

3.5 Component 5 – Proposed modifications to the FKNMS management plan by alternative

Since its designation in 1990, FKNMS has worked to address impacts from human influences on sanctuary resources. This management plan update is designed to improve the abundance and health of sanctuary resources and the condition of associated habitats through updated and adaptive management efforts, regulatory compliance, community involvement, and stewardship.

3.5.1 Alternative 1: No action (*status quo*)

The resulting effects from maintaining the existing management plan are compared with the effects of implementing an updated management plan as outlined in the below alternative (see Chapter 5).

FKNMS released its first management plan in 1997 and augmented it in 2000 with the Tortugas Ecological Reserve supplemental EIS and management plan. A 2007 revised management plan updated the programmatic non-regulatory actions of these two management documents. Together, these management plans guide actions needed to protect the ocean and coastal ecosystems of the Florida Keys while continuing to allow compatible and sustainable human uses. The existing regulations and management plan address key issues through science, education, outreach, stewardship, enforcement, resource threat reduction, restoration, and administration. Such activities include operating and maintaining vessels and aircraft, training staff, conducting research and resource documentation, implementing education and outreach activities, and installing and maintaining permanent moorings or other installations to protect fragile ecosystem or cultural resources.

The text of the associated documents can be accessed at www.floridakeys.noaa.gov on the management plan webpage.

3.5.2 Alternative 2

Alternative 2 includes a draft updated management plan outlined in Section 3.5.5 below.

3.5.3 Alternative 3 (*preferred*)

Alternative 3 includes a draft updated management plan outlined in Section 3.5.5 below.

3.5.4 Alternative 4

Alternative 4 includes a draft updated management plan outlined in Section 3.5.5 below.

3.5.5 Draft management plan (*Alternative 3, preferred*)

The below draft management plan serves as an overarching framework and is representative of the non-regulatory activities the sanctuary will undertake in the next five to 10 years. These proposed management plan updates are intended to streamline and focus sanctuary management actions, and to align with the goals and objectives in the ONMS Strategic Plan (September 2017).

The text in this draft provides the mission, goals, objectives and proposed priority actions. However, the final management plan activities would be informed by public comment and advisory council input and would reflect the current needs at the time the final management plan is completed.

Vision

Florida Keys National Marine Sanctuary is a living laboratory for scientific research to enhance the understanding of the environment and to improve management decisions for optimal resource conservation while allowing for public use and enjoyment. The public will be engaged and involved so they are aware of, care about, and want to protect and restore the sanctuary's resources for current and future generations.

Mission

Florida Keys National Marine Sanctuary identifies, protects, conserves, and enhances the resources, values, and qualities of the sanctuary, while allowing and managing public and private uses that are compatible with the primary goal of resource protection.

GOAL 1: Improve our understanding of sanctuary resources, ecosystem services, and their value to the Florida keys economy.

GOAL 2: Improve the condition of sanctuary resources and, where possible, restore ecosystem structure and function.

GOAL 3: Reduce threats to sanctuary resources and manage human uses and associated impacts.

GOAL 4: Increase awareness and support for FKNMS and its resources.

GOAL 5: Advance and support collaborative and coordinated management.

Goal 1: Improve our understanding of sanctuary resources, ecosystem services, and their value to the Florida Keys economy.

The activities in this section are intended to advance understanding of sanctuary resources and ecosystem services so that the best available science can be used to inform conservation-based management decisions. Efforts to monitor changing conditions and understand ecological and socioeconomic factors provide essential information needed to identify threats, develop strategies to mitigate these threats, and ultimately protect and conserve sanctuary resources.

There is a long history of research and monitoring programs in the Florida Keys and information from these programs has been presented in the 2011 FKNMS Condition Report, the Draft National Coral Reef Monitoring Program Assessment Report, and numerous other publications and reports. There is a need to evaluate and synthesize the findings from these studies, update the findings with new information on recent impacts to sanctuary resources and habitats, and direct future activities toward the key management needs of today. The intent of this goal is to evaluate this body of knowledge to: (1) help inform management decisions, (2) identify gaps in knowledge needed for management, and (3) direct future monitoring and research priorities to further improve understanding of sanctuary resources and ecosystem services to ultimately improve and adapt management of these resources.

