

# **Gulf of Mexico Reefs & Banks: E&P Industry Policy Concerns**

***Clint Moore***

***Former Oil & Gas Representative -- 2005 -2012***

***Boundary Expansion Working Group Chair -- 2006-2012***

***Flower Garden Banks National Marine Sanctuary Advisory Council***

Presentation to  
Texas Coral Reefs Workshop at Baker Institute  
Houston, Texas  
August 24, 2012

# **Presentation Overview**

- **Land Access – OCS 5 Year Leasing Plan**
- **Land Access – Coastal Marine Spatial Planning**
- **Land Access – Sanctuary Boundary Expansion**
- **Land Access – Marine Protected Area Expansion**
- **Land Access - “Islands in the Stream” Concept**
- **Land Access - Marine Science Community “Wish List”**
- **Land Access – Center for Biological Diversity – 83 Corals**
- **Land Access – How to Find Balance and Stewardship**

# What's at stake?

## Energy Security = Supply vs. Demand

U.S. OIL DEMAND	Million Barrels/Day	Trillion Gallons/Year
U.S. Gasoline	9.5	146
U.S. Distillate & Fuel Oil	4	61
U.S. Jet Fuel & Kerosine	1.4	21
U.S. Residual & Bunker	0.6	9
U.S. Others - Chem, Lubes, etc.	4.5	69
<b>Total U.S. Oil Demand</b>	<b>20</b>	<b>307</b>
		0
<b>Total World Oil Demand</b>	<b>86</b>	<b>1,318</b>
<b>Total World Oil Supply</b>	<b>86</b>	<b>1,318</b>
U.S. OIL SUPPLY	Million Barrels/Day	Trillion Gallons/Year
<b>U.S. Gulf Offshore Oil Production</b>	<b>1.5</b>	<b>23</b>
U.S. Non-Gulf Oil & NGL Prod.	6	92
Gulf Coast Tanker Crude Imports	5	77
East Coast Tanker Crude Imports	1	15
West Coast Tanker Crude Imports	1	15
Refined Tanker & Pipeline Imports	2.3	35
N.A. Imports	1.5	23
Other supply	1.7	26
<b>Total U.S. Oil Supply</b>	<b>20</b>	<b>307</b>

Source: EIA website

# **Offshore Gulf of Mexico Oil & Gas**

## **Historical Production**

***14+ Billion Bbls Oil and 150+ Trillion cu-ft Natural Gas  
(1.7 Trillion gallons of oil equivalent)***

## **Productive Fields' Remaining Producible Reserves**

***14+ Billion Bbls Oil and 60+ Trillion cu-ft Natural Gas  
(1 Trillion gallons of oil equivalent)***

## **Undiscovered Oil & Gas (BOEM Mean Estimate)**

***45+ Billion Bbls Oil AND 230+ Trillion cu-ft Natural Gas  
(3.5 trillion gallons of oil equivalent)***

\*\*\*\*\*

***25% of US Daily Oil Production – 14% of US Daily Gas Production***



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# **Center for Biological Diversity Legal Filing on Bush Final 5-Year OCS Leasing Plan**

*“CBD respectfully requests that this Court find that Interior’s approval of the 2007-12 Leasing Program was arbitrary and capricious, and otherwise unlawful, in violation of OCSLA, NEPA, and the ESA. This court should set aside and remand the Program for further consideration by Interior, so as to **properly take into account both the greenhouse gas emissions directly and indirectly resulting from the Program, and the impacts of the Program in the context of global warming.**”*

– Center for Biological Diversity Petition dated May 21, 2008, filed US Court of Appeals – DC Circuit – Case 07-1247/134

## **Apparent Objective?**

## **Stop Oil & Gas Development & Use**

# Comparison List of Sales – 5 Yr OCS Plans

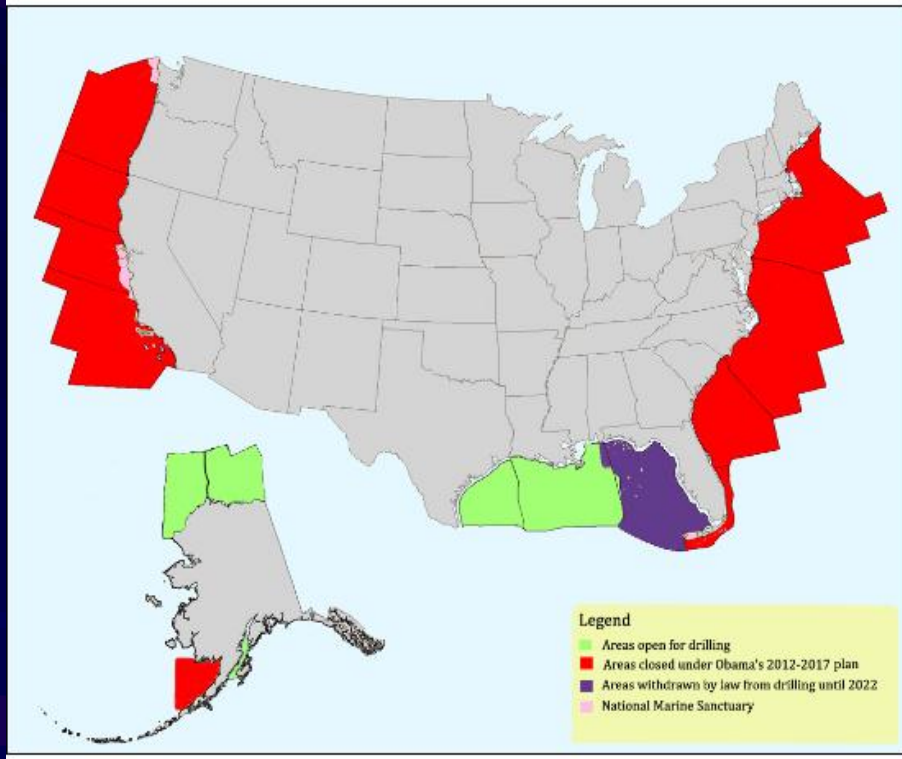
## Obama 2102 Schedule – 15 Sales - U.S. House 2012 Schedule – 29 Sales

Sale Number *	Area	Year
229	Western Gulf of Mexico	2012
227	Central Gulf of Mexico	2013
233	Western Gulf of Mexico	2013
225	Eastern Gulf of Mexico**	2014
231	Central Gulf of Mexico	2014
238	Western Gulf of Mexico	2014
235	Central Gulf of Mexico	2015
246	Western Gulf of Mexico	2015
226	Eastern Gulf of Mexico	2016
241	Central Gulf of Mexico	2016
237	Chukchi Sea	2016
248	Western Gulf of Mexico	2016
244	Cook Inlet***	2016
247	Central Gulf of Mexico	2017
242	Beaufort Sea****	2017

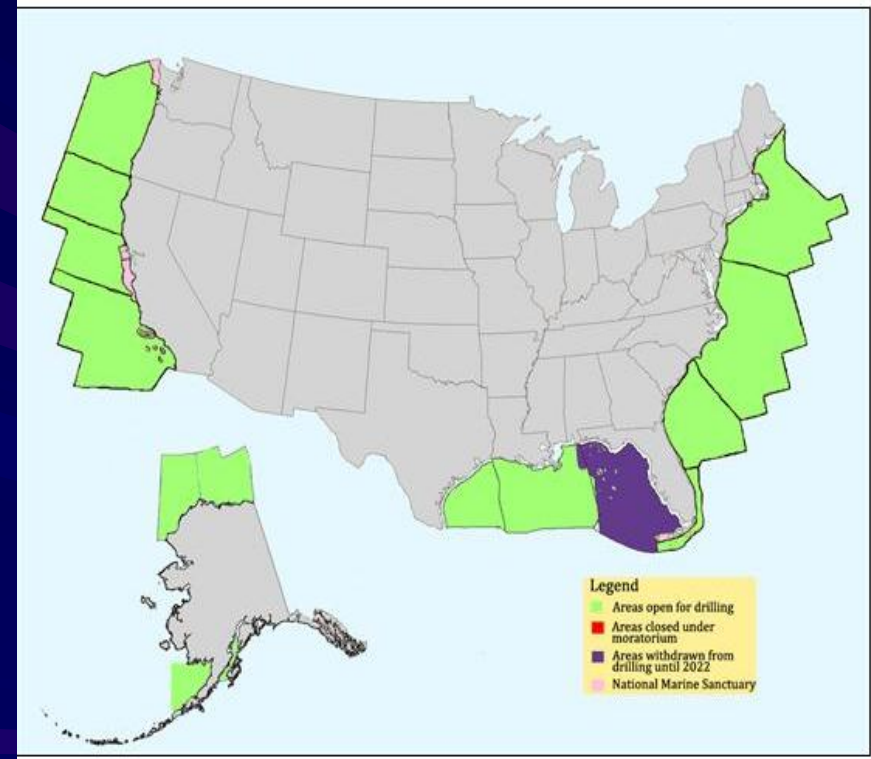
Sale No.	Area	Year
229	Western Gulf of Mexico	2012
220	Mid-Atlantic Sale (Virginia)	2013
225	Eastern Gulf of Mexico	2013
227	Central Gulf of Mexico	2013
249	So. Cal. Existing Infrastructure	2013
233	Western Gulf of Mexico	2013
244	Cook Inlet	2013
212	Chukchi Sea	2013
228	Southern California	2014
230	Mid-Atlantic	2014
231	Central Gulf of Mexico	2014
238	Western Gulf of Mexico	2014
242	Beaufort Sea	2014
221	Chukchi Sea	2014
245	Mid-Atlantic	2015
232	North Atlantic	2015
234	Eastern Gulf of Mexico	2015
235	Central Gulf of Mexico	2015
246	Western Gulf	2015
255	South Atlantic-South Carolina	2015
237	Chukchi Sea	2016
239	North Aleutian Basin	2016
248	Western Gulf of Mexico	2016
241	Central Gulf of Mexico	2016
226	Eastern Gulf of Mexico	2016
217	Beaufort Sea	2016
243	Southern California	2017
250	Mid-Atlantic	2017
247	Central Gulf	2017

# 2012 vs. 2009 Availability

Offshore Areas Blocked for Drilling under President Obama's Final 2012-2017 Plan



Offshore Areas Available for Drilling when President Obama Took Office (January 2009)



# 5 Year OCS Leasing Plan

## Obama 2012 vs. U.S. House 2012

### Obama 2012-17 Plan – 15 Lease Sales – *lowest historically*

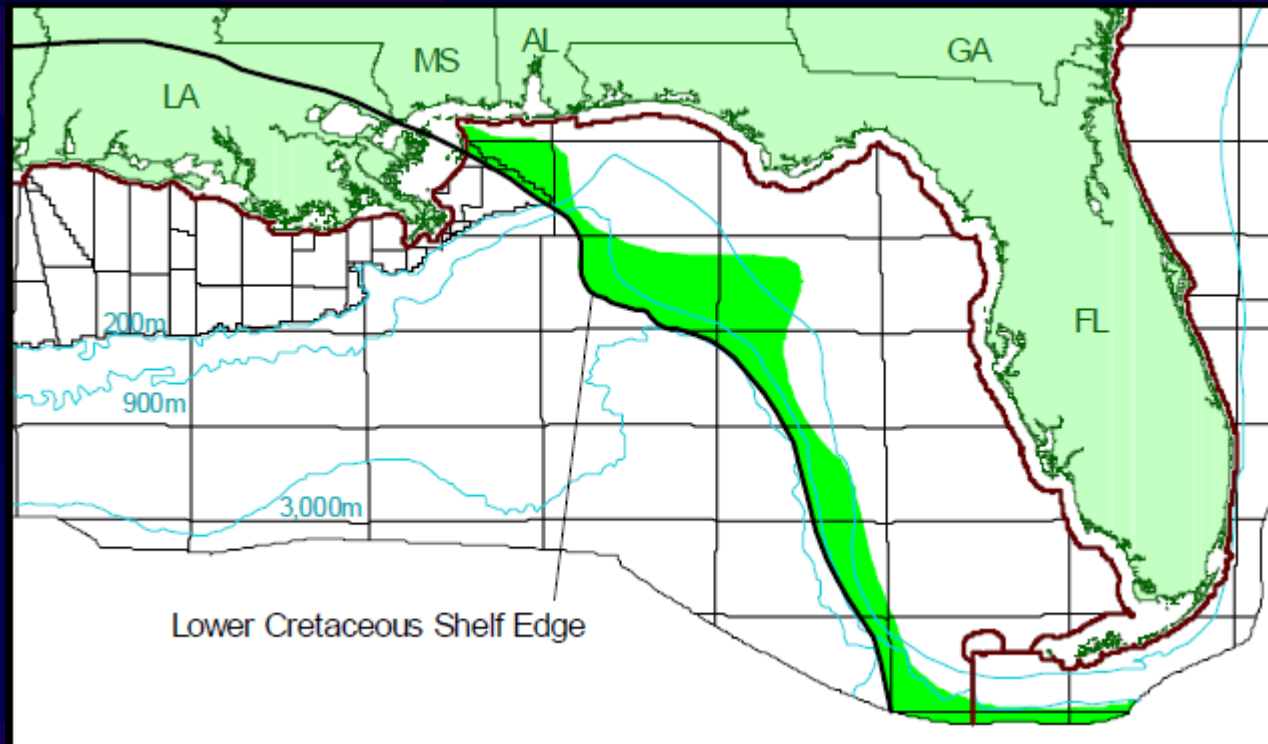
- *No sales in Atlantic or Pacific – 0 sales*
- *Alaska Beaufort (1), Chukchi (1), Cook Inlet (1)*
- *EGOM – 2 sales – 2014 & 2016 (2)*
- *WGOM & CGOM – 10 sales*

