper audiences?</i>	
<ul style="list-style-type: none"> • Difficult to measure effectiveness of education and outreach efforts, whether programs have reached the appropriate audiences, and whether this has translated into increased awareness and changes in behavior. • Limited resources and focus have been applied to raising awareness about coral reefs across general US public. Efforts need to be more focused on ensuring that children and policy makers who do not live near coasts understand and care about how their actions impact coral reefs. • Take advantage of the US role as co-coordinator of International Year of the Reef in 2008 by providing funds to develop and distribute key awareness materials to assist in local or national efforts. At national level, there should be an effort to involve zoos, aquaria, and other venues where general public can see and learn about reefs. 	US All Islands Coral Reef Committee; also identical comments from Athline Clark, University of Hawai'i
<p>Comments:</p> <ul style="list-style-type: none"> • Rare Pride has built local capacity and has enhanced the CRAG education and outreach work. Outreach efforts reach schools, villages, youth groups, churches, and teachers. • There is little education and outreach support for individual government agency education and outreach programs within American Samoa because the resources in the grant do not allow for this support with all the other goals and objectives to reach within the local action strategies. There is little support for school curriculum development within the Department of Education. <p>Suggestions:</p> <ul style="list-style-type: none"> • Additional support and guidance from the National Science Foundation to fund locally appropriate education curriculum in our schools and community college would provide the base for building future scientists and managers in American Samoa. • More outreach to fishermen, women's and men's organizations, and pastors is needed to truly be effective. 	American Samoa Coral Reef Advisory Group (CRAG)
<ul style="list-style-type: none"> • They appear to be helping. To what degree, I cannot ascertain. 	Michael Guilbeaux, Community Conservation Network
<p>Not at the local level.</p> <p>Locally, the Southeast Florida Coral Reef Initiative (SEFCRI) is run by Florida Dept. of Environmental Protection (FDEP). FDEP is also the regulatory agency that issues permits for many of the practices that injure our reefs. We would like to ask the Federal Program to take a more active role in giving guidance and direction to our local program.</p>	Stephanie Clark, Cry of the Water
Sanctuaries have been gems at working with local communities.	Andrew Shephard,

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
	UNCW
<p>Thanks to the activities of the CRCP, more educational materials and activities related to coral reef protection are available than ever before.</p> <p>CRCP has made research results and academic discussions on issues related to coral reefs available to the users, especially to educators.</p> <p>CRCP has consulted teachers about the form and pertinence of the materials before production.</p> <p>CRCP translates the results into a vocabulary that teachers can use in their classrooms.</p> <p>CRCP has provided opportunities for educators to see the researchers work in the field which is a very important experience for them.</p> <p>Funds assigned to this portion of the Program have been very wisely used.</p> <p>The personnel carrying out these tasks are most professional and always available for consultation.</p>	<p>Álida Ortiz, Retired Marine Biology Professor, University of Puerto Rico, Humacao; presently Consultant, Environmental and Education Issues</p>
Yes.	Gulf of Mexico FMC
It would appear so.	Richard Dodge, National Coral Reef Institute, Nova Southeastern University
As far as I know this has been effective.	Andrew Gude, USFWS
<p>Comment:</p> <p>I have not personally seen much in the way of education and outreach from CRCP. I think the local programs in Hawaii, which have been partly supported by the CRCP, have clearly raised the level of awareness about the threats to coral reef ecosystems.</p> <p>The outreach efforts in Hawaii have not translated into more political and financial support for the management of coral reef ecosystems by the state legislature. I think they have started to stimulate resource management initiatives by non-profits and community organizations. This may be what is required to get more state public resources devoted to coral reef ecosystem management.</p>	<p>Michael Hamnett, University of Hawai'i</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>Comment:</p> <ul style="list-style-type: none"> Development resources, workshops and the engagement of the staff involved have been very effective in reaching scientific audiences across the planet. The impact has been enormous – with numerous studies of dual benefit to the USA and the international community being stimulated. In this regard, the coral reef conservation program at NOAA is clearly the world leader in bringing together and disseminating information to the coral reef management community. 	Marea Hatziolos
<ul style="list-style-type: none"> Fact sheet(s) on the State of Coral Reef Ecosystems of the U.S. is a useful summary of how U.S. reefs are doing. Cannot tell how much of the really important information generated about what is causing the demise of coral reefs and what we as citizens can do about it is getting down to the level of schools, communities, consumer groups, utilities, local government. <p>Suggestions:</p> <ul style="list-style-type: none"> NOAA could publish something like “10 things I can do to save reefs”. The information the CRCP generates can be used to craft targeted messages to different segments of the public to elicit their personal commitment to protecting reefs. Recommend basic surveys of people's attitudes and awareness toward reefs to get a baseline and then resurvey the same population after several years. 	Marea Hatziolos
<p>Comments:</p> <ul style="list-style-type: none"> The program's education and outreach efforts have been very active, but more can and should be done. <p>Suggestions:</p> <ul style="list-style-type: none"> Funding for education and outreach efforts should be directed toward projects that incorporate principles of social marketing, such as identifying target audiences and crafting specific messages with respect to the target audience. On a national level, the “coral reef crisis” and related issues (e.g., global climate change) need to be highlighted. The IYOR08 action plan has an opportunity to bring to the forefront the crisis of the deteriorating health of coral reefs nationally and globally. 	Evangeline Lujan, Guam