Much of the work conducted within this priority area will be driven by the final updated regulations, marine zones, and management plan, as well as key needs and activities identified in the comprehensive science plan (Activity 2). These efforts will be implemented through collaboration and partnerships.

Objective 1: Assess the state of the science/research of sanctuary resources and habitats and direct future research to inform priority resource protection and management needs.

Activity 1: Host a Florida Keys ecosystem science symposium/workshop to compile and share priority monitoring and research findings.

As part of hosting a Florida Keys ecosystem science symposium/workshop:

Activity 1.1: Identify and articulate management needs to ensure the workshop outcomes are relevant and actionable.

Activity 1.2: Compile and evaluate long-term research and monitoring program data sets to identify gaps and additional targeted research and monitoring needs.

Activity 1.3: Compile all known habitat mapping data, identify gaps, and prioritize future mapping effort.

Activity 2: Develop a comprehensive science plan (the last such plan was completed in 2002) with revised research and monitoring needs and approaches to advance understanding of the status and trends of sanctuary resources and habitats, and facilitate evaluation of the effectiveness of the updated regulations, marine zones, and management plan. The plan will incorporate the data and research gaps/needs recognized at the symposium, and identify appropriate responsible parties to fill those gaps/needs (e.g., direct agency [federal/state] or permitted work).

- Use this plan to annually update the ONMS science needs documents to direct external research projects to better inform and advance sanctuary research and management needs.
- Use this plan to inform priority research within the WQPP.

Activity 3: Establish a Sanctuary Advisory Council research advisory committee working group to provide recommendations on priority research needs and application of available science to conservation-based management. (Note this would be distinct from the WQPP Technical Advisory Committee.)

Activity 4: Develop an online data portal where monitoring and research data and outcomes can be compiled, mapped, synthesized, and queried.

- Build on existing databases to create a unified data portal (e.g., Marine Biological Observation Network [MBON], WQPP monitoring, National Coral Reef Ecosystem Monitoring Program).

Activity 5: Prepare a sanctuary condition report (update the 2011 FKNMS Condition Report)

- Integrate data, products, and tools from ongoing ocean observing projects (e.g. MBON, Integrated Ecosystem Assessment) to inform the next sanctuary condition report.

Activity 6: Facilitate the concept and practice of FKNMS as a living classroom and laboratory. The work conducted will be informed by priority management needs.

Objective 2: Enhance our understanding, management, and interpretation of sanctuary historical resources.

Activity 1: Complete a maritime cultural landscape assessment.

Activity 2: Identify significant historical resources for additional research.

Activity 3: Work with partners to advance historical resource characterization using innovative techniques.

Activity 4: Continue historical resource inventory including biological characterization of historical resource sites.

Activity 5: Implement archaeological research permitting standards to enhance protection of historical resources.

Activity 6: Evaluate visitor access/use and impacts to historical resources and identify interventions to reduce resource conflicts and potential damage from improper use while maximizing visitor access.

Activity 7: Establish a new programmatic agreement for the purpose of satisfying NOAA's responsibilities under Section 106 of the National Historic Preservation Act for activities in Florida Keys National Marine Sanctuary. Through publication of this DEIS, NOAA is seeking public comment on the draft programmatic agreement (see Appendix C).

Activity 8: Pursue opportunities to disseminate historical resource information and interpret the sanctuary's maritime heritage through a variety of avenues to reach audiences locally, regionally, and nationally.

Objective 3: Identify and track socioeconomic value and ecosystem services provided by the sanctuary and its resources.

Activity 1: Update the socioeconomic valuation of FKNMS and include a section on historical resources.