### U.S. House 2012-17 Plan - 29 Lease Sales

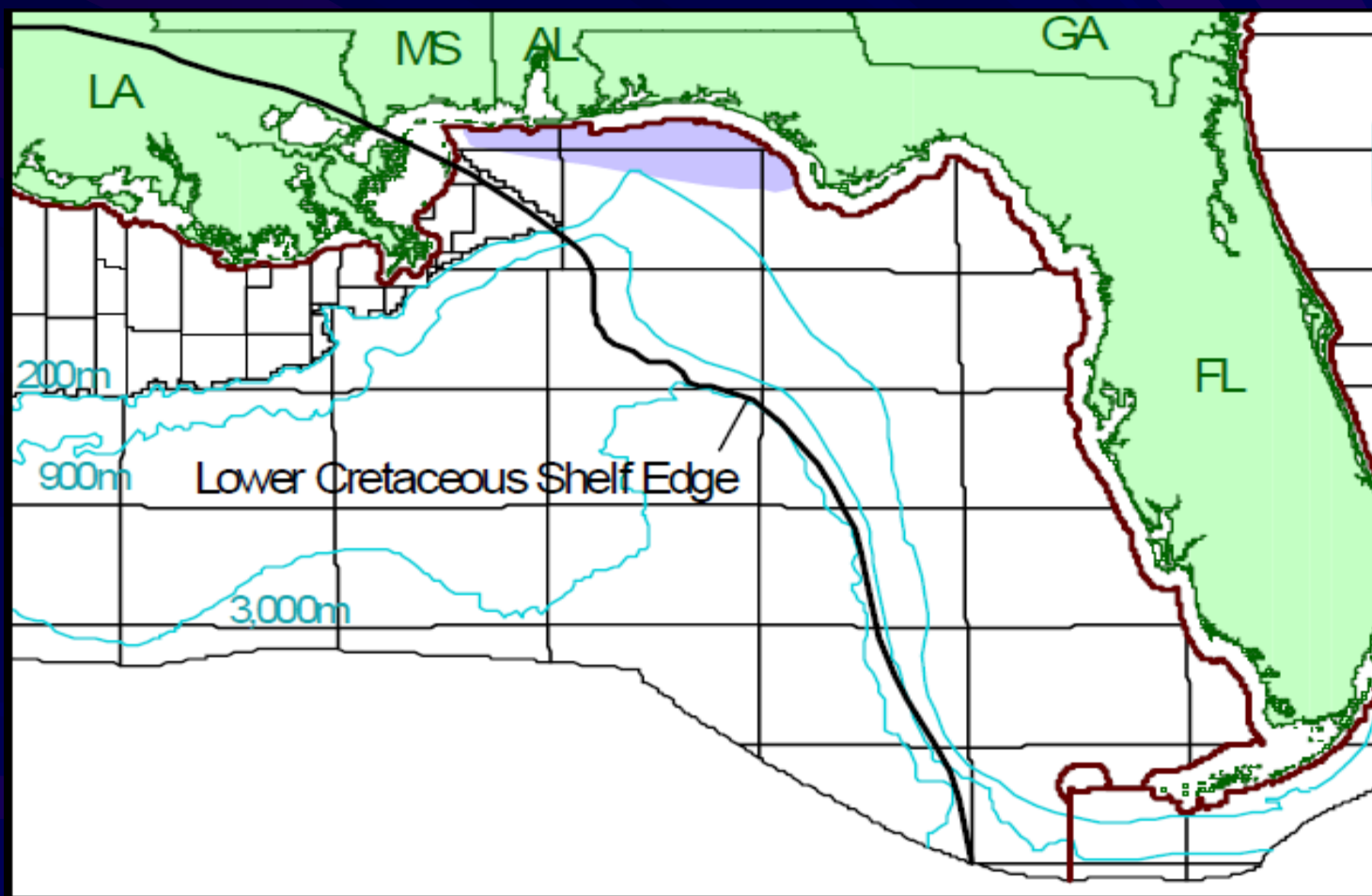
- *Re-opens South/North/Mid-Atlantic, S. Calif. – 9 sales*
- *Alaska Beaufort (2), Chukchi (3), Cook Inlet (1)*
- *Restores a N. Aleutian Sale (1)*
- *EGOM – 3 sales – 2013, 2015, & 2016 (3)*
- *WGOM & CGOM – 10 sales*



# Lower Cretaceous Carbonate Shelf Margin Play



# Upper Jurassic Norphlet Gas Sand Play





# **Florida Oil & Gas** **Consumption & Supply**

## **3<sup>rd</sup> Biggest Oil Consuming State**

**900,000 barrels per day**

**1.3 billion gallons per year**

## **6<sup>th</sup> Biggest Natural Gas Consuming State**

**2.5 BCF per day**

**942 BCF per year**

**Gulfstream 36" Pipeline – Mobile-Tampa – 1.26 BCF per day**

**Florida produces less than 1% of its daily consumption**

## **U.S. Total Gas Demand**

**63 BCF per day**

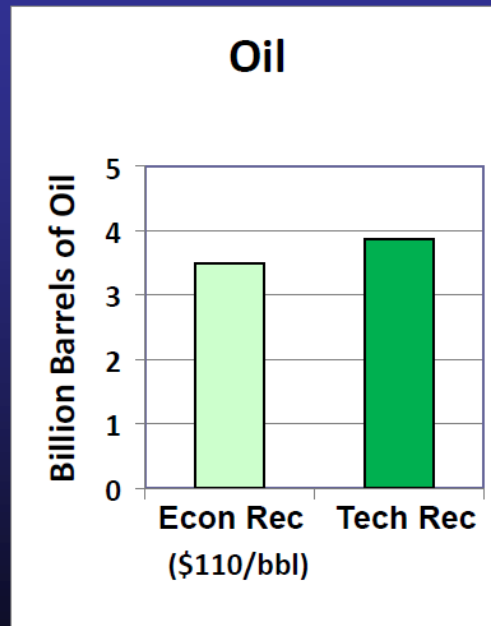
**23,000 BCF per year**

# Florida's Future Main Gas Supply?

## Now is from Jurassic-Norphlet off Alabama

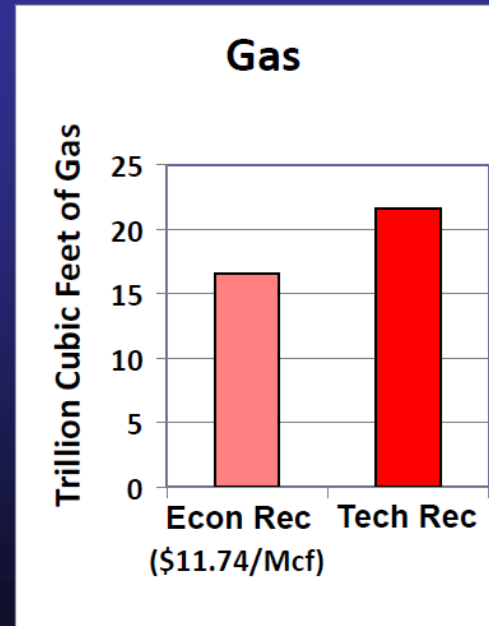
### Will need same JN Gas off Florida Panhandle!

#### Eastern Gulf of Mexico OCS Area Undiscovered Oil and Gas Resources



**Oil Resources:**

**2.8 – 5.5 billion barrels**



**Gas Resources:**

**18 – 26 Trillion Cubic Feet**

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## **CMSP – Problem Summary**

- **Restricts longstanding “Multiple Use” policy for OCS**
- **Conflicts with OCS Lands Act**
- **Planning Boards without stakeholders – just agencies**
- **Marine Zoning – like Massachusetts & Rhode Island**
- **Overrides existing laws, regs, & historical policies**
- **ECOlogic-Systems will trump ECONomic-System**
- **National Interest subordinated to Regional Interests**
- **Executive Order with No Congressional Approval**
- **New Bureaucracy for Oversight & Regulation**

# **Industry Joint Letter on CMSP**

**“We reiterate our support for a national ocean policy** that serves as a mechanism for job creation, infrastructure revitalization, and economic growth, and relies on full utilization of existing programs and well-established authorities that are already in place, rather than the creation of new bureaucracies, procedures, and regulations that only serve to create additional uncertainty.

.....ensure that the policy is based on informed input, is legally sound, and fully recognizes and accounts for the critical role our oceans, coastal areas, and marine ecosystems play in our nation’s economy, national security, culture, health, and well-being.

- NOIA , IPAA, and IADC Letter

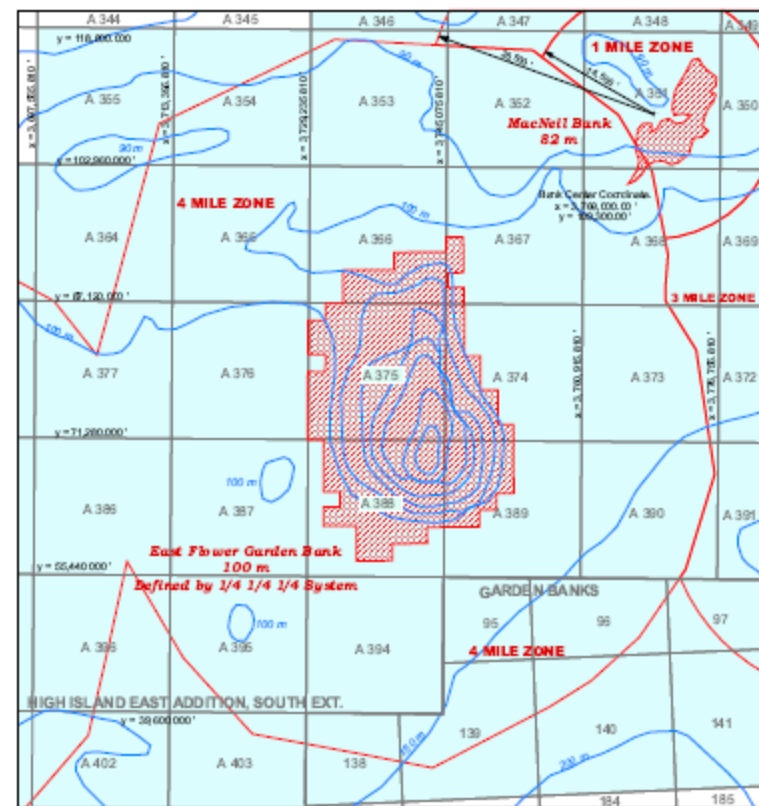
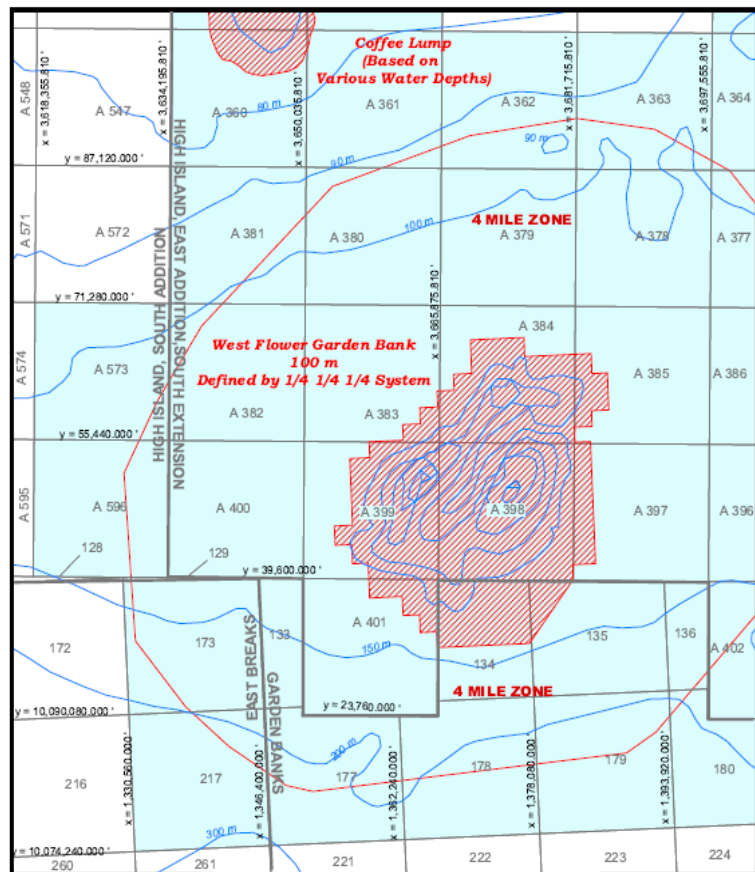
Go to: [www.oceanpolicy.com](http://www.oceanpolicy.com) for the National Ocean Policy Coalition

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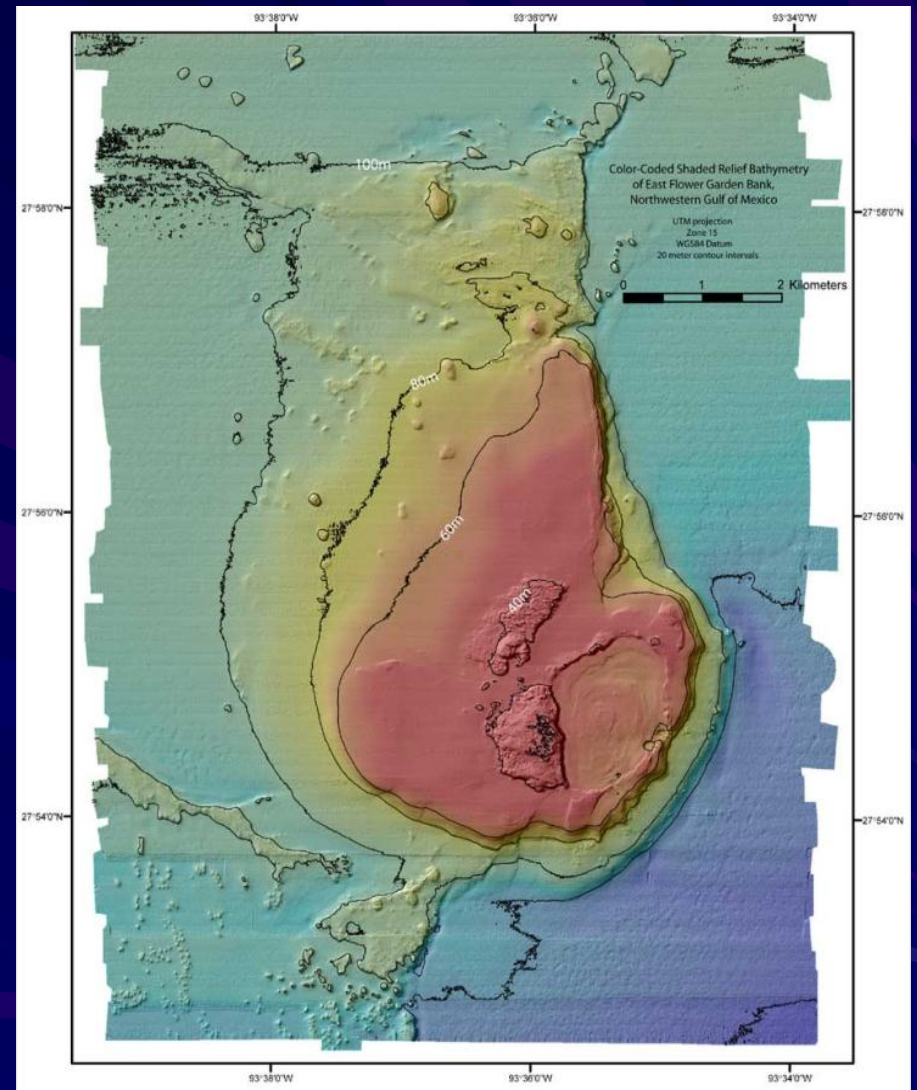
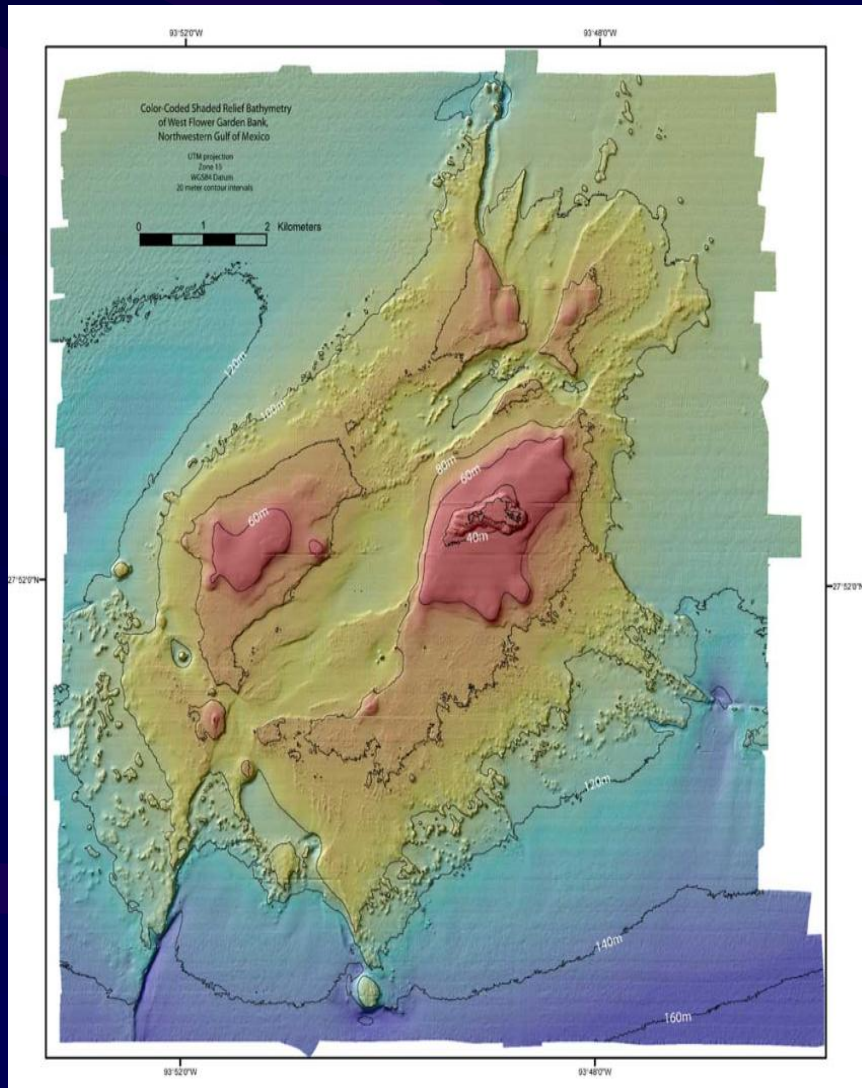