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<ul style="list-style-type: none"> • Furthermore, more attention should be placed on the scientific findings and potential applications produced by the CRCP’s science and observation line agencies. These scientific findings need to be translated into a manner that can be understood and readily accessed by the layperson. • More funds and guidance must be directed to the jurisdictions for community based management and for support for communities to start local NGOs to share in the responsibilities of education and outreach. • Educational and outreach efforts still need to be repeated on a continual basis to get the conservation message across to the community. 	
<ul style="list-style-type: none"> • The education and outreach working group has been one of the most active and coordinated parts of the CRCP. • It is difficult to say if their efforts have reached the proper audiences and have translated into increased awareness and changes in behavior. • CRCP outreach focuses more on the positive than on some of the very real threats and challenges we face in conserving coral reefs. • The IYOR will offer opportunities to reach out to the international community and build more awareness in the US. 	Trina Leberer, Nature Conservancy Micronesia
<ul style="list-style-type: none"> • Need more education and outreach with ethnic communities that are not familiar with local laws. • More effort to educated public on identifying and acting on land use problems that cause runoff onto reef ecosystems. 	WesPac
<p>Comments:</p> <ul style="list-style-type: none"> • The Program’s education and outreach efforts regarding the impacts of global warming on coral reefs have not reached highest levels, i.e. the White House. • Due to education and outreach effort by others, however, there is likely now an increased awareness by the general public that coral reefs (and penguins, and polar bears as well) are in trouble due to global warming, and there is a growing ground swell of public support for action to address this problem. • There is less awareness among the general population of the impacts of overfishing on coral reefs, and while there may be support among the general population for more marine protected areas, such support is usually not focused enough to overcome the opposition to MPAs by highly vocal fishing interests. 	Sierra Club