Activity 2: Use the updated socioeconomic valuation findings to communicate the value of the sanctuary and its resources to decision-makers and targeted user groups, including diving and fishing operators in the Florida Keys.

Goal 2: Improve the condition of sanctuary resources and, where possible, restore ecosystem structure and function.

The objectives identified below target the parameters assessed in the 2011 FKNMS Condition Report: water quality, habitat, and living marine resources. (Note: historical resources are also included in the condition report; however, activities related to those resources are included in Goal 1). Several specific activities to address each objective are identified below. However, additional actions will be identified through development of a sanctuary research plan (see Goal 1, Objective 1, Activity 2) and through actions in support of Goal 5: Collaborative and coordinated management.

Objective 1: Water quality: Engage more actively with local and regional entities addressing issues related to water quality.

Activity 1: Strengthen engagement with the WQPP and its partners to ensure that long-term water quality, associated habitat monitoring programs, and special studies are supported and maintained and applied to management needs and decisions.

Activity 2: Engage with the South Florida Ecosystem Restoration Task Force to ensure Florida Keys water quality, habitat, living marine resource conditions, and community interests are considered and integrated into regional restoration and management plans. This activity also serves to support Objective 2 and 3 within this goal.

Activity 3: Identify additional water quality parameters that should be investigated (e.g., industrial discharge, metals, pesticides, endocrine disruptors, bacteria) to better understand enabling factors and stressors impacting sanctuary resources and cost-effective strategies to effectively assess these parameters.

Activity 4: Evaluate and recommend changes to the existing water quality monitoring program to inform management needs.

Activity 5: Evaluate and map long-term and recent water quality data sets to identify water quality improvements, hot spots, spatial and temporal gaps in coverage, and new technologies and approaches to streamline/enhance water quality assessments.

Activity 6: Identify practical non-regulatory steps and solutions to improve water quality.

Objective 2: Habitat: Evaluate FKNMS habitat condition, coordinate ongoing monitoring programs, and develop restoration or mitigation plans/activities where needed.

Activity 1: Participate in and facilitate recovery efforts for threatened coral species and their supporting habitat.

- Work with NMFS Office of Protected Resources and other partners to implement actions identified in the Acroporid Recovery Plan and identify options and best practices for other ESA-listed species.
- Engage with partners such as the NOAA Coral Reef Conservation Program and the Coral Restoration Consortium to advance the science and practice of coral reef ecosystem restoration; increase the scale and success of restoration; enhance coordination between researchers, field practitioners, and managers; facilitate and encourage the use of FKNMS as a field laboratory for research, testing of new methodologies, and demonstration projects; and promote scaling up of restoration projects.

Activity 2: Work with research and management partners to advance coral disease intervention research and implement activities at high priority sites to reduce impacts, address enabling conditions, reduce disease spread, enhance the survival of priority corals, and rehabilitate reefs and species damaged by coral disease.

Activity 3: Continue to support efforts led by the Florida Reef Resilience Program (FRRP) to implement a monitoring, research/restoration, and outreach plan for coral condition that addresses coral bleaching, disease, ocean acidification, and other climate-related stressors.

Activity 4: Work with partners to identify and assess factors that affect the vulnerability and resilience of seagrass habitats to chronic and acute impacts and emerging threats and enhance efforts to restore degraded and damaged seagrass habitats. Develop and implement recommendations for restoring degraded and damaged seagrass habitats.

Activity 5: Expand efforts to monitor changes to hardbottom habitats. Evaluate the ecological dynamics, functional significance, and economic importance of these habitats, and the effectiveness of marine zoning in reducing human impacts through partnerships with FWC, The Nature Conservancy, Bonefish Tarpon Trust, and others.

Activity 6: Identify and test new ecological restoration approaches to improve recovery and resilience of ecosystem components with a focus on improving habitat quality and condition; enhancing recruitment and survival of stony corals, sponges, soft corals, anemones, and other benthic invertebrates; rebuilding degraded populations of species; and restoring ecosystem structure and function.

