



Member's report on activities related to ICRI

Reporting period December 2015 – November 2016

NOTE: TO CHECK A BOX, DOUBLE CLICK ON IT AND TICK 'CHECKED' UNDER 'DEFAULT VALUE' IN THE POP UP WINDOW

1. **Contribution to the ICRI Plan of Action and GM.** *Your responses to the following questions will assist the Secretariat in assessing contributions towards the major themes of the current ICRI Plan of Action (<http://www.icriforum.org/icri-secretariat/current>) and objectives of the general meeting.*

a. Bleaching event

Were you affected by the Third Global Coral Reef event? Did you do some monitoring, if yes what are the results and could you explain what method did you use? Would you like to report during the ICRI Meeting?

Summary of Impacts to US Coral Reefs:

- 72% of US reefs have experienced bleaching and/or mortality. All U.S. reefs have experienced stressful temperatures.
- Over half of domestic corals were exposed twice. For example, Hawaii and Florida experienced bleaching in 2014 and 2015. Florida also experienced a massive disease outbreak in 2015 following the 2014 bleaching event.
- Over the next 6 months the greatest threat to reefs will be to those in the Federated States of Micronesia, Guam/Commonwealth of the Northern Mariana Islands, Palau, and parts of the Republic of the Marshall Islands, where there is > 90% probability these areas will see widespread coral bleaching as expected La Niña conditions set in.

Guam and the Commonwealth of the Northern Mariana Islands:

2014: The current global coral bleaching event began in these jurisdictions in June 2014, with initial bleaching in Guam and the Commonwealth of the Northern Mariana Islands (CNMI, Heron et al. 2016a). Thermal stress was recorded by NOAA's Coral Reef Watch (CRW) in Guam and the CNMI from June until October 2014. Severe bleaching and mortality were confirmed throughout both jurisdictions by professional monitoring teams. This was the second year in a row these jurisdictions experienced severe bleaching and mortality.

2015: Professional monitoring teams observed severe bleaching and mortality occurred in shallow waters in both jurisdictions during 2015 due to the low tides driven by the developing El Niño along with periods of clear, calm weather. This was not associated with widespread thermal stress in this region.

2016: CRW recorded the return of thermal stress in July and severe bleaching, a white syndrome outbreak, and mortality were observed by professional monitoring teams. Fortunately, the onset of persistent clouds and rain have so far prevented further damage later in the year.

American Samoa:

American Samoa, especially its largest island Tutuila, reported the worst bleaching ever seen in early 2015. Several reefs suffered near 100% mortality.

Hawaii:

2014: Satellite detected the onset of anomalously warm water in September, encompassing parts of the Hawaiian archipelago, where the most severe bleaching was seen at Lisianski Atoll in the Papahānaumokuākea Marine National Monument by Monument divers on a monitoring cruise. Thermal stress and bleaching extended into the Main Hawaiian Islands where major bleaching was seen along windward Oahu, especially Kāneʻohe Bay. This was only the second widespread bleaching ever seen in the main islands of Hawaiʻi (Jokiel and Brown 2004).

2015: CRW observed a warm water mass spread to the Hawaiian archipelago from the southeast, resulting in widespread bleaching in the main islands of Hawaiʻi, with the most severe bleaching seen along shores of Hawaiʻi Island and Maui Nui. This was the worst bleaching and mortality ever seen in the main Hawaiian Islands and their first documented instance of back to back bleaching.

2016: It appears Hawaiʻi will avoid significant thermal stress and bleaching this year.

Pacific Remote Island Area (PRIA):

Islands of the Pacific Remote Island Areas (PRIAs) were affected differentially depending on their locations. Worst hit was Jarvis Island where a NOAA cruise observed 95% mortality, 4% bleached in May 2016. Predators were seen concentrated on the remaining colonies so mortality will undoubtedly increase. Nearby islands Palmyra and Kingman were only lightly affected as the warm water was farther south in a narrow band along the equatorial Pacific.

Florida, Puerto Rico, US Virgin Islands:

2014: High thermal stress was observed by CRW and severe bleaching with limited mortality was documented in both southeastern Florida and the Florida Keys by professional and volunteer divers. Very limited thermal stress and bleaching were reported from Puerto Rico and USVI.

2015: CRW observed widespread thermal stress in the northern Caribbean, along with scattered thermal stress in other parts of the basin. Professional and volunteer divers in southeastern Florida and the Florida Keys not only saw a second year of bleaching, but also recorded a severe outbreak of a white disease resulting in high levels of mortality throughout southeastern Florida (Precht et al. 2016). Very limited thermal stress and bleaching were reported from Puerto Rico and USVI.

2016: So far limited thermal stress and bleaching have been seen in these three jurisdictions. While it appears Florida is safe, it is too early to be certain if Puerto Rico and USVI will avoid severe impacts from this event.

NOAA Coral Reef Watch is planning to prepare a significant scientific publication on this event and will soon issue a call for papers to be contributed to a special issue of *Coral Reefs* on the 2014-16 bleaching event.

- b. **INDCs - Intended Nationally Determined Contributions** – *Did your national contribution mention ‘marine ecosystems or coral reefs’? Would you be interested in joining an Ad Hoc committee to develop guidelines to integrate coral reefs in the INDC?*
Our Intended Nationally Determined Contribution is economy-wide but does not specifically mention “marine ecosystems or coral reefs”.
- c. **Nature-based Solutions to address Climate Change** - *Do you have some example(s) of Nature-based (coral reef and related ecosystems) Solutions to address climate change? If yes, could you please provide use some details?*
See projects below (e.g., Project 5) for examples.
- d. **UN Sustainable Development Goals** – *Do you have example(s) showing how coral reefs and related ecosystems address the SDG (SDG 14 but also other related ones such as SDG 1 – End poverty in all its form; SDG 2 – End hunger, achieve food security and improved nutrition...)*

Conservation of coral reefs will help countries achieve several important SDGs, including SDG 14, 15, 2 and 7. Coral reefs, and the fish stocks that they support, are a primary source of protein for over 100M people. Approximately 500 million people globally depend on coral reef ecosystems for food, coastal protection, and income from tourism and fisheries; this includes 30 million people who are almost totally dependent upon coral reef ecosystems for their livelihoods.

