Gulf of Mexico Concept

MPA
Federal Advisory Committee

Silver Spring, Maryland
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Process to Date

Briefings and Meetings

• Briefed MPA Center FAC on *conceptual proposal* – October 2007

• Briefed Gulf of Mexico FMC – October 2007 and January 2008

• *Science Forum* – Hosted by Mote Marine Laboratory – January 2008

• Briefed the NOAA Executive Council – February 2008

• Briefed the Gulf States Marine Fisheries Commission – March 2008

• Ongoing discussions with stakeholders since July 2007
4 Regions - 13 National Marine Sanctuaries & Papahanaumokuakea Marine National Monument

Conserve, protect, and enhance biodiversity, ecological integrity, and marine heritage.
Qualifier:
When using the term **MPA**, I am using the definition from Executive Order No. 13158 on Marine Protected Areas

For the purposes of this order:

(a) "Marine protected area" means any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein.

– President William J. Clinton, May 2000
Evidence of Regional Connectivity

Came with the Caribbean wide die-off of the Long Spine Sea Urchin

1983 *Diadema* die-off
Long Spine Sea Urchin
Fig. 2. Spread of *Diadema* mass mortality through the Caribbean and the western Atlantic. Underlined dates indicate the first time mortality was noted at each locality.
Credit: Kevin Leaman (UM/RSMAS)
Water Circulation in the Gulf

Water Circulation

Gulf of Mexico Regional Circulation

Florida Current

Loop Current

Bahamas

Cuba

Florida

Everglades Nat'l Park

Florida Bay

Marquesas Keys

Key West

Dry Tortugas

Florida Current

Yucatan

Cuba

Bahamas

Florida

Pourtales Terrace

Florida Current

Gulf Stream

Gulf of Mexico

(Lee and Williams - Univ of Miami)
Marine Zones

- Sanctuary Preservation Areas
- Special-Use Areas
- Ecological Reserves
- Wildlife Management Areas
- Existing Management Areas
Why An International MPA Network?

Spiny Lobster Fishery
Example of Connectivity:  \textit{Acropora palmata}
Tarpon43
76.2 kg or 167.6 lbs
May 28 - Nov 30, 2006
Pop-up Nov 28
Padre Island, TX
Tagged May 28
Veracruz, Mx
Key Points About This Initiative

• The Administration has still not taken a formal position on the initiative. Rather, it is considering the merits of this initiative, along with other possibilities.

• NOAA has not taken any action on the concept.

• NOAA would not support the designation without a thorough public discussion of all the relevant issues.
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Key Points About This Initiative

• A unique opportunity exists to protect special marine areas in the Gulf of Mexico.
• Functionally-connected network of the Nation’s northernmost coral reefs, banks, ridges and pinnacles
• Ensure conservation of sensitive habitats and communities critical to the Gulf’s most recognizable and threatened living resources would provide for uses compatible with the primary objective of conservation
• Would establish the largest and first ever internationally connected network of MPAs
• Will improve on ocean governance
• Apply an ecosystem-based approach to management
• Gulf of Mexico: ideal location – energy and marine conservation can co-exist
Many of the areas identified on the map have already been set aside for some level of protection through MMS or Fisheries processes-- A great deal of public attention has already been given to these areas.

The special marine areas proposed would still be assessed through a comprehensive stakeholder process.

A proposed extension of current efforts with Mexico and Belize would provide for a “full” ecosystem approach and demonstrates leadership worldwide.
Staff of the Office of National Marine Sanctuaries has drafted a more comprehensive Site Characterization of the proposed sites.
South Texas Banks

Original Map had a single dot – this map is more specific.
Northwest Gulf Reefs & Banks

Flower Garden Banks National Marine Sanctuary

- Separate Process
- SAC recommended inclusion of 9 Banks

Prepared by: Office of National Marine Sanctuaries
The Pinnacles

Again...more detailed sites.
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Madison Swanson
Steamboat Lumps
Florida Middle Grounds

Prepared by: Office of National Marine Sanctuaries
Florida Middle Grounds
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Pulley Ridge
Science Forum

• Hosted by Mote Marine Lab in Sarasota, Florida

• Over 100 scientists from around the Gulf attended.