Activity 6.1: Create a restoration permit category to facilitate restoration and associated requirements (e.g., monitoring and reporting) to further sanctuary management goals.

Activity 6.2: Develop a sanctuary restoration plan. The restoration plan would include restoration goals, priority restoration needs, nursery and restoration site selection criteria, species type and associated outplanting strategies, expected research and monitoring outputs, evaluation, and management and access options, including the potential to create temporary restoration zones. This plan will build off of the sanctuary condition report and recommendations from the Sanctuary Advisory Council's coral reef ecosystem restoration working group.

Objective 3: Living marine resources: Improve the condition and diversity of natural biological communities

Activity 1: Identify opportunities to further partner with NMFS, SAFMC, GMFMC, and FWC on coordinated management and innovative research of fish and invertebrate populations within the Florida Keys and FKNMS.

- Explore opportunities for ecosystem-based management approaches.

Activity 2: Continue to work with fishery and research partners to advance understanding of fish aggregation sites, potential connectivity between sites and habitat types, and ecological and habitat features that support ecosystem productivity.

Goal 3: Reduce threats to sanctuary resources and manage human uses and associated impacts.

Objective 1: Identify and monitor patterns of human uses and potential impacts of those uses, including existing and emerging threats.

Activity 1: Evaluate spatial patterns of different types of human uses within different habitats, characterize impacts associated with user groups and effectiveness of existing measures to minimize those impacts, and identify interventions to reduce potential damage to resources and habitats from human uses.

- Summarize findings for public information and decision-making purposes.
- Coordinate with similar efforts underway in the northern portions of the Florida reef tract supported by Florida DEP.

Activity 2: Based on the above evaluation, consider the need to address concentrated uses and potential adverse impacts to sanctuary resources, including the potential to establish limited use areas (See Section 3.4.5 for a proposed limited use area regulation).

Objective 2: Reduce adverse impacts to key marine species and habitats.

Activity 1: Implement rapid emergency response to key threats to reduce immediate pressure and provide time for coordinated, adaptive management strategies to be developed and instituted (e.g., temporary closures to reduce pressures on diseased or stressed corals). (This action is aligned with the proposed regulatory alternatives updating the existing emergency regulation, see Section 3.2 for details.)

Activity 2: Develop or update response plans for priority existing and/or emerging threats.

- Examples include: marine debris, derelict vessels, HAZMAT/pollution releases, invasive species, coral bleaching and disease events, fish kills, etc.
- Explore emergency capacity options (e.g., Federal Emergency Management Agency assistance) to be better prepared to assess and minimize impacts to sanctuary resources and facilitate response activities to new and/or emerging threats.

Activity 3: Evaluate and update Damage Assessment Remediation And Restoration Program (DARRP) including methodologies, equipment, and implementation.

- Complete an analysis of all DARRP projects to determine outcomes, effectiveness, and lessons learned and identify future restoration and monitoring directions.
- Coordinate with state partners to improve enforcement opportunities under applicable federal or state laws (Florida Coral Reef Protection Act).

Activity 4: Assess the scope, scale, and potential impact of live rock aquaculture activities.

- Develop a memorandum of understanding with NMFS and FDACS to ensure permitted live rock aquaculture activities are aligned with sanctuary management goals and do not impact sanctuary resources, including realigning agency responsibilities for permitting this activity in the sanctuary. (This action is associated with proposed regulatory alternatives. See Section 3.2 for details.)

Activity 5: Review and evaluate fishing gear used within the sanctuary and work with partners to develop best management practices to mitigate habitat impacts, bycatch, and other stressors associated with the gear (e.g., optimize design and placement of lobster traps, evaluate recommendations from the Florida Marine Debris Reduction Plan to reduce the number of lost and derelict traps).

Objective 3: Facilitate and manage human use ensuring use is compatible with sanctuary resource protection goals.

Activity 1: Enhance regulatory compliance through partnership opportunities.