The United States works to conserve coral reefs in many different ways (see project examples below). Additionally, the Our Ocean movement and commitments is a great way for the world to take concrete action to achieve the SDGs, particularly Goal 14. Participants at the first three Our Ocean conferences pledged \$9.2 billion dollars to conservation activities and committed to safeguard 9.9 million square kilometers of ocean in marine protected areas. At the most recent conference, the United States announced several new initiatives focused on understanding corals and ocean acidification, \$75 million for three NASA Earth Venture Suborbital projects: the COral Reef Airborne Laboratory (CORAL), the North Atlantic Aerosols and Marine Ecosystems Study (NAAMES), and the Oceans Melting Greenland (OMG); and the expansion of the Papahānaumokuākea Marine National Monument off the coast of Hawaii, creating the world's largest marine protected area and permanently protecting pristine coral reefs, deep sea marine habitats, and important ecological resources and a new marine monument of 12,725 square kilometers covering New England Canyons and Seamounts.

The United States also believes it is critical to develop monitoring and research capacity to address ocean acidification. We are committed to achieving worldwide coverage of the Global Ocean Acidification Observing Network (GOA-ON) and significantly increasing the number of trained monitors and managers by 2020. The United States supports the Ocean Acidification International Coordination Centre and ocean acidification monitoring capacity building efforts in developing countries. We are also committed to increasing our support for climate change mitigation through blue carbon restoration work, and we hope to connect that support to our Ocean Acidification monitoring efforts.

- e. *Do you have notional measure(s) – existing or in development - to ban the sale and manufacture of cosmetics and personal care products containing plastic microbeads? And plastic bags?*

President Obama signed into law a ban on rinse-off cosmetics that contain intentionally-added plastic microbeads beginning on January 1, 2018, and a ban on manufacturing of these cosmetics beginning on July 1, 2017. Plastic bag bans are enacted at the local level, either in municipalities or state legislatures. For examples, see <http://www.ncsl.org/research/environment-and-natural-resources/plastic-bag-legislation.aspx>.

- f. **Upcoming events** - *Do you plan to attend:*

- *November 2016 - Marrakech Climate Change Conference / The twenty-second session of the Conference of the Parties (COP 22)*
 - YES
- *December 4, 2016 to December 17, 2016 - Convention on Biological Diversity COP13*
 - YES
- *June 2017 - Oceans & Seas Global Conference, Fiji*
 -
- Other(s):

2. **Updates on your activities.** The following table is a summary of ICRI's *Framework for Action* (FFA) and its four cornerstones. (The full text of the FFA is available in English,

French, and Spanish at <http://icriforum.org/icri-documents/icri-key-documents/continuing-call-action-2013>).

Integrated Management	Objective	Manage coral reefs and related ecosystems using an ecosystem approach, recognizing place based activity; connectivity within and among ecological, social, economic, and institutional systems; as well as with attention to scale; resilience of ecological and social systems; and long-term provision of ecosystem services.
	General Approach	Integrated management, using a strategic, risk-based, informed approach, provides a framework for effective coral reef and related ecosystem management which supports natural resilience, ecosystem service provision, and enhances the ability to withstand the impacts of climate change and ocean acidification.
	Desired outcome	There is a demonstrable reduction in the threats to coral reefs and related ecosystems through management action.
Capacity Building	Objective	To build capacity in all facets of management of coral reefs and related ecosystems and support dissemination and application of best practices to achieve the widest possible engagement of all stakeholders in planning and management activities.
	General Approach	Continued collaboration, partnerships, outreach, information sharing and education to ensure the uptake of best practices and encourage behavioural change. This can only be successful if the diversity of cultures, traditions and governance among nations and regions are taken into account.
	Desired outcome	Persons who have influence in the management of coral reef and related ecosystems have the knowledge, tools and capital necessary to apply best practices, adapted to the cultural and socio-economic context.
Science & Monitoring	Objective	To support research and citizen science approaches to enable countries and communities assess and report on the status of and threats to their coral reefs and related ecosystems in a coordinated, comparable and accessible manner.
	General Approach	Research and monitoring programs are essential to ensure that management of coral reefs and related ecosystems is based on best available (scientific) information.
	Desired outcome	Knowledge of the status and trends in coral reefs and related ecosystems health is enhanced and used to inform planning and management, improving management outcomes.
Periodic Assessment (Review)	Objective	To engage in periodic review of the impact and effectiveness of all elements of management to enable evaluation and refinement of management measures in an adaptive framework.
	General Approach	Periodic assessments of management effectiveness and evaluation of projects and activities to ensure the efficacy of management tools and systems in tackling the range of pressures affecting coral reefs and related ecosystems and protecting the values associated with them.
	Desired outcome	Management processes and activities are regularly reviewed and improved using a structured approach, to enhance their

		ability to effectively reduce pressures and threats.
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Using the table on the previous page, as well as the detailed descriptors of approaches and strategies available in the full text of the FFA as a reference, please give us an update on an activity/project/program(s) which has been particularly successful in your country/organization during this reporting period.

Project 1

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	National Coral Reef Monitoring Program (NCRMP) ongoing in the United States
Location	Finalized and launched in 2013, NCRMP has successfully completed four years of monitoring data collection. In 2016, biological surveys were conducted in Puerto Rico, Florida, Main Hawaiian Islands, and Northwest Hawaiian Island Areas; climate observations were conducted in Puerto Rico, Florida, Main Hawaiian Islands, and Northwest Hawaiian Island Areas; socioeconomic surveys were conducted in Guam and CNMI Commonwealth of the Northern Marianas.
Dates	2013-ongoing
Main Organizer(s)	NOAA Coral Reef Conservation Program
Main Stakeholder(s)	
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>In 2013, the NOAA Coral Reef Conservation Program (CRCP) finalized a strategic framework to conduct sustained coastal ocean observations of biological, climate, and socioeconomic indicators in all U.S. coral reef areas. The National Coral Reef Monitoring Program (NCRMP) brings together scientists from NOAA, U.S. Federal, State, and Territory agencies, and academic partners to collect scientific data that provide a robust picture of the status and trends of U.S. coral reef ecosystems and the communities connected to them.</p> <p>The NCRMP is working with experts at the Integration and Application Network, University of Maryland Center for Environmental Science, to develop two pilot status and trends report cards that synthesize biological, physical, and socio-economic data from Florida and American Samoa. These pilot report cards will be used to communicate to decision-makers and the general public on the status and trends of U.S. coral reef ecosystems. The two pilot report cards will be completed in 2017.</p>
Outcome (including expected outcome)	Scientists and coastal managers use these data to evaluate management strategies, identify areas of resilience and vulnerability, and understand how coastal communities are reliant upon coral reef ecosystems and resources.
Lessons learned	
Related websites (English preferred)	http://www.coris.noaa.gov/monitoring/

