

*Science, Service, Stewardship*



# **Southeast Vessel Monitoring System (VMS) Overview**

March 5, 2013

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Southeast VMS Program Manager

**NOAA  
FISHERIES  
SERVICE**

NOAA



## Presentation Intentions

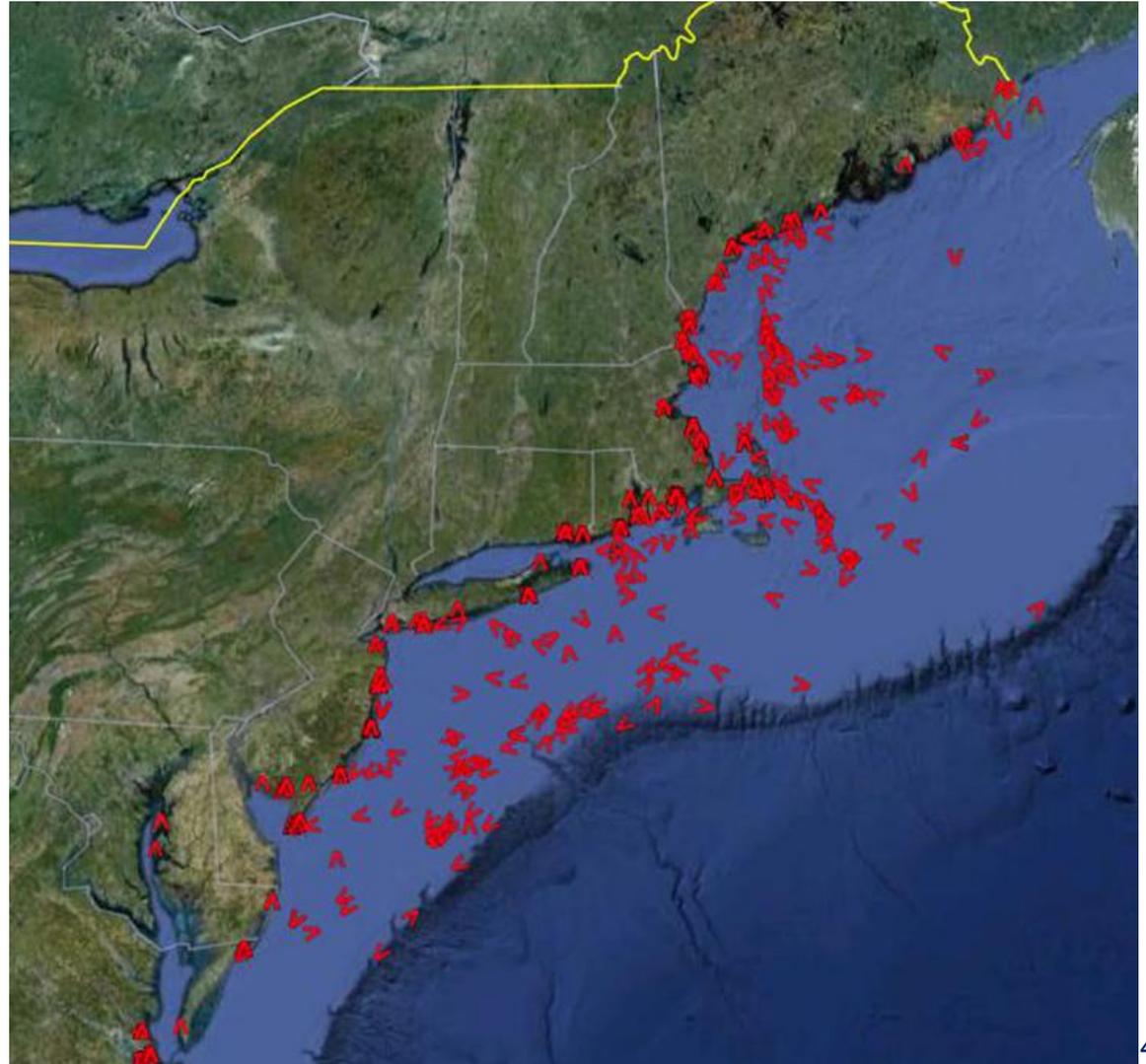
- Provide a brief overview of the current VMS Programs by Region across the country
- Address security concerns and limitations on the use of VMS data
- Provide an overview of existing VMS units available today and similar Gulf Reef Fish VMS regulations
- Discuss some of the benefits of the VMS program
- Briefly provide some examples of recent VMS uses in support of Law Enforcement