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>Suggestions:</p> <ul style="list-style-type: none"> Move from general education and outreach messages (e.g. coral reefs are valuable and important and under threat) to more specific messages directed at garnering and focusing specific actions which can and should be supported, e.g. expansion of marine protected areas, upgrading of sewage treatment plants, better management of construction runoff, etc. 	
<i>Q5: Is the Program providing effective leadership and building useful partnerships to advance coral reef conservation?</i>	
<p>CRCP has provided effective leadership and coordination in the first phase of the program.</p> <p>Suggestion: More support is needed for building capacity within the jurisdictions to enable them to better manage their coral reef resources. Need more consistent engagement from other Federal agency partners.</p>	<p>US All Islands Coral Reef Committee; also Athline Clark</p>
<p>The Program provides leadership and promotes partnerships to advance coral reef conservation.</p> <p>Too much focus on leadership in Washington, D.C. with not enough support for the development and support of local leaders and partnerships.</p> <p>Leadership shows little confidence and support in the ability of local staff to build effective partnerships and leadership. This causes doubt at the local level in the national level's ability to provide true leadership and guidance that will assist local efforts.</p>	<p>American Samoa Coral Reef Advisory Group (CRAG)</p>
<p>Program is particularly strong in personnel and approach.</p> <p>CRCP appears to be adding value and leadership to coral reef conservation throughout the world.</p> <p>Suggestion: Keep working on collaborations and partnerships with private donors interested in coral reef conservation.</p>	<p>Michael Guilbeaux, Community Conservation Network</p>
<p>Many good works have been supported.</p> <p>More rigorous review and evaluation processes.</p> <p>Partnerships could be stronger if these elements were improved.</p>	<p>Andrew Shepard, UNCW</p>
<p>CRCP is very strong in providing leadership and building partnerships.</p> <p>CRCP has convened or been a part of the major coral reef conservation meetings throughout the world</p> <p>CRCP has helped to highlight innovative approaches to conservation and</p>	<p>Scott Atkinson, Community Conservation Network</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>encourage others to participate. CRCP supports important regional processes that are providing leadership in coral reef conservation. These include the Pacific Islands Marine Protected Area Community (PIMPAC) and others. By funding a number of partners that are developing innovations in coral reef conservation, the CRCP is enhancing its leadership.</p>	
<p>CRCP is providing effective leadership and building useful partnerships to advance coral reef conservation given internal and external politics, needs, challenges, and opportunities.</p> <p>Suggestion: Out-year planning with partners based on common conservation needs, priorities, threats, and challenges. This could help NWRS address a significant lack of capacity for managing the coral areas under our realm of responsibility.</p>	<p>Andrew Gude, USFWS</p>
<p>Comments:</p> <p>Coral Reef Task Force and related meetings have brought people together within states, territories, and commonwealths with federal partners unlike ever before.</p> <p>LAS planning efforts have contributed even more to coordination and collaboration at the local level than the meetings. Agency stove pipes have become more permeable, much more collaboration is going on between agencies and organizations at all levels, and concerted efforts have been mounted to try and mitigate the threats to coral reef ecosystems that were simply not there before.</p> <p>I think the All Islands Coordinating Committee and its interaction with the Task Force and CRCP office have brought state, territorial, and commonwealth coral reef managers closer together than any other endeavor. Ironically and not unexpectedly, I think some of the tension between the All Islands Committee and the CRCP staff have contributed to closer working relationships among the POCs.</p> <p>A few efforts at getting folks to work together that have not worked as planned. Sub-regional meetings intended to get regional and local federal partners involved in funding LAS activities did not work as planned. Local meetings and local planning efforts accomplished what was intended to result from the regional meetings.</p>	<p>Michael Hamnett, University of Hawai'i</p>
<p>The coral reef conservation program is providing effective scientific leadership and is building useful partnerships across the planet. The workshops and networks I have been in as a result of NOAA CRCP's efforts have been particularly effective.</p>	<p>Ove Hoegge-Goldberg</p>
<p>Comments:</p> <p>NOAA is a partner in a global program of Targeted Research on Coral Reefs to</p>	<p>Marea Matziolos</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>help build capacity for management in countries where the majority of reefs are found. Such international programs can galvanize key action on the ground, garner the attention of the press, and help leverage additional resources from other institutions to address many of the problems facing reefs outside the U.S. and the Freely Associated States of the Pacific.</p> <p>The USCRTF has been a major boon for the International Coral Reef Initiative as well and helped keep several important policy initiatives on the radar screen of international conventions and other fora. Maintaining links with international initiatives remains key to generating the kind of global support that will be required to protect the world's coral reefs.</p> <p>Promoting socioeconomic monitoring of coral reefs, in addition to the bio-physical monitoring that has been the traditional approach of monitoring efforts, has been a major breakthrough.</p>	
<ul style="list-style-type: none"> • We need creative leaders that take risks with innovative solutions and that can recognize the value of trusting reputable local natural resource managers. • CRCP needs to address policy at the federal level, in order to be an example to territories' local governments. NOAA should advocate federal policy that is in the best interests of the jurisdictions' coral reef resources and critique federal actions and projects that would negatively impact these resources. • The CRCP can provide better leadership in the effectiveness of the US Coral Reef Task Force Meeting. With the high level staff from various other federal agencies sitting at the table, critical priority issues can be addressed with some level of commitment from members of the committee. • The USCRTF needs to be more aggressive about defining its purpose, goals, and objectives, which should create a clear set of priorities and needed actions to achieve conservation goals. The Task Force needs to establish better ways to ensure that objectives are being met. Perhaps the entire body of the US Coral Reef Task Force should meet on a two-year schedule instead of twice a year. • Ratio of CRCP staff at Headquarters versus in the jurisdictions needs to be evaluated. More resources are needed in the jurisdictions. • Guam is concerned about the potential impact of the move of 8000 Marines from Okinawa to Guam, and the role that CRCP might play in that move. More time and money needs to be spent on mitigation models that compensate the people of Guam for the destruction and/or increasing use of coral reef resources that will be impacted by such development projects. • NOAA supports the Western Pacific Regional Fisheries Management Council 	<p>Evangeline Lujan, Guam</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
(WesPac) is a federal institution that is undermining local jurisdictions' missions. Guam has used resources to counter the misinformation propagated by WesPac. These resources could have been better spent.	
<p>Comments:</p> <p>LAS have been quite successful in focusing efforts on priority threats and have been utilized in various ways by the local jurisdictions to prioritize actions and leverage support.</p> <ul style="list-style-type: none"> The goal of greater engagement of federal partners has been less successful. A strategy of identifying federal navigators for each LAS seemed to work better in places like Hawaii and Florida where many federal agencies already had regional staff. CRCP has started to build more effective partnerships. Pacific Islands MPA Community (PIMPAC) was developed through support of the CRCP. PIMPAC members include many government and local NGO partners, as well as a resource team comprised of the Community Conservation Network, Locally Managed Marine Area Network, The Nature Conservancy and the Micronesia Conservation Trust. The CRCP has also been partnering more directly with The Nature Conservancy at many levels in both the Pacific and the Caribbean on many efforts including resilience, sustainable finance, site-based management planning, management effectiveness, and climate change. <p>Suggestion:</p> <ul style="list-style-type: none"> CRCP should improve the effectiveness of USCRTF meetings. The TF meetings have tended to try to cover too many disparate topics at once, settling on providing more superficial updates, while sacrificing the opportunity to probe and understand one or two key priority issues more in depth. Also, a disproportionate number of NOAA staff attend the meetings held in the jurisdictions, some of whom appear to be fairly superfluous, using limited resources with minimal apparent benefit to coral reef conservation. 	Trina Leberer, Nature Conservancy Micronesia
<p>Comments:</p> <ul style="list-style-type: none"> Local CRCP leadership needs to focus on LAS efforts and provide leadership for all local partners working on coral reef conservation efforts. Difficult to promote fishery management programs if there is a preconception from leadership that fishing is the only activity where more regulations are needed, as opposed to activities that contribute to contamination, pollution, and sedimentation. Feeling in islands that federal government is trying to dictate priorities and projects to local agencies, rather than supporting projects identified by agencies via their LAS. One issue is increased pressure to create more MPAs. 	WesPac
Comments:	Sierra Club

