

# Preserving and Expanding the Rigs-to-Reefs Program in the Gulf of Mexico

# Presentation Outline

- Introduction to the Issues
- Evolution of the Artificial Reef Programs
- How the Rigs-to-Reefs Program Works in Practice
- Value to the Environment, Public, Governments, and Industry
- Special Artificial Reef Sites (SARS) and Proposed Restrictions
- Opportunities to Expand the Program



# Why Does the Rigs-to-Reefs Program Need Preserving ?

- There Are Changes Occurring and Being Proposed That Could Restrict the Rigs-to-Reefs Program as We Have Known It
  - Louisiana
    - Current Moratorium on Special Artificial Reef Site (SARS)
    - Proposing New SARS Program Requirements
    - Designating Reef Sites Only at Existing Reef Locations
  - MMS
    - MMS Approval Delays on Current Rigs-to-Reefs Permits
    - Preparing New Rigs-to-Reefs NTL

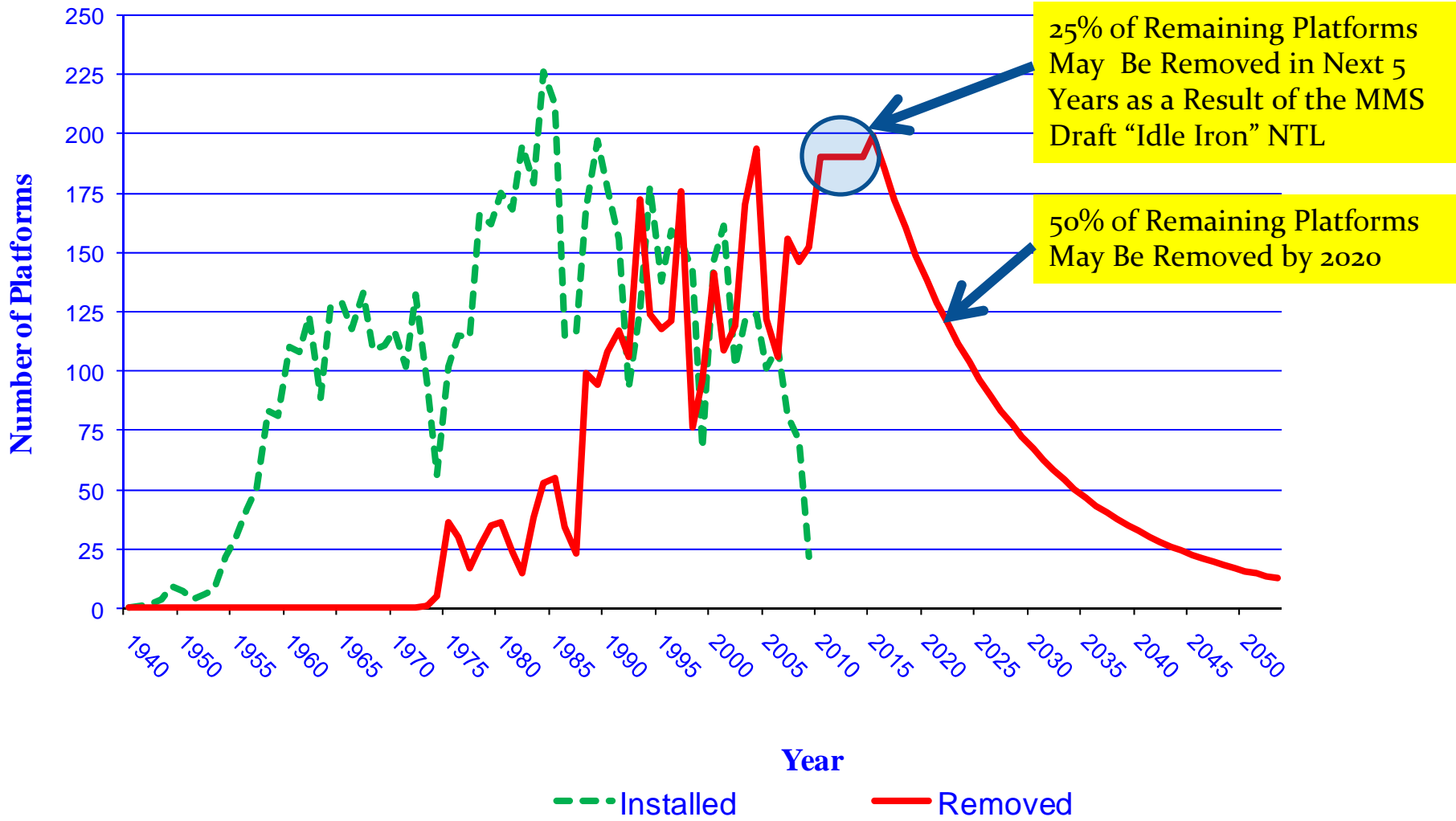
# Why Does the Rigs-to-Reefs Program Need Preserving ? (cont.)

- There Are Changes Occurring and Being Proposed That Could Restrict the Rigs-to-Reefs Program as We Have Known It
  - Washington
    - Future Use Considerations
    - Negative Sentiment Towards Oil and Gas Industry ?
      - State Agencies Working with User Groups to Create More Artificial Reefs. Why the Sudden Push to Restrict Rigs-to-Reefs?
  - Shrimpers
    - Historical Resistance to Anything That Reduces “Trawlable Bottom” in the Gulf of Mexico
    - Recent Louisiana Shrimpers Association Lawsuit Against the Louisiana Department of Wildlife and Fisheries Over the Special Artificial Reef Site (SARS) Program

# Why Does the Rigs-to-Reefs Program Need Expanding?

- The Majority of Oil and Gas Platforms on the Gulf of Mexico Shelf Will Be Removed in the Next 10 to 20 Years, Eliminating an Incredible Existing Artificial Reef Environment That Has Been Beneficial to Aquatic Life and Non-Industry User Groups Since Significant Platform Installation Began in the 1950's
- Less than 13% Percent of Platforms Removed to Date Have Been Included in the Rigs-to-Reefs Program
- Platform Removal Is Habitat Loss

## Number of Gulf Of Mexico OCS Platform Installed vs Removed (1942-2009)



# Drivers Causing Accelerated Platform Removal

- Depletion of Reserves in Existing Fields
- Typically Smaller Reserves in New Developments
- Unstable Oil and Natural Gas Prices
- MMS Push for “Idle Iron” Removal
  - 25 % of Platforms Currently Idle
  - 52 % of Wells Currently Idle
- New View of Hurricane Risk
- Difficulty Obtaining Affordable Platform Insurance
- Potential New Oil and Gas Taxes