# VMS Requirements Across the Country



## Northeast Region VMS Requirements

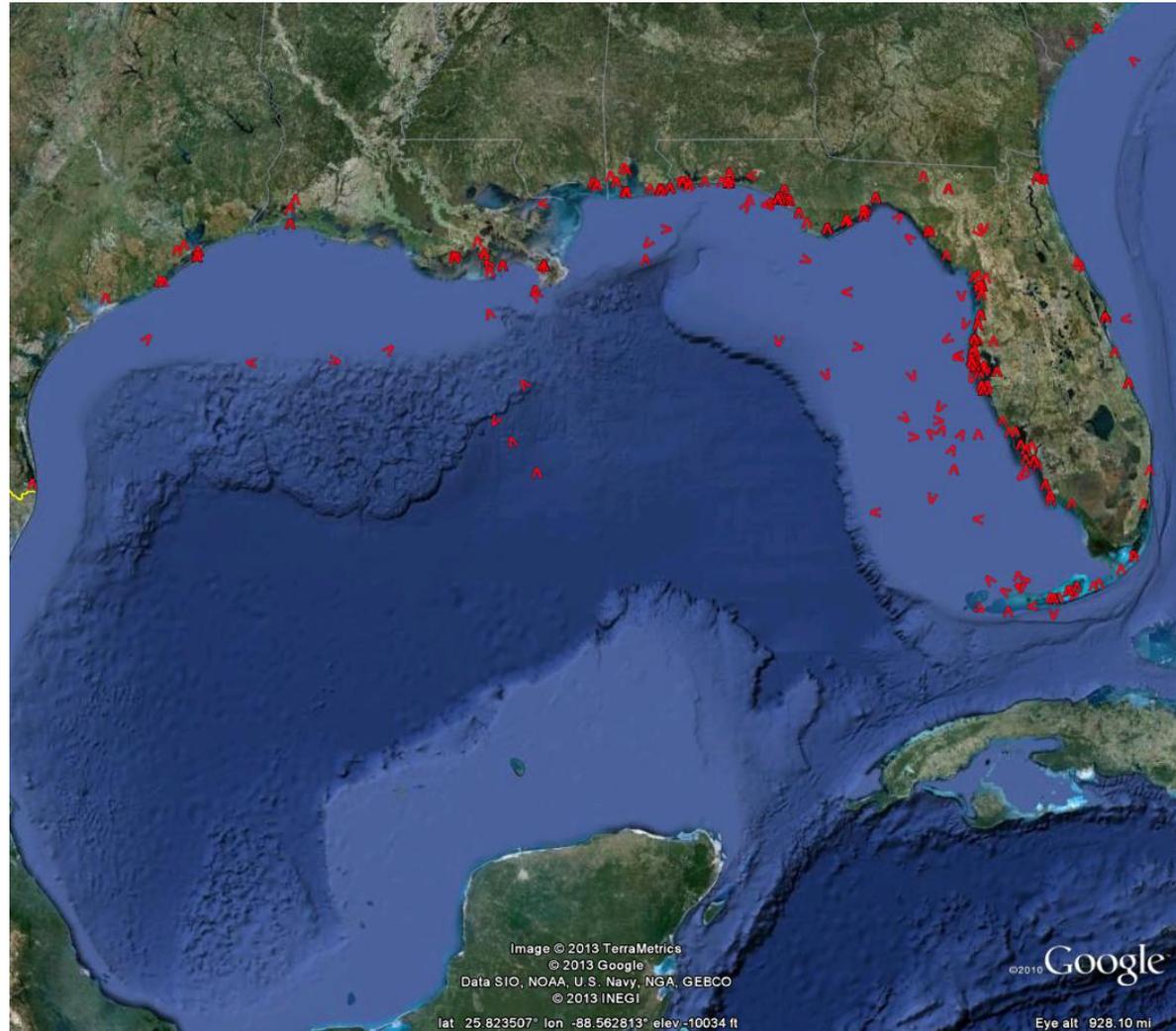


- Population: 1,019 vessels
- First required in 1996
- Surfclam, scallop, groundfish and herring permits