• Objectives were to share information, identify gaps in knowledge, identify additional potential protected areas.

• Very preliminary results presented in this outline
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Convened Six Expert Panels

• Panel on geology
• Panel on physical oceanography
• Panel on benthic ecology
• Panel on fisheries
• Panel on legal foundations
• Panel on international projects
The following is a **sampling** of some of the points made by the panel experts.
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Panel 1: Geological Setting

Al Hine (University of South Florida) – presentation
Niall Slowey (Texas A&M University) – presentation
Gene Shinn (U.S. Geological Survey, Emeritus) – panelist

- Additional drilling and seismic investigations are necessary to improve our understanding of the geology of the region
- The northern end of Pulley Ridge has an area called the “Sticky Grounds” (because gear gets stuck there) that should be surveyed and characterized
- The Gulf of Mexico is an excellent place to examine past sea levels
Panel 2: Oceanographic Setting

- **Villy Kourafalou** (University of Miami/RSMAS) - presentation
- **Bob Weisberg** (USF) - presentation
- **Liz Williams** (UM/RSMAS) - panelist
- **Libby Johns** (NOAA Atlantic Oceanographic & Meteorological Lab.) - panelist

- A gap in our knowledge concerns dynamics of the Loop Current, which is quite variable, and subsurface profiles of water characteristics and flows
- Bottom currents transport fish larvae across the West Florida Shelf, which is stratified
- There obviously is connectivity among the “Islands in the Stream” and improving our understanding of the details is an important next step
- Paul Sammarco (LUMCON) is investigating coral genetics from the Flower Garden Banks to Mobile, which will provide evidence about gene flow and connectivity for these species
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LEGEND
- Existing protected area
- Area to consider for additional protection
- Current flow

- Flower Garden Banks NMS
- South Texas Banks
- NW Gulf Reefs & Banks
- MS-AL Pinnacles
- Madison Seamount
- Steersboat Ledges
- Florida-Middle Grounds
- Pulley Ridge
- Florida Keys NMS
- Tuxpan Reef
- Campeche Bank Reefs
- Veracruz Reefs
- San K'a'an Biosphere Reserve
- La Habana (Havana)

National Marine Sanctuaries • America’s Ocean Treasures
Panel 3: Benthic Characterizations

Emma Hickerson (NOAA Flower Garden Banks NMS) - presentation
Bill Precht (Battelle) - presentation
Walt Jaap (USF and Lithophyte Research) - presentation

- The area surrounding the Flower Garden Banks is rich with additional banks, a number of which are being considered for inclusion in the sanctuary in a public process currently underway and separate from the Gulf of Mexico concept.

- The first living colonies of elkhorn coral on the FGB were discovered in 2003 and 2005; preliminary paleontological surveys indicate that this coral was common from 10,000 until 6,000 years ago, when this community lagged behind rapidly rising sea level and was replaced by other corals.

- Southern Pulley Ridge may be the deepest coral reef in the U.S., with several species of coral and algae thriving at depths of 60-70 m.
• Fish populations in the Gulf typically display strong recruitment after hurricanes

• Tagged Tarpon show connectivity to Mexico and Belize

• Fish ranges show connectivity in some areas of the Gulf

• There is a pressing need for benthic habitat maps of the West Florida Shelf

• Fish spawning areas can be linked to specific benthic and oceanographic features

• Acoustic techniques are being used to investigate red grouper spawning behavior
Panel 5: Existing Legal Structure/ Regulations in the Gulf of Mexico

Shepherd Grimes (NOAA) - presentation
James Sinclair (Minerals Management Service) – presentation

- Existing Statutes used in the Gulf includes: the National Marine Sanctuaries Act, the Outer Continental Shelf Lands Act, and the Magnuson-Stevens Act

- Habitat Areas of Particular Concern must meet one or more of four criteria:
  1) the importance of the ecological function provided by the habitat,
  2) the extent to which the habitat is sensitive to human-induced environmental degradation,
  3) whether, and to what extent, development activities are, or will be, stressing the habitat type, and
  4) the rarity of the habitat type.