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<ul style="list-style-type: none"> The Program is providing effective leadership and building useful partnerships in connection with the Local Action Strategies conducted in partnership with State and territorial governments. <p>Suggestion:</p> <ul style="list-style-type: none"> The Program should show leadership in reducing greenhouse gas emissions. More partnerships with local government decision makers (and local NGOs would be helpful, as many decisions about coral reef management and restoration are made at the local level rather than by state or federal coral reef resource managers. 	
<i>Q6: How can the CRCP improve its impact and performance in the future?</i>	
<p>Increase focus on supporting regional partnerships as, ecologically, we are more closely tied to non-US island chains. More money needs to be funneled to where the reefs are. More funding for local positions to manage coral reef conservation projects. Streamline the federal portion of the program. Eliminate management overlap (e.g., the NOAA Coral Reef Management Fellowship program has five different NOAA program coordinators/managers.) Listen to the needs of the territory. Provide more support for building local capacity. Develop long-term strategies and funding to support science education, scholarship, and jobs. Provide more financial assistance.</p>	<p>American Samoa Coral Reef Advisory Group (CRAG)</p>
<p>The Coral Reef Conservation Program is a great program that should be expanded. It could be more efficient at the local level if better guided and overseen from the federal level.</p> <p>Compel the state of Florida to enforce the NPDES program [to reduce land-based sources of pollution into shoreline areas]. Establish a national marine sanctuary in the reefs of Southeast Florida, or ask the state of Florida to designate protected status (e.g., Outstanding Florida Waters, MPAs, Aquatic Preserves) to the reefs of Southeast Florida. Increase funding for scientific research and reef and water quality monitoring. Improve SEFCRI impact and performance by allowing EPA to take a leadership role in its management. Do not spend money on streamlining the permitting process. Streamlining permitting will only allow many destructive practices to continue.</p>	<p>Stephanie Clark, Cry the Water</p>
<p>CRCP review process and evaluation/reporting processes are notoriously shoddy. More funds should be spent via external review process that requires joint PIs between NOAA and outside partners.</p>	<p>Andrew Shepard, UNCW</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>Increase allocation and attention on in-situ conservation of reefs. This should focus on supporting efforts to develop and institutionalize approaches that are proving effective in coral reef conservation.</p> <p>Increase attention on develop sustainable approaches to coral reef conservation.</p> <p>Increase attention on Learning Networks (groups of practitioners work together to share effective program approaches).</p>	<p>Scott Atkinson, Community Conservation Network</p>
<p>Continue to build partnerships and cooperative efforts for research, monitoring, and mapping. Cooperative efforts can significantly reduce costs and expand the amount of work that can be accomplished.</p>	<p>Gulf of Mexico FMC</p>
<p>NOAA can build on its established relationships with its external partners such as the three research institutes for more activities.</p>	<p>Richard Dodge, National Coral Reef Institute, Nova Southeastern University</p>
<p>CRCP could improve its relations with the All Islands Committee and the POCs. I think there have been times when NOAA headquarters staff have decided to initiate planning processes or to impose uniform requirements on states, territories, and commonwealth that have been unnecessarily restrictive or prescriptive. In some cases, there has been an unwillingness to consider other options.</p> <p>More openness about, and consultation on, NOAA spend plan decisions would greatly improve relations between NOAA headquarters staff, the POCs and All Islands Committee and make the CRCP more effective. The CRCP spend plan should be directly linked to the priority needs identified by the jurisdictions, which will require close consultation with jurisdictional POCs before spend plan decisions are made, not after.</p>	<p>Michael Hamnett, University of Hawai'i</p>
<ul style="list-style-type: none"> • Improve communication between the CRCP and the POCs by testing new ideas and working out problems (e.g. Grants Online, and grant application templates, tracking and reporting systems) before implementing them and making them requirements. • Improve coordination of requests for information and response timelines to avoid duplicative requests and unnecessary urgency. • Allocate more resources to on-the-ground conservation and less on meetings bureaucracy and paperwork, which take time and resources away from conservation efforts. • Restructure the format of Task Force meetings to make them more useful with less frequency of meetings of the whole USCRTF. • More clearly define the goals of NOAA's CRCP and identify ways to 	<p>Athline Clark, University of Hawai'i</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>measure the success of the program on conservation, protection and restoration of the coral reef resources.</p> <ul style="list-style-type: none"> • Seriously consider completely revamping the grants process. • Better link internal and external funding needs to the same suite of priorities. As a part of this process, develop criteria for funding allocations and priorities that can and are agreed to with the jurisdictions. • Seek additional mechanisms to increase capacity and to address this need in all jurisdictions. • Provide the necessary support to revise the LAS and to develop reporting mechanisms for both the jurisdictions and the CRCP. 	
<ul style="list-style-type: none"> • Develop more international partnerships to pursue research efforts associated with coral reef conservation that are of common interest to the United States and the international community. • Expand the type of communication efforts that resulted in products like the Coral Bleaching Handbook. • Increasing the precision of satellites will have will make the coral reef conservation program products more relevant to the scale at which reef managers operate. 	Ove Hoege-Goldberg
<ul style="list-style-type: none"> • Periodic reporting to Congress • State level report cards or score cards on the health of coral reef ecosystems in the U.S. • Scorecard that assesses other U.S. Government and state agencies in terms of on how coral reef friendly their policies and business practices are. • Conduct more tailored outreach to the public on results of research and monitoring, performance of management interventions, intensity of threats, etc. to give people a sense of what they can do personally to help protect reefs. The message needs to be, "It's not just government's job, it is the responsibility of all of us to protect coral reefs." 	Marea Matziolos
<ul style="list-style-type: none"> • Better communication and support. The coral reef resources are within the jurisdictions. Many decisions made by NOAA are not fully understood by the jurisdiction or were made without consultation from the jurisdiction and/or appropriate parties. There needs to be better communication conveying the direct benefits of the chosen suite of activities and the responsibilities of each of the CRCP participating line offices with regard to the project. • The amount of reporting and request for information from the various CRCP programs needs to be addressed. There is not enough time or staff to deal with additional reporting requirements. A more effective and efficient way of obtaining progress reports or information needs to be established. 	Evangeline Lujan, Guam