# West & East Flower Garden Banks





# West & East Flower Garden Banks – 3-D Mosaic



Source: USGS 3-D Mosaic

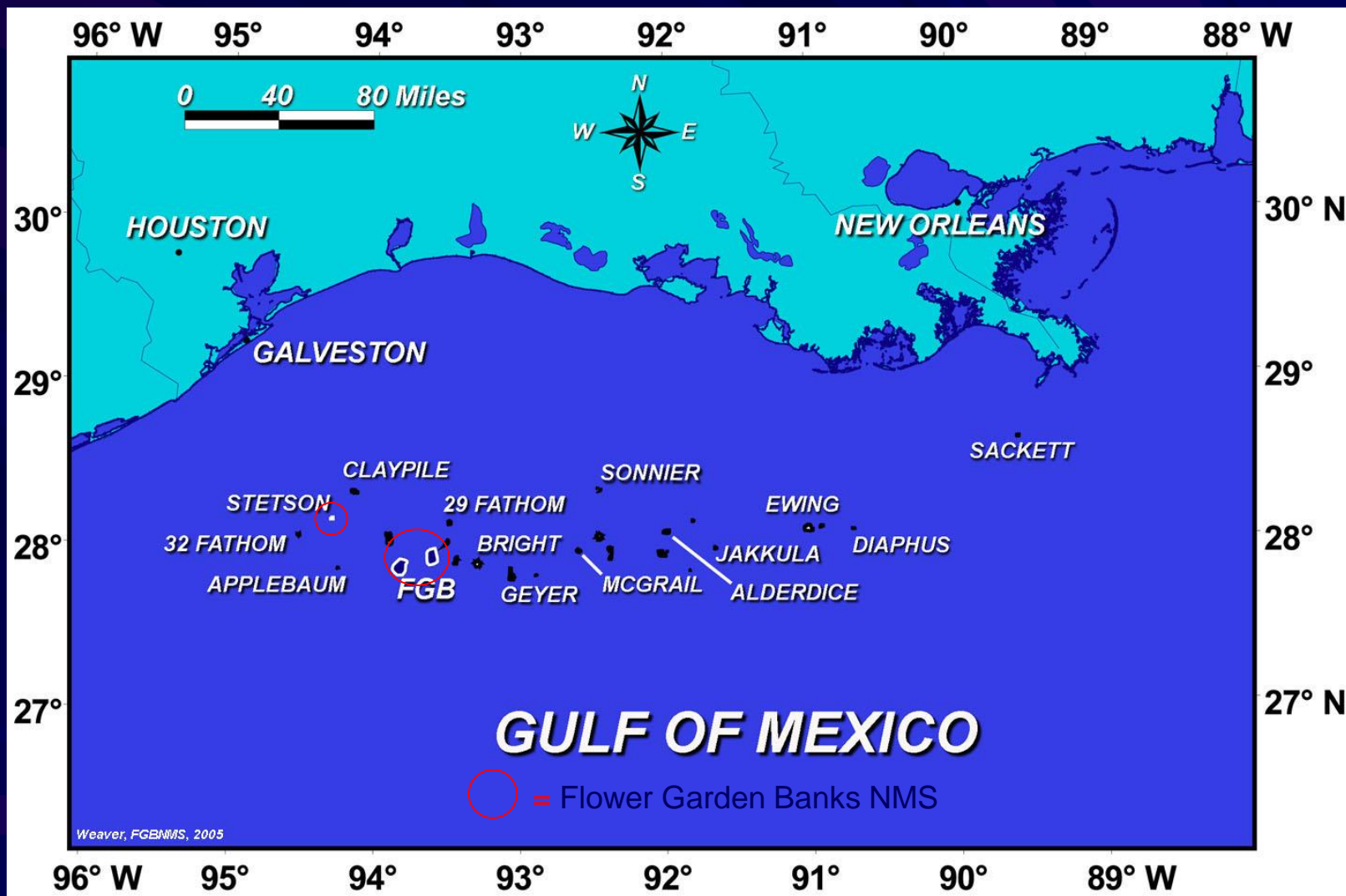


## Flower Garden Banks National Marine Sanctuary

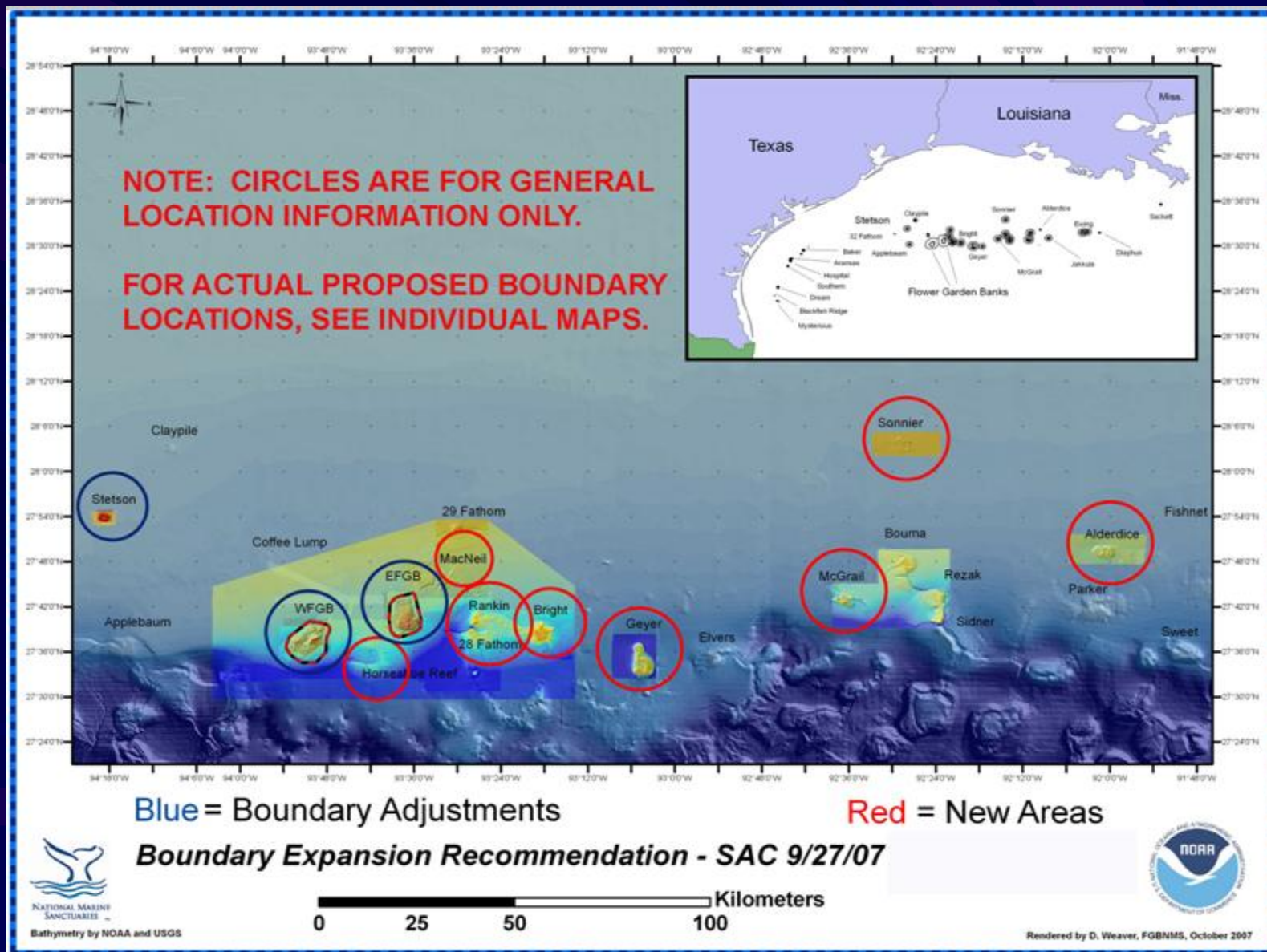
- Designated in 1992
- Includes: East and West Flower Garden and Stetson Banks
- Stetson Bank added in 1996
- Located 93 to 104 nautical miles offshore in the GOM
- Area: 42.5 square nautical miles (56 square statute miles)
- Water Depth: 55' to 500'



