

Coral Reef Ecosystem Restoration Working Group: Recommendations to FKNMS SAC



Ken Nedimyer, Sanctuary Advisory Council – Conservation & Environment
Working Group Chair
Bill Goodwin, FKNMS Resource Manager

June 17, 2014

Working Group Membership



Sanctuary Advisory Council Members

- Dave Vaughn (WG Co-Chair), Research and Monitoring
- Clinton Barras, Tourism – Lower Keys
- Alex Brylske, Education and Outreach
- Jeff Cramer, Fishing – Commercial (Fin/Shell)
- Don Kincaid, Diving – Lower Keys
- Rob Mitchell - Diving
- Martin Moe, Education and Outreach
- Bob Smith, Diving - Lower Keys



Working Group Membership

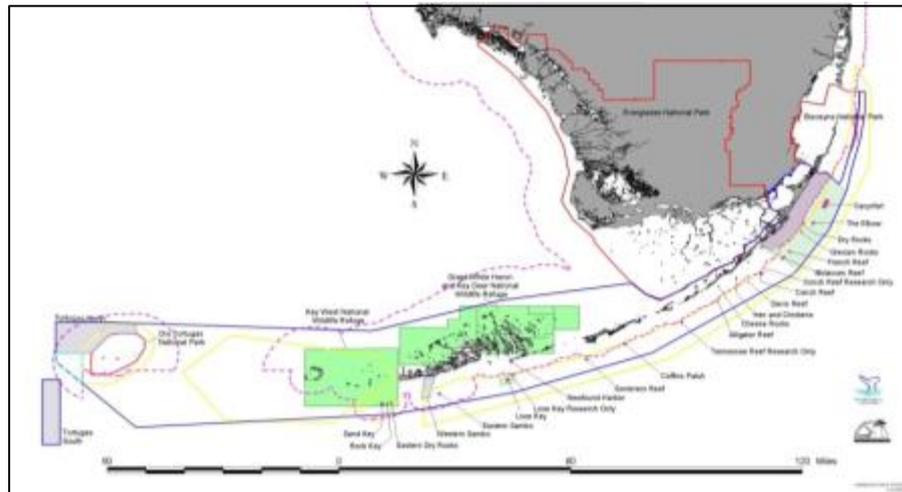


Community / Public Members

- Patti Gross, History of Diving Museum; USCG Auxillary
- Caitlin Lusic, The Nature Conservancy
- Jeff Neidlinger, A Deep Blue Dive Center
- Marius Venter, Fury Water Adventures



Coral Reef Ecosystem Restoration Objectives:



- Identify specific areas and zones for active restoration of coral reef ecosystems
- Identify regulatory impediments and appropriate permitting conditions for active restoration of coral reef ecosystem species
- Identify adaptive management measures for opening areas closed for restoration purposes

7 Working Group Meetings Over 6 Months



January 31: Clarified role and authority of working group; determined entire Florida Keys coral reef ecosystem would be considered for recommendations.

February 21: Identified habitats and resources to consider for active restoration; activities that may impact restoration.

March 13: Identified criteria to use for developing recommendations; identified areas on charts to consider.

April 3: Further refined selection criteria and areas to consider for restoration

May 1: Reviewed areas proposed for coral reef ecosystem restoration; discussed resources, purpose and intent of the sites, and activities that need to be managed.

May 22: Discussed need to streamline permitting process, management options, area/zone marking, adaptive/flexible management and restoration research zones; reviewed and prioritized active coral reef ecosystem restoration areas.

June 12: Finalized area selections and draft recommendations to SAC regarding coral reef ecosystem restoration within FKNMS.

Objective 1: Identify Specific Areas and Zones for Active Restoration of Coral Reef Ecosystems



Criteria used for area/zone selection:

- Likelihood of success
- Biodiversity and habitat
- Sustainability/connectivity
- Sufficient size
- Allowable/compatible uses
- Suitability as reference areas/monitoring sites
- Facilitation of enforcement and compliance



Objective 1: Identify Specific Areas and Zones for Active Restoration of Coral Reef Ecosystems



Final restoration area/zone recommendations:

- entire FKNMS be eligible for coral reef ecosystem restoration activities
- selected a suite of 103 areas for restoration
- further prioritized those sites for a total of 36 general areas
- specific sites within those general areas will be selected when actual restoration activities are conducted
- site size and type will be determined by the restoration goals and available funding



Objective 1: Identify Specific Areas and Zones for Active Restoration of Coral Reef Ecosystems



