

Artificial Substrates as EFH: A Gulf of Mexico Case Study

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Professor of Marine Biology

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Center for Sportfish Science and Conservation

Goal: Maintenance and rebuilding of sport-fisheries for future generations through sound science




HARTE
RESEARCH INSTITUTE



EFH

“Habitat Triage” for exploited oceans

- Not enough resources or restoration capabilities
- Must prioritize marine habitats

Identify “Essential” Essential Fish Habitat?



K. Drinnen/Flower Garden Banks National Marine Sanctuary



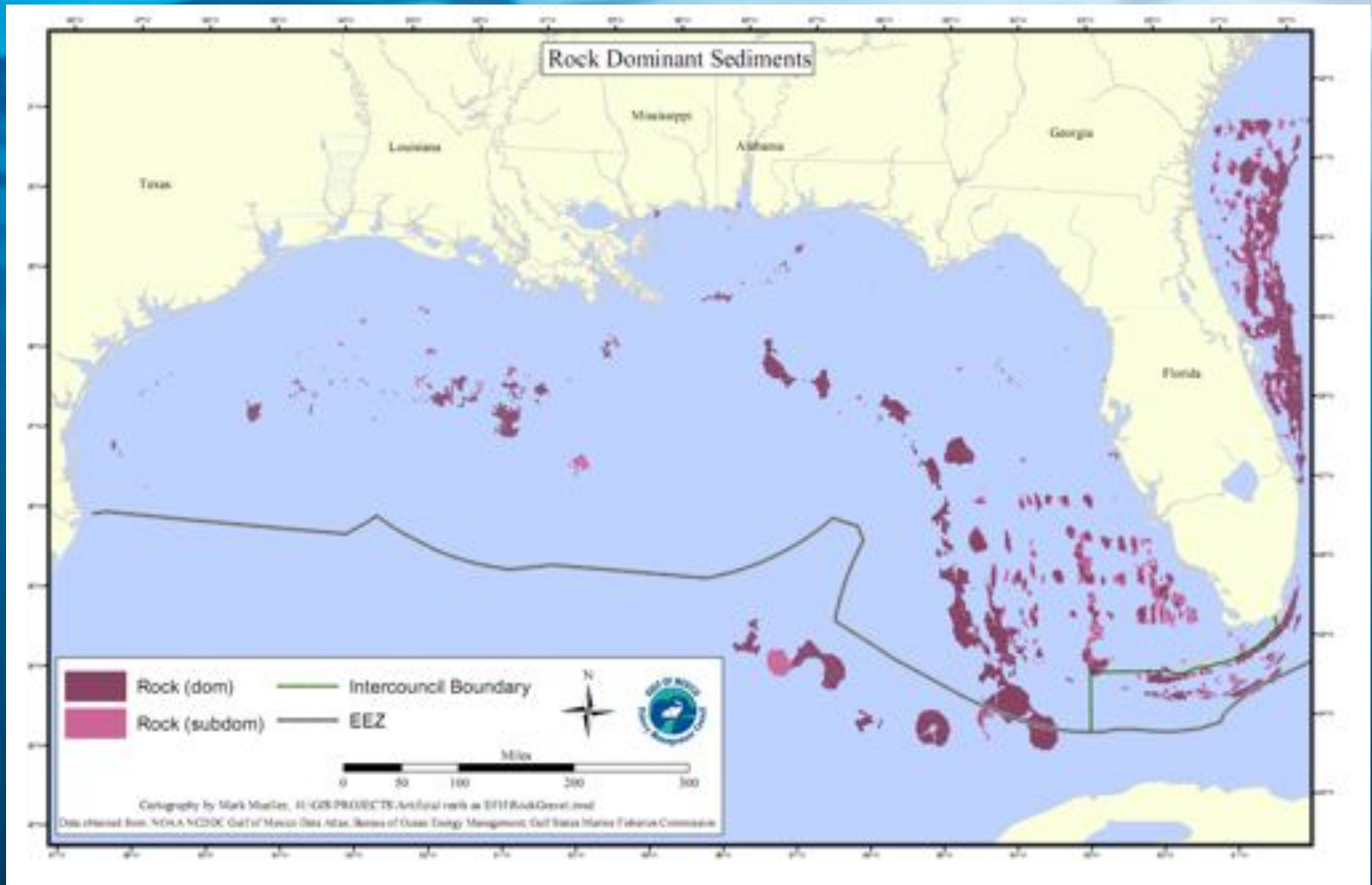
R. Eckert/Flower Garden Banks National Marine Sanctuary

Why is this habitat type so critical for the central and western Gulf of Mexico?