## 25+ Banks on the Outer Shelf & Upper Slope

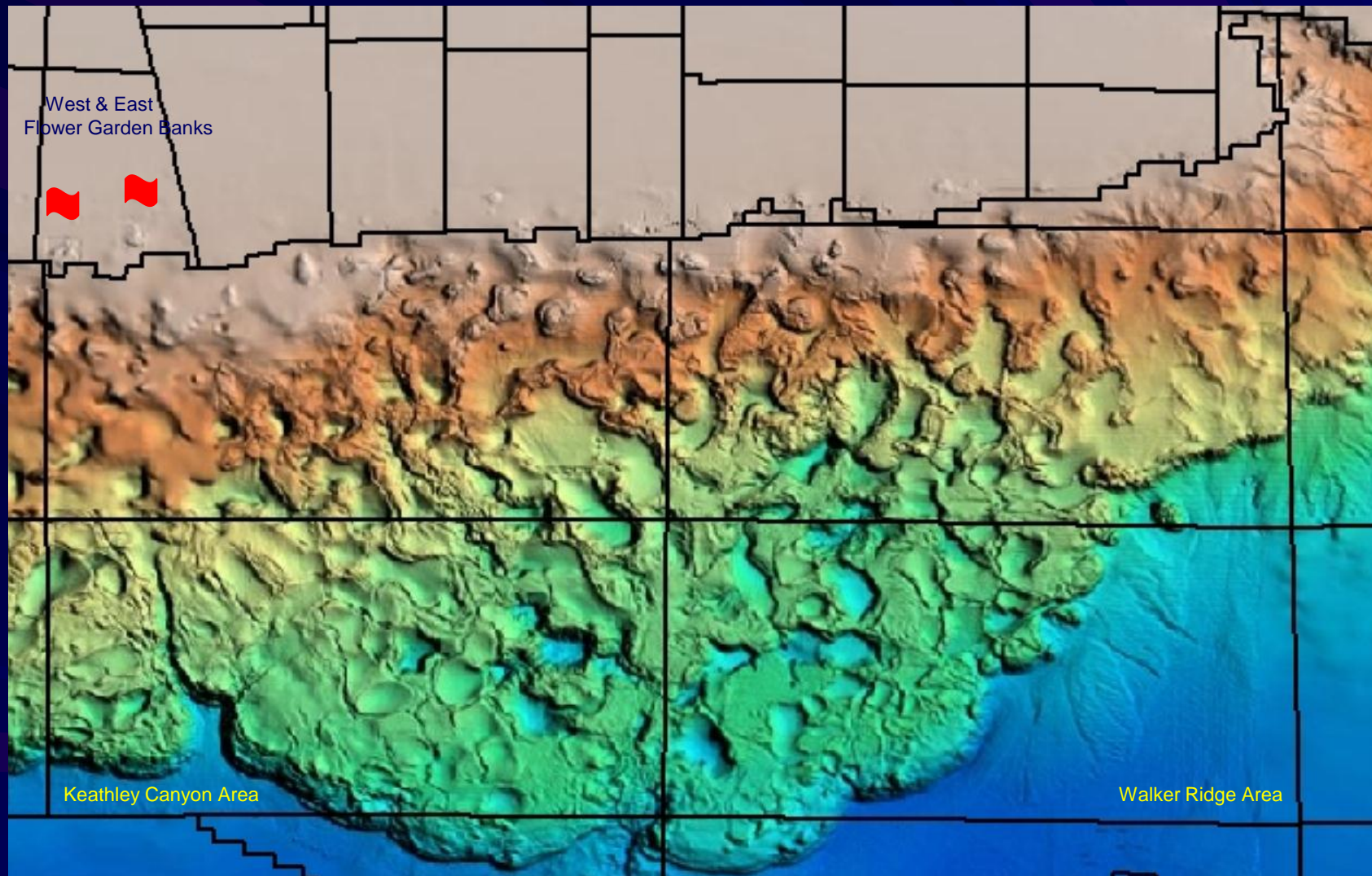


# Existing and Proposed Banks for FGBNMS

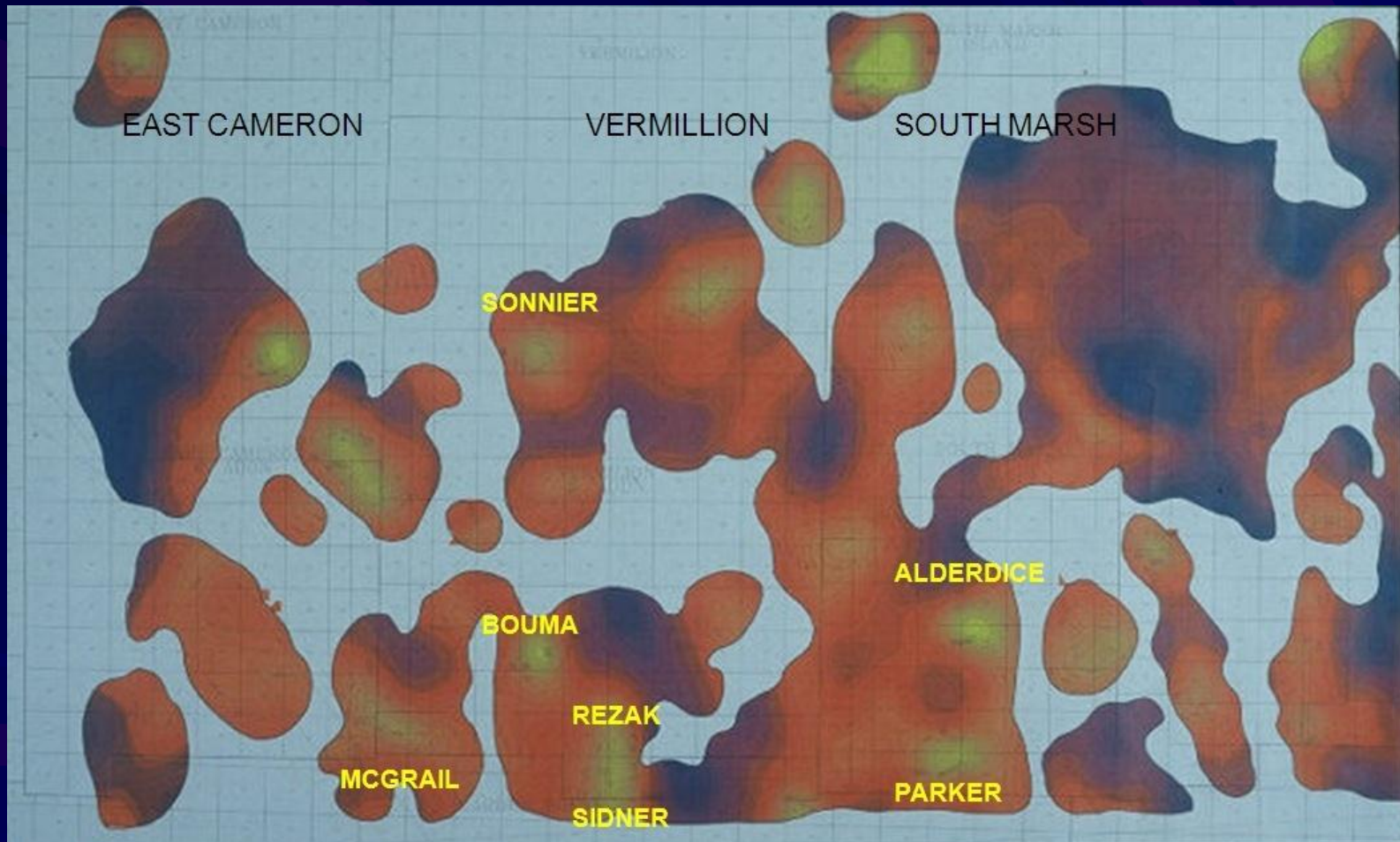




# Complex Salt-Supported Shelf & Slope Seafloor Domes, Sheets, and Mini-Basins



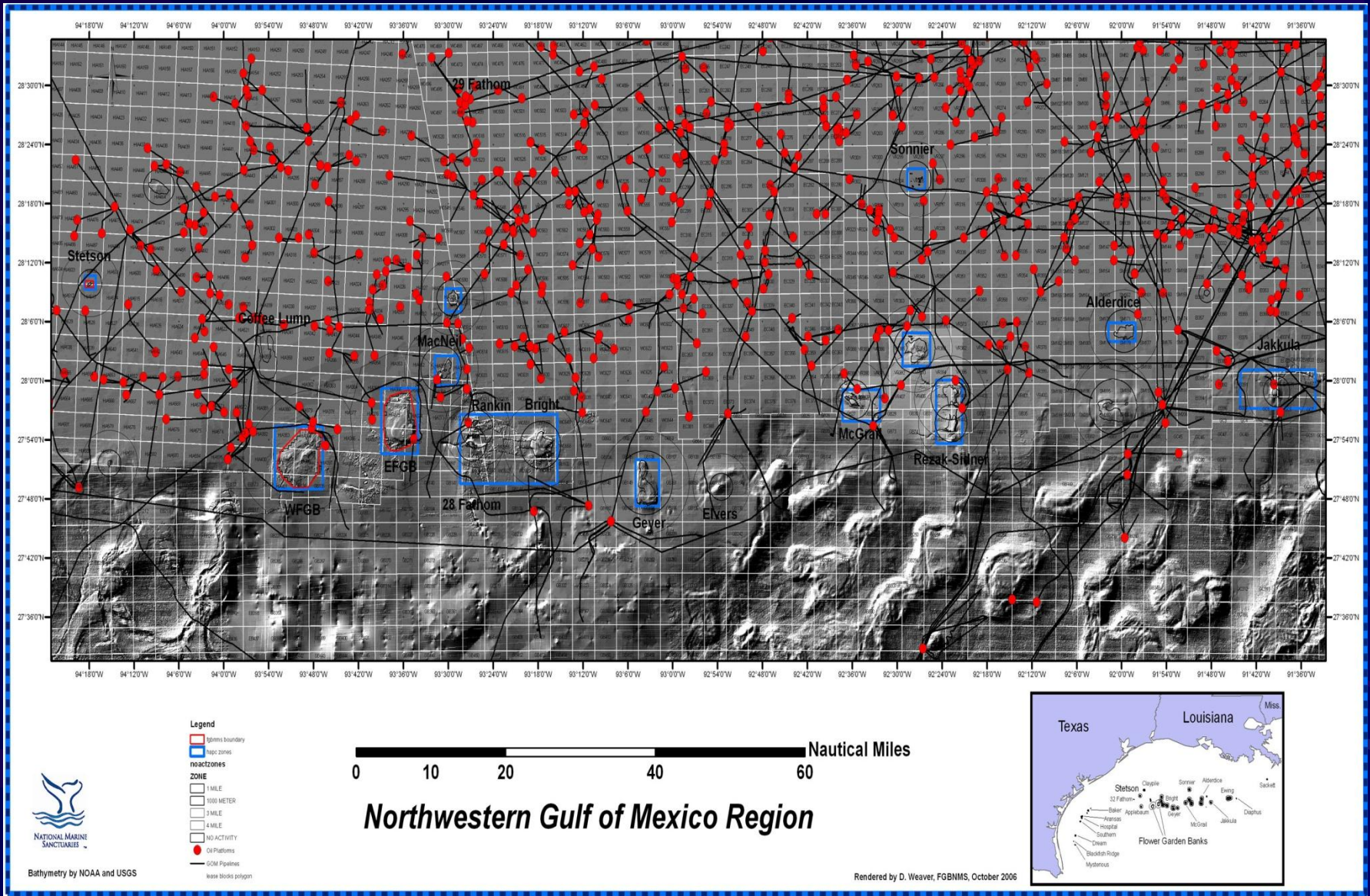
# Bank Salt Domes - Connected to Major Salt Sheets



(adapted from Moore & Brooks, 1995)



# Infrastructure, Banks, & HAPCs





# Factoring Impacts

Square HAPC  
Boundaries

=

*Many more*



# Platform Additions from Expansion

The Sanctuary Advisory Council recommendation for boundary expansion incorporated areas that included the following three additional existing oil and gas platforms:

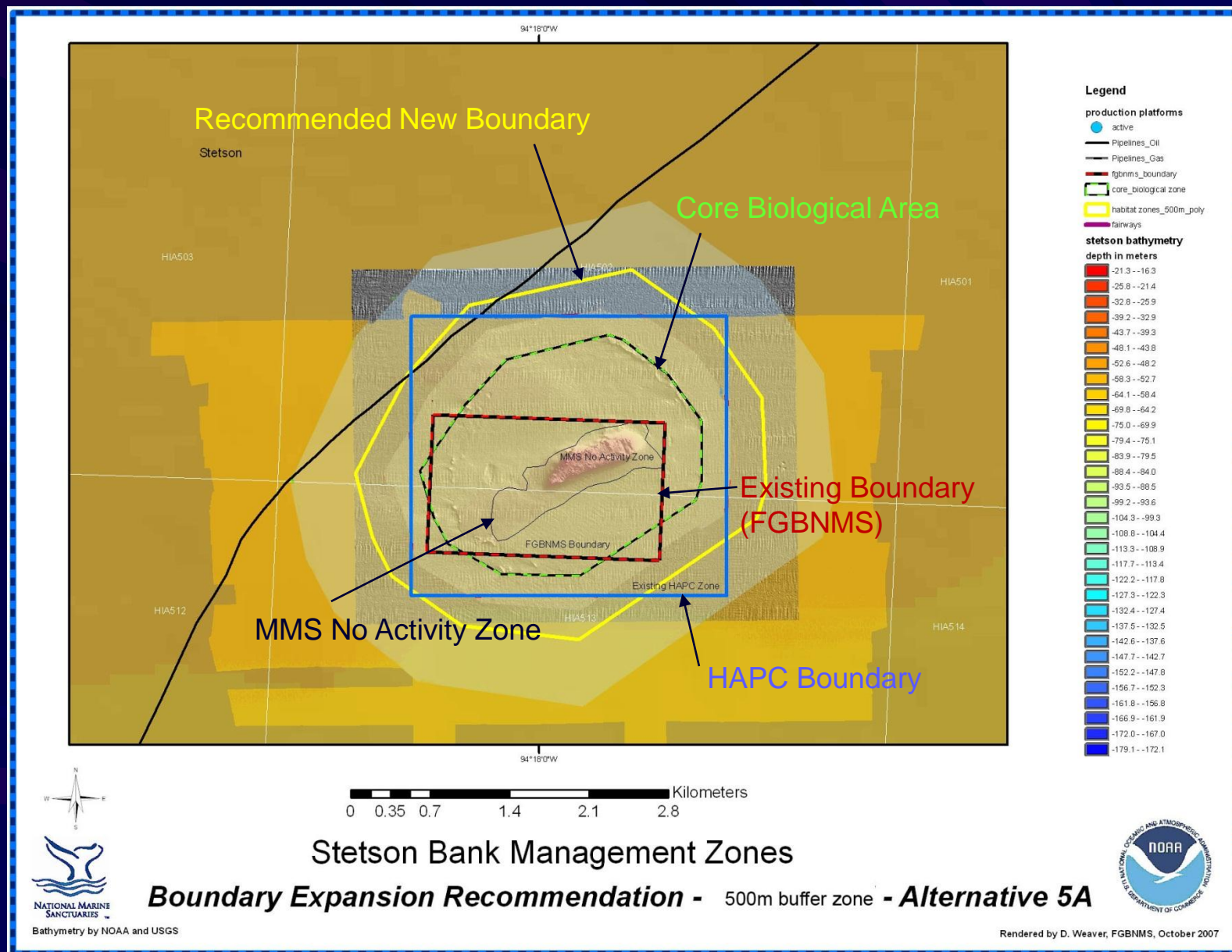
West FGB:        HIA384 - Offshore Shelf LLC-W&T Offshore

Rankin:            HIA371 - Tarpon (removed Nov. 2011)  
                        WC663 - ATP O&G

Already in existing Sanctuary:

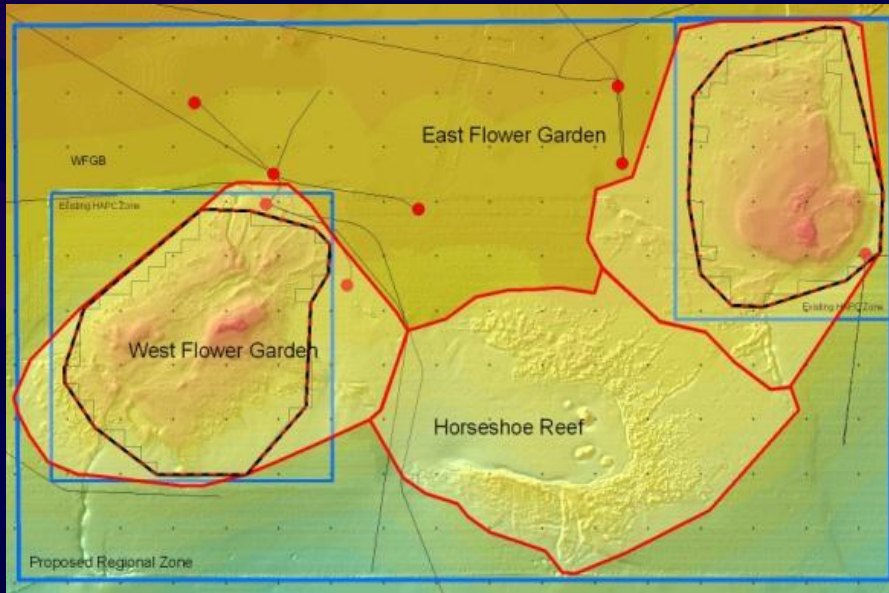
East FGB:        HIA389A - W&T Offshore (Now on Idle Iron List)

# Example Boundary Line Key - Applies to All Maps





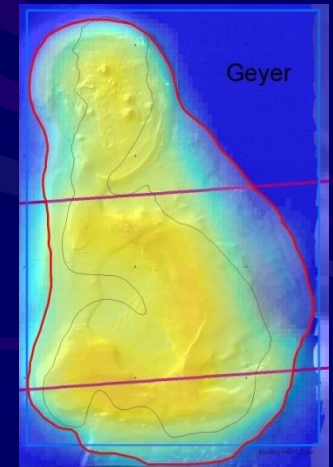
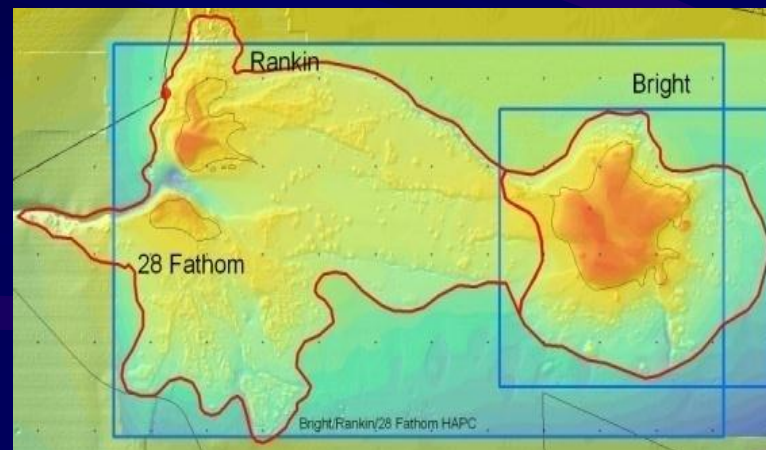
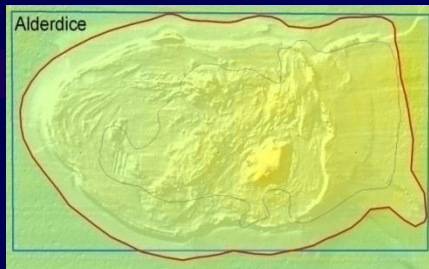
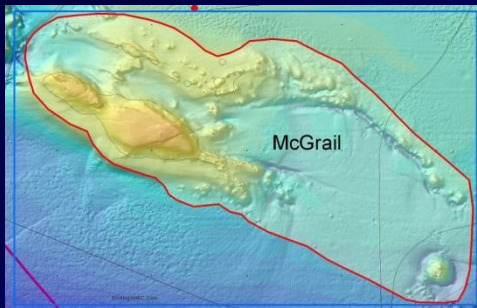
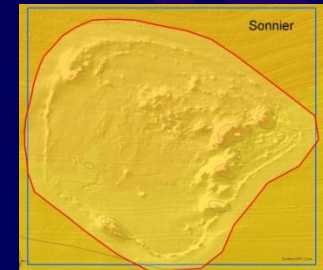
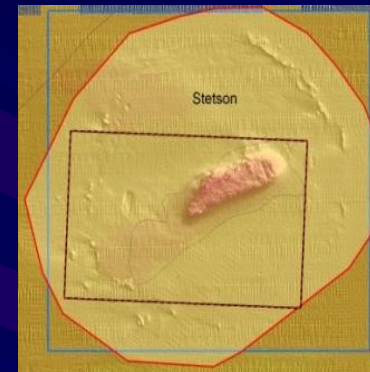
# FGBNMS SAC ALTERNATIVE #5 – 5 times expansion