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<ul style="list-style-type: none"> • The US Coral Reef Task Force Meetings could serve as a vehicle to share information on the goals and objectives of NOAA towards improving the health of the resources. The roles of the various Federal agencies on the task force are unclear, as are the contributions they will make toward the improvement of the coral reefs or to the support of the jurisdictions. • The All Island Committee (AIC) of the USCRTF is an under-used institution with respect to driving policy. The AIC are representative agents of the resources that will be impacted by decisions made by the CRCP, and the federal government. It is imperative to use the expertise and influence of the members of the AIC to determine policy. 	
<ul style="list-style-type: none"> • More support for implementation on-the-ground, especially in terms of building and strengthening local capacity (staff, training, equipment, etc.). • Revise the Fellows program to better meet the needs of the local jurisdictions. CRCP should explore some different approaches, depending on the needs of the local jurisdictions, such as: <ul style="list-style-type: none"> • very short-term fellowships for highly skilled professionals to meet specific and critical needs; • training / educational opportunities for existing local staff (e.g., GIS training, social marketing training, data management and analysis, etc.) resulting in certifications or degrees, with full financial support; • internships for recent local graduates (e.g. the Micronesia Challenge / PIMPAC “champions” project). • Help with capacity issues by providing more opportunities for the purchase of larger equipment such as vehicles and boats. In the past, the general policy has been to reject capital purchases. • USCRTF meetings could be more efficient and effective. Perhaps focus on some of the bigger policy issues, such as climate change, at the spring meetings in Washington, DC. The fall meetings in the jurisdictions could then focus on specific themes more important to that place. • Grants online needs to be improve. Problems cited include a lack of timely technical support from the help desk. The program needs considerable revision to make the process more user-friendly and effective, accompanied by more training in the local jurisdictions. • CRCP could be more effective through greater communication and transparency with the local jurisdictions. It is unclear to the jurisdictions how the CRCP sets its internal priorities and this has lead to some friction. Conflict can often be avoided with frequent, open communication, and building strong 	<p style="text-align: center;">Trina Leberer, Nature Conservancy Micronesia</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>professional relationships. Key staff should also make it a priority to spend quality time with the jurisdiction points of contact at TF meetings and during scheduled site visits and really listen to their needs, instead of just approaching them when deadlines are looming or the CRCP has a need from the jurisdiction.</p>	
<ul style="list-style-type: none"> • CRCP needs to create a program monitoring apparatus or process for concerns to be pursued. • Fund threat and cultural awareness training for all local coral reef partners on all threats to coral reef ecosystem. • Change how federal government operates in the US Pacific Islands. Allow local government to participate in planning for research; promote traditional language and knowledge in education and outreach activities; involve more fishermen in activities; encourage local programs to disseminate information; avoid efforts to influence or dictate to local agencies to support federal agendas that are not consistent with traditional cultures and values. 	WesPac
General Comments	
<p>Definition of Coral Reef</p> <p>The definition of “coral reef” varies across EO 13089, the CRCA of 2000, and the CRCAA of 2007. This variation makes the definitions difficult to scientifically interpret and difficult for any regulatory agency to administer. Overly inclusive interpretation by the NMFS and USFWS has resulted in administrative jurisdiction over a single, one centimeter coral polyp on an artificial steel bulkhead, which according to their interpretation constitutes a “coral reef” and “coral reef ecosystem.” Therefore, damage to this individual coral requires mitigation, which would not be required under the EO or the Acts. CRCP needs to address this definition issue and support its uniform application.</p>	William Kramer Hawai’i
<ul style="list-style-type: none"> • NOAA is doing an excellent job with funding coral reef work throughout the seven states and territories. • Grateful such funding exists and that NOAA is a resource. 	Christopher Boykin, Florida Dept. of Environmental Protection
<ul style="list-style-type: none"> • The US is not doing enough to protect our reefs. The US needs to set up an agency with control and enforcement over reefs. • The Clean Water Act is not aggressively enforced in areas where reefs are degrading. • The Florida Department of Environmental Protection is not doing enough to protect these reefs. Sewage outfalls are damaging South Florida reefs/ • Need greater funding for the study of reef damage and programs to study how damage might be overcome. 	Drew Martin, Florida Chapter, Sierra Club