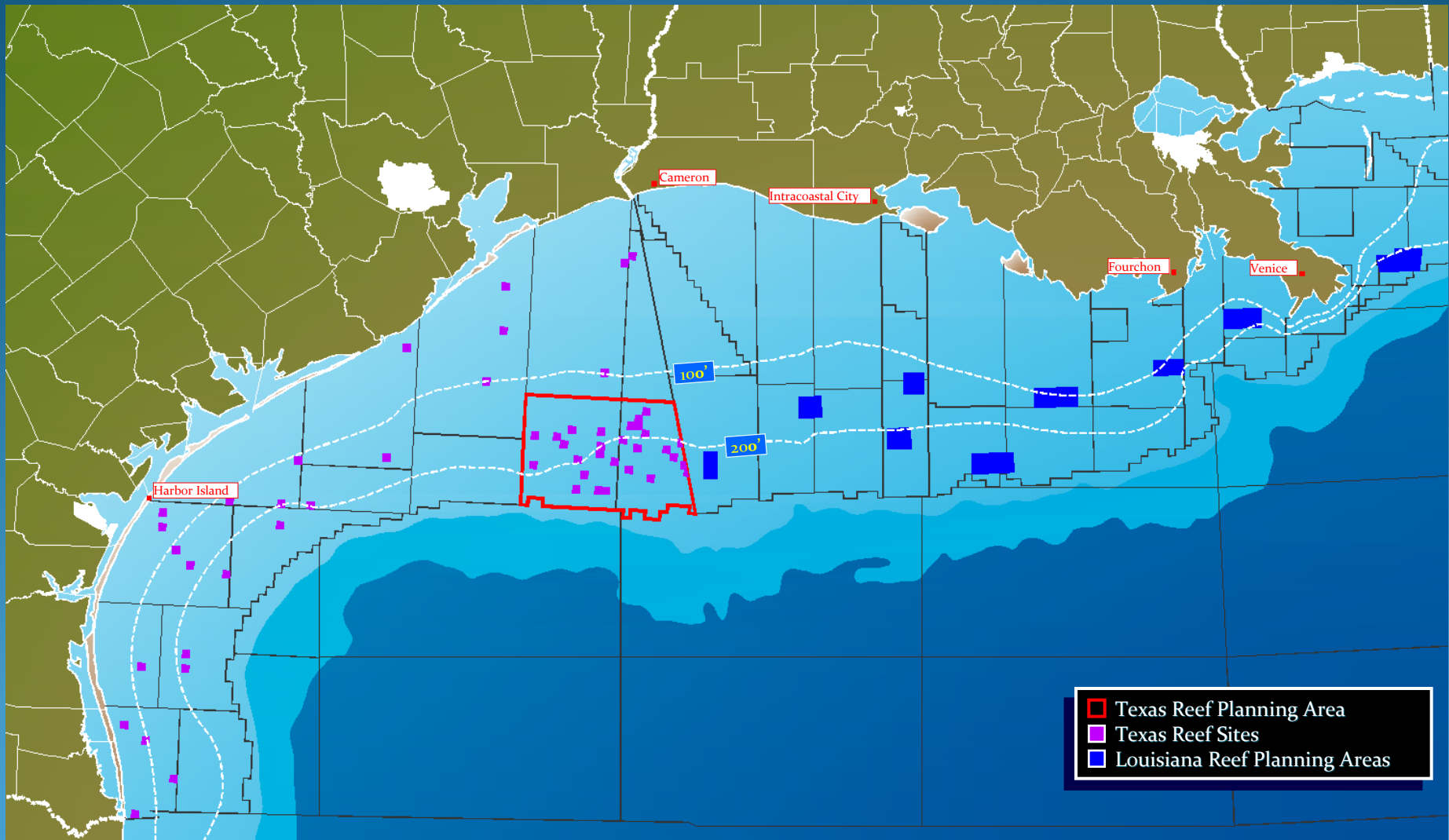


# Where We Are Headed

- Back to a Gulf of Mexico That Is Largely Devoid of Structure – A Big Mud Flat
- A Few Natural Reefs and a Minimum Number of Artificial Reefs
  - None of the Artificial Reefs Will Have Structure in the Upper Part of the Water Column Where Many of the Fish and Invertebrate Species Thrive
  - Most Artificial Reefs from Oil and Gas Platforms Will Be Located in Water Depths of 100 ft or Greater and Located Too Far Offshore and Too Deep to Benefit the General Public (Recreational Divers and Fishermen)
    - Current Average Distance Offshore Is 56 nm



# GoM Water Depth Contour Map



# Rigs-to-Reefs Statistics

WD (ft)	# Platforms Remaining	# Platforms Removed	# Platforms Reefed in LA		# Platforms Reefed in TX	
			Source Count / Reef Count	Source Count / Reef Count	Source Count / Reef Count	Source Count / Reef Count
0-100	2593	2501	18/7	Less Than 2% Reefed	13/10	
101-200	796	582	156/145	38% Reefed	63/63	
201-300	311	177	90/105	77% Reefed	46/48	
301-400	102	30	23/31	Over 90% Reefed in WD > 300 ft	1/2	
401-500	31	3	5/6		0	
501-600	5	1	3/1		0	
601-700	12	0	0		0	
701-800	7	0	0		0	
801-900	1	0	0		0	
901-1,500+	9	1	0		0	
<b>Total</b>	<b>3,797</b>	<b>3,295</b>	<b>295</b>		<b>123</b>	

# Louisiana Artificial Reef Facts

- 19,434 Acres in 9 Planning Areas, 28 Established Reef Sites
- 295 Platform Components Donated
- Other Reef Programs
  - Deepwater Artificial Reef Site Program
  - Special Artificial Reef Program
- Rigs-to-Reefs Program Has Contributed \$41 Million to Louisiana Artificial Reef Fund
- Other Donations
  - 40 Armored Personnel Carriers
  - 1200 Reef Balls



# Mississippi Artificial Reef Facts

- 16,000 Total Acres, 15 Established Reef Sites
- 8 Platform Components Donated
- Rigs-to-Reefs Program Has Contributed \$ X Million to the Mississippi Artificial Reef Fund
- Other Donations
  - 5 WWII Liberty Ships
  - 15 Barges
  - 7 Boat
  - Limestone, Culverts



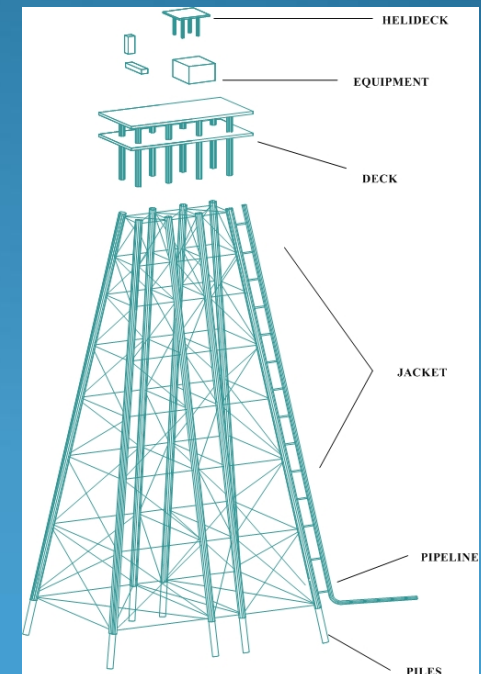
# Texas Artificial Reef Facts

- 2,320 Acres
- 58 Established Reef Sites
- 123 Platform Donations to Date
- Rigs-to-Reefs Program Has Contributed \$5.1 Million to Texas Artificial Reef Fund
- Other Donations
  - 6 Barges
  - 13 Liberty Ships
  - 22 Concrete Anchors
  - 134 Reef Balls
  - 47 Concrete Culverts



# Offshore Decommissioning Process

- Research of Existing Records and on Site Investigation
- Write Procedures, Obtain MMS Permits, Obtain Financial Approvals
- Perform Well P&As
- Abandon Pipelines
- Prepare Platform for Removal
  - Drain and Flush Equipment
- Remove or Reef Platform
- Perform Site Clearance & Verification
- File Subsequent Reports with the MMS





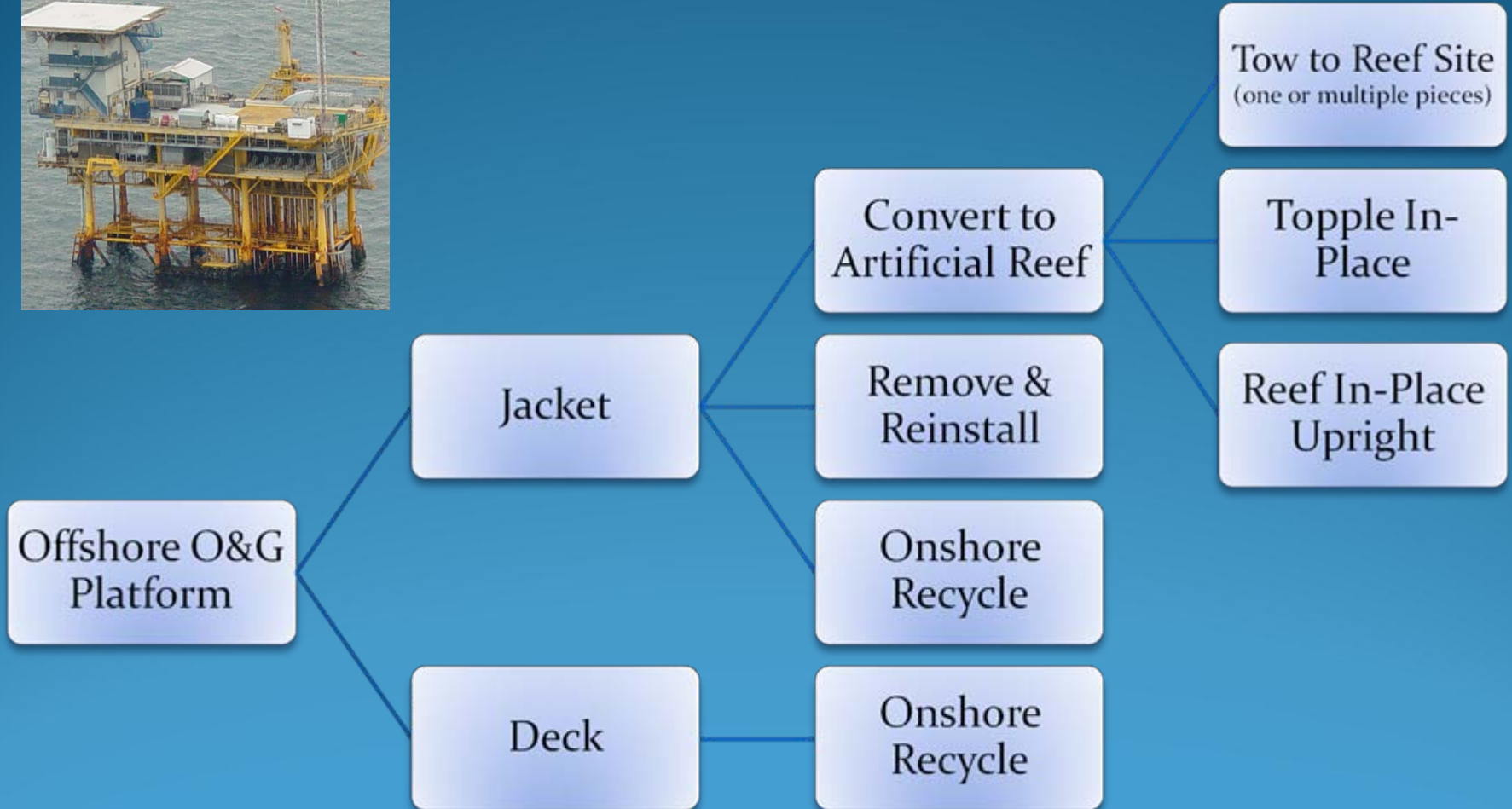
# How the Program Works in Practice

- Company Considers All Platform Removal Alternatives
- Company Chooses Most Economic Alternative
- Company Prepares Platform Removal Permit for the MMS
- If the Chosen Alternative Is Rigs-to-Reefs
  - Company Applies to State for Rigs-to-Reefs Permits
  - State Prepares Reef Permit for COE
- Field Work
- Post Job Documentation