## Gulf Region VMS Requirements

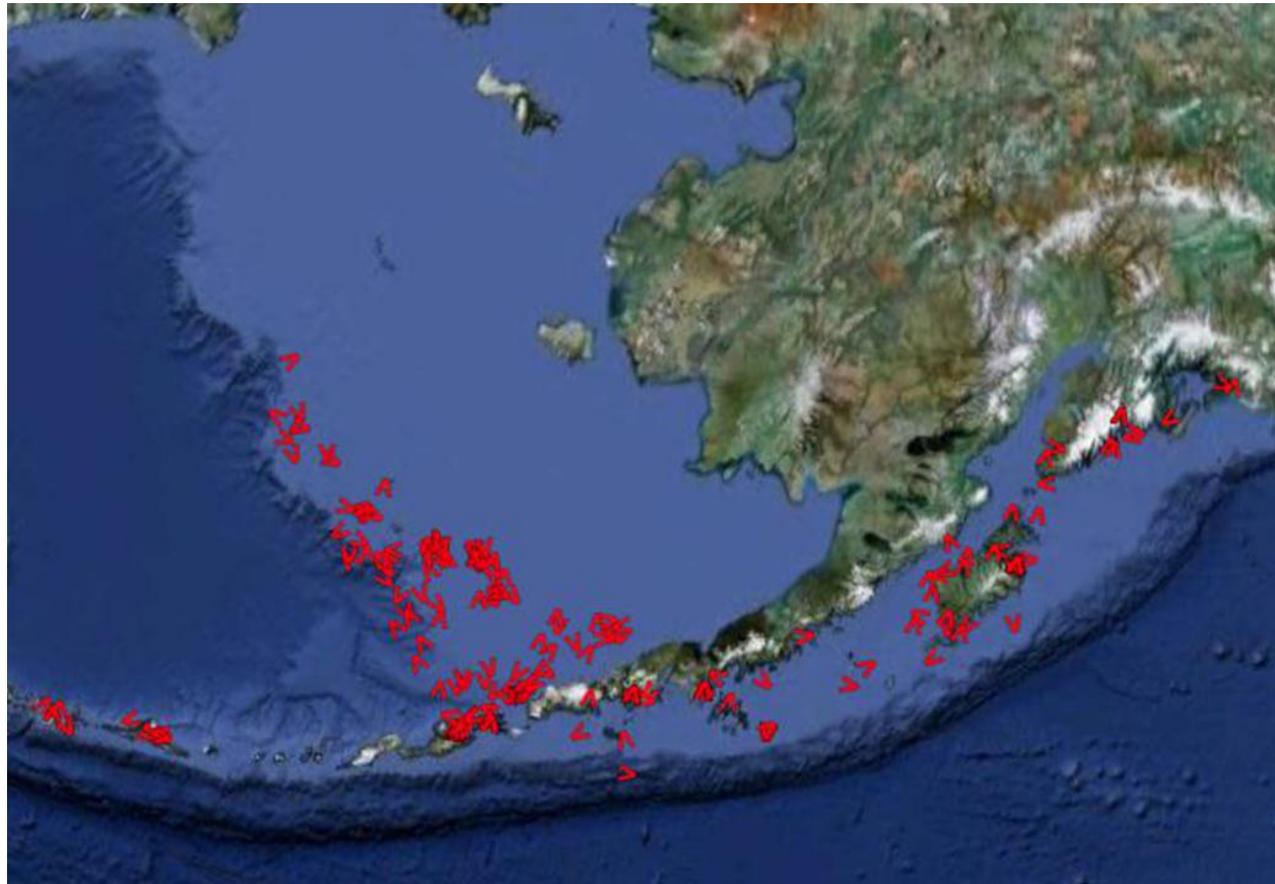
- Population: 1,067 vessels
- First required in 2007
- Gulf Reef Fish (Red Snapper and Grouper permits)