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
A key to coral reef conservation is maintenance of suitable water quality. Water quality cannot be maintained if non-point sources of pollution are not controlled, which is needed to save the coral reefs of the island territories.	Dr. Quenton Dokken, Gulf of Mexico Foundation
<p>In the past year, NOAA has been requiring audited financial statements. This requirement will leave many nonprofits who want to apply for funding out in the cold, due to the cost of an audit (\$4-6K, minimum).</p> <p>Another issue for nonprofits is general liability insurance. As more nonprofits become involved in hands-on activities, general liability becomes a big concern.</p> <p>Suggestion:</p> <ul style="list-style-type: none"> • The program should find a way to assist with operational expenses such as these. 	Jill Komoto, Malama Kai Foundation
<p>Overall, NOAA's Coral Reef Conservation Program has made an excellent start on the extremely important mission of saving U.S. coral reefs, yet there is room for improvement.</p> <p>Suggestions:</p> <ul style="list-style-type: none"> • If the US is truly committed to saving coral reefs, increased funding is essential. 	Mark Hixon, Oregon State University (OSU)
<p>NOAA's CRCP is doing on balance a good job.</p> <p>One of the bright stars of the program is Coral Reef Watch. Coral Reef Watch is a superb program, right on the cutting edge of innovation.</p>	Drew Harvell, Cornell University
The USCRTF has been a truly great endeavor. The TF could be more effective with more authority. The TF's present model of sending complaints or issues to member agencies to address could be improved with more central authority. The TF would be enhanced by including more relevant agencies (e.g., DOE). In addition, the TF could use some weeding of or encouragement for certain member agencies to be more proactive (e.g., NSF, DOT, NASA, DOJ).	Richard Dodge, National Coral Reef Institute, Nova Southeastern University
The Coral Reef Conservation Program has been a tremendous catalyst for coral reef management activities at the national, state, territorial, and commonwealth levels of government.	Michael Hamnett, University of Hawai'i

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>Coral reefs are not getting any healthier with current levels of stress much less with what we are likely to see as a result of global climate change. I do not think the political will is there to provide the levels of protection and management that are needed much less to change human behavior.</p>	
<p>Suggestions:</p> <ul style="list-style-type: none"> • LAS documents and the proposals submitted for funding from states, territories and commonwealths are much too long and detailed. CRCP should use some kind of on-line system be developed to allow people to do their action strategies on-line, link annual funding proposals to those strategies, submit reports on progress linked to the proposals, and be able to move verbiage about proposed activities into completed activities when they were completed. • Reduce the number of Task Force and associated meetings, as the travel burden is too great for multiple meetings. 	<p>Michael Hamnett, University of Hawai'i</p>
<p>Comments:</p> <ul style="list-style-type: none"> • The grants program is in need of serious overhaul. Pre-proposals are due to NOAA within a month after you have just received the previous year's allocation making it nearly impossible to be able to predict next steps in projects needing multiple years of funding. The review process is long, overly burdensome, and overly complex for both the NOAA staff and the grantees. Reporting requirements are extremely time-consuming. New requirements to develop and track performance measures will increase the cost of all projects. • Each year NOAA allocates approximately \$1-3 million of the CR funds annually to the National Fish and Wildlife Foundation. All funds awarded under the NFWF must produce a minimum of 1-to-1 match. Grantees must be able to show that they have had a recent audit, and the lists of requirements to obtain the award are significant. CRCP should re-evaluate whether allocating funds to this organization is better than adding these funds to the current general coral reef grant pot and distributing them. • There needs to be a system developed where this information can be easily uploaded and used by whoever needs the information for whatever purposes. 	<p>Athline Clark, University of Hawai'i</p>
<ul style="list-style-type: none"> • The ecological balance between coral and algae growth that has historically been provided by the presence of herbivores has been lost. And in many areas, the presence of top level predators, such as spiny lobster, that kept the populations of organisms that feed on living coral in check have also been eliminated. <p>Coral reef restoration efforts fit into three categories. 1. Specific physical site restoration: repair of ship grounding events, repair of storm damage, restoring the physical structure of a site through repair and reestablishment of damaged and displaced coral formations; replacement of reef formations with artificial structures; restore live coral growth by reattachment of shattered on-site corals and attachment of cultured and</p>	<p>Martin Moe, Jr.</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>stabilized coral fragments.</p> <p>2. Preventative restoration: disease repair, physical algae removal on and near at-risk coral formations, human impact control (MPA designations), and programs for debris removal and pollution control.</p> <p>3. Ecological restoration. Two possibilities:</p> <ul style="list-style-type: none"> • Reestablishment of colonies of <i>Diadema antillarum</i> to specific areas of the reef tract that can function as centers of significant reproduction of this keystone herbivore and should greatly enhance the larval presence and settlement of juvenile <i>Diadema</i>, and juvenile corals, on these reefs. The positive effects of these ecologically restored reefs will naturally propagate to other reef areas throughout the reef tract. • Widespread protection of spiny lobster on the entire or selected portions of the offshore reef tract. The activity of adult spiny lobsters on the reefs could diminish the populations of coralivorous organisms which destroy coral tissue and place the entire formation at risk through introduction of disease. <ul style="list-style-type: none"> • CRCP should step back and evaluate status of mapping and monitoring efforts and conduct a gap analysis to identify priority outstanding needs. • CRCP monitoring efforts should build their protocols off of a standardized methodology and then feed the raw data into a central repository. • Put a greater emphasis on supporting the research and development of techniques that have the potential to recover and restore reefs. A clear path should also exist for taking the technique development from the R&D phase to an operational phase. • Corals that could otherwise be saved are left to die (because of ship wrecks, other damage) because no authority or financial resources exist to conduct coral stabilization and reattachment. • Under “Restore Injured Habitats,” CRCP could provide support to directly prevent injuries and/or restore for impact by the following actions: <ul style="list-style-type: none"> ▪ Support the removal of derelict vessels on coral reefs. ▪ Conduct reattachment and restoration in the aftermath of physical impacts (vessel groundings, anchor damage, and hurricanes). Because no funding is currently available corals that could otherwise be saved are often left to perish in the aftermath of these impacts. ▪ Support the installation of mooring buoys on a wide-scale. 	