**Current 3 Bank Area – 35,973 acres**  
**Portions of 17 blocks – 56 sq. smi.**

\*\*\*\*\*

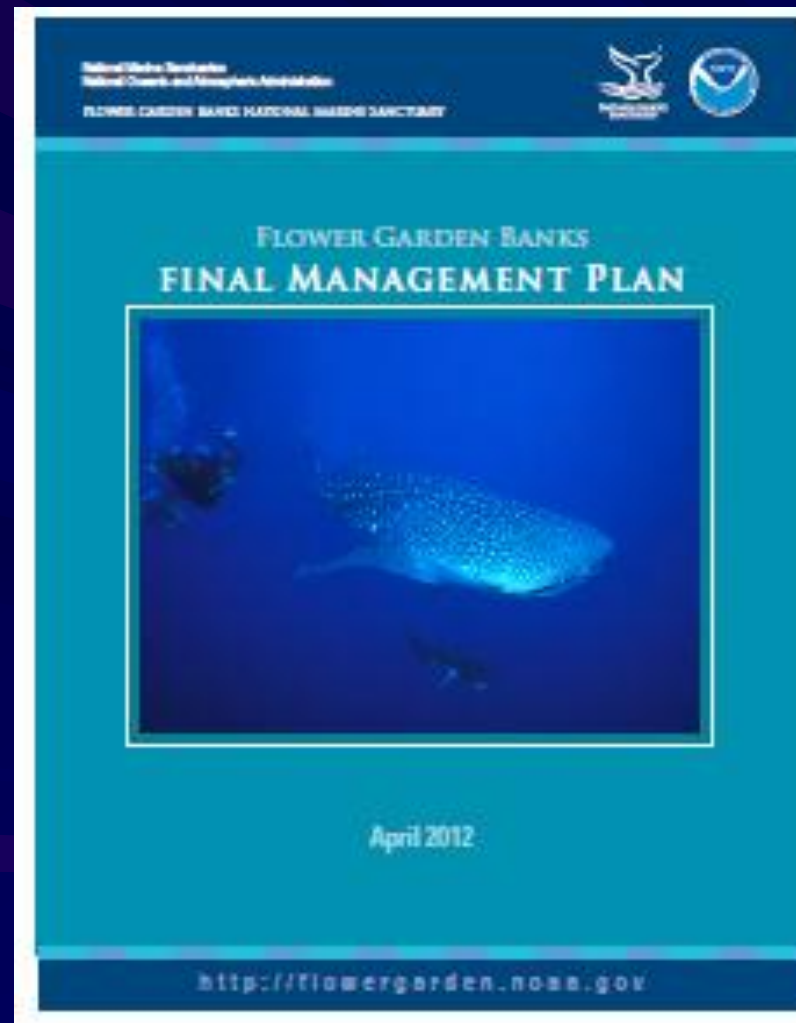
**Proposed 11 Bank Area – 179, 866 acres**  
**Portions of 65+ blocks – 281 sq. smi.**



**(maps not all same scale)**

Source: FGBNMS website

# NOAA Approved Final Management Plan - April 2012



# NOAA Approved FGBNMS Final Management Plan - 2012

## 18-24 Month Boundary Expansion

### EIS Process Now Underway

- *“Oil and gas infrastructure was examined and recommendations were made to either include or exclude areas with existing platforms, depending on their distance from the critical habitat area and their proximity to the edge of the recommended buffer zone.*
- ***As a result, it was anticipated that oil and gas leasing activity would also continue within these new sanctuary boundaries, as well.** The final sanctuary advisory council recommendation includes four oil and gas production platforms within the recommended boundaries (including HIA389A, which lies within the current sanctuary boundaries). “*

# **Long-Term Concern for Industry as MPA's, Sanctuaries, are Added**

- **Presidential Use of the Antiquities Act to create National Monuments could convert them at any future time – No Access?**
- **President Clinton – June 1998 - Memorandum on Withdrawal of Certain Areas of US OCS from leasing disposition**
- **President Bush 43 – July 2008 – Memorandum on Withdrawal of Certain Areas of US OCS from leasing disposition**
- **“I hereby withdraw from disposition by leasing for a time period without specific expiration those areas of the OCS, designated (as of July 14, 2008), as Marine Sanctuaries under the Marine Protection, Research, and Sanctuaries Act of 1972.**

**Major Problem: If we can't lease the blocks,  
we can't even drill directionally under them**



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## 200+ Banks & Reef Features – GOM & Caribbean

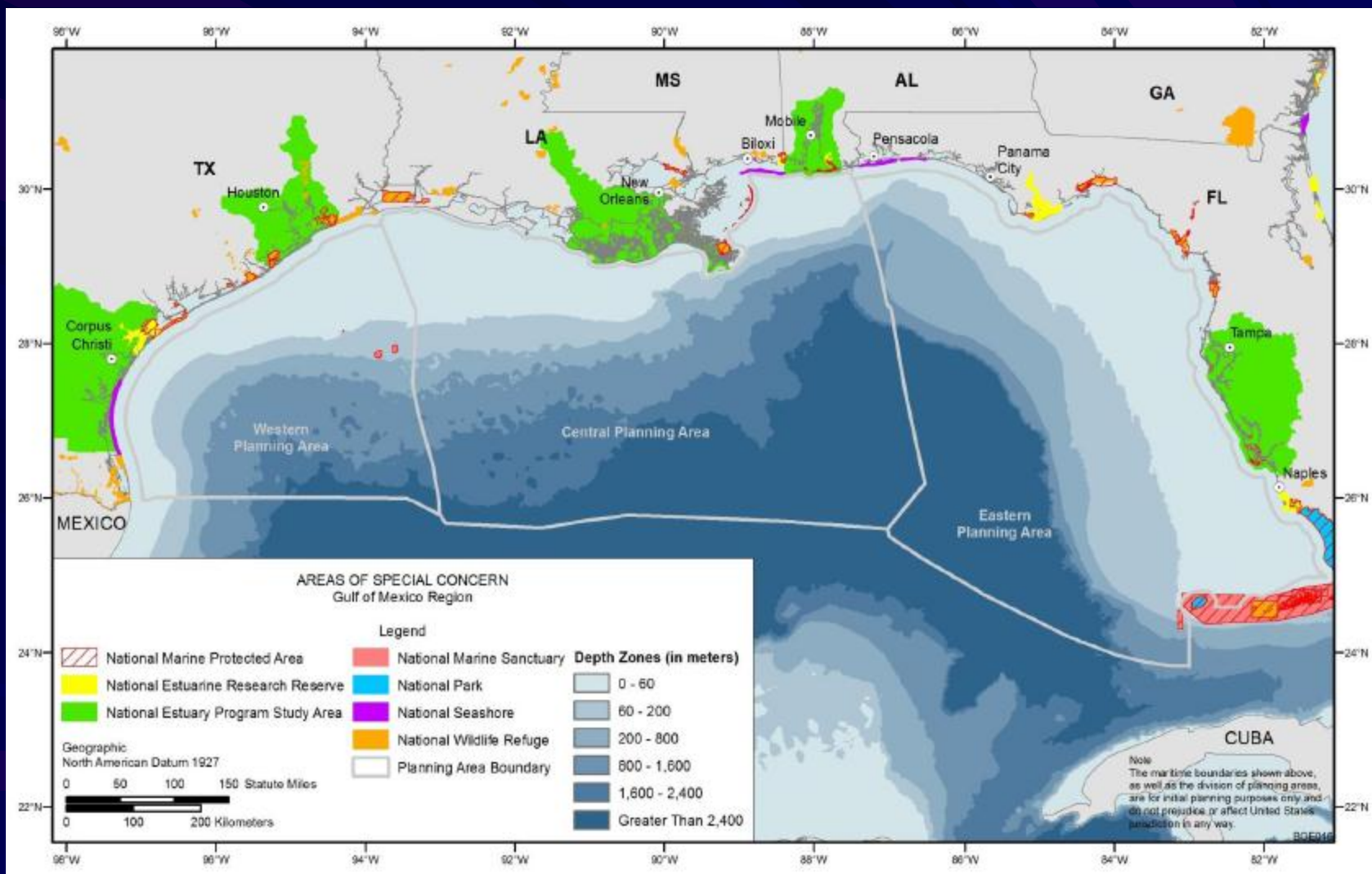


Source: W. Kiene – NOAA ONMS



# “Areas of Special Concern” in Gulf of Mexico

## MPAs, NMSs, Nat. Seashores, Nat. Wildlife Refuges, Nat. Parks



# Marine Protected Areas

## MPA Network Created by Bill Clinton – EO # 13158 – May 2000

Purpose of Order to:

1. Strengthen the management, protection, and conservation of existing marine protected areas, and establish new or expanded MPA's
2. Develop a scientifically based, comprehensive national system of MPA's, representing diverse U.S. Marine ecosystems, and natural & cultural resources
3. Avoid causing harm to MPA's through federally conducted, approved, or funded activities

# The GOM Marine Protected Area Network Federal, State, & Local Areas

- Marine Protected Areas in the Gulf of Mexico are managed by a collection of Federal, State, and Private organizations, who work to understand and protect these many natural areas.
- Each of the individual marine protected areas (MPAs) throughout the Gulf is classified by the entity that manages them and the way in which they are managed and protected.
- Some examples of protected areas in the Gulf include National Marine Sanctuaries, National Estuarine Research Reserves, National Parks, and National Wildlife Refuges as well as aquatic preserves, and state preserves.

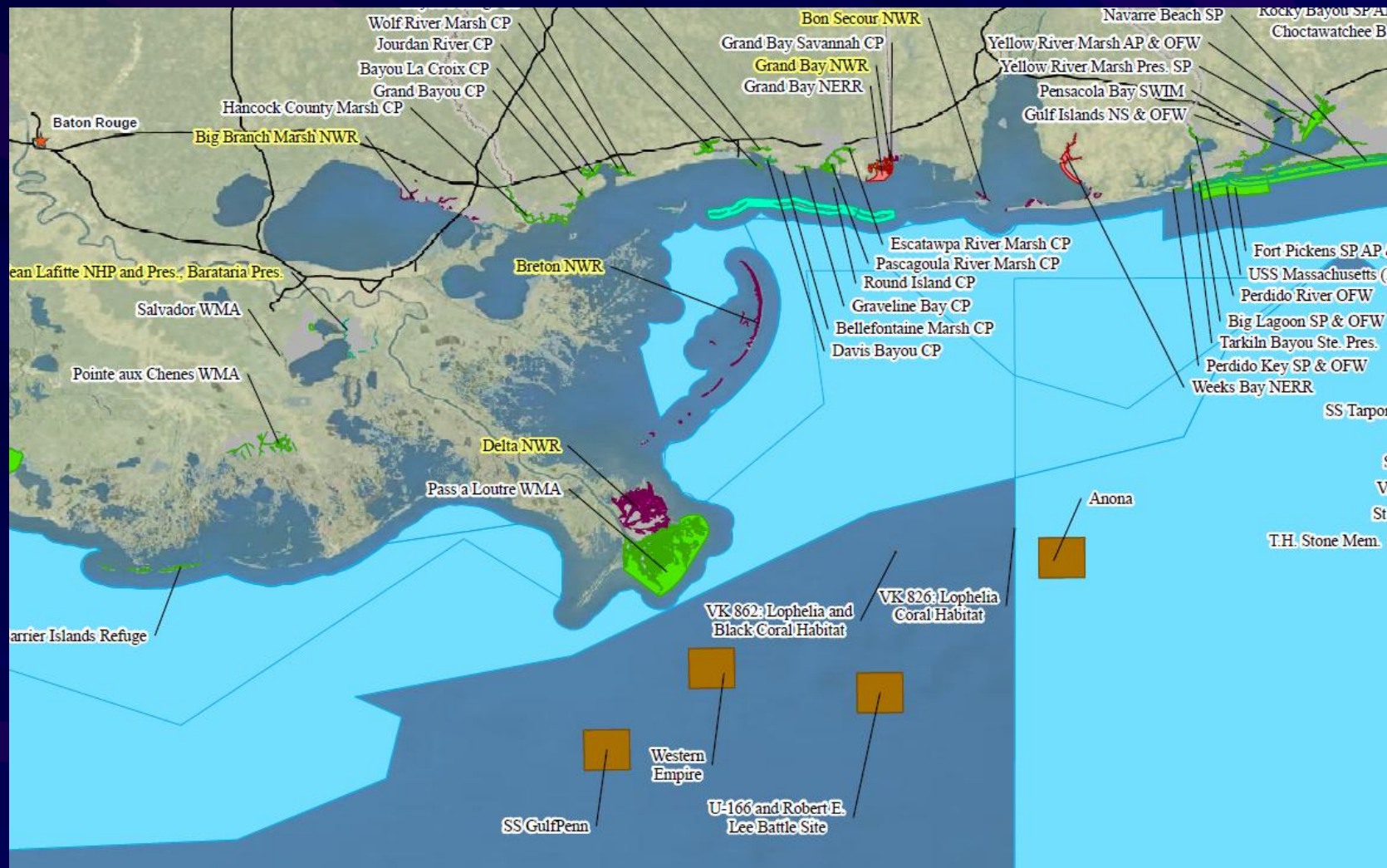


# **MPA Levels of Protection**

- **Uniform Multiple Use (most MPAs)**
- **Zoned Multiple Use**
- **Zoned Multiple Use with “No Take” Area(s)**
- **No Take Allowed**
- **No Impact Allowed**
- **No Access Allowed**