Restoration activities within selected areas will include:

- active coral transplanting and stock enhancement - to recreate, initiate, accelerate, or augment the recovery of an ecosystem that has been degraded
- manipulative experiments - strategic science and manipulative experiments to advance the science of restoration



Objective 1: Identify Specific Areas and Zones for Active Restoration of Coral Reef Ecosystems



Management and access options could include

- open demonstration sites -
 - ✓ innovative partnerships
 - ✓ site sponsorships
- managed access sites -
 - ✓ managed activities within the site
- closed for research sites—
 - ✓ restricted access for research and control sites
 - ✓ closed to visitation



Objective 1: Identify Specific Areas and Zones for Active Restoration of Coral Reef Ecosystems



Marking and mooring at coral reef ecosystem restoration areas could include:

- Site marker buoys –
 - ✓ link access restrictions to specific marker buoys used rather than specific locations
 - ✓ areas/sites can easily be moved as activities are shifted
- Manage the mooring buoys –
 - ✓ no mooring buoys in areas that are closed to visitation
 - ✓ limited number of buoys for use
 - ✓ subsurface buoys for researchers/restoration practitioners and incentive access users



Objective 2: Identify Regulatory Impediments and Appropriate Permitting Conditions for Active Restoration of Coral Reef Ecosystem Species

A screenshot of a permit application form for the Florida National Marine Sanctuary. The form is titled "FLORIDA NATIONAL MARINE SANCTUARY PERMIT APPLICATION" and includes sections for "GENERAL INFORMATION", "PERMIT INFORMATION", and "PERMITTER INFORMATION". It contains various fields for names, addresses, phone numbers, and dates, along with checkboxes for different permit types and conditions.

- streamline the permit process
- allow for simple modifications
- consider use of the FKNMS permit through which “qualified” practitioners could operate (possibly under a manager’s or blanket permit)
- permitting should allow for development of innovative/ adaptive restoration techniques



Objective 3: Identify Adaptive Management Measures and Criteria for Opening Areas Closed for Restoration Purposes



Incorporate Adaptive Management:

- will be applied to managing active coral reef ecosystem restoration areas within FKNMS
- used to change the status of existing areas or to add new areas for coral reef ecosystem restoration
- based on clear goals, objectives and adaptive management triggers



Objective 3:

Identify Adaptive Management Measures and Criteria for Opening Areas Closed for Restoration Purposes



Adaptive management triggers and criteria:

- development of new nursery and restoration technologies may allow more species to be restored and/or new types of restoration activities to be employed
- change in the listing of species under the Endangered Species Act (ESA)
- change in the condition of the coral reef ecosystem
- measurable goals/objectives met
- restoration fails/site becomes unsuitable for further restoration



Objective 3:

Identify Adaptive Management Measures and Criteria for Opening Areas Closed for Restoration Purposes



Possible adaptive management response to triggers:

- Re-evaluate activities that could impact success of restoration activities.
- Restrict access during times of restoration effort.
- Restrict access to allow for undisturbed monitoring sites for research.
- Lift restrictions.
- Monitor restoration areas to understand contribution of various stresses to restored natural resources.



Working Group Resources



Florida Keys National Marine Sanctuary Marine Zoning and Regulatory Review: floridakeys.noaa.gov



Marine Zoning & Regulatory Review

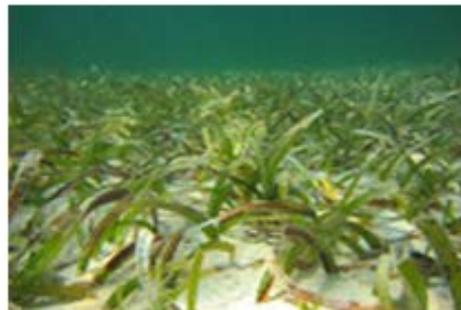
Maps, Data, and GIS Resources:
http://ocean.floridamarine.org/fknms_zone_review



Working Group Recommendations Document:
<http://floridakeys.noaa.gov/Recommendations-for-SAC.pdf>



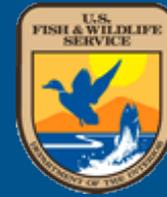
Coral Reef Ecosystem Restoration Working Group
Coral health in the sanctuary has declined over the past several



Shallow Water Wildlife and Habitat Protection Working Group
Hardbottom communities and



Ecosystem Protection: Ecological Reserves, Preservation Areas and Wildlife Protection Working Group



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