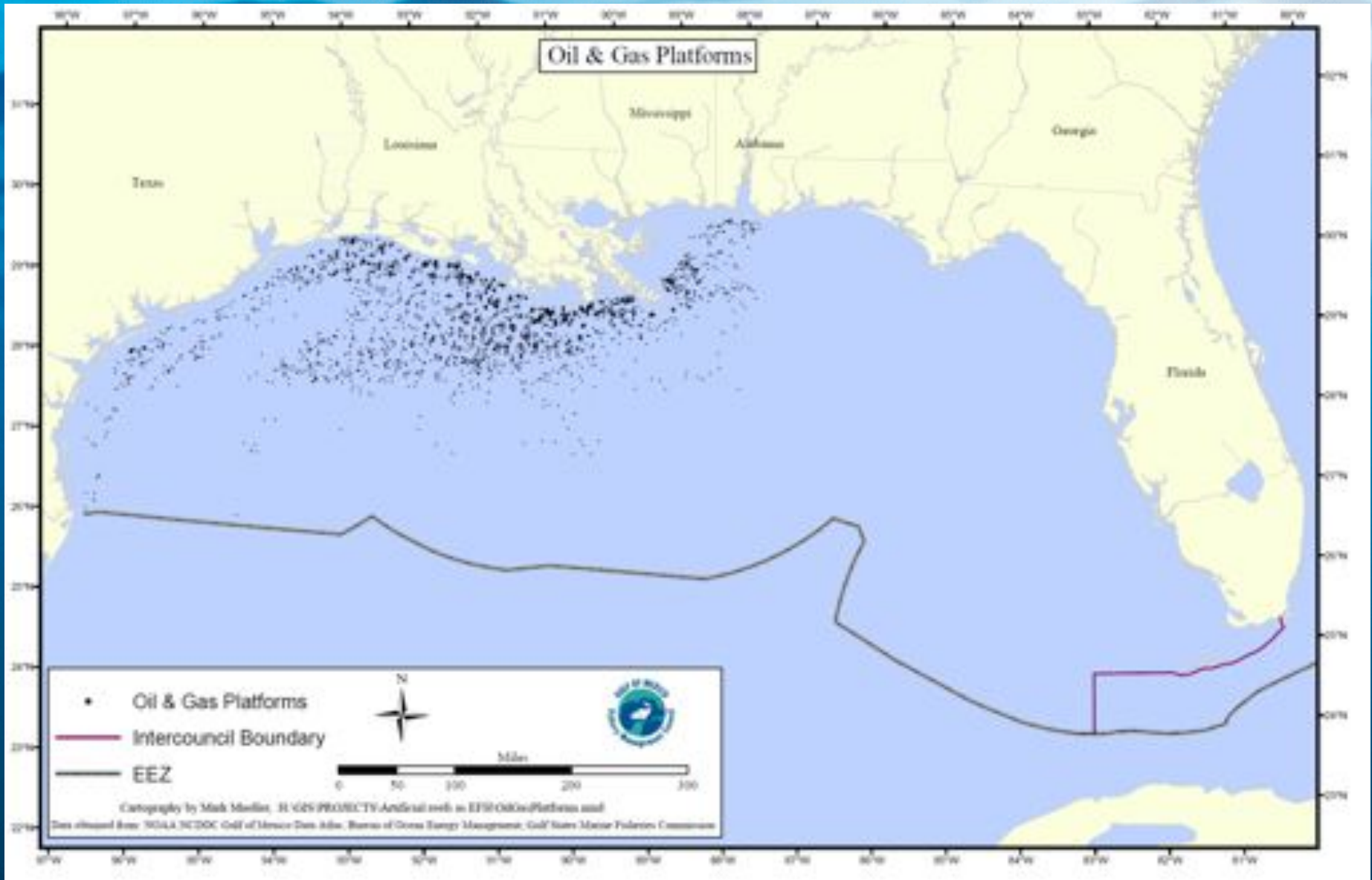
Mud bottom predominates!