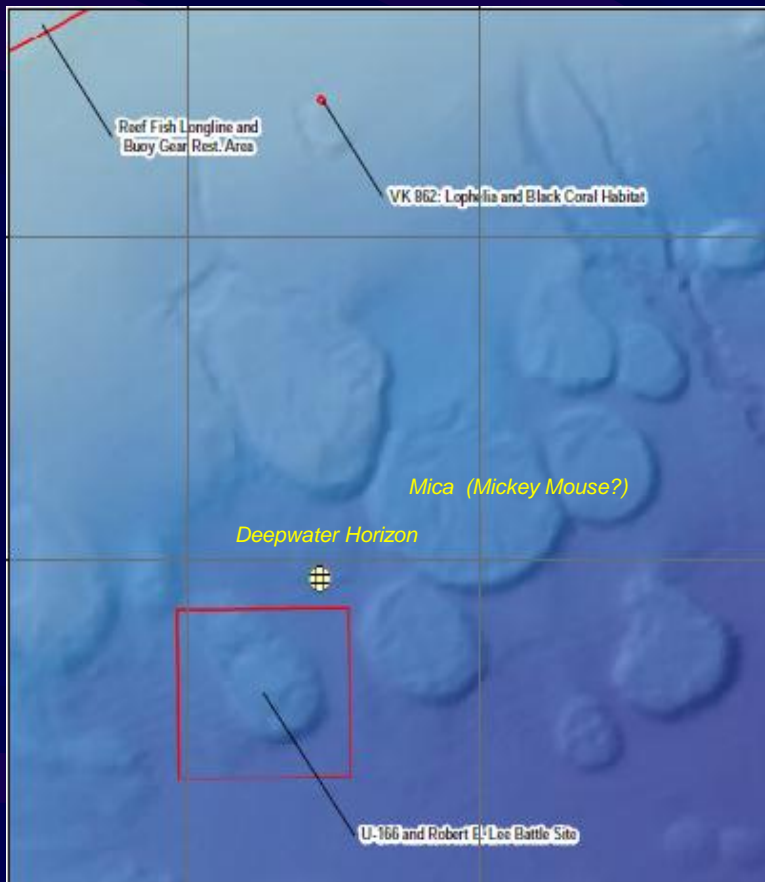
# GOM Shipwrecks – Existing MPAs

## U-166, Robert E. Lee, Gulf Penn, Anona, Western Empire



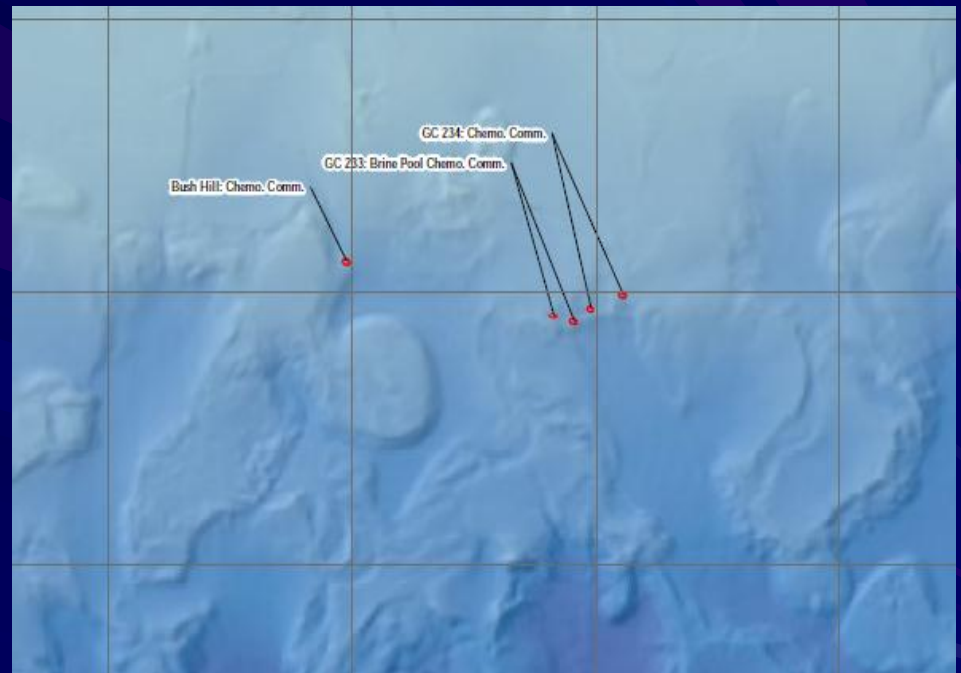
# Existing MPA Sites – Viosca Knoll & Green Canyon

## VK 862 – Lophelia & Black Coral Habitat



## MC 338(?) – U-Boat 166 & Robert E. Lee Battlesite

## GC 233 – Chemosynthetic Communities





# WWII GOM Shipwrecks – Existing MPAs

1. U-Boat 166 – MC 338
2. Robert E. Lee Steamship – MC 338
3. Gulf Penn Tanker – near MC 499

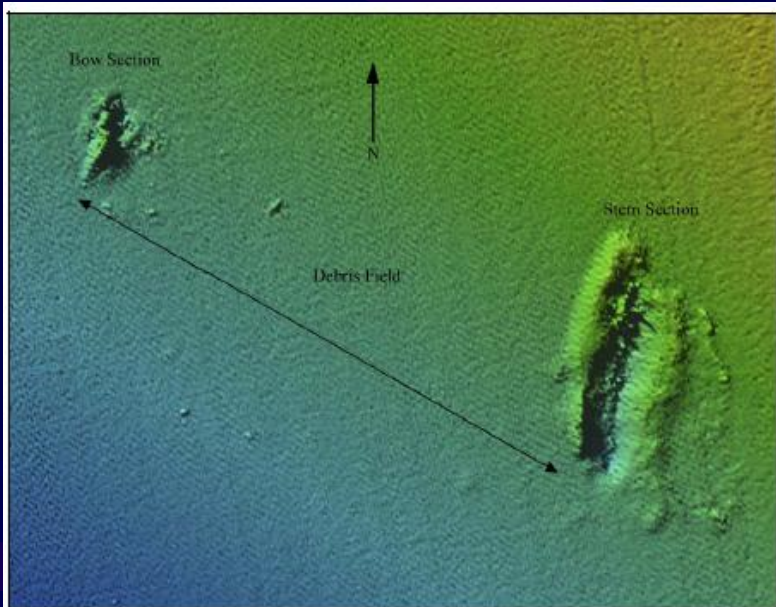


Figure 7.6. Bathymetric data collected in 2001 showing the *U-166* wreck site (Courtesy of BP, Shell, and the National D-Day Museum).

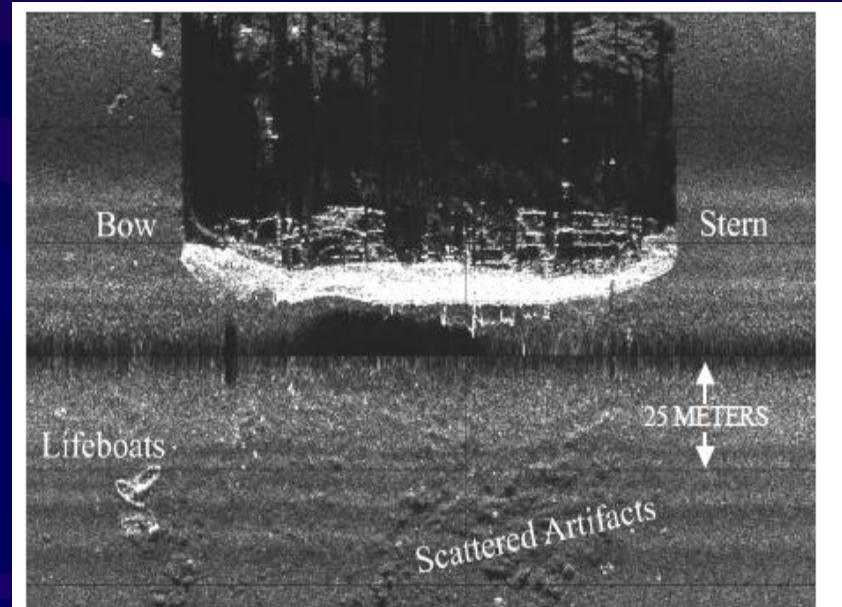


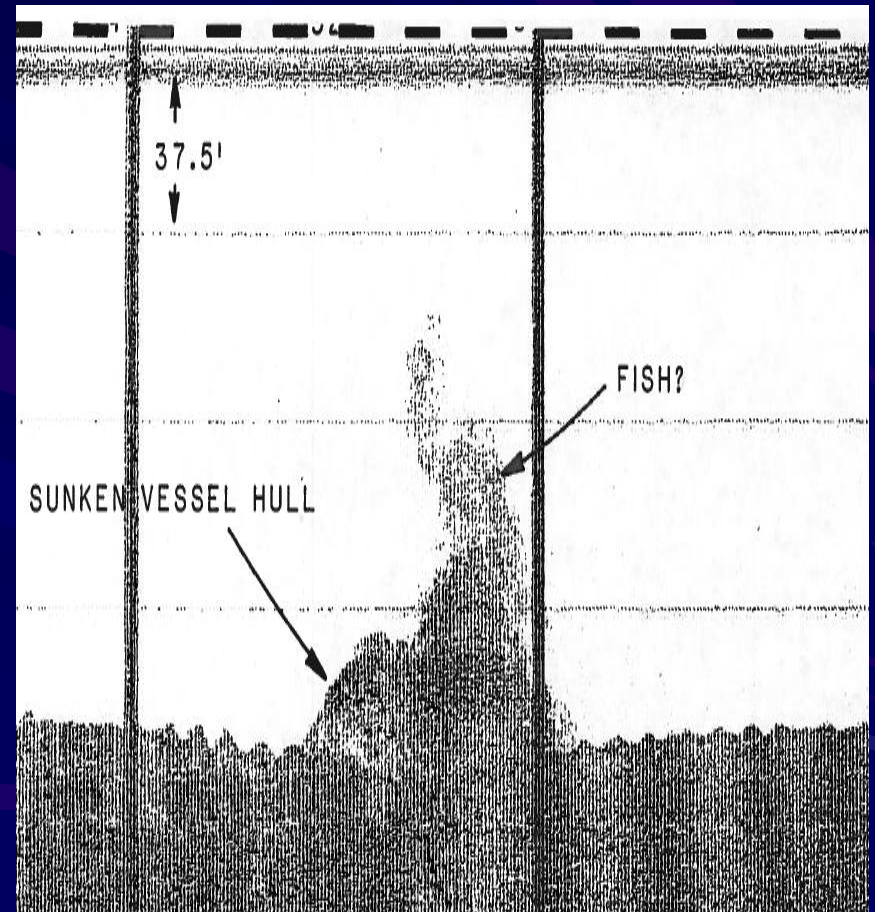
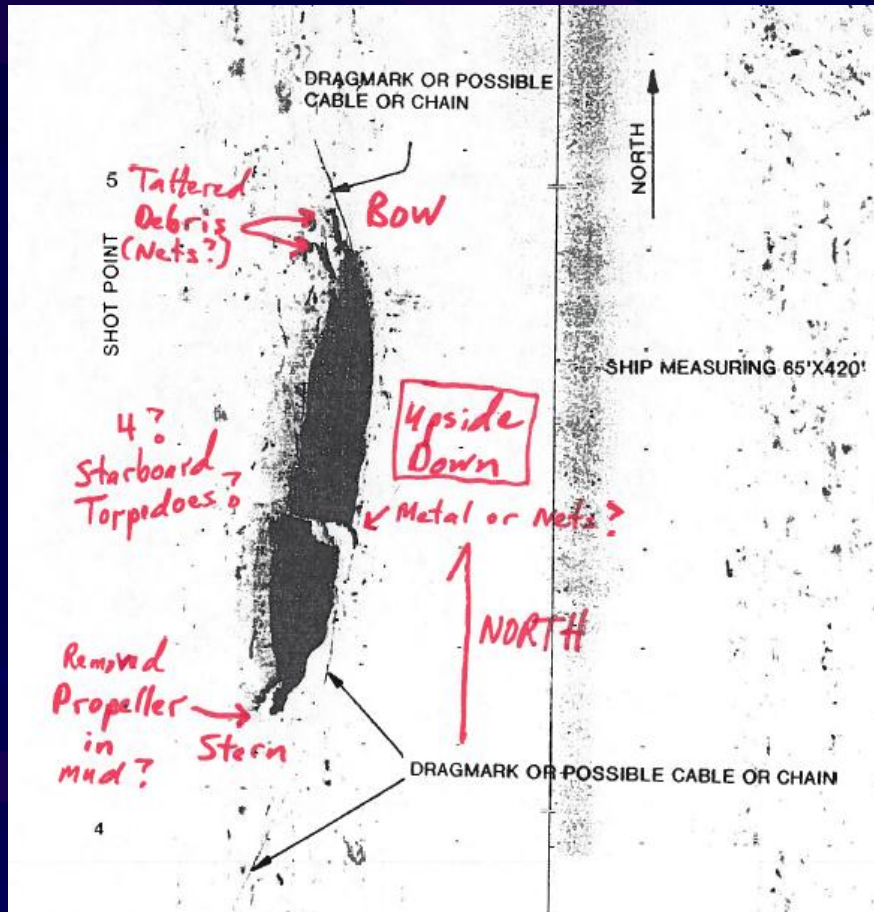
Figure 8.6. 410 kHz side scan sonar image of *Robert E. Lee*, from the 2001 "site specific survey" with *C-Surveyor I* AUV (Courtesy of BP, Shell, and the National D-Day Museum, New Orleans, Louisiana).

## **WWII GOM Shipwrecks – Potential MPA's**

- 1. Cities Service Toledo Tanker (83,000 bbls crude) – SMI 16**
- 2. Heredia Freighter (bananas & coffee) – SS 217**
- 3. Sheherazade Tanker (ballast water) – EI 190**
- 4. Halo Tanker (63,000 bbls crude) – GI 114**
- 5. Empire Mica Tanker (83,000 bbls fuel oil) – AP 671**
- 6. R.W. Gallagher Tanker (83,000 bbls bunker oil) – SS 192**
- 7. Hamlet Tanker (64,139 bbls crude) – SS 243**
- 8. R. M. Parker, Jr. Tanker (ballast water) – ST 98**



# WWII GOM Shipwrecks – Shallow Hazard Survey Evidence



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# Islands in the Stream Forum – January 2008

Marine Sanctuaries Conservation Series NMSF-08-04

## **A Scientific Forum on the Gulf of Mexico: The Islands in the Stream Concept**



**Proceedings of the Forum:  
23 January 2008  
Keating Education Center  
Mote Marine Laboratory  
Sarasota, Florida**

U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
National Ocean Service  
Office of Ocean and Coastal Resource Management  
National Marine Sanctuary Program



July 2008



## The “Islands in the Stream” Concept

- *“The basin-wide physical oceanographic processes in the Gulf of Mexico are dominated by the Loop Current and associated rings and eddies that not only dominate the Gulf interior, but also provide connectivity pathways among remote coastal and deep sea ecosystems.”*
- *“There are a number of ecologically vital, enormously productive, and scientifically interesting sites in the Gulf that are interconnected by ocean and currents and are dependent upon one another for biological recruitment and replenishment. The Gulf is also strongly linked “upstream” to the Caribbean and “downstream” to the Atlantic by the Loop Current, Florida Current and the Gulf Stream.”*