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<ul style="list-style-type: none"> ▪ Support the installation of additional aids to navigation. • CRCP should continue their efforts to reauthorize the CRCA with emergency response and liability provisions. Additionally, CRCP should seek additional funds and/or reallocate existing funds to conducting restoration in the aftermath of coral impacts. • Transition towards on-the-ground projects that work to directly to reduce impacts and restore impacted reefs. Where possible these activities should work to “operationalize” previous coral research efforts into actual solutions. Some considerations are below: • To control land-based sources of pollution, the program should consider supporting direct action (installing sediment controls, buffering systems, and pollution reduction systems) to deal with some of the problems. • NOAA funded research has shown that reintroduction of Diadema has the potential to improve conditions for coral recruitment and decrease competition between algae and corals. This project has been successful on a small scale and it is likely appropriate to expand it to a larger scale. • We need to evaluate whether more grants and training for local jurisdictions are always the right solution. In many of these cases experience has shown that it would often be much more efficient for NOAA just to put the necessary resources on-the-ground to help solve the problems rather than continue to pour money and resources into local governments and see little or no return. • Past projects and grants should be evaluated on case-by-case basis to see how well they succeeded in helping CRCP meet its mission. Programs that have not had the desired outcome should be re-evaluated so that future projects of a similar nature can incorporate lessons learned. 	
<p>Comments:</p> <ul style="list-style-type: none"> • The coral reefs of Broward, Palm Beach and Martin Counties are unprotected. Impacts from development and lack of enforcement of existing regulations continue to degrade the ecosystem at an alarming rate. No coastal water quality monitoring program exists. The Southeast Florida Coral Reef Initiative called for such a program and after four years remains unfunded. • Special interests exert a significant and disproportionate influence on policy makers and the regulatory community, while the coastal environment is severely underrepresented. • A wastewater utilities trade organization is funding a coastal study. NOAA is a 	<p>Ed Tichenor, Palm Beach County Reef Rescue</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<p>participant in the project, but is prevented by contractual agreement from releasing project information without approval from the trade group. This is a less than transparent relationship for a governmental organization to be party to and unquestionably conveys the appearance of impropriety. This arrangement leaves the public with the impression the trade organization has ultimate authority under the program to censor scientific data generated by the study. This coupled with an ongoing public relations campaign employing questionable data interpretation undermines any confidence the public could have in the unbiased nature of the investigation.</p> <ul style="list-style-type: none"> • The State of Florida has failed in its responsibility pursuant to Section 1342 of the National Pollutant Discharge Elimination System to issue permits for fixed terms not to exceed five years by allowing the operation of facilities beyond the term of the statute with no enforcement action. • The State of Florida has also failed to administer this federal program by not enforcing Section 403 requirements of the Clean Water Act on the ocean outfalls. <p>Suggestion:</p> <ul style="list-style-type: none"> • We recommend NOAA seek funding for investigations from sources which do not have a vested interest in the outcome or have control over the final product. NOAA and the coral reefs of south Florida would best be served by instituting a coastal management program designed to offer protection to the resource from the impacts that are already too well known. 	
<ul style="list-style-type: none"> • Fisheries Councils should have the same standing and be treated equally as states and territories, as they are an entity specifically mentioned in CRCA 2000. • NOAA has applied increasing constraints and restrictions on types of coral reef conservation projects and activities that the Council is allowed to undertake. • NOAA prohibits Council from conducting normal Council activities such as funding meetings for coral reef advisory panels, coral reef stock assessment panels, public meetings on proposed coral reef FMP amendments, and publicizing meetings. Also restricted from producing and disseminating coral reef annual report, coral reef FMP amendments, and activities covered by other FMPs. These restrictions are not placed on states and territories. • NOAA is now requiring the Council, when applying for CRC Grants, to provide information that is not specified or required in the annual announcements of Availability of Federal Grant Funds, Announcement of Federal Funding Opportunity, or NOAA Standard Award Conditions. 	<p>Wes Pac</p>