- MMS manages additional types of area restrictions – No Activity Zones and other zones of protection
Panel 6: Connections with Mexico and the Mesoamerican Barrier Reef System

Libby Johns (AOML) - presentation
Wes Tunnell (TAMU-CC/Harte Research Institute) – presentation
Bob Hueter (MML) – presentation

- Investigations by oceanographers and fishery biologists are in progress to improve our understanding of larval dispersal from the MBRS in the Gulf

- The Mexican commission on protected areas (CONANP) includes a number of reef sites in the Gulf and along the MBRS

- The Ocean Tracking Network will provide a unique opportunity to investigate movements of large marine animals through the Yucatan and Florida Straits
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Open Discussion on information gaps, research opportunities, opportunities for collaborations, internal and external management processes, how what is known about the Gulf supports/does not support establishment of an MPA network.

Facilitation, Frank Alcock (MML)

- Should consider expanding the concept’s spatial scale to include shallower shelf, deeper *Lophelia* banks, and areas such as De Soto Canyon
- There is an urgent need to create refugia from growing human threats
- Florida West shelf Hardbottom Habitats need to be included/represented
- Need to trust the substance of the available science and don’t worry about what we don’t have:
  1) protect these sites,
  2) networks enable ecological integrity,
  3) the network will enhance fish production and is large enough,
  4) the network will provide a test of ecosystem-based management, and
  5) the network will demonstrate U.S. leadership in protecting marine resources
- These areas are connected and special – the scientific validity of the concept depends on a larger-scale, integrated effort with Mexico, Belize and Cuba
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**Summary of perspectives on the day’s discussion,**
John Ogden (Florida Inst. of Oceanography)

- Marine Managed Area is not the same as Marine Protected Area is not the same as Marine Reserve – levels of protection increase across these types of areas.

- Networks are value-added both biologically and administratively – scientific answers need to be gleaned in the context of management actions.

- The “Islands” per se have enough science to support the concept and can serve as a focal point to further our understanding of marine resource protection.

- Further research will show the pieces missing from the network, which will need to be more extensive both for ecological and human purposes.

- The “Islands in the Stream” concept is a step in the larger process toward more comprehensive management of the sea as we do on land.

- There is no “answer” about connectivity of the “Islands” – science can only shrink the envelope of uncertainty.
Possible Management Opportunities

• Provides an opportunity for holistic and complete management of the special marine areas in the Gulf of Mexico without limitations on the uses.

• Long-term management and protection would be established after a thorough public process under the highly collaborative and inclusive NMS Act designation process.

• Long-term management of these MPAs would be collaborative and coordinated.

• Will take into account current management measures in place under other authorities such as the Outer Continental Shelf Lands Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the Clean Water Act.
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Fishing

- The initiative is targeted in that only small discrete areas will be subject to additional protection

- Most areas considered are already subjected to some form of fishing restrictions under the Magnuson-Stevens Fishery Conservation and Management Act

- Provides a unique opportunity to study the benefits of MPAs in ecosystem management

- The initiative would be designed to establish management options based on sound science and after a thorough public process
The “Islands- the special places- in the Stream (Loop Current)” in the US include:

- South Texas Banks
- Flower Garden Banks National Marine Sanctuary
- North Texas-Louisiana Banks
- Mississippi-Alabama Shelf Pinnacles
- Madison Swanson
- Florida Middle Grounds
- Steamboat Lumps
- Pulley Ridge
- Florida Keys National Marine Sanctuary/Tortugas Ecological Reserve
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Flower Garden Banks NMS

• Management Plan Review Process

• Separate process – but a center-piece of the MPA network

• Working with a well-balanced SAC

• Developing Alternatives for Boundary Expansion
General questions for stakeholders:

- How can all stakeholders in the Gulf of Mexico benefit from a network of marine protected areas?

- What would make a network effective?
  - Are small- discrete- areas the key?
  - What special features should constitute a network?
  - Are the features identified the best sites?
  - Are there features or places missing?

- What would constitute a meaningful stakeholder process?
Questions?
“Islands in the Stream” Concept