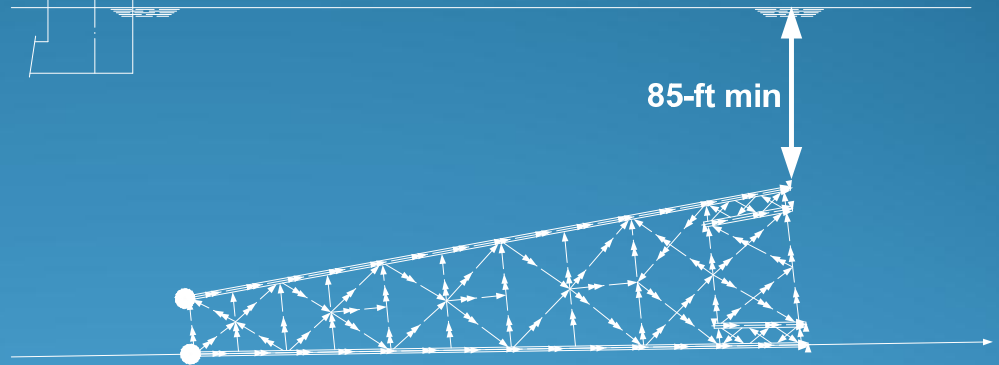
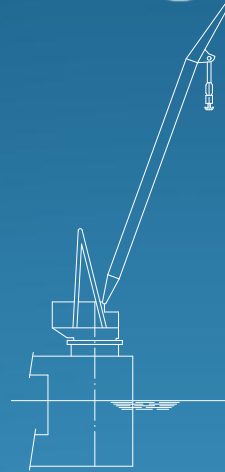
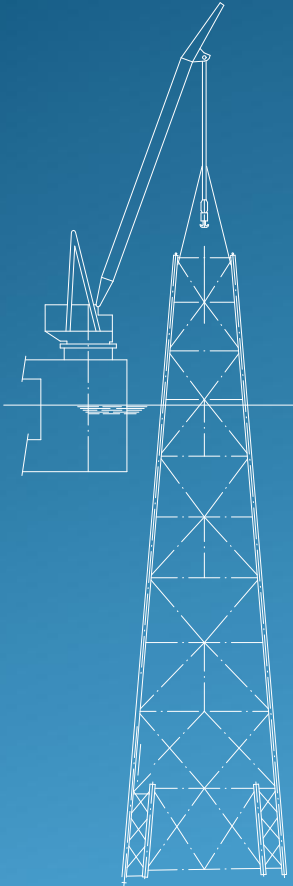




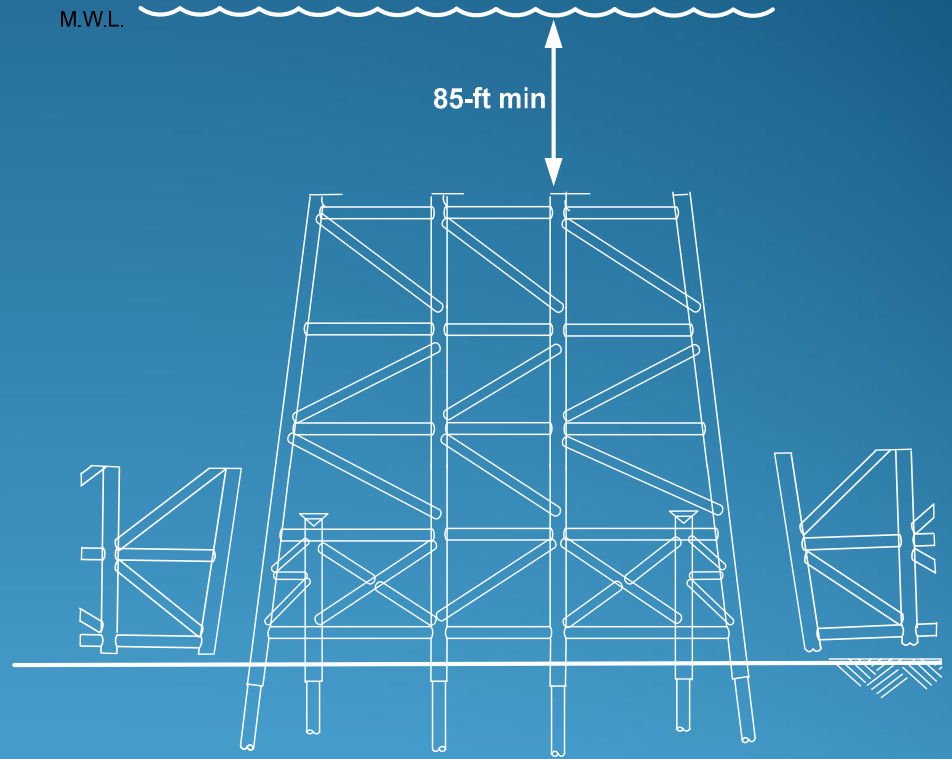
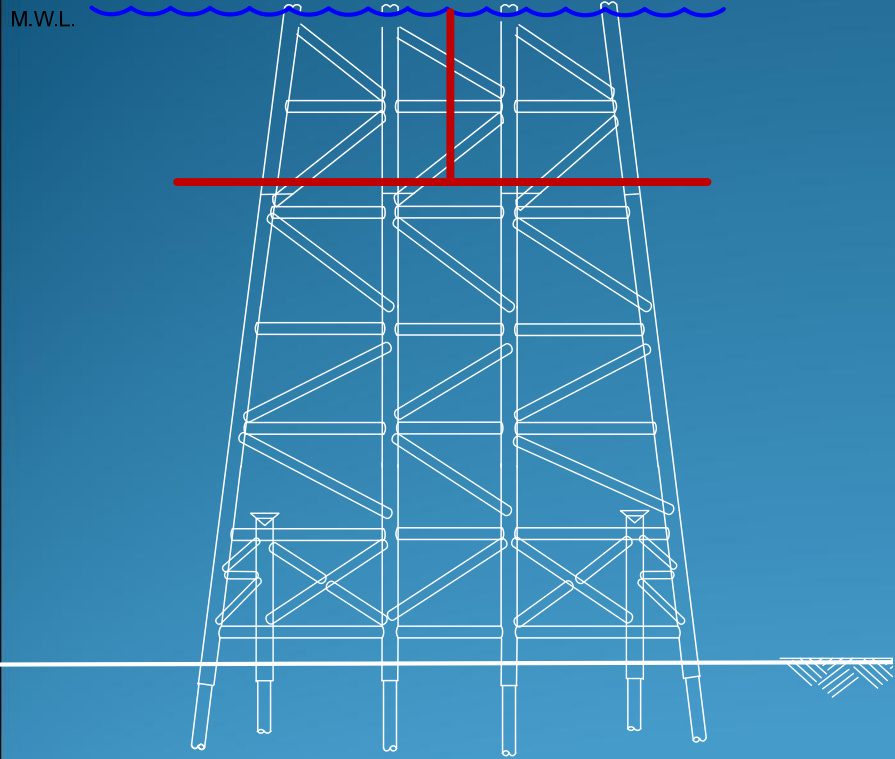
# Decommissioning Decision Tree



# Offsite Reefing - Single Piece



# Reef In-Place Upright



# Reef Permitting Detail

- Operator Proposes Reef Candidate to the State
- State Accepts Proposed Reef Candidate, Location, Layout & Clearance (or Proposes Alternative)
- State Prepares And Submits Permit to US Army Corps of Engineers (COE)
- The COE Reviews Application & Submits to Other Federal Agencies for Comments
  - Coast Guard Comments on Shipping Hazards And Buoy Requirements
  - NMFS Provides Biological Opinion
  - MMS Reviews for Archeological, Biological, Pipelines, Lease, Future Development
  - 30 Day Public Comment Period

# Reef Permitting Detail (cont.)

- COE Approves Reef Permit, Permit Issued to the State
- Operator Submits to MMS Platform Removal Permit Application Listing Reefing as the Removal Option
  - Even If COE Issues Reef Permit to the State, the MMS May Still Deny Reefing the Jacket at the Approved Artificial Reef Site.