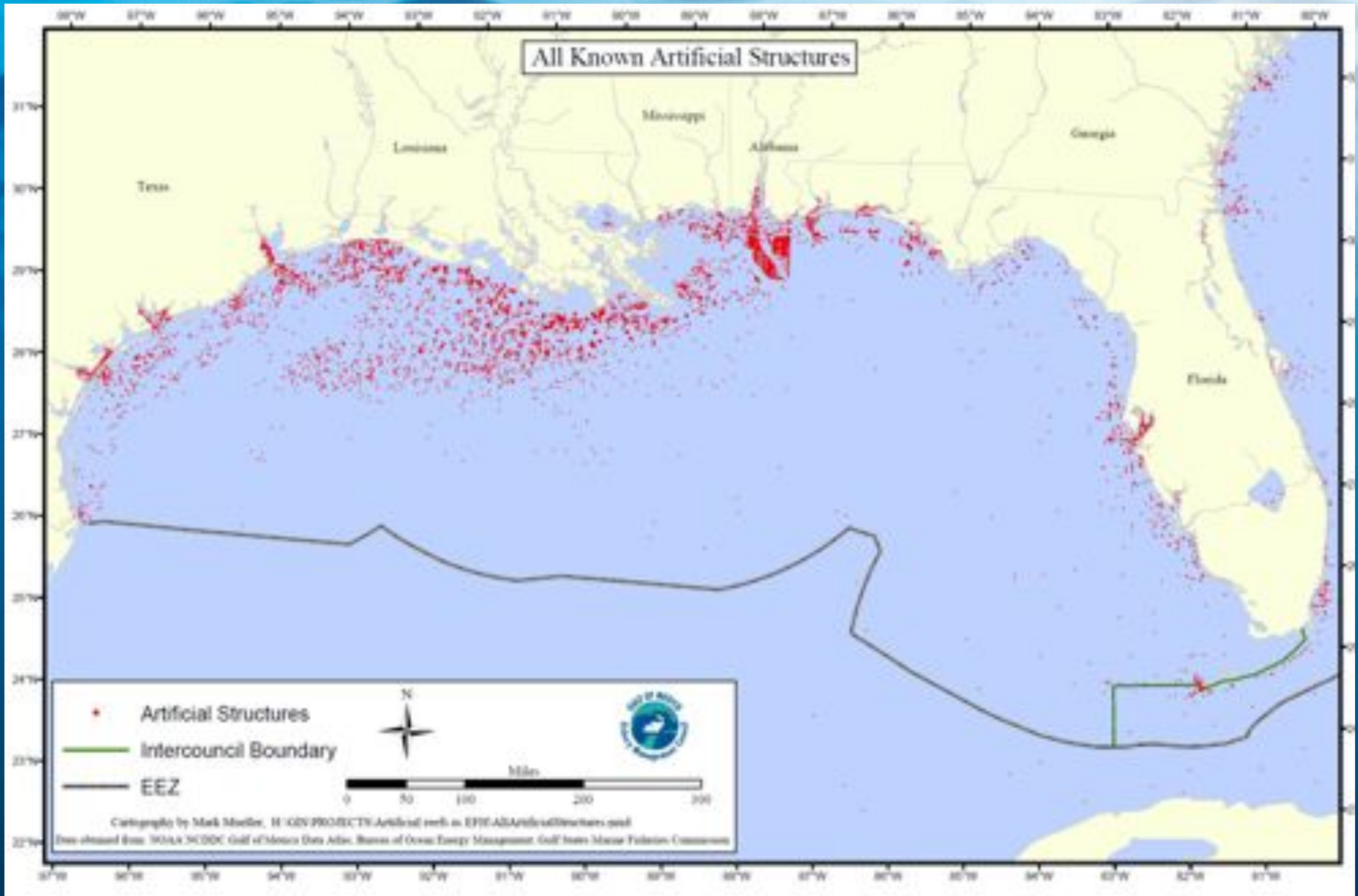
Hard-bottom habitat in GOM



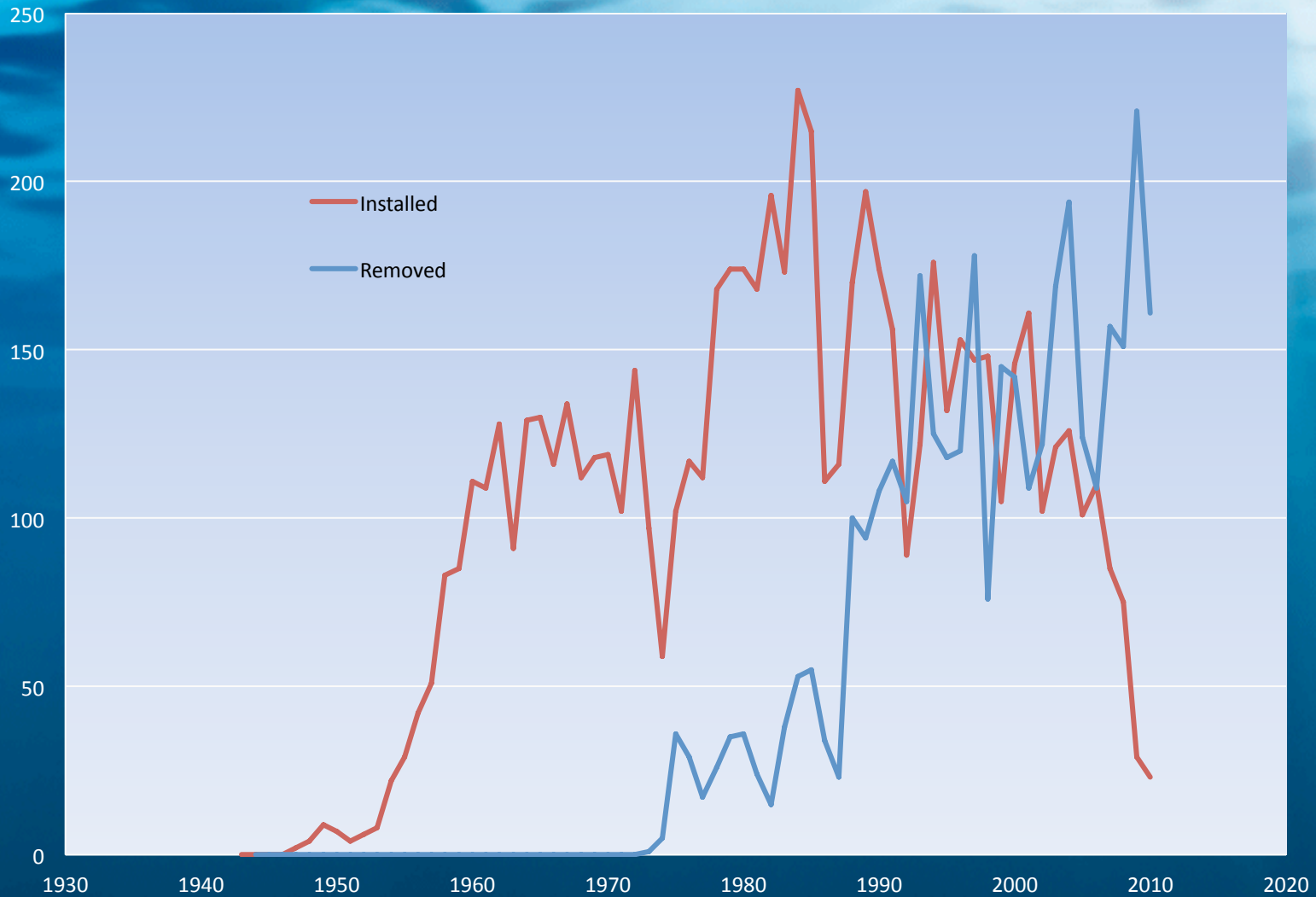
Oil and Gas Platforms in GOM



Artificial Structures in GOM (2 types)