## Alaska Region VMS Requirements

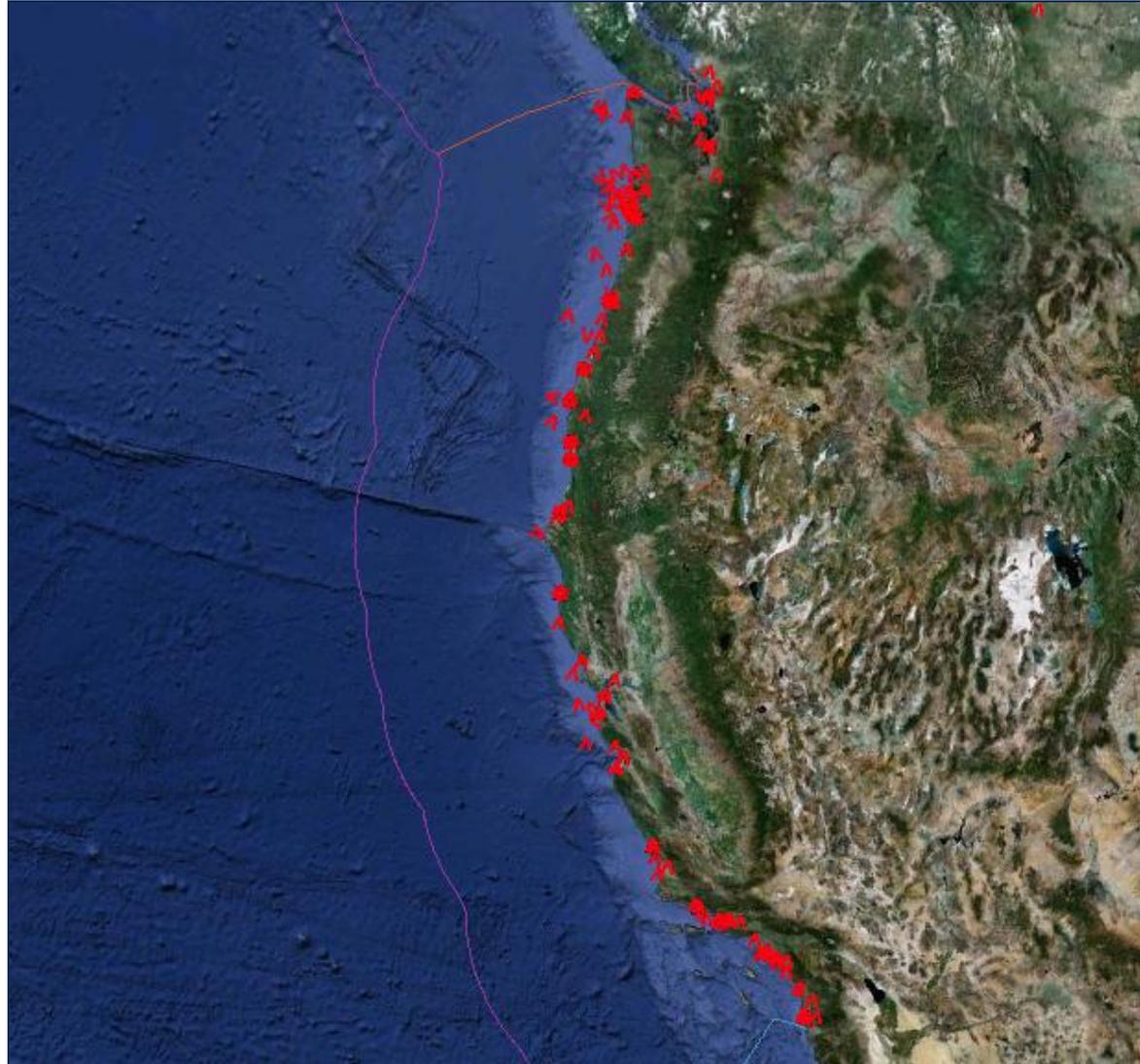
- Population: 586 vessels
- First required in 2002
- Crab, rockfish, dredge and trawler vessels and polluck, Pacific cod and mackeral vessels near Sea Lion restricted areas