Appendix B
Summary of Comments
CRCP Federal Register Notice

Comment	Commentor
<ul style="list-style-type: none"> • Adopt a proactive stance by the federal government for reducing greenhouse gas emissions and revise the National Action Strategy accordingly. Provide interpretations for data presented at the NOAA website that represent the best available scientific consensus (NOAA’s data demonstrating global warming are presented, but one has to search the NOAA website long and hard for any mention of the strong connections to human activity or of our collective need to reverse current trends). • Improve Task Force response to issues raised by NGOs and others in public comments. • Direct “capacity building” efforts toward the training of local people where possible, rather than relying on short-term rotations of out-of-state/territory personnel. • Ask outside experts to review materials posted at the CRCP website to catch minor errors or note areas that could use clarification. • Update posted materials on an annual basis to accommodate ongoing NOAA-funded research. Delete references to materials for which links apparently no longer exist or are inoperative. Reprogram the NOAA website to function better on Macintosh computers (and, presumably, computers using open source software). Program NOAA CDs to work cross-platform. • Take full advantage of the upcoming Year of the Reef 2008 to strengthen and expand engagement by federal agencies in coral reef conservation, and to work in concert with NGOs and others throughout the world to promote action-oriented coral reef conservation activities and projects. 	<p>Sierra Club</p>
<ul style="list-style-type: none"> • The CRCP is a high quality program that serves a critically important purpose in conserving coral reef systems – not only in the US, but around the world. 	<p>WWF</p>

APPENDIX E

**EXTERNAL PANEL REVIEW
MEETING AGENDA**

SEPTEMBER 25-27, 2007



Agenda
Meeting of External Review Panel
NOAA Coral Reef Conservation Program

September 25-27, 2007
Hall of States, 444 North Capitol St., N.W., Washington D.C.
Note: p=time (min) for presentation, d=time (min) discussion

Monday, September 24

6:00 pm Mixer reception

Tuesday, September 25

- 8:00-8:20 Coffee/Executive session
- 8:30 Welcome and Introductions (David Kennedy, Program Manager)
- 8:45 Review Charge to Panel (10p/10d) (Kennedy)
- 9:05 Overview of Program (40p/15d) (Kennedy/Griffis)
- 10:00 Break (refreshments)

- Presentation and discussion of major CRCP goal areas**
- 10:15 Assess and Characterize Coral Reef Ecosystems (45p/20d)
- 11:20 Reduce Impacts of Fishing (35p/15d)
- 12:10 Lunch (provided)
- 1:15 Reduce Impacts of Coastal Uses (25p/15d)
- 1:55 Reduce Impacts of Pollution & Disease (25p/15d)
- 2:35 Increase Use and Effectiveness of Marine Protected Areas (35p/15d)
- 3:25 Break (refreshments)
- 3:40 Reduce Threats to International Reefs (20p/15d)
- 4:15 Reduce Impacts of Climate Change (15p/15d)
- 4:45 General Discussion (Panel and CRCP)
- 5:15 Adjourn
- 6:00 Group Dinner (location TBD)





Wednesday, September 26

8:00 Welcome and Introductions (Kennedy)

Presentation and discussion of major CRCP goal areas (continued)

8:15 Emerging Issues (15p/15d)

8:45 Grants Program (30p/15d)

9:30 Break

Input and discussion with CRCP Stakeholders

9:45 Stakeholder Panel 1 (introductions)

9:50 7 Panelist Testimonies (each has 10p/2d)

11:15 Discussion (30d)

11:45 Executive Session (30d)

12:15 Lunch (Provided)

1:15 Stakeholder Panel 2 (introductions)

1:20 5 Panelist Testimonies (each has 10p/2d)

2:20 Break (15)

2:35 5 Panelist Testimonies (each has 10p/2d)

3:35 Discussion (30d)

4:05 Executive Session (30d)

Panel Discussion

4:35 General Summary (Kennedy and Panel Chair)

4:50 General Discussion and/or Panel Session

5:30 Adjourn

6:00 Mixer Reception

7:30 Group Dinner (Location TBD)





Thursday, September 27

- 8:00 Coffee
- 8:30 General Discussion (Panel and CRCP)
- 9:00 Panel working session (Panel)
- 10:00 Break (refreshments)
- 10:15 Panel working session (Panel)
- 12:00 Lunch (provided)
- 1:00 Panel working session (Panel)
- 3:00 Break (refreshments)
- 3:15 Exit Briefing (Panel and CRCP)
- 4:30 Adjourn



APPENDIX F

**LIST OF STAKEHOLDERS WHO PRESENTED AT
EXTERNAL PANEL REVIEW
SEPTEMBER 25-27, 2007**

**Stakeholders Who Presented at External Panel Review Meeting
September 25-27, 2007**

Kacky Andrews, Coastal States Organization

Dr. Rich Appeldoorn, University of Puerto Rico

Dr. Jerry Ault, University of Miami/RSMAS

Stephanie Bailenson, Florida Department of Environmental Protection

Myra Brouwer, South Atlantic Fishery Management Council

Dr. Leah Bunce, Conservation International

Billy Causey, NOAA/NOS/National Marine Sanctuaries Program

Dr. Athline Clark, Hawai'i Department of Land and Natural Resources

Dr. Bill Eichbaum, World Wildlife Fund

Dr. Mike Hamnett, University of Hawai'i

Kim Hum, The Nature Conservancy – Hawai'i

Dr. Karen Koltes, U.S. Department of Interior, Office of Insular Affairs

Dr. Jo-ann Leong, Hawai'i Institute of Marine Biology

Evangeline Lujan, Government of Guam

Dr. Steven Miller, University of North Carolina – Wilmington

Dr. Bob Richmond, University of Hawai'i

Dr. Rob van Woesik, Florida Institute of Technology