Project 2

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	Updates and Developments in the ICRI SocMon Network
Location	Global
Dates	October 2015, to September 2016
Main Organizer(s)	National Oceanic and Atmospheric Administration (NOAA)
Main Stakeholder(s)	Community stakeholders through six regional SocMon Partners (Academic Institutions and Non-Governmental Organizations)
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>NOAA Coral Reef Conservation Program (CRCP) continues to provide financial support for the coordination of Global Socioeconomic Monitoring. Another set of funds are set to be distributed through the National Fish and Wildlife Foundation (NFWF) for the period October 2016 – September 2017. The funds will support analysis of SocMon monitoring in South Asia, South East Asia, Central America, Caribbean and Brazil. Funds will also be used to update the 2003 Edition of the SocMon Manual including translation to Spanish and Portuguese. The Caribbean SocMon regional partner based at the University of the West Indies (Barbados), Center for Resource Management and Environmental Studies (CERMES) currently administers the (2015) NFWF Grant.</p> <p>SocMon and SEM Pasifika activities continued throughout the time period. NOAA CRCP's Social Science Coordinator and the NOAA Pacific Islands Fisheries Science Center International Program Coordinator facilitated a second SEM Pasifika Training held in Palau in September 2016.</p> <p>The NOAA CRCP's Global SocMon Coordinator and three regional SocMon Coordinators (Caribbean, South Asia & South East Asia) attended the 13th International Coral Reef Symposium (ICRS) in Honolulu, HI (19-24 June 2016). They participated in a session organized by NOAA CRCP entitled "Social Science Applications to Coral Reef Management: Human and Social Dimensions and the Link to Reef Health and Ecological Change". The Global and Caribbean SocMon coordinators also participated in ICRI –GCRMN related side meetings organized by other global partners.</p> <p>Caribbean GCRMN coordination activities have been continuing since the Inaugural August 2014 meeting in Curacao. The primary goals for the regional network are to improve coordination between biophysical and social science monitoring efforts (integrated coastal monitoring). The network has developed and approved a key set of standardized biophysical indicators and will soon ratify the human dimensions indicators (which are based on the SocMon Method). The goal is that monitoring data can be compared across all participating Caribbean GCRMN sites. These activities are being led by a steering committee that includes the NOAA CRCP Social Science Coordinator. The first GCRMN-Caribbean integrated Coral Reef Monitoring Workshop was held from 18-22 April in Discovery Bay, Jamaica. The objective of this five-day training workshop was to increase capacity for effective integrated coral reef monitoring among GCRMN-Caribbean countries through the use of bio-physical and socio-economic data in coastal</p>

	management decision-making for improved standardized and strategic reporting at the regional level. The workshop introduced participants to the GCRMN-Caribbean bio-physical guidelines and socio-economic monitoring framework. The Caribbean GCRMN Network have applied to NFWF (for NOAA directed funds) to support the establishment of the regional network along with UNEP-CEP.
Outcome (Expected outcome)	<p>Outcome: Global SocMon Strategic Plan 2015- 2019 (Completed); \$42.5K grant support for data analysis and manual update (Pending) Expected: Global report on the socioeconomic status of participating regions, updated and translated SocMon Training Manual.</p> <p>Outcome: GCRMN Caribbean – Regional Monitoring Methods Workshop (April 18-22, 2016, Jamaica) Expected: NFWF Funding support for network strengthening and capacity building</p>
Lessons learned	
Related websites (English preferred)	<p>http://www.socmon.org/ & http://www.cavehill.uwi.edu/cermes/projects/cermes-socmon.aspx http://www.car-spaw-rac.org/?First-GCRMN-Caribbean-integrated,665</p>

Project 3

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Our Florida Reefs
Location	Offshore reefs in the Miami-Dade, Broward, Palm Beach, and Martin counties (from north of Biscayne National Park in Miami-Dade County to the St. Lucie Inlet in Martin County).
Dates	May 2016 - June 2016
Main Organizer(s)	Coral Reef Conservation Programs of the National Oceanic and Atmospheric Administration and Florida Department of Environmental Protection
Main Stakeholder(s)	Recreational fishers, commercial fishers, recreational SCUBA dive industry, natural resource conservation and management agencies at county, state and federal levels, research and academic institutions, local and international environmental NGOs, ports, and shipping industry.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>A collaborative process called Our Florida Reefs brought together reef users, business owners, scientists, and representatives from nongovernmental organizations and resource management agencies to identify actions to strengthen coral reef conservation in Southeast Florida.</p> <p>NOAA's Coral Reef Conservation Program funded and co-led the initiative with the State of Florida with planning involvement beginning in 2010. NOAA's Office for Coastal Management designed, managed, and facilitated the community working group process, a series of monthly meetings held over a two-and-a-half-year period. The groups finalized a prioritized list of 68 recommended management actions in June of 2016 informed by a decade of targeted coral reef ecosystem research in the region. They include actions that educate the public and specific reef users, improve the ability of enforcement officers to do their job of upholding existing rules and regulations,</p>

	<p>propose new ideas that take both regulatory and voluntary approaches to reducing unsustainable development and fishing practices in Southeast Florida, and decrease the influence of pollution on the region’s coral reefs.</p> <p>As part of a recommendation to develop a marine protected area zoning framework for the region, the working groups also identified special areas of interest along the reef tract in Southeast Florida and drafted specific objectives to increase the protection and management of the coral reef resources in those areas. These areas were identified using a geospatial planning tool that was developed specifically to support the Our Florida Reefs process and was populated with a comprehensive set of spatial data sets available for the region. Working group member knowledge of the areas and how they are used also informed the identification of these areas of interest.</p> <p>The process involved extensive opportunities for additional stakeholder input, including 24 public meetings held across the region, a broad and open competitive process to populate the 50 available seats on the community working groups, open access to all community working group meetings with dedicated public comment time at each, a website portal for submission of public comment, and a web-based survey tool for entering perspectives on coral reef use, condition, and management.</p>
Outcome (Expected outcome)	The process is designed to increase public involvement in the future management of southeast Florida’s coral reefs by seeking input from community members on the development of recommendations that will become part of a comprehensive management strategy to ensure healthy coral reefs in the future. Outcomes from this multiyear process can be found on the website.
Lessons learned	A facilitated 2-day lessons learned retreat will be held in October 2016.
Related websites (English preferred)	http://ourfloridareefs.org/