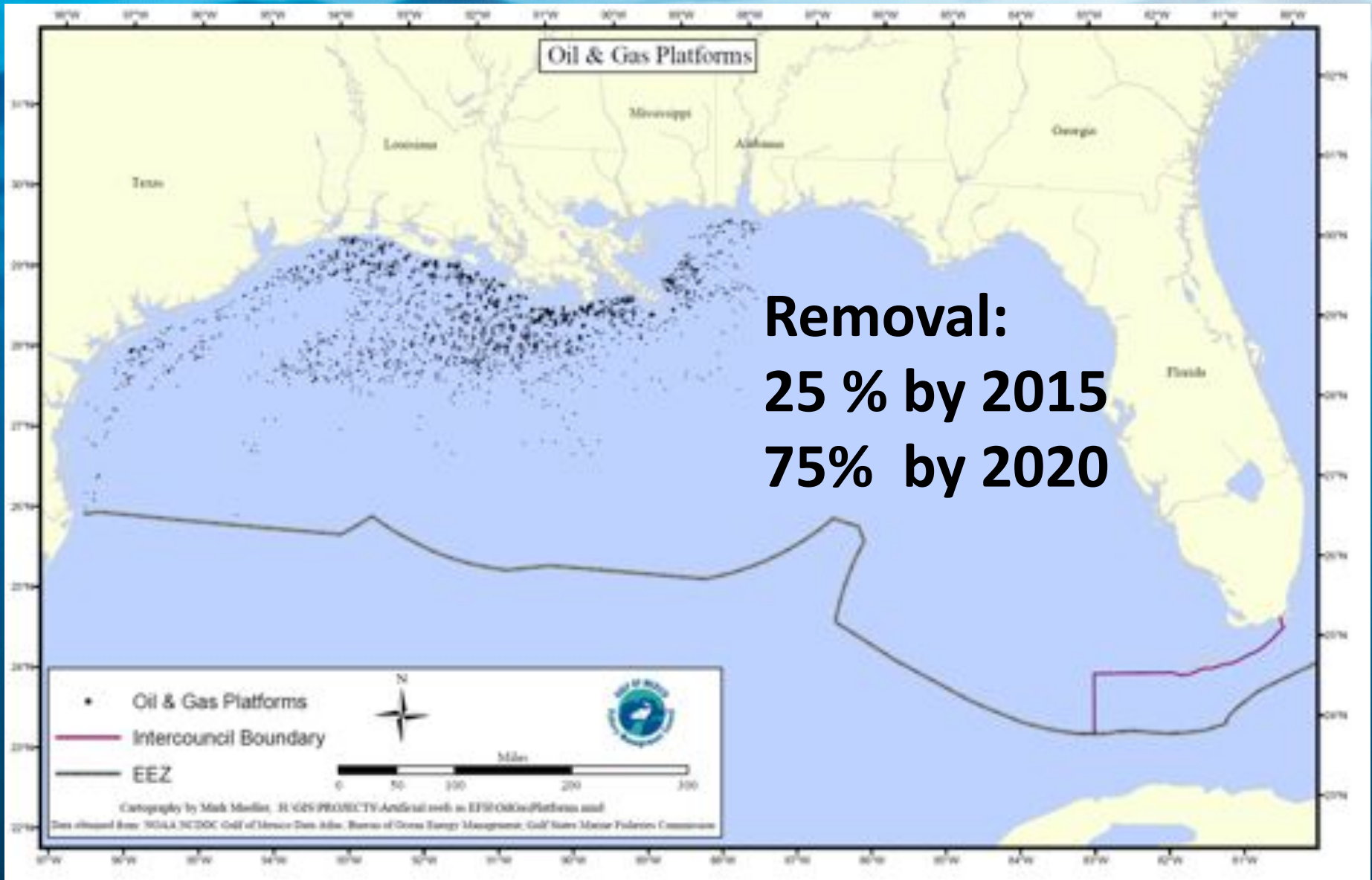


Installations versus Removals



Data from: http://bsee.gov/uploadedFiles/BOEM/Newsroom/Offshore_Stats_and_Facts/Gulf_of_Mexico_Region/OCSPatformActivity.pdf

Oil and Gas Platforms in GOM





Idle Iron Policy

- Requires the removal if not produced within the last 5 years (US DOI, 2010)
- Must be capped and removed or donated to Rigs to Reefs Program
- 813 Platforms are Idle
- \$ 300K - 4M to remove a platform and 250K/yr to maintain



Platform Decommissioning

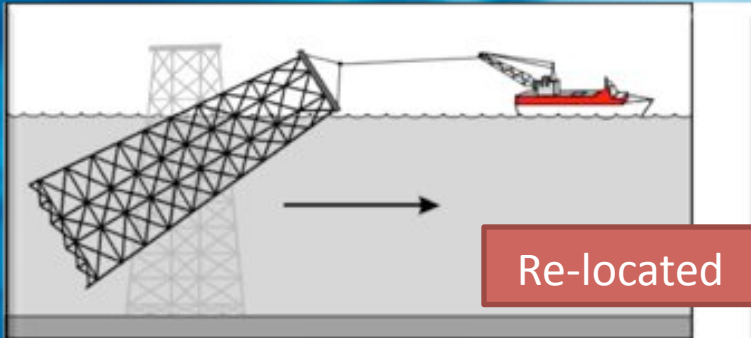


Figure 4.-The tow-and-place platform reefing method

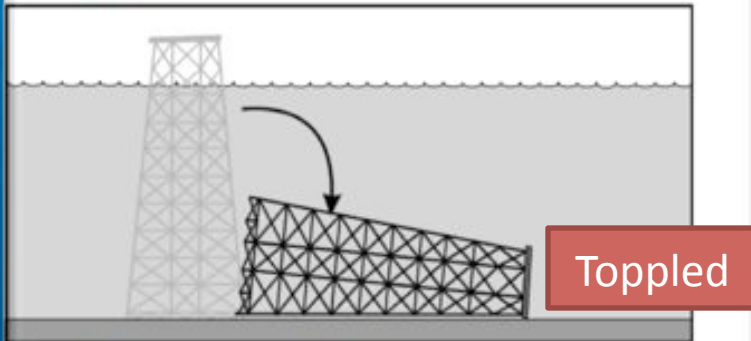


Figure 5.-The topple-in-place platform reefing method

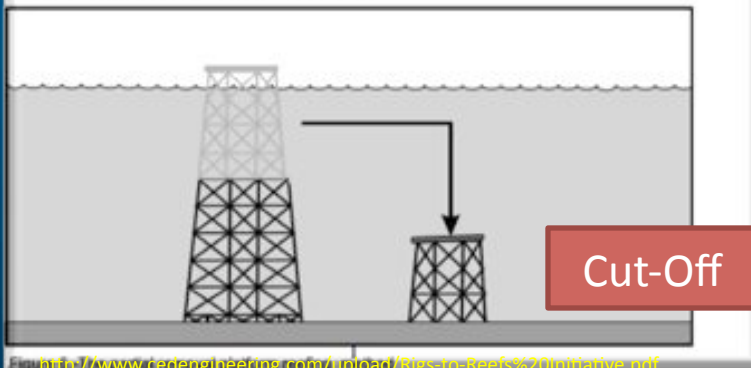


Figure 6.-The cut-off platform reefing method



<http://www.vbar.com/vb10000/index.html>



<http://guyharveysportswear.com/blog/tag/ocean-conservation/>

Where is the controversy?