## Northwest Region VMS Requirements

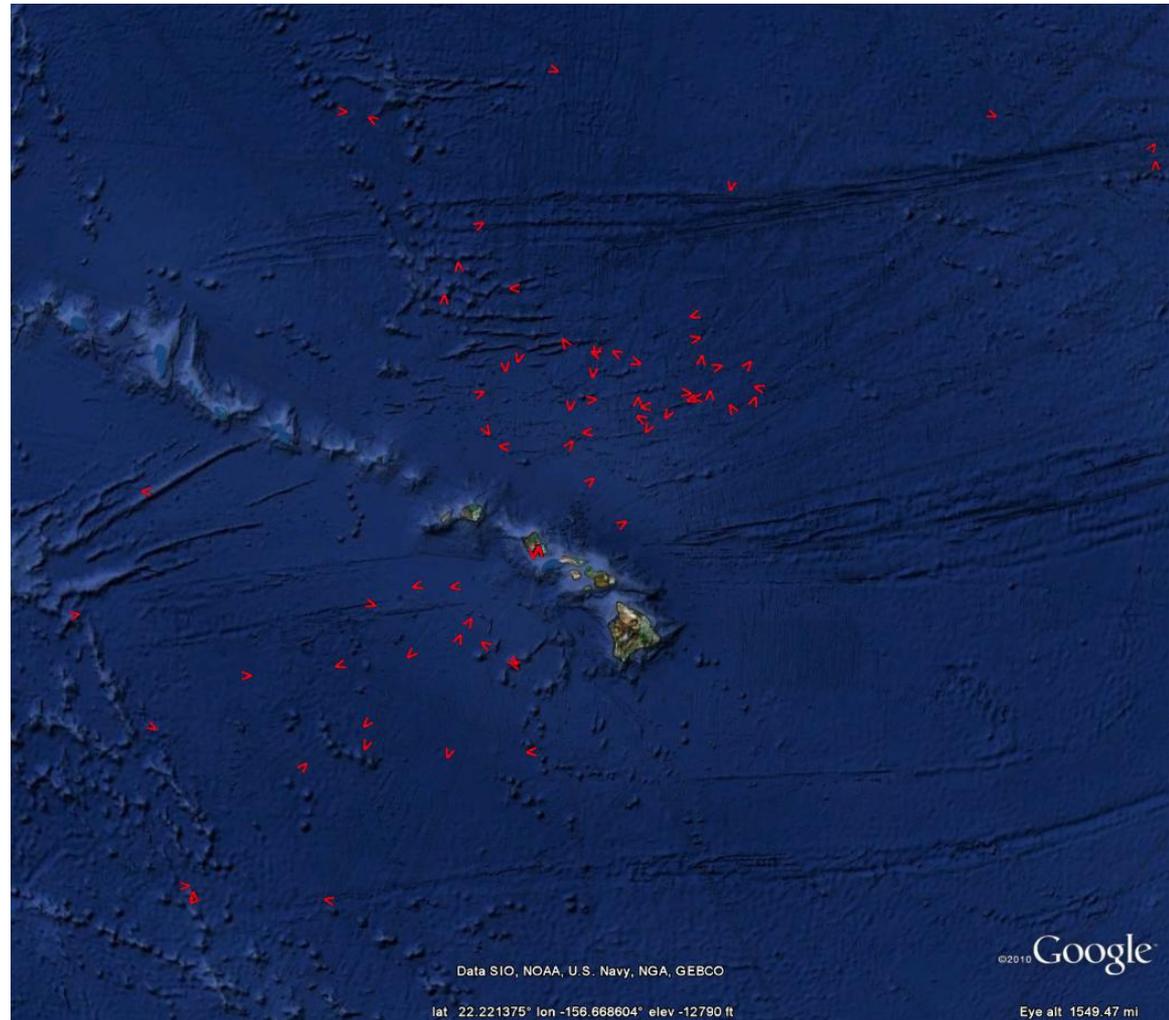
- Population: 1,001 vessels
- First required in 2003
- Pacific coast groundfish limited entry and open access vessels