Project 4

Cornerstone(s) implemented through the project	Check all that apply: <input type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Handbook on Coral Reef Impacts: Avoidance, Minimization, Compensatory Mitigation, and Restoration
Location	United States
Dates	Target Public Release: 4 Nov 2016
Main Organizer(s)	US Coral Reef Task Force (USCRTF); National Oceanic and Atmospheric Administration (NOAA) and Department of Interior (DOI)
Main Stakeholder(s)	The target audience for this Handbook includes project applicants, proponents, permittees, consultants for (1) projects that may affect coral reefs, and (2) for responsible parties (RP) and their consultants in the event of unplanned impact events. This Handbook is also intended to be a reference for resource managers who are charged with project permitting, damage response, impact mitigation, and habitat restoration.
Description of Project (Please elaborate on	The USCRTF developed the “Handbook on Coral Reef Impacts: Avoidance, Minimization, Compensatory Mitigation and Restoration” in

<p>how the project implements the FFA cornerstones)</p>	<p>response to the National Ocean Council’s (NOC) Implementation Plan (National Ocean Policy Implementation Plan, 2013) and U.S. Coral Reef Task Force’s Resolution 16.7. This Handbook provides a summary of current avoidance, minimization and compensatory mitigation and restoration strategies that may help address physical damage resulting from direct adverse impacts to coral reefs (e.g., dredging, placement of fill, vessel groundings, or accidental discharges like oil spills) and indirect adverse impacts to coral reefs (e.g., sedimentation from poor land use practices, sedimentation from dredging or vessel movement, or storm water contaminants). In addition to the summary of applicable policies and descriptions of various roles and responsibilities, the Handbook includes: (1) an evaluation framework for planned impacts to coral reefs, and guidance for responding to unplanned impacts to coral reefs, (2) recommendations for data collection for coral reef conditional assessment surveys, (3) a summary of existing mitigation options with key considerations for each option, and (4) considerations for performance standards and monitoring of coral reef mitigation and restoration activities.</p> <p>With the current worldwide decline of coral reef ecosystems, it is imperative that the U.S. consistently and effectively act to avoid impacts to coral reef habitats. When impacts cannot be avoided, measures must be taken to minimize adverse impacts. Unavoidable impacts warrant mitigation through appropriate compensatory action to replace loss of function and value. A consistent and targeted effort is therefore required to address coral reef stressors that can be controlled by management and regulatory actions.</p>
<p>Outcome (Expected outcome)</p>	<p>The handbook was developed to streamline response actions taken in coral damage cases by providing a descriptive list of the federal mandates; review of existing policies and federal agency, state and territory roles and responsibilities; a collection of best practices and science-based methodologies for quantifying ecosystem functions or services; and a list of available protocols for assessing, mitigating, and restoring coral reef ecosystems.</p>
<p>Lessons learned</p>	
<p>Related websites (English preferred)</p>	<p>N/A</p>

Project 5

<p>Cornerstone(s) implemented through the project</p>	<p>Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)</p>
<p>Project Title</p>	<p>Corals and Climate Adaptation Planning Project</p>
<p>Location</p>	<p>US Coral Reef Jurisdictions (US Virgin Islands, Puerto Rico, Florida, Hawaii, Guam, Commonwealth of the Northern Mariana Islands, and American Samoa)</p>
<p>Dates</p>	<p>2013-ongoing</p>
<p>Main Organizer(s)</p>	<p>US Environmental Protection Agency (EPA) and National Oceanic and Atmospheric Administration (NOAA) with Department of the Interior through the auspices of the US Coral Reef Task Force Climate Change Working Group with The Nature Conservancy and Tetra Tech.</p>
<p>Main Stakeholder(s)</p>	<p>Coral Reef Managers in the US Coral Reef Jurisdictions.</p>
<p>Description of Project</p>	<p>The CCAP Project is a collaborative effort of the Climate Change</p>

<p>(Please elaborate on how the project implements the FFA cornerstones)</p>	<p>Working Group of the Interagency U.S. Coral Reef Task Force, co-funded by EPA, NOAA, and DOI. The overall goal is to support coral reef managers in creating effective, place-based adaptation actions using recent adaptation planning principles and frameworks. To do so, the technical team draws on expertise from EPA, NOAA, DOI, TNC, and Tetra Tech and is partnering with practitioners, managers and scientists from 13 Federal, State, and Territory agencies, local and national NGOs, and academia.</p> <p>The adaptation planning principles, cycle, and general strategies provided in a recently developed Climate-Smart Conservation guide (http://www.nwf.org/ClimateSmartGuide) are being evaluated, tailored, and ground-truthed for use in climate-smart conservation of coral reef ecosystems.</p> <p>The initial focus of the CCAP Project (Phase I) was to develop methods to support Step 4: Identify Adaptation Options, of the Climate-Smart planning cycle. Accomplishments under Phase I include:</p> <ul style="list-style-type: none"> • Initial methodology and in-depth exploration of the concept of climate-smart design for place-based crafting of robust adaptation options and stakeholder consultation complete • Manuscript on Phase I (CCAP Compendium, exploration of the concept of climate-smart design, and stakeholder consult) has been submitted to Environmental Management • Development of the Corals and Climate Adaptation Planning (CCAP) Design Tool for Adaptation Options Version 1 Complete and two expert consultations completed with West Maui and Guanica, Puerto Rico stakeholders. <p>Phase II of the project will begin Oct 2016 and key next steps include:</p> <ul style="list-style-type: none"> • CCAP Design Tool for Adaptation Options Guidance published as a NOAA Coral Reef Conservation Program Technical Memo. • CCAP Design Tool for Adaptation Options Online Module on The Nature Conservancy Reef Resilience Toolkit. • Manuscript on CCAP Adaptation Design Tool. • A completed Reef Resilience Assessment for Puerto Rico. • Case study of the application of the CCAP Design Tool for Adaptation Options developed for Guanica. • Supporting American Samoa in using the CCAP Design Tool in their Adaptation Planning.
<p>Outcome (Expected outcome)</p>	<p>Tools to assist managers in incorporating climate change into their new and existing management plans.</p>
<p>Lessons learned</p>	
<p>Related websites (English preferred)</p>	