# Reef Permitting Detail (cont.)

- Operator Proposes Reef Donation to State and Prepares Draft Act of Donation Agreement
  - Donation Calculated as Half of the Savings Realized Between the Complete Removal And Reefing Costs.
  - Donation Amount Agreed Prior to Mobilization
  - Reef Donation (Tax) Submitted After the Platform Is Reefed
- Recent Permit Cycle Time Is 4 to 6 Months for Non-SARS Sites

# Rigs-to-Reefs Post Job

- Buoy Is Placed And Maintained Until It Is Charted (If New Reef Site)
- Operators Submits to the State
  - Deed of Donation -
    - Signed By Company Officer
    - Executed Prior to Mobilizing
  - Certified Plat Showing Placement And Clearance is Submitted
- State Issues a Certificate of Acceptance
  - State Accepts Title to the Reef Donation
  - State Accepts Future Liability for Reef



# Value of the Rigs-to-Reefs Program

- Environment - Aquatic Life Habitat
- Public - Recreational Fishing and Diving
- Governments – Funding
  - States and Conservation Associations Are Struggling to Provide and Install Other Reef Materials
- Industry
  - Commercial Fishing
  - Charter Fishing
  - Oil and Gas – Decommissioning Cost Savings and Solution for Technical Challenges



# Rational for Retaining Infrastructure

Ecorig December 2008 Report – [www.ecorigs.org](http://www.ecorigs.org)

- The Fish Biomass at Offshore Platforms Is 10x Greater Than Protected Coral Reefs And Artificial Reefs
- Majority of Platforms Will Be Removed By 2020
- Average Cost to Create Artificial Reef \$140/M<sup>3</sup>
- Total Volume of Existing Jacket Is 127,712,369 M<sup>3</sup>
- Today's Cost to Replace Equivalent Number of Artificial Reefs Is \$17.9 Billion.
- Play Video

# Where the Donation Money Goes

- Louisiana
  - Reef Fund Managed by Department of Wildlife & Fisheries
  - Interest Generated Sustains LARP
  - Funds Other Related Programs
    - Create Nearshore/Inshore Bay Reefs
    - Grand Isle Research Lab
- Texas
  - Reef Fund Managed by Parks & Wildlife Department
  - Self Sustained
  - Nearshore Reef Projects
- MS



# The Fish Issue in the Gulf of Mexico

- Strained Stocks of Certain Fish and the Battle for Their Allocation
  - Target Fish Species with Strained Stocks
    - Red snapper, red and gag grouper, greater amberjack, gray triggerfish, vermillion, and yellowtail snapper, king mackerel, and tile fish.
  - Commercial vs. Recreational Fishermen
  - Offshore Recreational Fishing Declining With New Catch Restrictions
  - Seafood Suppliers and Restaurant Associations Will Generally Side with Commercial Fishermen
- Rigs-to-Reefs Should Be Seen as a Benefit to All Parties
  - And We Need Them All on Our Side

# Potential Economic Impact to States and Oil & Gas Cos.

- Double the Amount Donated to the States So Far to Determine Total Savings to Date
  - \$ 92 MM = 2 x (LA \$ 41 MM + TX \$ 5 MM)
- Future Conventional Rigs-to-Reefs Projects
  - \$ 71 MM Assuming 13 % of Remaining Structures in Less Than 300 ft WD at \$ 150 M / Platform
  - Or \$ 142 MM Assuming 26 % of Remaining Structures in Less Than 300 ft WD at \$ 150 M / Platform
- Future Large Platform / SARs Projects
  - \$ 167 MM Assuming 167 Remaining Structures in Greater Than 300 ft WD at \$ 1 MM / Platform

# Reefing Economics

- Rigs-to-Reefs Projects Feasible When:
  - Cost to Reef Jacket in Place or Offsite Is Significantly Less Expensive Than Complete Removal
  - Generally Only Occurs for Heavy Jackets That Can't Be Placed by a Derrick Barge on a Material Barge in a Single Lift (Grouted Piles, Launched Jackets, etc.)
  - Damaged or Downed Platforms Involved
- Incremental Costs to Reef a Jacket
  - Cutting a Jacket Down to Provide Minimum 85 ft of Clearance Can Cost \$ 0.5 MM to \$ 1.0 MM
  - Moving a Jacket to a New Location Can Cost \$1.0 MM to \$1.75 MM

# SARS Program

- Special Artificial Reef Site (SARS) Program
  - Designed to Allow Artificial Reefs Outside of Pre-Designated Artificial Reef Areas
  - Used Occasionally Prior to 2005
    - 10 SARS Sites Requested After Hurricanes Andrew, Ivan, and Lilli
  - 37 SARS Requests After Hurricanes Rita and Katrina
  - 5-7 Potential More SARS Requests After Gustav and Ike



# SARS Program (cont.)



- Generally Much More Is at Stake When Applying to Reef Downed Platforms
  - Cost to Completely Remove Damaged / Downed Platform Jacket Versus Cost to Reef on Site
    - Decks Are Generally Being Removed Anyway Because of Pollution Fears
    - But Not the 10x to 15x Factor Applied to Decommissioning Cost of Downed Platforms and Wells
  - Big Driver Is Also Reducing Risk to Divers of Working Around Damaged Platforms
  - Generally Damaged Jackets Are Not Good Candidates to Move to Existing Reef Sites - Too Much Risk of Collapse and Collateral Damage Along the Way

# SARS Program – Louisiana Shrimp Assn Lawsuit

- LA Shrimp Assn vs. LA DWF and LA Artificial Reef Development Council (Feb 2009)
- Shrimpers Fighting to Maintain “Trawlable Bottoms”
- Judge Stated that Where Platforms Currently Exist Is Not Trawlable Currently
- LA State Judge Rejected a Request for Preliminary Injunction and Declaratory Judgment Against the SARS Program (Jun 2009)

# SARS Program – LDWF Proposed Changes

- Minimum Water Depth of 135'
- Minimum of 5 Miles from Existing SARS or Reef Planning Area Boundary
- Minimum of 1000' from Active Pipeline
- Application of EPA and MARAD's National Guidance: Best Practices for Preparing Vessels Intended to Create Artificial Reefs
- Create SARS Advisory Committee Composed of User Group Representatives to Review Each SARS Proposal (shrimpers, commercial fishermen, charter fishermen, recreational fishermen, scuba divers, oil and gas industry, research institutions, conservation organizations, LA offshore terminal authority, MMS, USCG)

# SARS Program – MMS Proposed Changes

- MMS Draft NTL on Rigs-to-Reefs Not Issued Yet
- Expect Alignment with LA DWF Proposed Rigs-to-Reefs Program Changes



# SARS – Impact of Proposed Changes

- Reported That 40 Currently Proposed SARS Sites Might Be Rejected Under the New Rules
  - 5 Mile Proximity Issue May Be the Main Issue
- Multiple Downed Platforms in a Lease Would Effectively Have to Be Assembled in a Single Reef Site (4000 ft Square)
  - Unlikely to Happen Because of Costs and Risks to Relocate Damaged Jackets
  - Producers Most Likely to Bear Cost for Complete Removal of All But One Jacket in a Single Lease
- SARS Advisory Committee
  - Increases Risk of Project Delays Which May Not Be Tolerated Under New MMS “Idle Iron” NTL

# Technical Challenges Presented by Deep Water Jackets

- Some Traditional Platform Jackets in Deep Water Will Be Technically and Financially Challenging to Remove Without the Rigs-to-Reefs Option
  - Many of These Jackets Were Launched and Not Lifted Originally. Some Were Assembled in Pieces
  - As We Typically Discover in the Decommissioning Business, No One Planned the Removal When They Designed the Fabrication and Installation
  - Reefing in Place and Reefing Offsite Offer Technically and Financially Viable Alternatives
    - Industry Savings and Donations to the State for Reefing These Jackets Could Reach As High As \$20 MM Each



# Opportunities to Expand the Rigs-to-Reefs Program

- Save Jacket and Deck Nodes During Onshore Platform Dismantling for Redeployment in Shallow Water State Lease Artificial Reefs Through Organizations Like CCA

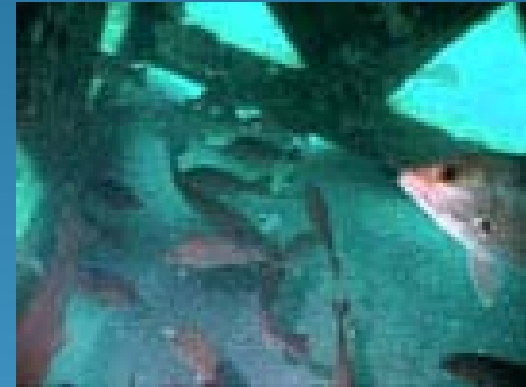


# Opportunities to Expand the Rigs-to-Reefs Program

- Reserved Blocks for Rigs-to-Reefs in Shallow Water
- Change Savings Split to Provide Funds to Prepare Decks for Reefing
- Challenge the MMS Mudslide Area Assumption Off of the Mouth of the Mississippi River
- Provide Shrimpers and Commercial Fishermen with GPS Data to Mark Artificial Reef Sites
- Enlist Research Organizations & Universities to Study the Environmental Impact of the Rapid Loss of the Existing Platforms as Reefs

# Groups We Need to Engage

- Coastal Conservation Association (Represents Recreational Fishermen)
- Shrimpers
- Charter Fishermen
- Commercial Fishermen
- Recreational Divers
- State Game and Fish Agencies
- USCG and US Navy
- Public Through Magazine Articles in Popular Fishing and Diving Magazines
- Back to the MMS and State Wildlife Agencies



# What You Can Do

- Get Completely Informed on How the Rigs-to-Reefs Program Changes Could Impact Your Company
- Make Your Voice Heard
  - Directly to Agencies Involved
  - Through the Offshore Operator's Committee (OOC)
  - Through the Louisiana Oil and Gas Association (LOGA)
  - Through Any Private Groups With Whom You May Associate Such as CCA or Dive Groups

# Closing Thoughts . . .

- The Rigs-to-Reefs Program Has Been a Highly Successful Win-Win Program for the Environment, Government, and Industry, and It Needs to Be Preserved and Expanded
- Everything that We Do in the US Offshore Oil and Gas Industry Must Be Done with the Thought that We Are Influencing Our Chances to Drill in Unexplored Areas Off the East Coast, West Coast, Alaska, Eastern Gulf of Mexico, and the Rest of the World.