Pros:

- Habitat
- Ecological Functions
- Popular Destination
- Livelihoods
- Helping Fisheries
- Economics

Cons:

- Law/Policy
- Liability
- Ocean Dumping
- Navigation
- Hurting Fisheries
- Economics

Industry Viewpoint: a win-win situation

- Support artificial reefs (1-2 M to reef; 4M remove)
- By 2020 will have created ~ 18 B worth habitat
- Liability – especially leaving above 85’
- Meeting contractual obligations
- More approved “reefing” sites in GOM
- Adamantly opposed to designation as EFH



Texas Parks and Wildlife Artificial Reef Program

“...goal is to continue to promote, develop, maintain, monitor and enhance the artificial reef potential of Texas.”



Rigs-to-Reefs Program



Ships-to-Reefs



Artificial Reef Assessment

SCUBA

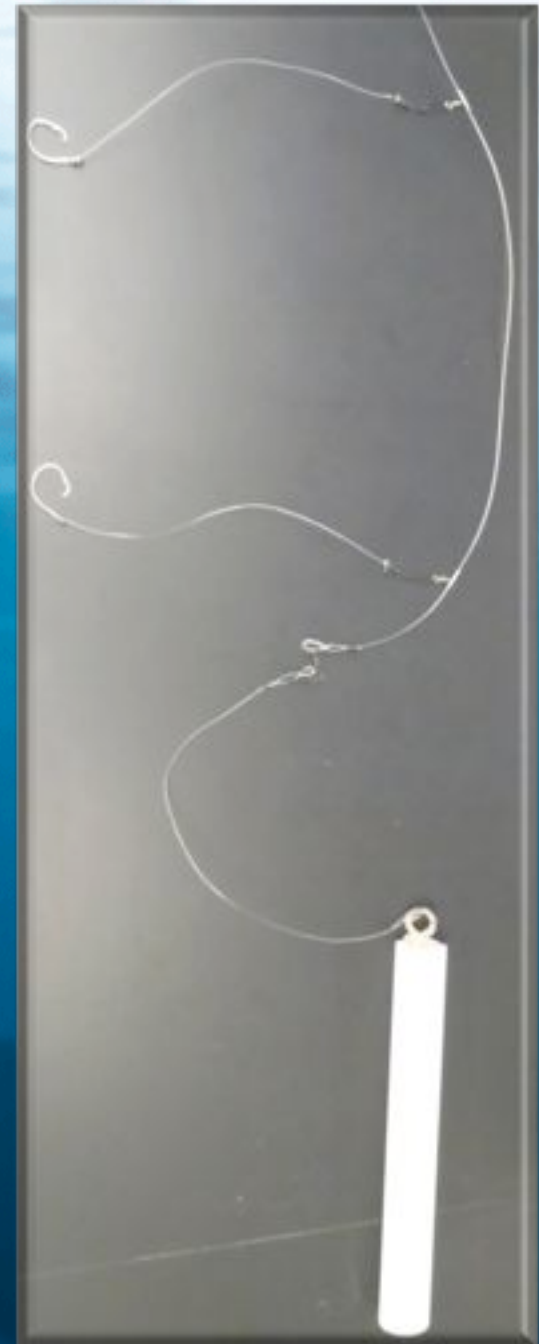


Remotely Operated Vehicle



Vertical Longline

- 10 circle hooks along a 20ft leader
- 3 Hook Sizes: 8/0, 11/0, 15/0
- Each backbone has same hook size



Acoustic Tracking



Attraction



Production



- Is habitat limited for certain species in the Gulf?
- Growing consensus that the structures contribute to the productivity of the Gulf
- Move from A vs P to ecological to social performance

Socio-economic Impacts:

“iSnapper”



- In Texas:
 - 100% of dive trips and ~ 50% of fishing trips target oil and gas platforms
- Annual fishing expenditure in the Gulf:
 - ~ 1M fishing trips during
 - \$173 M in trip-related and \$640M equipment spending
- Users are willing to pay for reef access