Project 6

<p>Cornerstone(s) implemented through the project</p>	<p>Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)</p>
<p>Project Title</p>	<p>U.S. Support to the Coral Triangle Initiative</p>
<p>Location</p>	<p>Coral Triangle Region</p>
<p>Dates</p>	<p>2015 - 2019</p>

Main Organizer(s)	U.S. Agency for International Development (USAID) in partnership with the U.S. Department of State, the National Agency for Oceanic and Atmospheric Administration (NOAA), and the U.S. Department of Interior (DOI)
Main Stakeholder(s)	Governments and communities of Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, Timor Leste
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	The U.S. government continues to provide support to the Coral Triangle Initiative Regional Plan of Action (RPOA), as well as the related National Plans of Action (NPOA) of the six member states, in various ways. Activities may include bilateral technical assistance; technical assistance on fisheries management (see OCEANS project description); support to the CTI Women's Leader Forum; workshops on sustainable tourism; and technical training on combating illegal fishing.
Outcome (Expected outcome)	Strengthened regional and national platforms. Improved ecosystem-based fisheries management. Strengthened capacity to adapt to climate change.
Lessons learned	
Related websites (English preferred)	

Project 7

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	Ecosystems Improved for Sustainable Fisheries (ECOFISH)
Location	The Philippines
Dates	2012-2017
Main Organizer(s)	U.S. Agency for International Development with the Government of the Philippines and Tetra Tech, INC.
Main Stakeholder(s)	The Philippines Government (national and local), fishing communities and companies, private sector partners, local NGOs.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>In line with the U.S.-Philippines Partnership for Growth goal to achieve broad-based and inclusive growth, USAID/Philippines is implementing the five-year Ecosystems Improved for Sustainable Fisheries (ECOFISH) Project. Building on the progress made under the Fisheries Improved for Sustainable Harvest (FISH) Project, ECOFISH will work on conserving biological diversity, enhancing ecosystem productivity and restoring the profitability of fisheries in eight Marine Key Biodiversity Areas (MKBAs), using Ecosystem Approach to Fisheries management (EAFM) and the Growth, Control and Maintenance (GCM) approach as a cornerstone of improved social, economic and environmental benefits.</p> <p>The eight MKBAs are (1) Lingayen Gulf, (2) Verde Island Passage, (3) Calamianes Island Group, (4) Ticao-San Bernardino-Lagonoy Gulf, (5) Danajon Reef, (6) South Negros Island, (7) Surigao del Sur and del Norte, and (8) Sulu Archipelago.</p> <p>ECOFISH is formulating a 10-year roadmap to develop, formalize and foster inter-Local Governance Units (LGUs) alliances and other collaborative governance alliances to sustain relationships and advance EAFM beyond project's lifespan. The project will also conduct training for government, NGOs and academic institutions; scientific and</p>

	<p>technological capacity development for baseline assessment and monitoring, and technical assistance for the development of policies, plans and guidance documents on EAFM.</p> <p>In consultation with stakeholders, ECOFISH will identify focal and expansion areas and implement targeted activities that respond to the needs of each MKBA. To sustain the momentum achieved by the FISH Project in constituency building, ECOFISH will engage new champions and constituencies, especially in the private sector. Embracing the Gender and Development mainstreaming approach, ECOFISH will also continue to build on past efforts to improve the status of women.</p> <p>ECOFISH GOAL: Conserve biological diversity, enhance ecosystem productivity and restore the profitability of fisheries in eight marine key biodiversity areas (MKBAs) using ecosystem-based approach to fisheries management (EAFM).</p> <p>Innovative technologies developed for this project, as well as the project itself, have received notable recognition and multiple awards. In 2015, one of the ECOFISH activities – the TV White Space – won the P3 Impact Award at the Concordia Summit in New York City.</p>
Outcome (Expected outcome)	Enhanced natural productivity of fisheries, improved governance and management of marine resources, and reduced pressures on marine biodiversity.
Lessons learned	See final report from the FISH program for lessons learned on the Growth, Control and Maintenance approach to fisheries management. https://decsearch.usaid.gov/search?q=Fisheries+Improved+for+Sustainable+Harvest+Philippines&client=dec_pdfs&proxystylesheet=dec_pdf_s&getfields=*&filter=0&site=default_collection&output=xml_no_dtd&roxyreload=1&ulang=en&ie=UTF-8&emdstyle=true&image.x=0&image.y=0
Related websites (English preferred)	http://www.usaid.gov/philippines/energy-and-environment/ecofish

Project 8

Cornerstone(s) implemented through the project	<p>Check all that apply:</p> <p><input checked="" type="checkbox"/> Integrated Management <input type="checkbox"/> Capacity Building</p> <p><input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)</p>
Project Title	Coral Reef Restoration: Shipwrecks, the challenge of removal and recovery from the aftermath of “Black Reefs” they leave behind.
Location	Pacific Remote Islands Marine National Monument: Palmyra Atoll and Kingman Reef Refuges
Dates	Nov. 2013 - ongoing
Main Organizer(s)	U.S. Fish and Wildlife Service
Main Stakeholder(s)	
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>Coral reefs can undergo relatively rapid changes in the dominant biota, a phenomenon referred to as a “phase shift.” During a phase shift, a beautiful, colorful reef with high coral diversity can transform into a reef dominated by a single species. These reefs become drab and dark in color, a phenomenon referred to as “black reefs”.</p> <p>Shipwrecks at remote Pacific Islands can have immediate and long-term, direct and indirect adverse effects on surrounding reef</p>