## Pacific Islands Region VMS Requirements

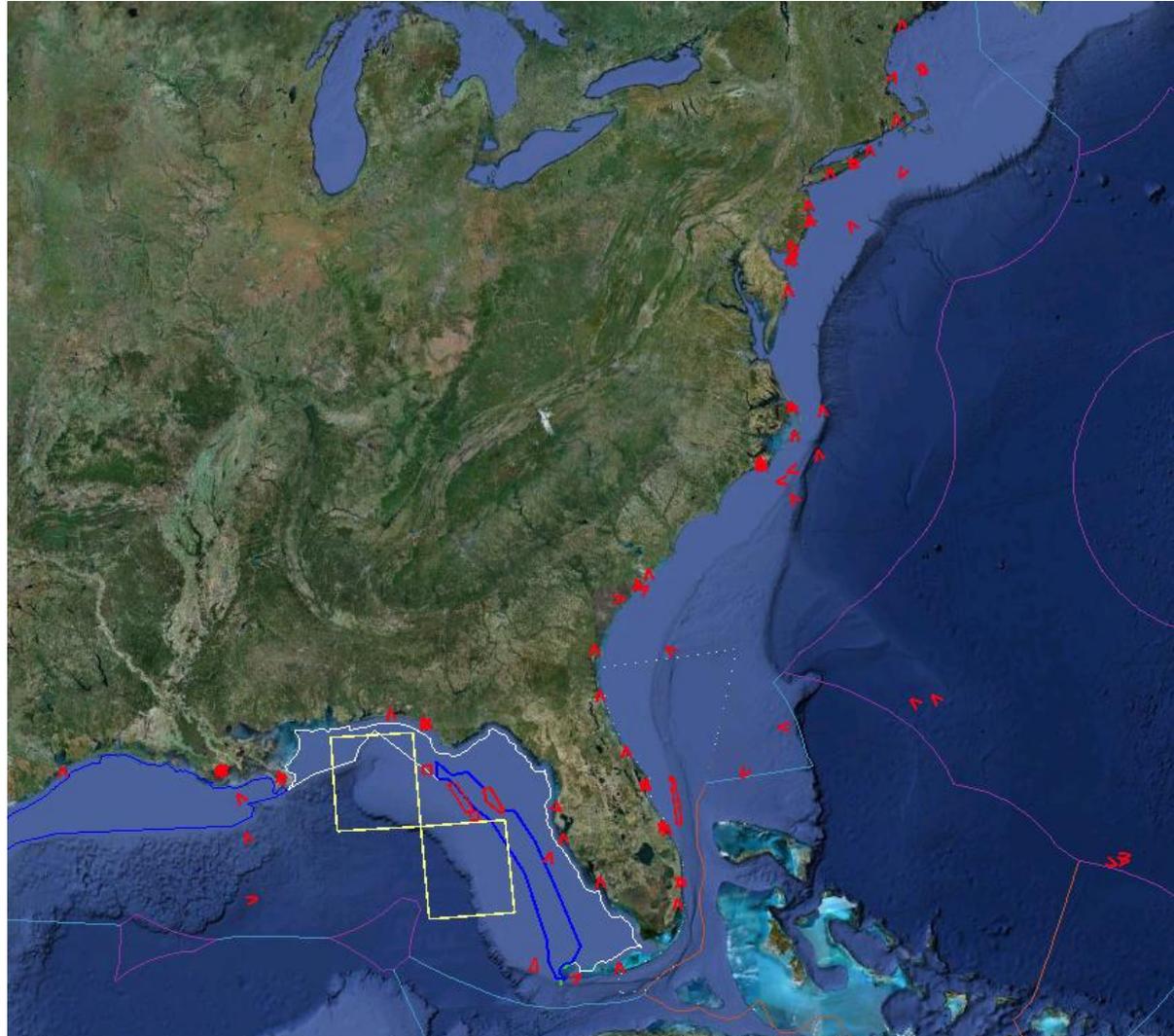
- Population: 229 vessels
- First in required in 1994
- Hawaii and American Samoa longline, albacore trollers and purse seine vessels