CAGE
THR: 0

300 315 330 345 0 375
339
TRNS: 0

ROV
DPT: 49m
ALT: 8m
TLT: 00
ROL: -06

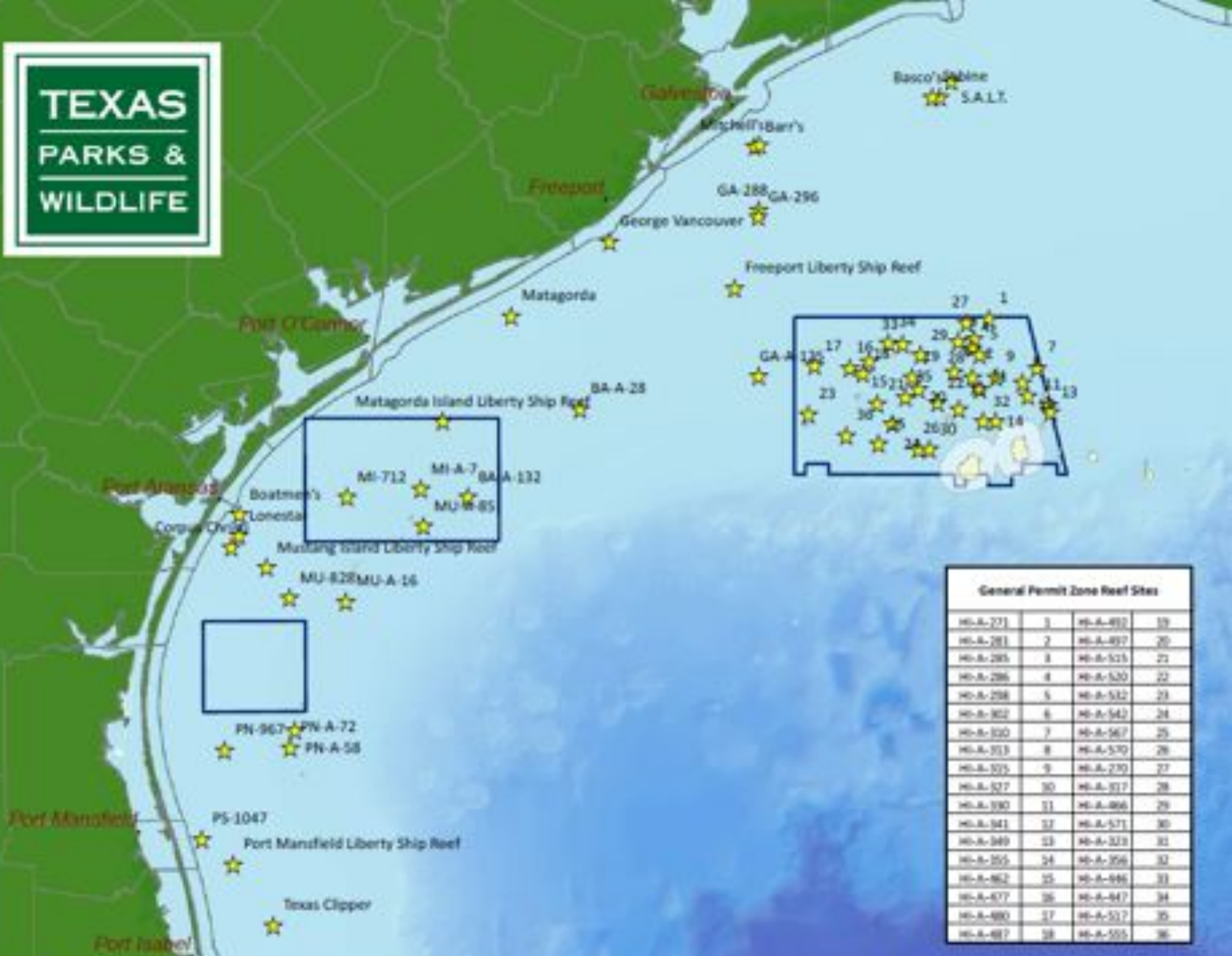


Lat 27 49.3707 N Lon 095 59.3273 W
FK005C / BA-A-132
Dive Number: 5

10/16/12
21:46:45

Lionfish observed at approximately 70 m depth off Port Aransas, TX

**TEXAS
PARKS &
WILDLIFE**



General Permit Zone Reef Sites

HI-A-271	1	HI-A-492	19
HI-A-281	2	HI-A-497	20
HI-A-285	3	HI-A-525	21
HI-A-286	4	HI-A-520	22
HI-A-298	5	HI-A-532	23
HI-A-302	6	HI-A-542	24
HI-A-320	7	HI-A-567	25
HI-A-313	8	HI-A-570	26
HI-A-325	9	HI-A-270	27
HI-A-327	10	HI-A-317	28
HI-A-390	11	HI-A-466	29
HI-A-341	12	HI-A-571	30
HI-A-349	13	HI-A-323	31
HI-A-355	14	HI-A-356	32
HI-A-362	15	HI-A-446	33
HI-A-377	16	HI-A-447	34
HI-A-480	17	HI-A-517	35
HI-A-487	18	HI-A-505	36

Science lagging behind policy needs...