	<p>ecosystems. Corallimorph is an anemone-like organism that is closely related to reef building corals. It is native to Palmyra Atoll and tropical reefs, but is now growing out of control and smothering live coral and giant clams.</p> <p>At Palmyra Atoll Refuge, two shipwrecks were removed: The F/V Hui Feng No. 1 (Hui Feng), a 121-foot steel-hulled longline fishing vessel, and “Rust Island”, a 1940s-era 64-foot by 28-foot steel pontoon barge. At Kingman Reef Refuge, major components of the following shipwreck were removed: An 85-foot (estimated) teak fishing vessel of unknown origin.</p> <p>Palmyra Atoll and Kingman Reef Refuges contain some of the world’s last remaining near-pristine coral reefs. The removal of the three shipwrecks and their associated debris is just the first step of a larger coral reef restoration project at Palmyra Atoll and Kingman Reef Refuges. Prior to the wreck removal actions, scientists from the U.S. Fish and Wildlife Service, Scripps Institute of Oceanography, U.S. Geological Survey, the Coral Reef Ecosystem Division of the National Oceanic and Atmospheric Administration, and others surveyed the shipwreck areas to obtain a baseline status. These areas will continue to be monitored and surveyed for reef recovery and the recruitment of key species of coral and algae into the area.</p>
<p>Outcome (Expected outcome)</p>	<p>Improved health of surrounding reefs, removal of nutrient source for invasives, and treatment of invasive species should result in enhanced recovery of the reefs to their previous condition. Palmyra Atoll exhibits a very resilient ecosystem, and managers have confidence that by controlling corallimorph, the once-beautiful coral reefs will recover naturally once the corallimorph is removed. The damaged portion of the reef at the wreck site is surrounded by healthy diverse reef with many nearby corals, which can help repopulate the newly available substrate in areas where the wrecks once lay. Likewise, as Kingman: removal of the nutrient source is expected to permit natural recovery because of the overall health of adjacent reef habitat. In these areas, corals, algae and other benthic organisms can settle and grow, creating a diverse colorful ecosystem, where there had previously been a black reef.</p>
<p>Lessons learned</p>	<p>While artificial reefs can serve as underwater structures for the accumulation of marine life and the promotion of fish habitat in some areas, the shipwrecks at Palmyra Atoll and Kingman Reef Refuges provide us with examples of unintended damage posed to the unique marine environment at these coralline atolls. Scientists and managers at other coralline atolls are documenting similar “black reef” attendant with iron or shipwreck sources. Restoration at Palmyra and Kingman can serve as a model for other reef restoration in Oceania.</p> <p>The extensive corallimorph invasion and subsequent loss of coral reef habitat at Palmyra Atoll Refuge highlights the importance of natural resource monitoring and removal of shipwrecks on corals reefs. Monitoring ensures awareness of alarming changes such as the proliferation of corallimorph at Palmyra Atoll Refuge, allowing Refuge Managers to respond to the threat and mitigate the potential for reef overgrowth by invasive species.</p> <p>Leaching iron from the shipwreck at Kingman Reef has been linked to the proliferation of the invasive filamentous algae. Filamentous alga</p>

	<p>begins growing along the bottom in shallow water or attached to structures in the water. The species at Kingman Reef Refuge is the green alga <i>Derbesia tenuissima</i>, which has overgrown and killed sensitive hard corals and crustose coralline algae, as well as giant clams.</p> <p>Prompt salvage and removal of such wrecks should be a high priority for marine protected area managers.</p>
Related websites (English preferred)	http://www.fws.gov/nwrs/threecolumn.aspx?id=2147540877

Project 9

Cornerstone(s) implemented through the project	<p>Check all that apply:</p> <p><input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building</p> <p><input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)</p>
Project Title	Sustainable Ecosystems Advanced (SEA)
Location	Indonesia
Dates	March 2016-March 2021
Main Organizer(s)	U.S. Agency for International Development (USAID) in partnership with the Government of Indonesia through the Ministry of Marine Affairs and Fisheries, in coordination with other USAID implementing partners, NOAA, and TetraTech.
Main Stakeholder(s)	USAID supports the Government of Indonesia in strengthening the technical and operational capacity of the Ministry of Marine Affairs and Fisheries, local authorities, the private sector, universities, communities, and others, to improve sustainable fisheries management and marine biodiversity conservation.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>The primary objectives of the SEA Project are to:</p> <ul style="list-style-type: none"> • Support enhanced conservation and sustainable use of marine resources by reforming fisheries management and promoting marine protected areas to enhance fisheries productivity, food security, and sustainable livelihoods within the target areas; and • Support strengthening of the leadership role and capacity of the Ministry of Marine Affairs and Fisheries (MMAF) and local governments to promote conservation and sustainable fishing. <p>The SEA Project will focus on these strategic (technical) approaches:</p> <ul style="list-style-type: none"> • Improve and enhance the ecosystem approach for fisheries management (EAFM), • Improve the management of marine protected areas (MPAs) and expand MPA coverage, • Strengthen marine spatial planning (MSP) techniques and outcomes, and • Emphasize law enforcement (LE) to strengthen species and ecosystem conservation as a foundation for sustainable fisheries.
Outcome (Expected outcome)	<ul style="list-style-type: none"> • Enhanced management capacity of the Ministry of Marine Affairs and Fisheries; • Improved biodiversity conservation and resilience for food and economic security; • Improved capacity for fisheries management, marine protected area management, marine spatial planning and law enforcement.
Lessons learned	
Related websites (English preferred)	https://www.usaid.gov/indonesia/environment

Project 10

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	USAID - NOAA Mission Support Partnership (MSP)
Location	Coral Triangle and Asia/Pacific
Dates	2014-2018 (following Coral Triangle Initiative 2009-1014)
Main Organizer(s)	U.S. Agency for International Development in partnership with the National Agency for Oceanic and Atmospheric Administration (NOAA), U.S. Department of Interior (DOI), Southeast Asian Fisheries Development Center (SEAFDEC), Coral Triangle Center.
Main Stakeholder(s)	Governments and communities of Indonesia, Philippines, Timor Leste, and SEAFDEC
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>USAID and NOAA contribute technical expertise, training programs and coastal management support to the Coral Triangle region, including developing climate change adaptation strategies, combating illegal, unreported and unregulated (IUU) fishing, establishing a regional network of marine protected areas (MPAs), and enhancing fisheries management practices regionally and in Indonesia and the Philippines. These efforts are implemented through partnerships with local governments, NGO's, and academic institutions to help ensure community resilience and food security.</p> <p>Building on partnerships forged in the Coral Triangle Initiative, NOAA will provide technical support for the new USAID Oceans and Fisheries Partnership and USAID Indonesian SEA Projects.</p>
Outcome (Expected outcome)	<ul style="list-style-type: none"> • Strengthened regional and national platforms. • Improved ecosystem approach to fisheries management. • Improved management of marine protected areas. • Strengthened capacity to adapt to climate change.
Lessons learned	Partnership between and recognition of the niches of national governments, local governments, industry (as appropriate), academics (as appropriate), and community stakeholders is essential to form a cohesive and successful project.
Related websites (English preferred)	http://www.coraltriangleinitiative.org/