# Back Up Slides

# Evolution of Artificial Reefs Programs

## - Federal

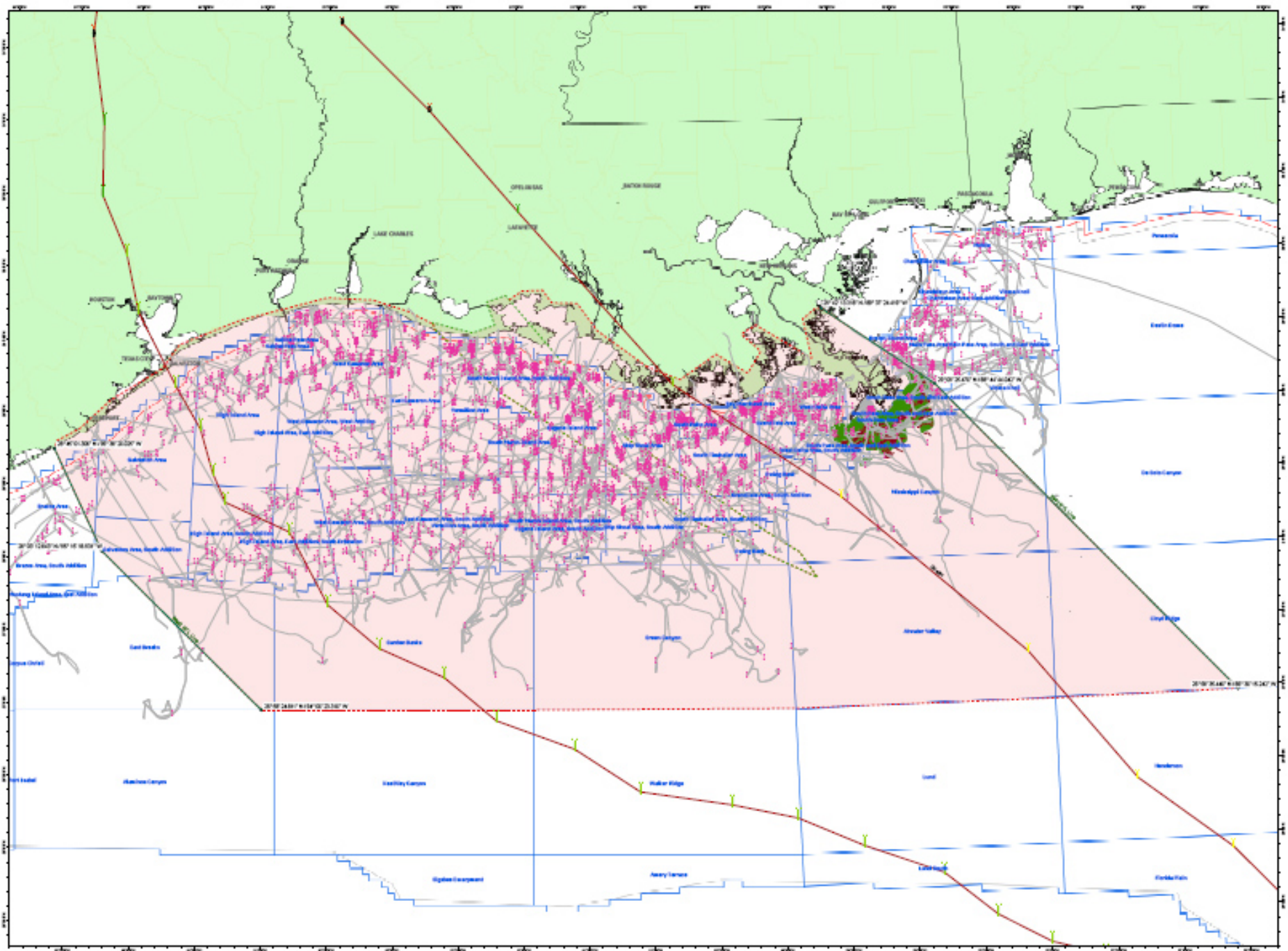
- Before the 1980's Done on *Ad Hoc* Basis
- 1983 - MMS Announced Its Support for the Concept of the Conversion of Selected Obsolete Oil and Gas Facilities to Artificial Reefs to Enhance Recreational And Fishing Opportunities
- 1984 - National Fishing Enhancement Act - Promote And Facilitate Efforts to Increase Fish Population
- 1985 - National Artificial Reef Plan - Provides Guidance And Criteria for Planning, Setting, Designing And Managing

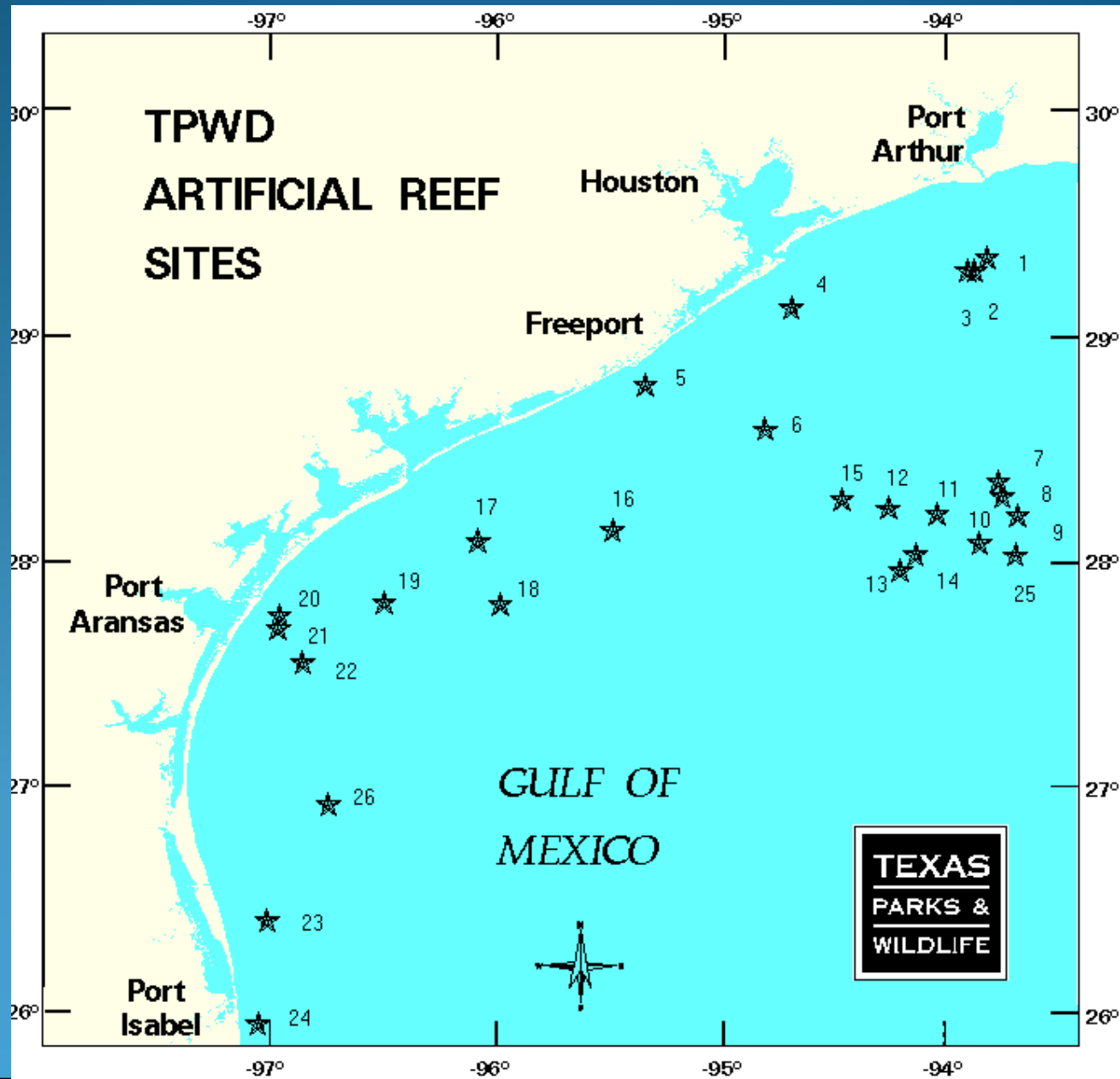
# Evolution of Artificial Reef Programs - State

- 1982 – Florida Artificial Reef Program
- 1986 - Louisiana Fishing Enhancement Act
- 1986 - Louisiana Artificial Reef Program
- 1987 – Alabama Artificial Reef Program
- 1989 - Texas Artificial Reef Act
- 1990 - Texas Artificial Reef Program
- 1999 – Mississippi Reef Act