“Conservation Connectivity” – Macro & Micro



## Islands in the Stream Forum – Purpose

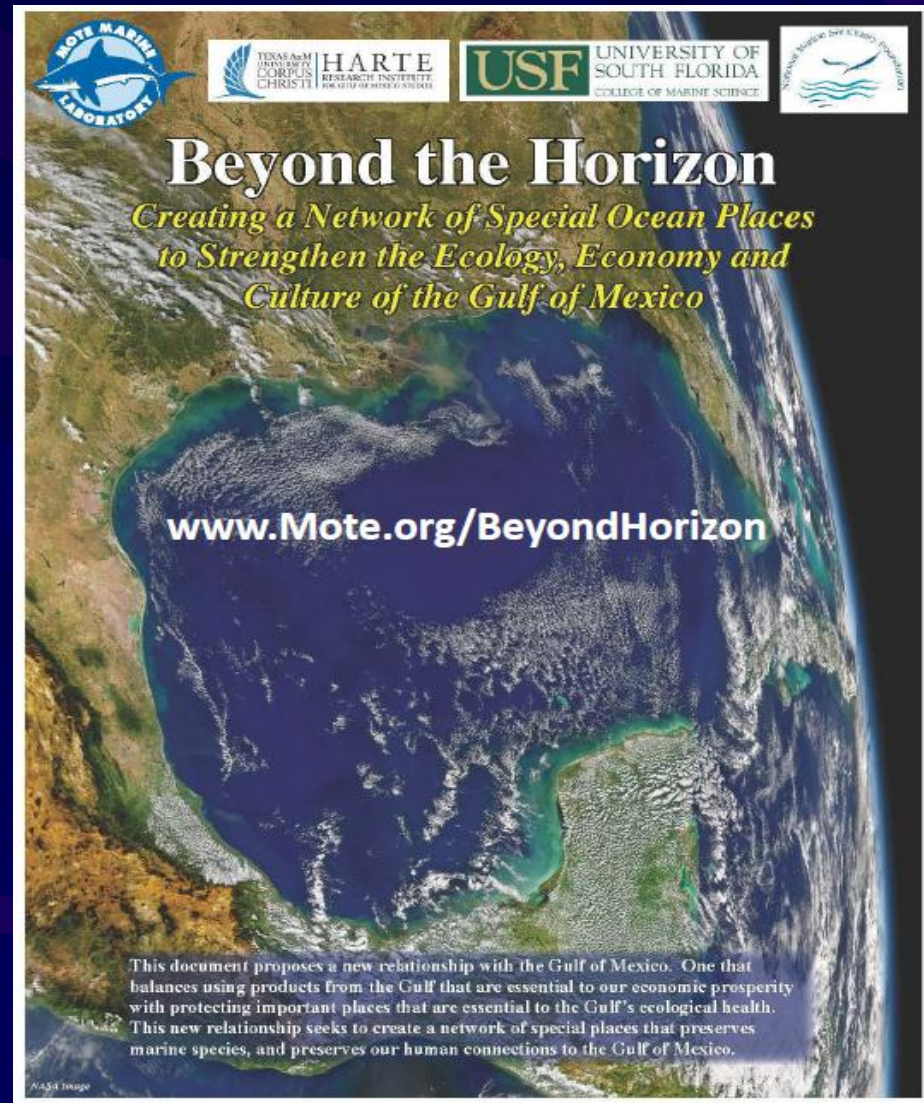
- “The purpose of the meeting was to bring together scientists and managers from around the Gulf of Mexico to discuss a range of topics on our knowledge of the Gulf of Mexico, from its geology to larger-scale connectivity to the Caribbean region, and their applications to the concept of a more integrated approach to area-based management.”
- “The charge to the group was to share information, identify gaps in our knowledge, identify additional potential areas for protection, and discuss available science about connectivity and the potential value of establishing a marine protected area network in the Gulf of Mexico.”
- “Some of these sites have already been designated as marine sanctuaries or identified as areas of critical habitat. Most are currently afforded some degree of protection by different management entities. However, we currently lack a comprehensive management approach that recognizes the interdependence of these sites across the entire Gulf of Mexico and its broader connections with the Caribbean Sea and Atlantic Ocean. By implementing an ecosystem-based management approach to the larger area of the Gulf of Mexico, a marine protected area network will be greater than the sum of its parts”

## **“Islands in the Stream” Forum – Potential MPA’s**





# Beyond the Horizon Conference – May 2011 (The First Major GOM Marine Science Forum after Macondo)



## **Purposes of the Forum:**

- **Build a consensus for establishing ecologically significant protections for key Gulf of Mexico sites to ensure that they continue to provide important services to our society.**
- **Identify mechanisms that allow comprehensive approaches to management as well as significant involvement of the public in decision-making.**

**A Proposed Gulf of Mexico MPA Network**



# “State of the Gulf Summit” – December 2011

## Keynote Remarks by Laura Bush

- *“From our experience with national marine monuments in the Pacific and with marine sanctuaries and national wildlife refuges and parks, we know that conservation and economic development are not mutually exclusive.”*
- *“We should consider a similar approach to establish a national marine monument or sanctuary along what some call the “Islands of the Stream.” A string of underwater mountains run along the outer Gulf shelf, and a number of them rise to peaks near the surface of the water – creating a series of coral reef communities which track closely with the flow of the Gulf Stream. The Flower Garden Banks National Marine Sanctuary includes a number of these areas. These “Islands of the Stream” ring the Gulf, creating what I like to envision as a “Coral Necklace”.*
- *“From the Flower Gardens, the underwater mountain chain runs east to the Florida Keys Sanctuary and up along the southeast coast of the United States. South of the Flower Gardens, the coral necklace continues to the waters of Mexico, Honduras, and Belize. These areas represent just a fraction of one percent of the continental shelf in the Gulf, but by conserving these jewels of the Gulf with reasonable protections, we can address other uses of the Gulf with greater confidence – whether that is recreational fishing and diving or energy development which allow local economies to prosper.”*

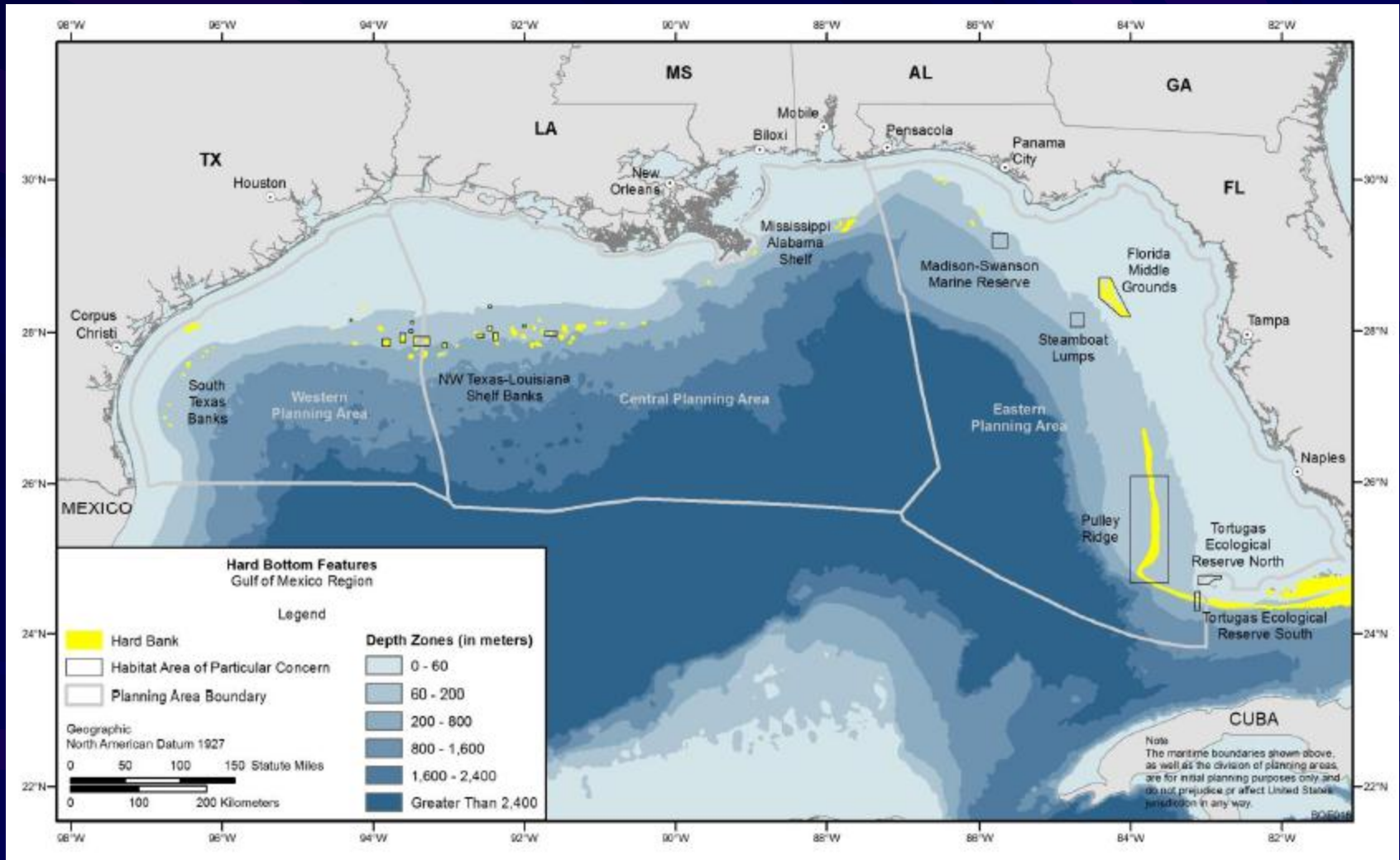
# **Presentation Overview**

- **Land Access – OCS 5 Year Leasing Plan**
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# Marine Science Community's Areas of Future Interest for Marine Protected Areas

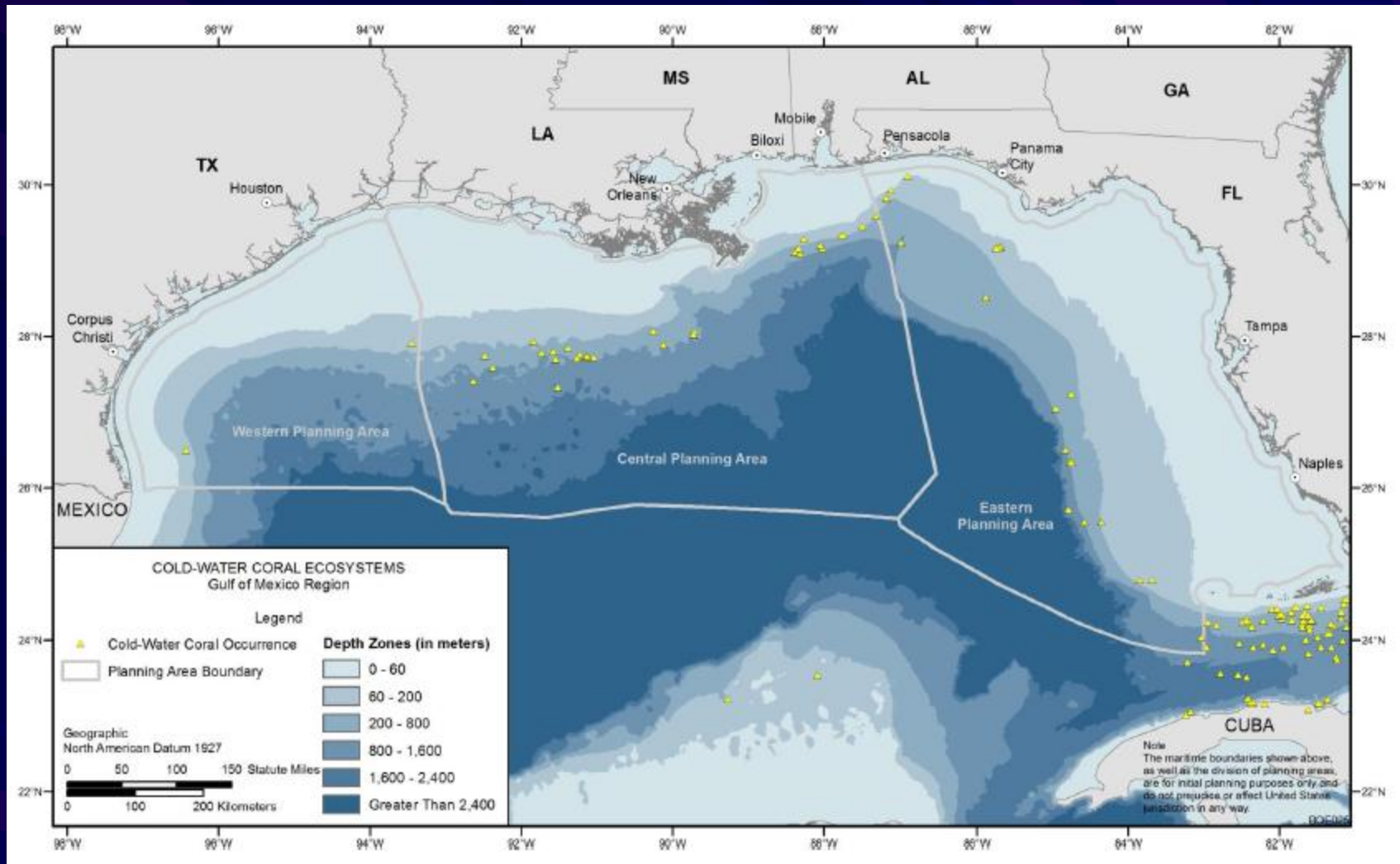
- Sperm Whales & Blue Fin Tuna – Mississippi Canyon Areas
- Whale Sharks – Ewing Bank & along Louisiana Shelf-Slope Edge Areas
- Deepwater Corals – Lophelia & Black Coral– VK 825, wrecks, and other occurrences
- Pulley Ridge HAPC Area – possible new Sanctuary or ext. of Florida Keys NMS
- Pinnacle Trend – 70+ blocks in Viosca Knoll Area
- West Florida Edges – Madison Swanson Bank & Steamboat Lumps
- West Florida Shelf - Goliath & Gag Grouper Areas
- West Florida Slope - Corals & Red/Golden Crabs
- 7 1/2 Fathom Bank in South Texas Banks – no take zone
- Chemosynthetic Communities (oil seeps) – Green Canyon, Walker Ridge, KC & GB
- Trans-Boundary (International) Areas – Mackerel protection etc.
- Sargassum Seaweed Areas – seafloor growth & floating
- Oil Platforms – Rigs to Reefs
- \*\*Percentage Set-Aside Approach\*\* for GOM – Goal = 15+% of US GOM set-aside\*\*