## Atlantic Highly Migratory Species VMS Requirements

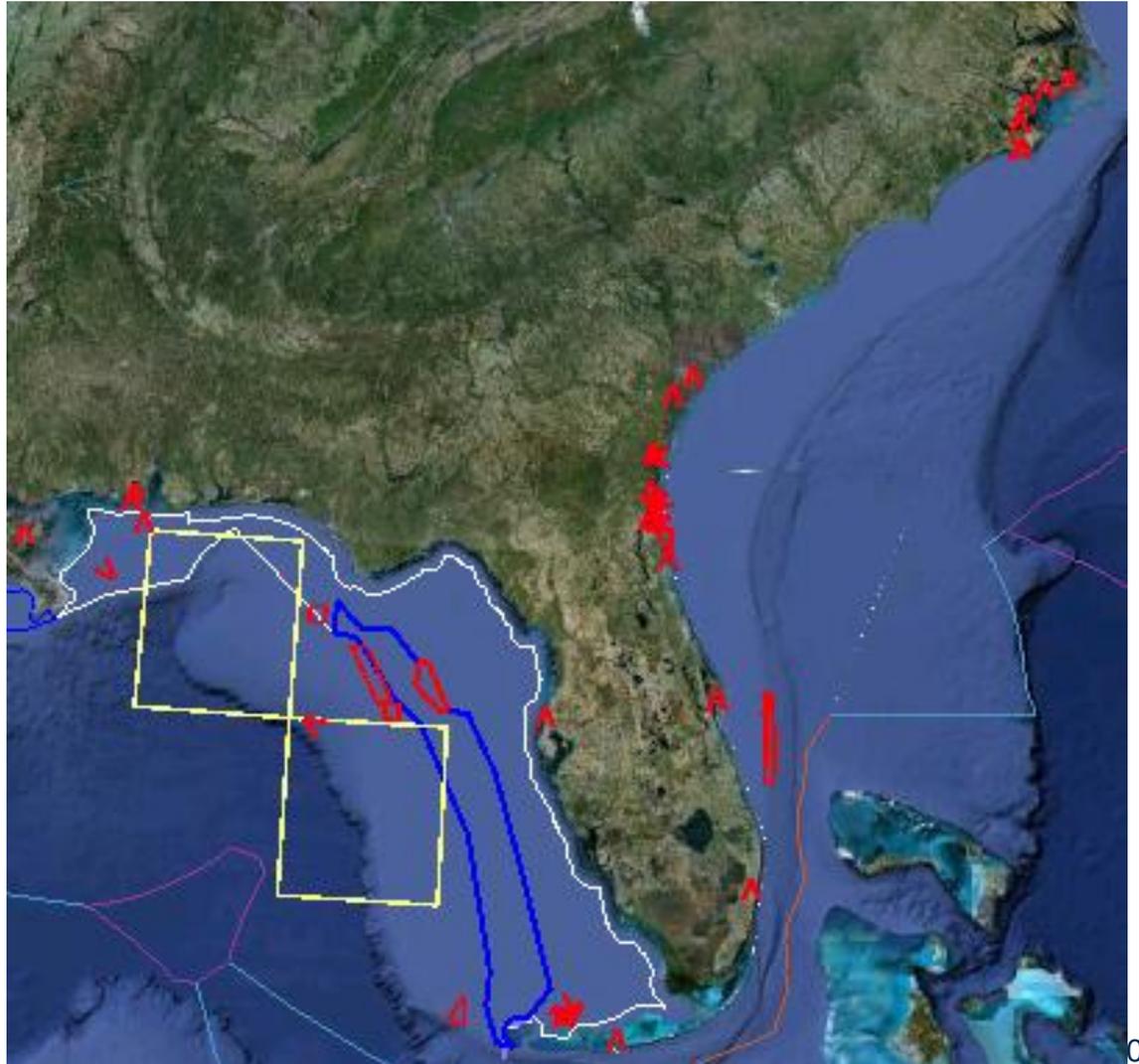
- Population: 143 vessels
- First required in 2002
- Tuna/swordfish pelagic longline, shark gillnet and bottom longline vessels





## South Atlantic VMS Requirements

- Population: 79 vessels
- First required in 2003
- Rock Shrimp vessels





# Data Confidentiality and Security Concerns



# VMS NOTICE

- The Vessel Monitoring System (VMS) is designated as **“PROTECTED CRITICAL INFRASTRUCTURE”**
  - meaning information that is not customarily in the public domain.
- VMS information is categorized as **“FOR OFFICIAL USE ONLY”** and **“LAW ENFORCEMENT SENSITIVE”**
  - requires special precautions to ensure the integrity of the data and to protect it from unauthorized access.
- Unauthorized use or release of VMS information is subject to criminal and civil penalties
  - under provisions of Titles 5 U.S.C 552 and 18 U.S.C. 1905.





## Magnusson Act Requirements Regarding Access to VMS

16 U.S.C. 1861 MSA § 311

97-453, 102-251, 109-479

(b) POWERS OF AUTHORIZED OFFICERS.—

(1) Any officer who is authorized (by the Secretary, the Secretary of the department in which the Coast Guard is operating, or the head of any Federal or State agency which has entered into an agreement with such Secretaries under subsection (a)) to enforce the provisions of this Act may—

...