Project 11

Cornerstone(s) implemented through the project	Check all that apply: <input type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	Oceans and Fisheries Partnership (OCEAN)
Location	South East Asia – Philippines, Indonesia, Malaysia in Phase I; more countries in Phase II.
Dates	2015-2019
Main Organizer(s)	<p>U.S. Agency for International Development; Southeast Asian Fisheries Development Center (SEAFDEC); Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security.</p> <p>Other partners include National Oceanic and Atmospheric Administration; the U.S. Department of the Interior; the UN Food and Agriculture Organization; Tetra Tech ARD; Verite; and the Government of Sweden.</p>

Main Stakeholder(s)	ASEAN, Philippines, Indonesia, Malaysia, seafood industry, in Phase I.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	The Oceans and Fisheries Partnership works to strengthen regional cooperation to combat illegal, unreported and unregulated fishing, promote sustainable fisheries and conserve marine biodiversity in the Asia-Pacific region.
	OCEAN supports the development of a transparent and financially sustainable catch documentation and traceability system to help ensure that fisheries resources are legally caught and properly labeled. This risk-based, electronic system will be applied to wild capture fisheries in Southeast Asia and the Pacific region and will be based on the ecosystem approach to fisheries management. The partnership collaborates with technology companies to harness the latest communication and traceability innovations.
	To enhance the fisheries sector sustainability and ecosystem productivity, the Oceans and Fisheries Partnership helps regional organizations with harmonizing oversight policies, providing standard training curricula and developing joint initiative on sustainable fisheries and marine biodiversity conservation. Close coordination, communication and collaboration among regional stakeholders will also enhance the effectiveness and implementation of the catch documentation and traceability system.
	To improve transparency in the seafood supply chain and to help ensure successful implementation, the Oceans and Fisheries Partnership engages a variety of fisheries stakeholders and forms new partnerships among governments, regional institutions and the private sector. Developing partnerships in the commercial seafood industry anchors the partnership's efforts in market realities and provides increased scale and sustainability for project investments.
Outcome (Expected outcome)	<ul style="list-style-type: none"> • Strengthened biodiversity conservation; • Improved transparency in seafood supply chains; • Reduction in illegally caught fish entering commerce; • Improved management for sustainable fisheries.
Lessons learned	
Related websites (English preferred)	https://www.usaid.gov/asia-regional/biodiversity-conservation

Project 12

Cornerstone(s) implemented through the project	Check all that apply: <input type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input type="checkbox"/> Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)
Project Title	Pacific-American Climate Fund
Location	Micronesia, Fiji, Kiribati, Nauru, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu
Dates	2014-2018
Main Organizer(s)	U.S. Agency for International Development
Main Stakeholder(s)	Pacific Island governments and communities
Description of Project	The Pacific-American Climate Fund (PACAM) is a five-year USAID

(Please elaborate on how the project implements the FFA cornerstones)	project that provides grants to civil society organizations throughout the Pacific Rim in support of climate change adaptation measures. The Pacific-American Climate Fund will assist communities in 12 Pacific Islands nations adapt to the impacts of climate change. Grants awarded to civil society organizations will promote sustainable fisheries, improve food security, and enhance local livelihoods.
Outcome (Expected outcome)	
Lessons learned	
Related websites (English preferred)	http://www.pgrd.org/projects/pacam/

Project 13

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	<i>Reefs Generate Environmental and Economic Resiliency for Atoll Ecosystems (REGENERATE)</i>
Location	Maldives
Dates	2012-2017
Main Organizer(s)	U.S. Agency for International Development; IUCN
Main Stakeholder(s)	Communities
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>USAID's <i>Reefs Generate Environmental and Economic Resiliency for Atoll Ecosystems (REGENERATE)</i> project in the Maldives aims to strengthen sustainable management of coastal resources, particularly coral reefs, thereby enhancing Maldives' resiliency to the adverse effects of climate change.</p> <p>USAID helps the Government of Maldives achieve conservation goals and enhance the country's resilience to the adverse effects of climate change by strengthening the sustainable management of coastal resources, particularly coral reefs. USAID support includes mapping coastal and marine resources, monitoring and developing tools for the government and resorts to inform their decision-making around resource management and the protection of coral reefs, and educating Maldivians on the importance of marine resource protection to economic growth. USAID also works with residents to help them understand and adapt to climate change impacts on their natural environment.</p> <p>Implemented by International Union for the Conservation of Nature (IUCN), REGENERATE focuses on improving the national information system for monitoring coral reef ecosystem for climate change impacts; developing a system for monitoring reef fisheries; conducting an atoll-wide baseline assessment of existing data and information systems; and training and education to stakeholders. These activities will feed into the second phase of the program, which will help increase investments in science and people through the development and improvements made in national marine and coastal resource management and the establishment of marine protected areas.</p> <p>PROJECT REGENERATE - five AIMS:</p> <ul style="list-style-type: none"> • Enhance and expand on spatially explicit national information system for information sharing, decision-support and planning.

	<p>This aim will improve the use of GIS technology in environmental management in the Maldives.</p> <ul style="list-style-type: none"> • Extend current status of knowledge of Maldivian coral reef fisheries to apply resilience-based management in one selected atoll. This aim will help us to understand the growing impacts of reef fisheries in the Maldives. • Enhance and promote civil society engagement in natural resource management. This aim will improve environmental awareness of the general public and engage them in citizen science projects. • Strengthen and operationalize public-private partnerships to further extend decentralized marine governance. This aim facilitates partnerships between resorts, dive centres and local government to develop management plans for coral reefs. • Enhance generation of knowledge and science associated with marine resources of the Maldives to apply resilience-based management. This aim supports the development of coral reef science for the Maldives.
Outcome (Expected outcome)	
Lessons learned	
Related websites (English preferred)	<p>https://www.iucn.org/theme/marine-and-polar/our-work/coral-reefs/coral-reef-projects/project-regenerate https://www.usaid.gov/maldives/environment-and-global-climate-change</p>

Project 14

Cornerstone(s) implemented through the project	<p>Check all that apply:</p> <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	Caribbean Marine Biodiversity Activity
Location	Caribbean region (Dominican Republic, Jamaica, Haiti, St. Vincent and the Grenadines, Grenada)
Dates	2014-2019
Main Organizer(s)	U.S. agency for International development, The Nature Conservancy, and Sub-partners: The CARIBSAVE Partnership (CARIBSAVE), Center for Conservation and Eco-Development of Samana Bay and Its Surroundings (CEBSE), Foundation for the Protection of Marine Biodiversity (FOPROBIM), Jamaica Environment Trust (JET), and Sustainable Grenadines
Main Stakeholder(s)	National governments, local communities, private sector
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	USAID initiated the Caribbean Marine Biodiversity Activity to assist countries in the Caribbean region to more effectively manage Marine Protected Areas (MPAs) and adopt integrated, ecosystem-based management of MPAs and sustainable fisheries. The program was designed to address major threats to conservation of coastal and marine biodiversity in the Caribbean - including overfishing and unsustainable fishing practices and invasive species - by applying a model for marine managed area (MMA) success that incorporates lessons from past experience while simultaneously developing innovations that could stimulate conservation breakthroughs. In order to achieve sustained biodiversity conservation, maintain critical