# Live or Hard Bottom Features – Pinnacles & More

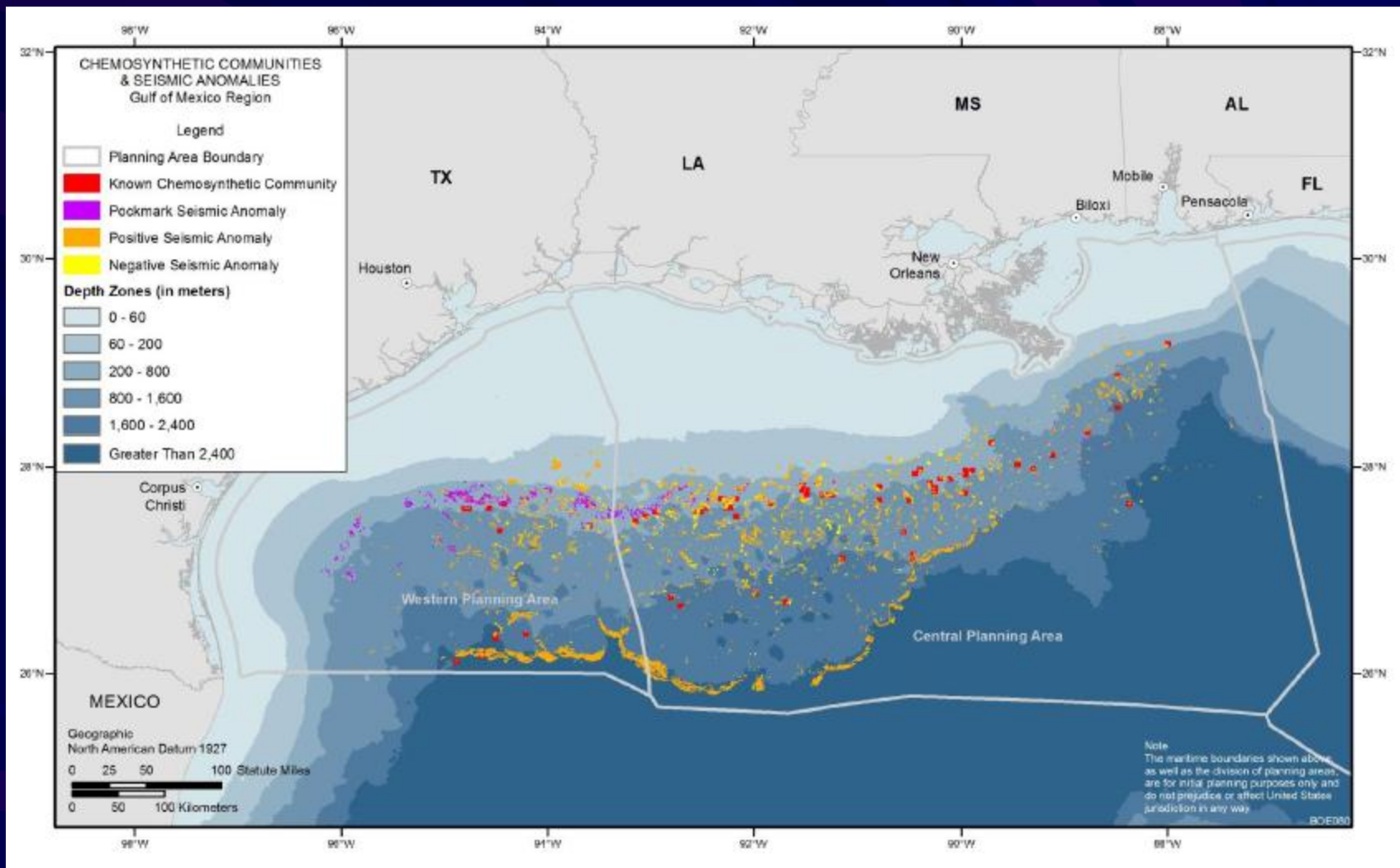




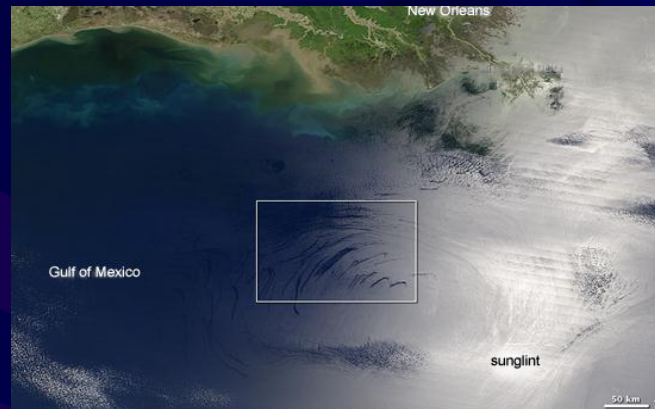
# Cold Water Coral System Features



# Chemosynthetic Communities



# Large GOM Natural Oil Seeps – Satellite Photo



Satellite image of natural oil seeps in the Gulf of Mexico by Jesse Allen, NASA. See zoomed-in below.

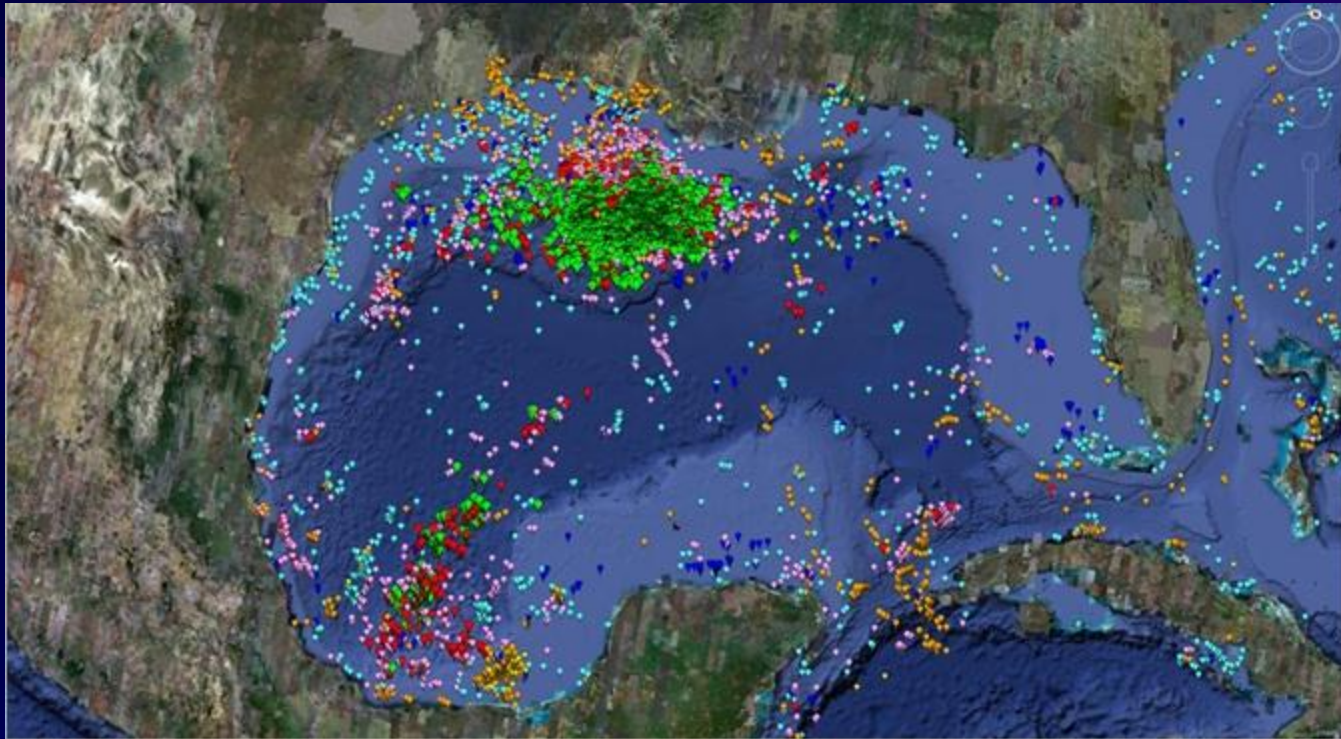


Satellite image of natural oil seeps in the Gulf of Mexico. Jesse Allen, NASA. See above for reference.

(from NASA Earth Observatory news release from February 3, 2009 per Geology.com)



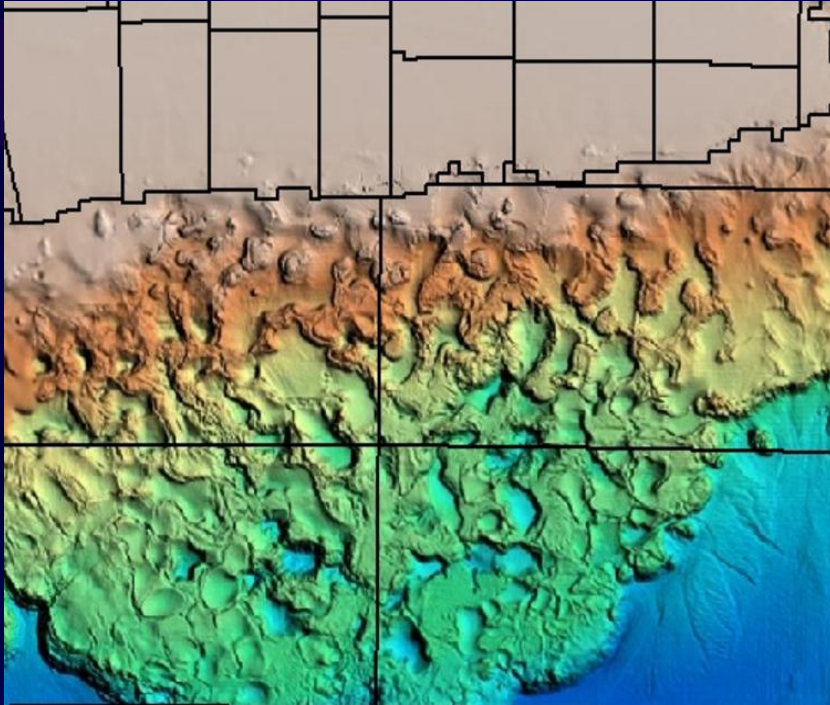
# Natural Oil Seeps – GOM Basinwide 4,000 – 20,000+ BOPD



Source: A. Berman internet article; NAE 2003 Oil in the Sea III;  
NPA ppt Geof Lawrence 2010



# Oil Seeps & Chemosynthetic Communities Prolific in GC, WR, KC, & GB Areas



Source: Earthfield Technology

Source: NPA Fugro

APRIL 9, 1910. SCIENTIFIC AMERICAN SUPPLEMENT No. 1788. 229

**THE OIL FIELDS OF THE GULF OF MEXICO**

**THEIR GEOLOGICAL PLACE.**

**BY LIEUT. JOHN C. SOLEY, U. S. N.**



# Large GOM Natural Oil Seeps – 1910 Article 38 Years before 1<sup>st</sup> offshore GOM well

APRIL 9, 1910.

SCIENTIFIC AMERICAN SUPPLEMENT No. 1788.

229

## THE OIL FIELDS OF THE GULF OF MEXICO

THEIR GEOLOGICAL PLACE.

BY LIEUT. JOHN C. SOLEY, U. S. N.

### *Key finding:*

*“During the last seven years (pre-1910), the reports from vessels that have passed through the oil field in the Gulf have been frequent, principally because attention has been especially directed to it; the positions where it has been reported are plotted on the chart, so that its limits have been determined with considerable accuracy, and the point of origin has been located almost exactly as being at latitude 27 deg. 30 min. N and longitude 91 deg. 30 min. W (est. Green Canyon block 449).*

**A number of vessels have reported from this position that the oil was seen bubbling on the surface, while the report on September 10<sup>th</sup> from the steamship “Comedian”, described it particularly as coming up in three jets. It is generally described as dark or dark yellow, sometimes so thick that a vessel passing through will hardly make a ripple on the water. “**

# Potentially Sensitive Biological Features

- Definition: Potentially Sensitive Biological Features means those features not protected by a biological lease stipulation that are of moderate to high relief (about 8 feet or higher), provide surface area for the growth of sessile invertebrates, and attract large numbers of fish.
- Policy: No bottom-disturbing activities, including the use of anchors, chains, cables, or wire ropes from a semisubmersible drilling rig or from a pipeline construction vessel, may cause impacts to potentially sensitive biological features.



# **Platform Artificial Reef Concerns**

- **Idle Iron Moratorium**
- **Essential Fish Habitat designation**
- **Rigs to Reef wants platforms moved**

# W&T HI A-389 – Now Idle Iron

Only Platform within current Sanctuary boundaries





Source: Save the Blue





Source: Frank Burek





Source: Save the Blue

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**Seven (7) GOM-Atlantic-Caribbean Corals**  
**Petitioned for ESA status**  
**By Center for Biological Diversity (Enviro-NGO)**

1. Sheet Coral - *Agaricia lamarcki*
2. Rough Cactus Coral - *Mycetophyllia ferox*
3. Pillar Coral - *Dendrogyra cylindrus*
4. Elliptical Star Coral - *Dichocoenia stokesi*
5. Boulder Star Coral - *Montastraea annularis*
6. Boulder Coral - *Montastraea faveolata*
7. Boulder Coral - *Montastraea franksi*



# Endangered(?) GOM-Caribbean Corals 5 out of 7 – on Flower Garden Banks



Figure 6.1.2. *Agaricia lamarcki* distribution



Figure 6.4.3. *Dichocoenia stokesii* distribution



Figure 6.5.5. *Montastraea franksi* distribution



Figure 6.5.2. *Montastraea faveolata* distribution



Figure 6.5.8. *Montastraea annularis* distribution

Map Source: IUCN - [www.iucnredlist.org](http://www.iucnredlist.org)



# NOAA NMFS

## Public Review Ends July 31, 2012

### If ESA Listing Warranted – Proposed Rules in Dec. 2012

From NOAA NMFS on July 17, 2012:

“As part of our ongoing process to evaluate 82 species of coral from the Caribbean and Pacific for listing under the Endangered Species Act (ESA), NOAA is inviting public review of two reports, a scientific [Status Review Report](#) and a [draft Management Report](#). Our review of these 82 species of corals has been the most complex ESA listing process NOAA Fisheries has ever undertaken. NOAA will use the additional input to ensure that the best scientific information available will be considered as we develop our 12-month finding. Please note that releasing these documents is not a part of the normal rulemaking process – it is an engagement process that allows us to be transparent and open in our decision making. **Should NOAA Fisheries determine that a listing is warranted, we will publish a proposed rule in December 2012 for additional public comment.**”

# NOAA NMFS “Critical Risk Threshold” Analysis

Seven (7) Biologic Review Team Scientists  
Have Made Determination  
If Extinction “Likely” by 2100 – Mean % “Likely”

1. Sheet Coral - *Agaricia lamarcki* - 61%
2. Rough Cactus Coral - *Mycetophyllia ferox* – 70%
3. Pillar Coral - *Dendrogyra cylindrus* – 74%
4. Elliptical Star Coral - *Dichocoenia stokesi* – 59%
5. Boulder Star Coral - *Montastraea annularis* – 78%
6. Boulder Coral - *Montastraea faveolata* – 78%
7. Boulder Coral - *Montastraea franksi* – 74%

\*\*\*\*\*

**Is this a reasonable process?**

# **Presentation Overview**

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# Alternative Example: Communicative Relationship within FGBNMS-BE Working Group

- Identified & embraced common goals
- Face-to-face interaction
- Exchanged resources & information
- Carefully & respectfully questioned each others reasoning and conclusions
- Consensus sought Balance & Stewardship

# Balance = “ENLIBRA”

## A SHARED DOCTRINE FOR ENVIRONMENTAL MANAGEMENT

*ENLIBRA = “Balance and Stewardship”*

*A Balanced Approach to Successful Environmental Management*

**HISTORY:** Utah Governor Mike Leavitt (R) and Oregon Governor John Kitzhaber (D) took the lead in developing this shared set of principles that were agreed upon in 1999, as policy of the Western Governors’ Association. *Western states’ land use conflicts were very contentious.*

**PURPOSE:** Today there is no symbol for the middle; for the majority of citizens who believe that the environment and its natural resources can be protected while at the same time providing recreational and employment opportunities. This doctrine provides a collection of tools that, if applied, can result in improved and expedited environmental decision-making and implementation.

*(adapted from WGA 1999)*

## **“ENLIBRA” Principles:**

- 1. National Standards - Neighborhood Solutions**
- 2. Collaboration - Not Polarization**
- 3. Reward Results & Innovation - Not Programs**
- 4. Science for Facts - Process for Priorities**
- 5. Markets Before Mandates**
- 6. Change a Heart - Change a Nation**
- 7. Recognition of Costs and Benefits**
- 8. Solutions Transcend Political Boundaries**

## **THE WESTERN GOVERNORS’ HOPE OF “ENLIBRA” BECOMING:**

- 1. A symbol for balance and stewardship in environmental management**
- 2. A widely used framework for solving difficult environmental problems**
- 3. A philosophic foundation for balanced environmental legislation**
- 4. A road map for discussions between regulators and stakeholders**

*(adapted from WGA 1999)*



# Acknowledgements

*FGBNMS Staff & Advisory Council  
NOAA Office of National Marine Sanctuaries  
IPAA, API, NOIA, CEA, BOEM, BSEE, EIA*



*( Ascending from the “abyss” of Bright Bank’s dynamite-blasted mining pits at about 120’+)*

*Thank You!*