- Identify/obtain additional funding for resource related law enforcement.
- Explore and establish additional partnerships to support law enforcement (e.g., USCG, USFWS, DEP enforcement of vessel groundings through the Florida Coral Reef Protection Act, Monroe County).
- Explore the use of technology for enforcement activities (e.g., unmanned aerial systems, vessel monitoring systems).
- In conjunction with law enforcement and the community, develop a “see something, say something” app that facilitates public information sharing on impacts to sanctuary resources and potential illegal activity.

Activity 2: Implement updated marine zoning scheme (as developed and finalized through this current management plan review process).

Activity 3: Update and develop appropriate strategies for a zone-specific monitoring and research program to provide information on the status of marine species and habitats to inform management.

Activity 4: Evaluate effectiveness of and, as needed, update the placement and number of marker, mooring, channel, and information buoys.

- Solicit user and community input to inform mooring buoy evaluation.
- Consider input from the shallow water wildlife and habitat working group, associated marine zone recommendations, and data from the recent Florida Keys Shallow Water Boating Impact Analysis and Trends Assessment to inform this review.
- Using this review, work with the USCG, the state, and Monroe County to identify potential sites for additional aids to navigation (ATONs) and markers in habitats that are heavily impacted by vessel groundings.
- Consider the need and placement of mooring buoys for vessels greater than 65’ length overall. (This action is aligned with the proposed regulatory alternative to prohibiting vessels over 65’ length overall from using small mooring buoys. See Section 3.2 for details.)
- Update the mooring buoy plan based on above evaluation and final regulations and marine zoning scheme developed through this management plan review.
- Mark marine zones and ensure they appear on nautical charts.
- Explore additional technological options, including electronic charts integrated into GPS and smart buoys, for alerting the public to marine zone locations and regulations.

Activity 5: Address the threat of derelict vessels through working with agency and local municipal partners to support ongoing efforts and contribute additional expertise (Florida Marine Debris Reduction

Guidance Plan, Monroe County derelict vessel removal efforts, and pilot vessel turn-in program, among others). (This activity aligns with the proposed regulatory alternatives to prohibit derelict vessels. See Section 3.2 for details.)

Activity 5.1: Work with the towing and salvage industry to develop a suite of guidelines and best practices and apply our current general permit to towing and salvage operations.

Activity 6: Continue interagency collaboration in permitting to avoid and minimize resource impacts.

- Work with towing and salvage operators to ensure they have appropriate sanctuary permits and/or authorization to operate within sanctuary waters. Use best management practices to protect ESA-listed species and designated critical habitat and avoid secondary resource impacts that could occur from towing and salvage operations.
- Work with partner agencies to develop programmatic documents for required consultations to increase efficiency.
- Continue to examine and implement creative approaches for streamlining permit processes while maintaining a high level of resource protection.
- Evaluate cumulative impacts of permitted activities (e.g., fireworks, nearshore construction, research) on sanctuary resources and modify permitting procedures as necessary to reduce those impacts.

Activity 7: Maintain and enhance FKNMS Blue Star programs.

- Continue to support and grow the Blue Star Snorkel/Dive Operator and Blue Star Fishing Guide programs.
- Explore and evaluate program expansion options under the Blue Star umbrella, including offering an online individual certification and/or a business-level certification for non-diving businesses.
- Partner with Blue Star operators to implement and comply with the proposed no anchoring in SPAs regulation and the three proposed limited use SPAs regulation (see sections 3.3 and 3.4 for details).

Activity 8: Evaluate and monitor effects of artificial habitats and use patterns on sanctuary resources.

- Investigate impacts of artificial habitats on fish and invertebrate populations, including the extent to which the spread of invasive species has been facilitated by artificial habitats.
- Monitor and evaluate habitat modification or impacts caused by the installation of artificial habitats.
- Monitor use patterns and socioeconomic effects of artificial habitats.

Goal 4: Increase awareness and support for FKNMS and its resources.