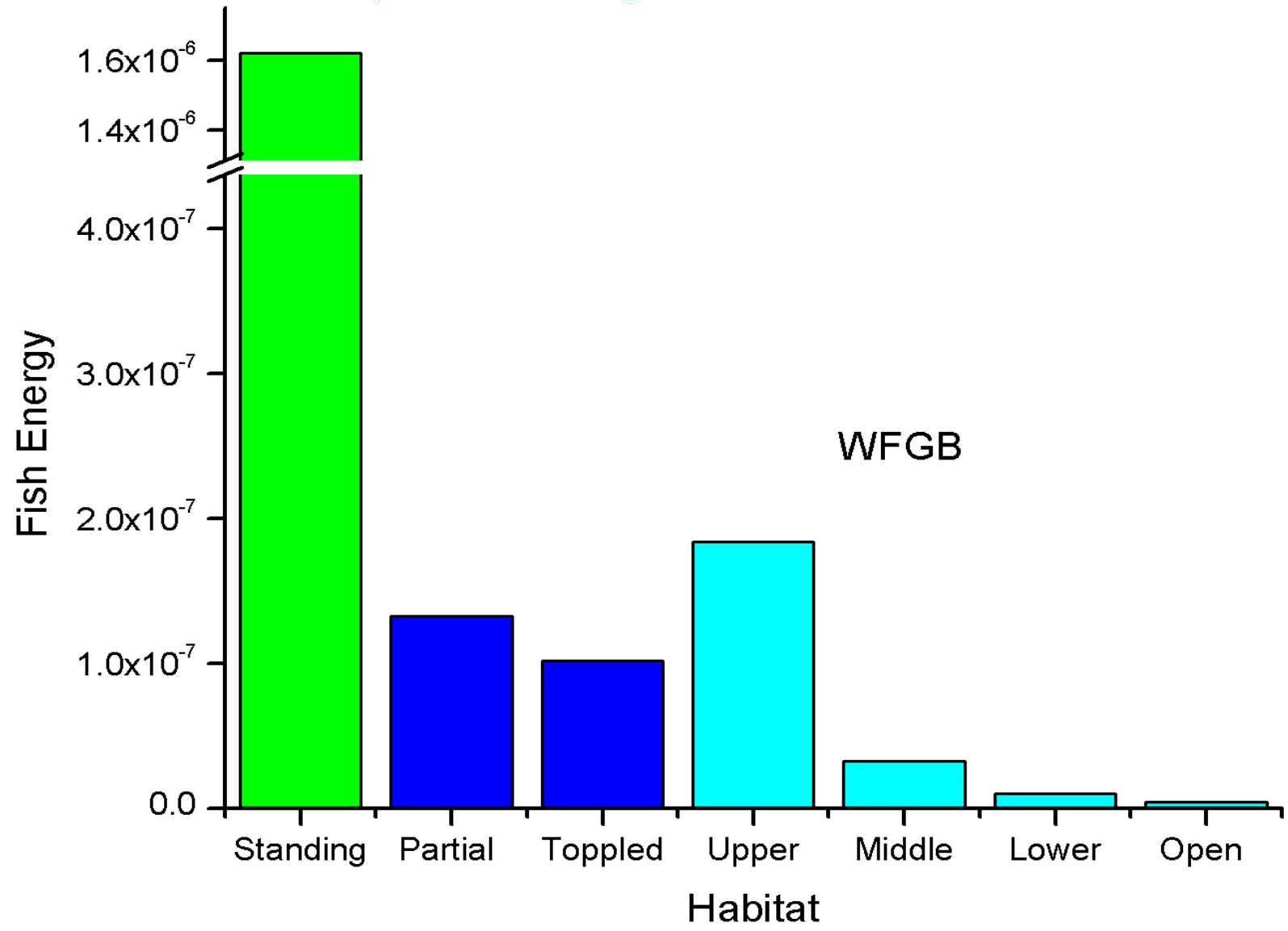
# Alabama Artificial Reef Program

<b>Donation Type</b>	<b>Quantity</b>
Barges	43
Liberty Ships	5
Military Tanks	83
Platform Components	4
Concrete Pipe	9
Tugs	2
Ships	1

# Scientific Support

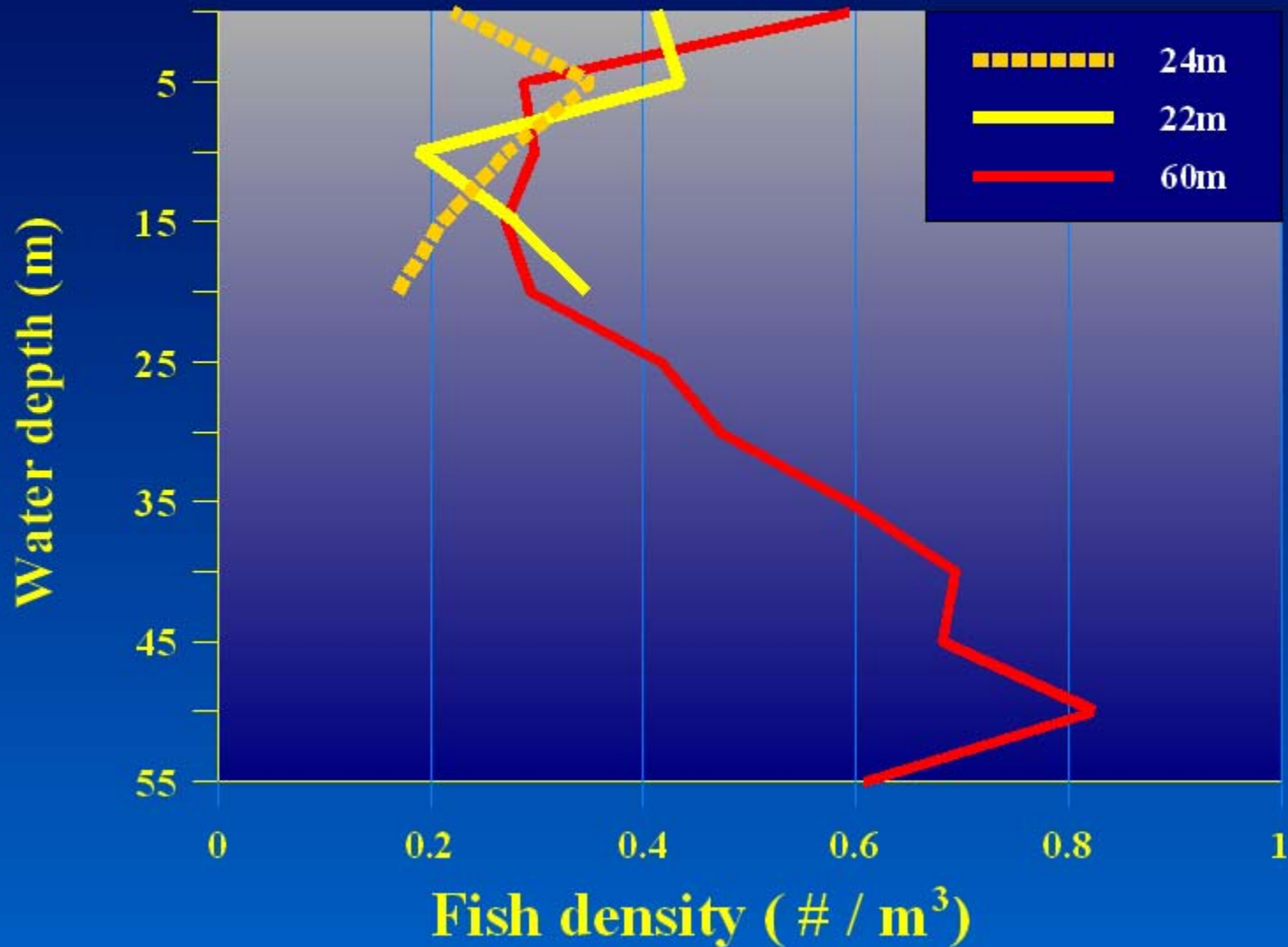
- Louisiana State University
  - Dr. Charles Wilson
  - Relative Fish Concentration
- University of California at Santa Barbara
  - Dr. Milton Love
  - Identifying/Quantifying Fish Species