	<p>ecosystem services, and realize tangible improvements in human wellbeing for communities adjacent to marine protected areas, the activity addresses direct and indirect threats to coastal and marine biodiversity at multiple geographic scales simultaneously. The CMBA includes nested and connected actions across four scales:</p> <ul style="list-style-type: none"> • Regional scale: support for advancing the goals of the <i>Caribbean Challenge Initiative (CCI)</i>, along with region-wide practitioner and leader networks. • National scale: work to establish national protected area trust funds in targeted countries, along with national policy action to promote sustainable fisheries. • Seascape scale: In four target seascapes, actions will include completing marine spatial plans (MSPs) and creating strong MSP governance mechanisms; ensuring protection and climate change resilience are prioritized in seascape governance; enhancing the capacity of fisher associations and collaborating with these associations to implement sustainable livelihood programs for fishers; and supporting ecological and social MMA networks within targeted seascapes. • Site scale: At seven core MMAs within the four target seascapes, CMBA will support foundational management planning (such as completing and strengthening MMA management and business plans), putting in place basic management infrastructure, and implementing essential management actions to reduce threats.
Outcome (Expected outcome)	
Lessons learned	
Related websites (English preferred)	

Project 15

Cornerstone(s) implemented through the project	<p>Check all that apply:</p> <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	Wildlife Crime Technology Challenge
Location	Global
Dates	2015-2017
Main Organizer(s)	U.S. Agency for International Development, National Geographic Society, Smithsonian Institution, TRAFFIC
Main Stakeholder(s)	
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>USAID, in partnership with the National Geographic Society, the Smithsonian Institution, and TRAFFIC, launched the Wildlife Crime Tech Challenge to reward innovative science and technology solutions that help combat wildlife trafficking in both terrestrial and marine wildlife. A number of factors have spurred a sharp increase in the illegal wildlife trade in recent years, and there is growing consensus that traditional models of conservation are no longer sufficient to protect biodiversity and preserve ecosystems. The Challenge focuses on four issues in the fight against wildlife trafficking: detecting transit routes, strengthening forensic evidence and data sharing, reducing consumer demand, and tackling corruption. Following the selection of Winners, the Challenge Team intends to create a community among innovators, users, and the public that will collaborate on further innovation and technology scaling. By harnessing the power of science and technology, the Challenge hopes to overcome key barriers in the</p>

	<p>fight against wildlife trafficking.</p> <p>One of the grand prize winners is New England Aquarium’s Automated Shipment Forensics which leverages “smart invoice” technology to help port inspectors find illegal trade hidden in plain sight. The technology was developed specifically for the trade in corals and coral reef species. Automated Shipment Forensics uses computer vision to convert the paper copy of each shipping declaration and invoice into a digital format, and then conducts real-time forensic analyses on shipment information, determining a pattern-matched probability assessment of illegal trade. By providing real-time forensics on suspicious trade activity, the technology eliminates the need for port agents to manually sift through paper invoices and enables them to act swiftly.</p>
Outcome (Expected outcome)	
Lessons learned	
Related websites (English preferred)	http://wildlifecrimetech.org/index

Project 16

Cornerstone(s) implemented through the project	<p>Check all that apply:</p> <p>X Integrated Management <input type="checkbox"/> Capacity Building</p> <p>X Science & Monitoring <input type="checkbox"/> Periodic Assessment (Review)</p>
Project Title	The Role of Coral Reefs in Coastal Protection: Rigorously Valuing Flood Reduction Benefits to Inform Coastal Management
Location	US coral reef jurisdictions (US Virgin Islands, Puerto Rico, Hawaii, Guam, American Samoa, and Commonwealth of the Northern Mariana Islands)
Dates	2016-2018
Main Organizer(s)	US Geological Survey, The Nature Conservancy, DOI’s Office of Insular Affairs, academia
Main Stakeholder(s)	Federal, state, and local governments, NGOs, and coral reef managers in the US coral reef jurisdictions.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>Coastal flooding affects millions of vulnerable people, with significant losses to the US national economy. The degradation of coastal habitats, particularly coral reefs, raises risks by further exposing communities to coastal hazards. Unfortunately, the protective services of these natural defenses are not assessed in the same rigorous, social and economic terms as artificial defenses such as seawalls, and therefore often not considered in decision-making. The goal is to identify when, where, and how coral reefs provide the most significant coastal flood reduction benefits socially and economically not only under current and future climate change scenarios, but also based on restoration efforts. This effort follows a risk-based valuation framework, developed with the World Bank, to rigorously estimate the risk reduction benefits from coral reefs, and provide annual expected benefits in social and economic terms.</p>
Outcome (Expected outcome)	<p>The spatially-explicit social and economic values will be made widely available in both a scientific report and through online interactive tools to inform decision-makers. Ultimately, these results will inform USA coral reef conservation and management priorities and likely provide new financing options for their protection.</p>

Lessons learned	Sea-level rise and coral reef degradation due to land-based pollution, ocean acidification and climate change (thermally-induced bleaching) will increase the number of US citizens threatened and infrastructure damaged by coastal flooding during storms, whereas coral reef restoration will reduce such risks and increase the resilience of coastal communities.
Related websites (English preferred)	[Insert text here]

Note: If you have more activities/projects/programs you would like to report on or share with other members, please duplicate the table above and fill it in for as many projects as you wish.

3. **Publications.** Please list relevant publications/reports you have released during this reporting period.

Title (incl. author and date)	Website URL if available	Type of publication (Paper, report, etc.)
Climate Change and Coastal Zones: An Annex to the USAID Climate-resilient Development Framework	http://www.ccrdproject.com/ccrd-library/climate change coastal zones	Report PDF

4. **General Information.** (Note that this information will be posted on the ICRI website on your member page: <http://www.icriforum.org/about-icri/members-networks.>)

5.

Member type (Country / Organization):	Country - United States of America
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Thank you very much for sharing your valuable experiences and information with ICRI.