Communication and education underpin all of the other goals and objectives and, as such, will support and be integrated across all of the work FKNMS conducts. Communication and education areas of focus include media, outreach for education, informal education and interpretation, community/constituent engagement, and volunteer coordination as outlined below. Efforts in this arena could be more strategic, coordinated, and focused. To that end the overarching priority is to develop a communication, education, and engagement strategy that will drive more specific priorities within each objective.

Objective 1: Strengthen and enhance strategic communication and outreach.

Activity 1: Develop a communication, education, and engagement strategy.

- Identify targeted tools of communication and education and define how programs should be delivered to achieve higher public awareness, understanding, sustainable use, and appreciation of FKNMS while increasing ocean and climate literacy.
- Collaborate with other reef management entities to support the development of a larger Florida Reef Tract-wide communication and engagement strategy, including crafting and disseminating consistent messaging.

Activity 2: Continue to engage with organizations and constituencies that have historically been FKNMS target audience/partners. Identify gaps in current audience focus and engage additional constituencies, including industry partners, to achieve objectives and support activities outlined in this draft management plan.

Activity 3: Adapt programs and products to reach evolving demographics and diverse user groups.

- Identify priority products for Spanish language translation.

Activity 4: Develop an evaluation toolkit and implement evaluation to determine effectiveness of communication and education programs.

Objective 2: Implement communication and education programming to achieve higher public awareness, understanding, sustainable use, and appreciation of FKNMS.

Activities under this objective will be informed by the completed communication, education, and engagement strategy. However, this objective could include some of the following:

- Develop targeted messaging and education and/or outreach programs for specific constituencies and audiences.
- Expand social media presence and use additional under-utilized communication avenues.
- Update and expand the website and make it mobile friendly.
- Explore the use of and, where needed, create apps or other innovative technology to share information with constituents and provide opportunity for users to share information with FKNMS (e.g., dangers to navigation, regulations, enforcement issues). This could include supporting existing apps and technologies that are hosted by partner agencies and/or organizations.
- Enhance and maintain existing partnerships with businesses and other entities that display sanctuary-related exhibits and/or information.

Specific topics could include:

- Translate water quality goals and WQPP monitoring results and South Florida Ecosystem Restoration Task Force activities into education and outreach materials and programs to influence behavior changes that protect water quality and identify specific actions for engagement.
- Translate habitat monitoring results into education and outreach materials and programs such as using the recent Florida Keys Shallow Water Boating Impact Analysis and Trends Assessment to raise public awareness of boater impacts to seagrass and hardbottom habitats.

- Translate living marine resource monitoring results into education and outreach materials and programs, such as website information on connectivity across habitats and among species.
- Translate historical resources research information into education and outreach materials and programs to convey importance and enhance appreciation and stewardship of historical resources in FKNMS.
- Develop educational and outreach programs and tools that enhance climate and ocean literacy and promote stewardship of FKNMS.

Objective 3: Maintain and enhance community-based and partner engagement to improve collaborative and coordinated management in order to achieve the sanctuary's vision.

Activity 1: Continue support for the Sanctuary Advisory Council.

- Continue to support at most six advisory council meetings per year with additional working group meetings and workshops as needed.
- Work with the Sanctuary Advisory Council chair and vice chair to develop an annual work plan that aligns with and supports the FKNMS management plan and ONMS strategic plan.

Activity 2: Enhance the volunteer program.

- Continue to engage and train volunteers in programming such as Eco-Discovery Center interpreters and Team OCEAN. Recruit volunteers to support existing operations and programs while developing additional opportunities for involvement to achieve the objectives and support the activities outlined in this management plan.
- Explore and support college-level internships in partnership with local academic institutions.

Activity 3: Strengthen existing and explore new partnership opportunities.

- Remain engaged with current partners working to strengthen those and seek opportunities to facilitate partnerships with other agencies and organizations, including non-governmental conservation organizations, civic groups, and trade and business organizations.