# Relative Concentration of Fish On Offshore Platforms And Naturally Occurring Reefs



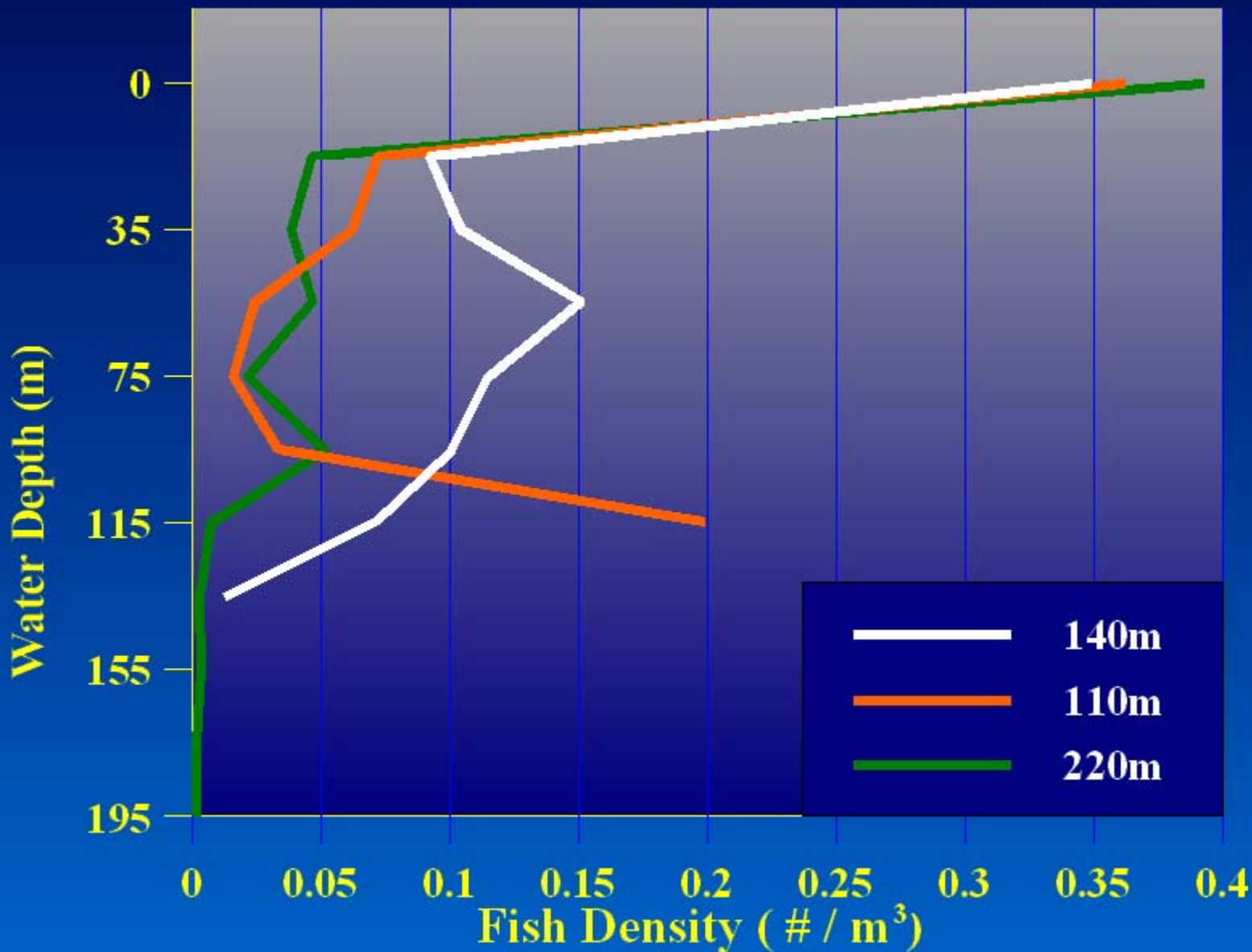
WFGB

# Mean Fish Density by Depth at Platforms on the Continental Shelf





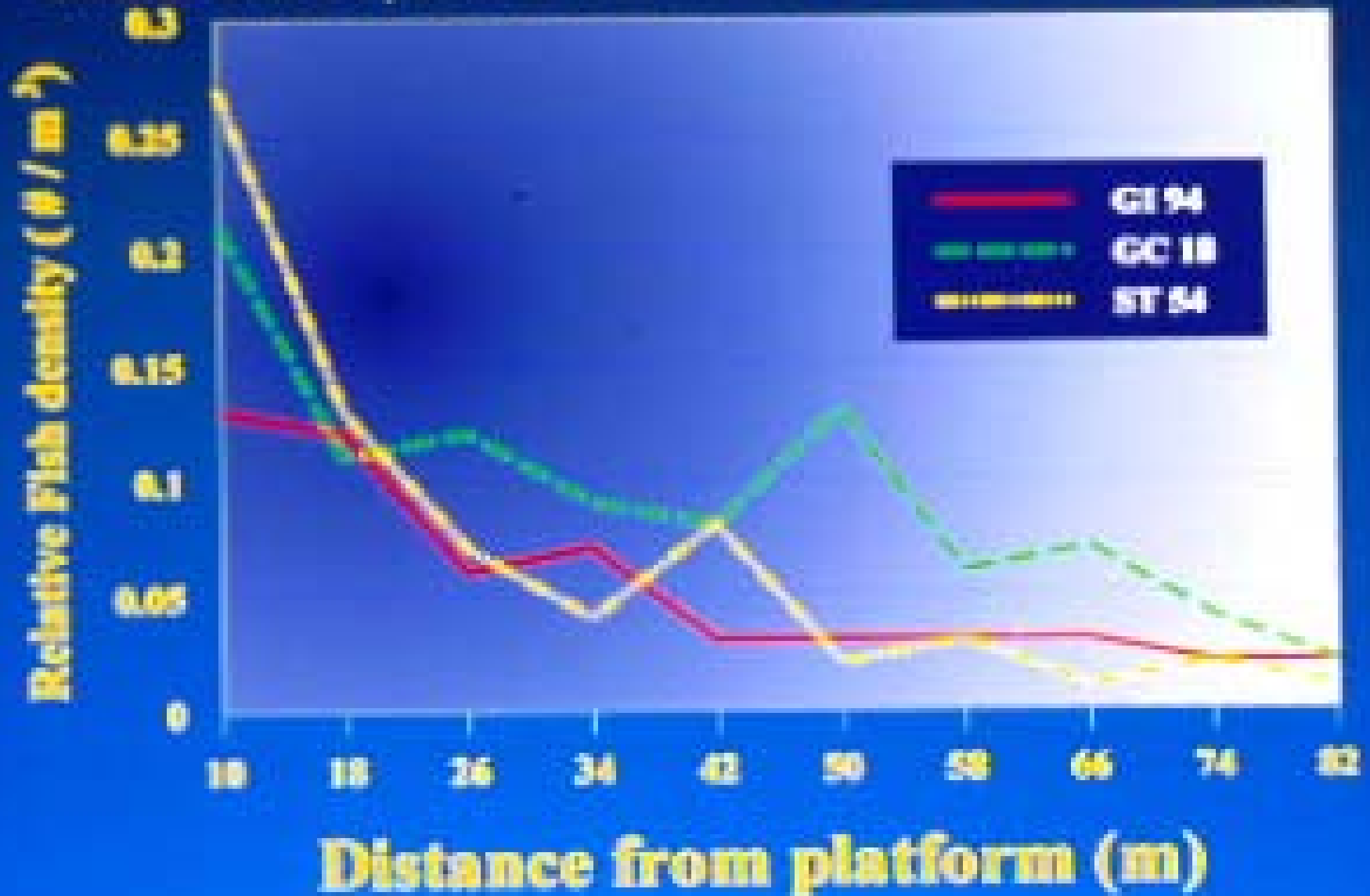
# Mean Fish Density by Depth at Platforms off the Continental Shelf





Mean fish density with distance  
from petroleum platforms:

Grand Isle 94 , South Timballer 54 and Green Canyon 18



# UCSB Marine Science Institute

- Platforms Provide Habitat for Most Rockfish Species That Is Better Than Or Equal to Natural Reefs.
- Some Platforms Harbor Higher Densities of Young Rock Fish, Adult Rock Fish, Deepwater Rock Fish Than Do Most All Natural Reefs

# Grand Isle Research Lab

- \$23 million, state-of the art Fisheries Research Lab, Opened July 1, 2009
- Lab will help protect Louisiana's aquatic resources; help LDWF better manage and monitor fisheries resources across the state which will benefit fishermen, the tourism industry and coastal communities
- 35,000 square foot complex located on a seven acre site that fronts on Caminada Bay on the north shore of Grand Isle, part of a 30-acre parcel of land owned by the Grand Isle Port Commission
- Lab will support resource sampling and research work performed by Office of Fisheries staff
- Biologists based in Grand Isle study a variety of marine species including finfish, crab, shrimp and oysters and their associated habitat, which are all vital to the economy of Louisiana
- Sport Fish Restoration Program and the Artificial Reef Program for the state will also be based at the new lab (these programs help provide boating and fishing access opportunities for the recreational and commercial fishers of Louisiana)
- The following measures were taken to ensure that the facility is hurricane and flood proof:
  - Dredged material from construction of the marina was used to build the site up to 6 feet above sea level
  - The buildings are raised to 12 feet above the new grade which results in the finished floors being 18 feet above sea level
  - All elements at grade are designed to "wash out" during a high flood event
  - The buildings are constructed of concrete columns, beams, floors and walls to withstand 150+ MPH winds
- Lab will provide a base of operation for the rehabilitation of stranded and out-of-habitat marine species such as manatees, dolphins and sea turtles
- New facility will allow LDWF to continue to build on the cooperative working relationships with the Audubon Aquarium of the Americas, the Louisiana Marine Mammal and Sea Turtle Rescue Program
- Facility space is available in the visitors' lab to accommodate the research needs of any public group or visiting scientist and can provide meeting space for up to 100 people
- Activities the lab can accommodate include but are not limited to law enforcement training, educational high school programs such as 4-H and graduate-level study programs with Louisiana State University, Southeastern Louisiana University and Nicholls State University, among others
- Source: <http://www.laseagrant.org/comm/2009/lab.htm>

# Fisherman's Contingency Fund

- NOAA Fisheries – Office of Management and Budget
  - Fisheries Contingency Fund (FCF) was established to compensate fishermen for economic and property losses caused by oil and gas obstructions on the U.S. Outer Continental Shelf.
  - Revolving fund comprised of assessments paid by offshore oil and gas interests.
- National Marine Fisheries Service
- Fisherman's Contingency Fund Hangs Data Base
  - Ms Claretta Jackson, Financial Assistance Specialist
  - Financial Services Division (301) 713-2396

# Hurricane Damage Summary

Year	Hurricane	# Platforms Effected / #Damaged / #Destroyed	Pipeline Incidents
1992	Andrew	700 / 65 / 22	480
2002	Lili	800 / 17 / 2	120
2004	Ivan	150 / 31 / 7	168
2005	Katrina & Rita	3,050 / 52 / 115	542
2008	Gustav & Ike	2,127 / 135 / 54	9





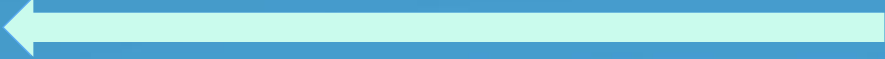
M. PMAC 17

M. PMAC 18



Normal 30-Day Comment Period

- |                         |
|-------------------------|
| Corps                   |
| Individuals             |
| Special Interest Groups |
| Local Agencies          |
| State Agencies          |
| Federal Agencies        |