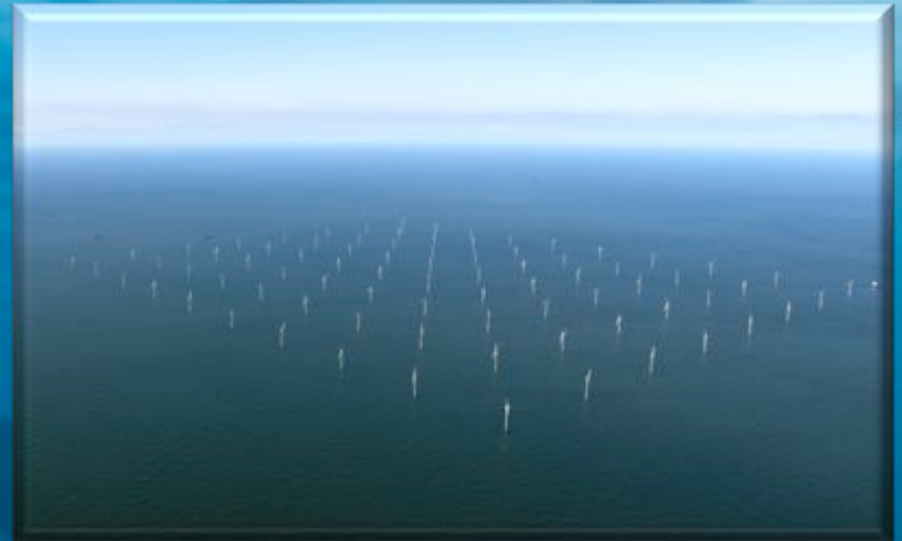
- How is the Gulf of Mexico Handling this?
 - ❖ Asked the SSC to evaluate for EFH
 - ❖ Ad-hoc Artificial Substrate Advisory Panel
 - ❖ Public input (overwhelmingly supportive)

Findings – Artificial Substrate Ad-hoc...

- A primary concern was the accelerated removal (i.e., most may be gone with or without implementation of EFH)
- Do artificial structures fall under EFH definition?
Will reauthorization address this concern?
- “Artificial” reefs may not have been the best term
- Direct efforts toward immediate reefing vs pursuing EFH in the short-term

Take Home Message...

The issue is not going away anytime soon.



- Councils should consider where artificial habitats fall within the construct of EFH

CAGE
THR: 0

330 345 0 15 30 45
6
TRANS: 0

ROV
DPT: 32m
ALT: 4m
TLT: 00
ROL: 06



Lat 26 52.0102 N Lon 097 02.9732 W
FK005C / PN-967
Dive Number: 2

10/15/12
14:52:37

SSC Motion:

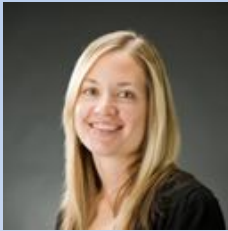
The AP recommends a refocusing of efforts away from designation of artificial substrate as EFH, and instead facilitate reefing programs that are consistent with the national artificial reef plan.

GMFMC Joint Artificial Reef/Habitat Protection Motion:

Motion: That staff develop a letter, sent to the appropriate entities, recognizing the importance of artificial structures as fish habitat; that BOEMRE regulations require they be removed and that we suggest that they be removed without the use of explosives, that the material be retained in existing artificial reef zones and other agreed upon and appropriate locations, and that the monetary savings to the companies be returned to the permit holders based on the current formula that is being used.

Center for Sportfish Science and Conservation

PROFESSIONAL STAFF



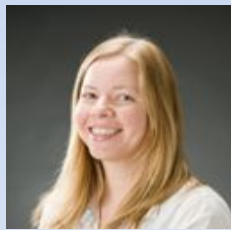
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Post Doc



Dr. Matt Ajemian
Post Doc



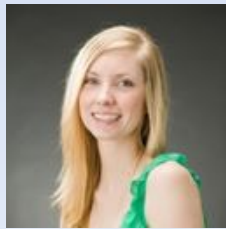
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Jennifer Wetz
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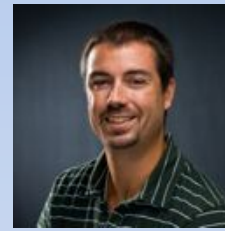


Jason Williams
Marine Research Specialist

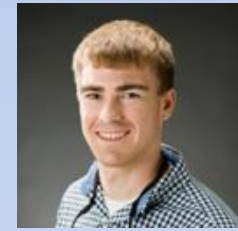


Alison Lund
Lab Manager

STUDENTS (Program) **Ph.D. Students**

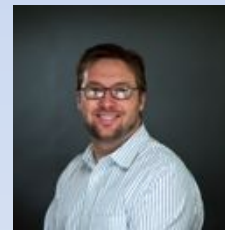


Judd Curtis (MARB)



Matt Streich (MARB)

Master's Students



Phil Jose (MARB)

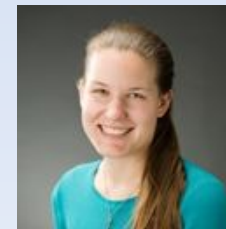


Peter Young (FAMA)

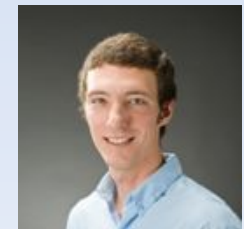
Undergraduate Students



Ruben Palacios



Danielle Zimmermann



Chas Downey