Activity 4: Work with partners to engage the community in citizen science programs that involve sanctuary resource monitoring and that build on existing efforts including REEF lionfish derbies, Mote Marine Laboratories' Bleachwatch and C-OCEAN, Florida Keys Water Watch, and NOAA volunteer diving program, among others.

Goal 5: Advance and support collaborative and coordinated management.

Florida Keys National Marine Sanctuary is managed in a partnership between NOAA, the state of Florida, and USFWS, and with the support of the Florida Keys community. Partnership has and continues to be at the core of how the sanctuary conducts its operations and programs. Partnership becomes ever more essential given shifting environmental conditions and threats, enhanced research interest and effort, and increased user activity across all sectors, which is coupled with increased agency roles and responsibilities and shifts in available fiscal and human capital resources. A focus on strengthened and enhanced engagement with partners will be integrated in all aspects of operations as FKNMS strives to most efficiently and effectively implement its updated management plan, regulations, and marine zoning scheme. International collaboration is also important, given the ecological connectivity within the Gulf of Mexico and Caribbean.

Objective 1: Improve operational capabilities, efficiency, and effectiveness.

Activity 1: Evaluate current staff and staffing assignments and restructure as needed to best address updated management plan activities.

- Fill priority staff vacancies. Assess potential staffing gaps and determine if and how those can be filled by existing staff and/or potential new hires.
- Analyze current FKNMS staffing structure and restructure as needed for more collaborative, efficient, and effective operations.
- Effectively use the sanctuaries blended workforce (federal staff, state staff through Florida International University, National Marine Sanctuary Foundation staff, and contract staff) to best fulfill the mission and operations.

Activity 2: Build internal capacity through training and professional development.

- Assess and prioritize employee training and develop individual development plans including cross training to create versatility and collaboration across teams.
- Develop and maintain staff capacity and training to conduct emergency response activities.

Activity 3: Review and streamline business and administrative operations.

Objective 2: Continue to maintain and acquire as necessary the infrastructure required to accomplish the mission and goals specified in the FKNMS management plan.

Activity 1: Maintain current facilities, infrastructure (including those currently owned and on loan), and vehicles.

- Assess vessel lifecycle plan and execute, updating on an annual basis.

Activity 2: Assess the need for updated facilities and infrastructure including potential partnership with other state and federal entities.

- Evaluate Key Largo facilities to meet operational and education/visitor use needs.
- Evaluate and implement updates to the Eco-Discovery Center.

Objective 3: Annually develop operating plans that articulate how FKNMS resources would be distributed to meet the site's goals and objectives, and conduct ongoing evaluations of the effectiveness of annual operating plans toward meeting management plan objectives.

Activity 1: Formulate an annual operating plan to meet the objectives of the FKNMS management plan and annual budget allocation.

Activity 2: Evaluate annual operating plan effectiveness toward meeting program objectives. Seek appropriate participation of FKNMS advisory council.

Objective 4: Maintain and strengthen cooperative management with our state, federal, and local partners to advance shared resource management priorities.

Activity 1: Develop a cooperative management annual operating plan and/or framework that facilitates:

- Information and resource sharing to address priority research and threat reduction efforts (e.g., ongoing coral disease event, marine zone habitat, and living marine resources);
- Strategic efforts of the WQPP (work with DEP and EPA);
- Enhancement of enforcement presence for sanctuary regulations (work with FWC, NMFS, USCG, USFWS, and the National Park System [NPS]);
- Coordination among other regional marine and natural resource management entities (e.g., National Park Service, State Parks and Aquatic Preserves, South Water Management District); and
- Opportunities to further partner with NMFS, SAFMC, GMFMC, and FWC on coordinated and innovative research and management of fish and invertebrate populations within the Florida Keys and FKNMS.

Activity 2: Work with Florida DHR to ensure compliance with archaeological research permitting activities.

Activity 3: Strengthen partnerships and coordination with Monroe County and municipalities.