Application Denied



Evaluation Factors

- Conservation
- Economics
- Aesthetics
- Environmental Concerns
- Fish & Wildlife Values
- Flood Damage Prevention
- Welfare of the General Public
- Historic Values
- Recreation
- Land Use
- Water Supply
- Water Quality
- Navigation
- Energy Needs
- Safety
- Food Production

# COE Reef Permitting Process

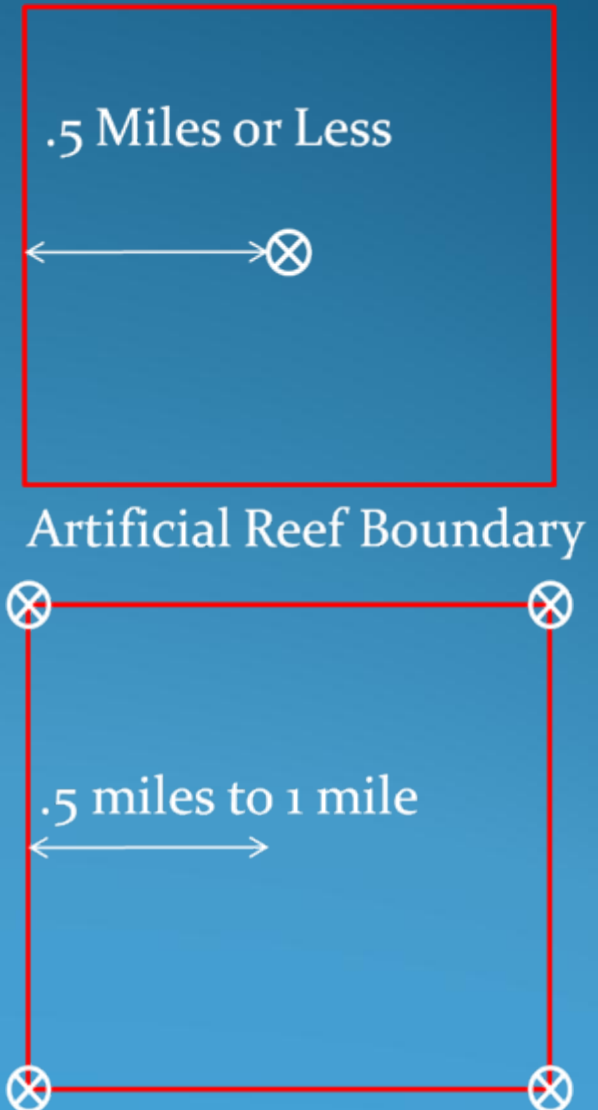


# Buoy Requirements

- 0.5 Miles From the Center
  - < 85-ft Clearance - 1 Lighted, 6-second, Yellow at the Center of the Site
  - 85-ft – 200-ft of Clearance - 1 Unlighted, Yellow at the Center
  - >200-ft Clearance – No Buoy Requirements
- .05 Mile – 1 Mile From the Center
  - < 85-ft Clearance - 1 Lighted, 6-second, Yellow at Each Corner
  - 85-ft – 200-ft of Clearance - 1 Unlighted, Yellow at Each Corner
  - >200-ft Clearance – No Buoy is required

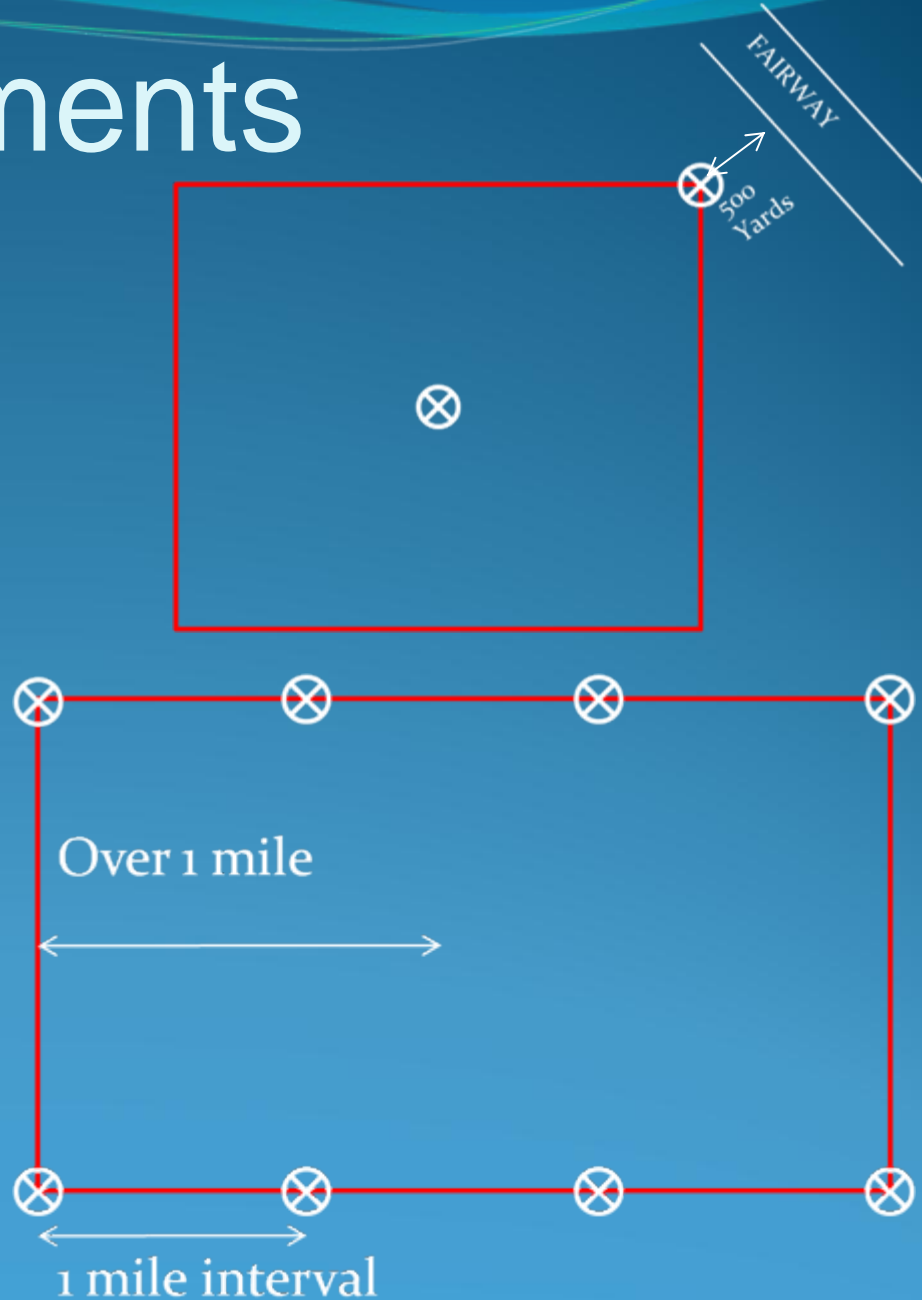
# Buoy Requirements

- -85-ft Clearance
  - Lighted, 6-second Special Purpose Yellow
- -85-ft -200-ft Clearance
  - Unlighted, 6-second Special Purpose Yellow
- >200- Clearance
  - No Buoy Necessary



# Buoy Requirements

- -85-ft Clearance
  - Lighted, 6-second Special Purpose Yellow
- -85-ft -200-ft Clearance
  - Unlighted, 6-second Special Purpose Yellow
  - Near Fairway – Quick Flash Red or Green Buoy
- >200- Clearance
  - No Buoy Necessary



# Opportunities to Expand the Rigs-to-Reefs Program

- Save Jacket and Deck Nodes During Onshore Platform Dismantling for Redeployment in Shallow Water State Lease Artificial Reefs Through Organizations Like CCA
- Consider Reserving Certain Lease Blocks Closer to Shore and Major Recreational Ports to Build Artificial Reef Sites That Would Be Off Limits to Commercial and Military Ship Traffic So That the Reefs Could Be Left Closer to the Surface

# Opportunities to Expand the Rigs-to-Reefs Program (cont.)

- Consider Changing the 50/50 Savings Split to 75 Company / 25 State if the Deck Is Reefed
  - This Would Provide Funds to Adequately Clean and Strip the Decks so that Their Increased Surface Areas and Dense Structure Could Be Added to the Reefs
  - Decks have a Much Lower Profile and Could Be Left in Shallower Water, Closer to Shore, and More Accessible to User Groups

# Opportunities to Expand the Rigs-to-Reefs Program (cont.)

- Challenge the Assumption that All Platforms in the Area Off of the Mouth of the Mississippi River Are in a Mudslide Area, Are a Threat to Be Toppled, and Must All Be Removed Completely Rather Than Reefed
- Consider Expanding the Scope of the Fisherman's Contingency Fund to Provide Shrimpers and Commercial Fishermen with GPS Data to Mark Artificial Reef Sites

# Opportunities to Expand the Rigs-to-Reefs Program (cont.)

- Challenge the Assumption that All Platforms in the Area Off of the Mouth of the Mississippi River Are in a Mudslide Area, Are a Threat to Be Toppled, and Must All Be Removed Completely Rather Than Reefed



# Opportunities to Expand the Rigs-to-Reefs Program (cont.)

- Enlist Research Organizations and/or Universities to Study the Environmental Impact of the Potential Loss of the Existing Platforms on the Gulf of Mexico Shelf