(vi) access, directly or indirectly, for enforcement purposes any data or information required to be provided under this title or regulations under this title, including data from vessel monitoring systems, satellite-based maritime distress and safety systems, or any similar system, subject to the confidentiality provisions of section 402



## Magnusson Act Requirements Regarding Confidentiality of VMS Data

**16 U.S.C. 1861 MSA § 311  
128 109-479**

(2) AGREEMENT REQUIRED.—The Secretary shall promptly enter into an agreement with a State under section 402(b)(1)(B) of this Act if—

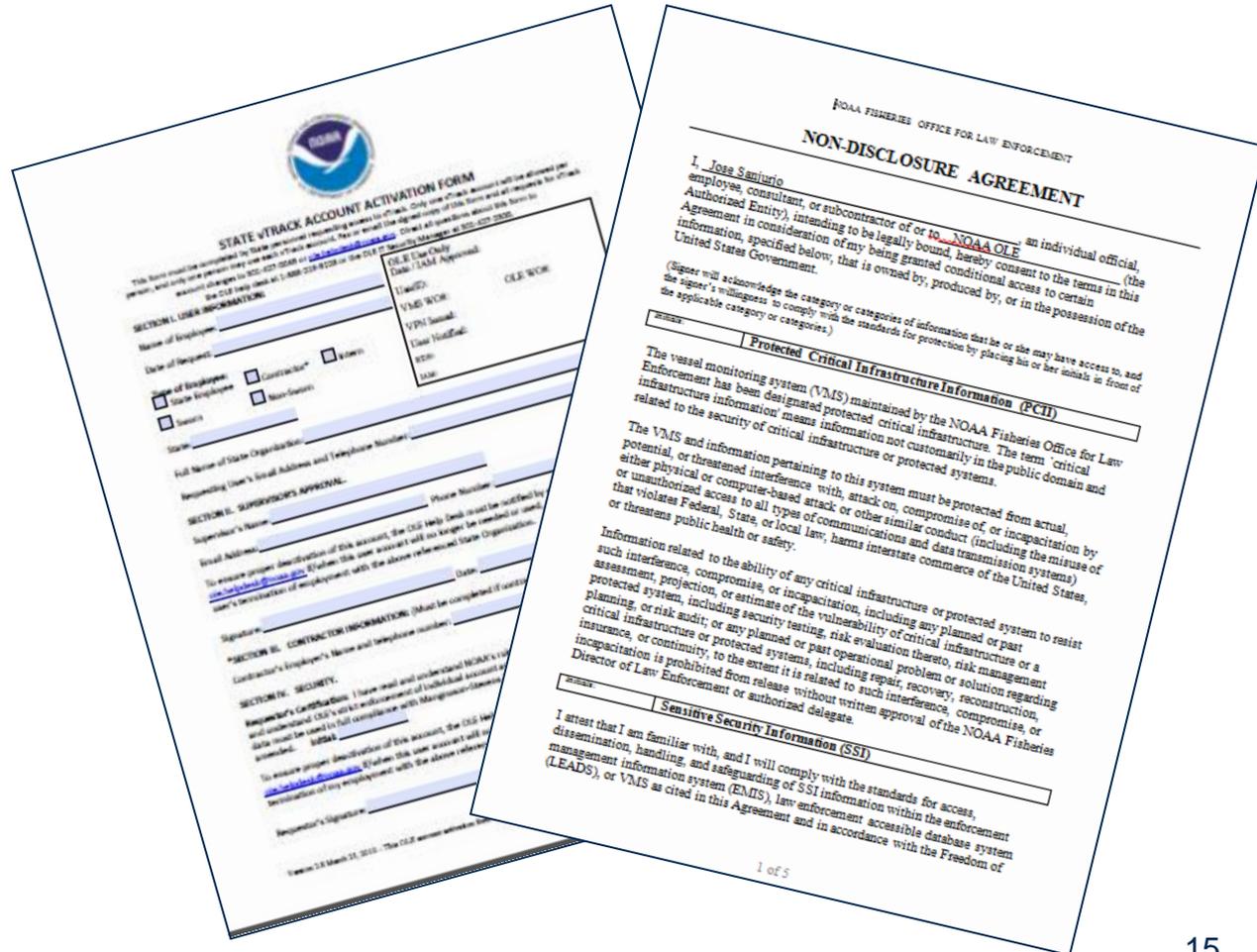
(A) the Attorney General or highest ranking legal officer of the State provides a written opinion or certification that State law allows the State to maintain the confidentiality of information required by Federal law to be kept confidential; or

(B) the Secretary is provided other reasonable assurance that the State can and will protect the identity or business of any person to which such information relates.



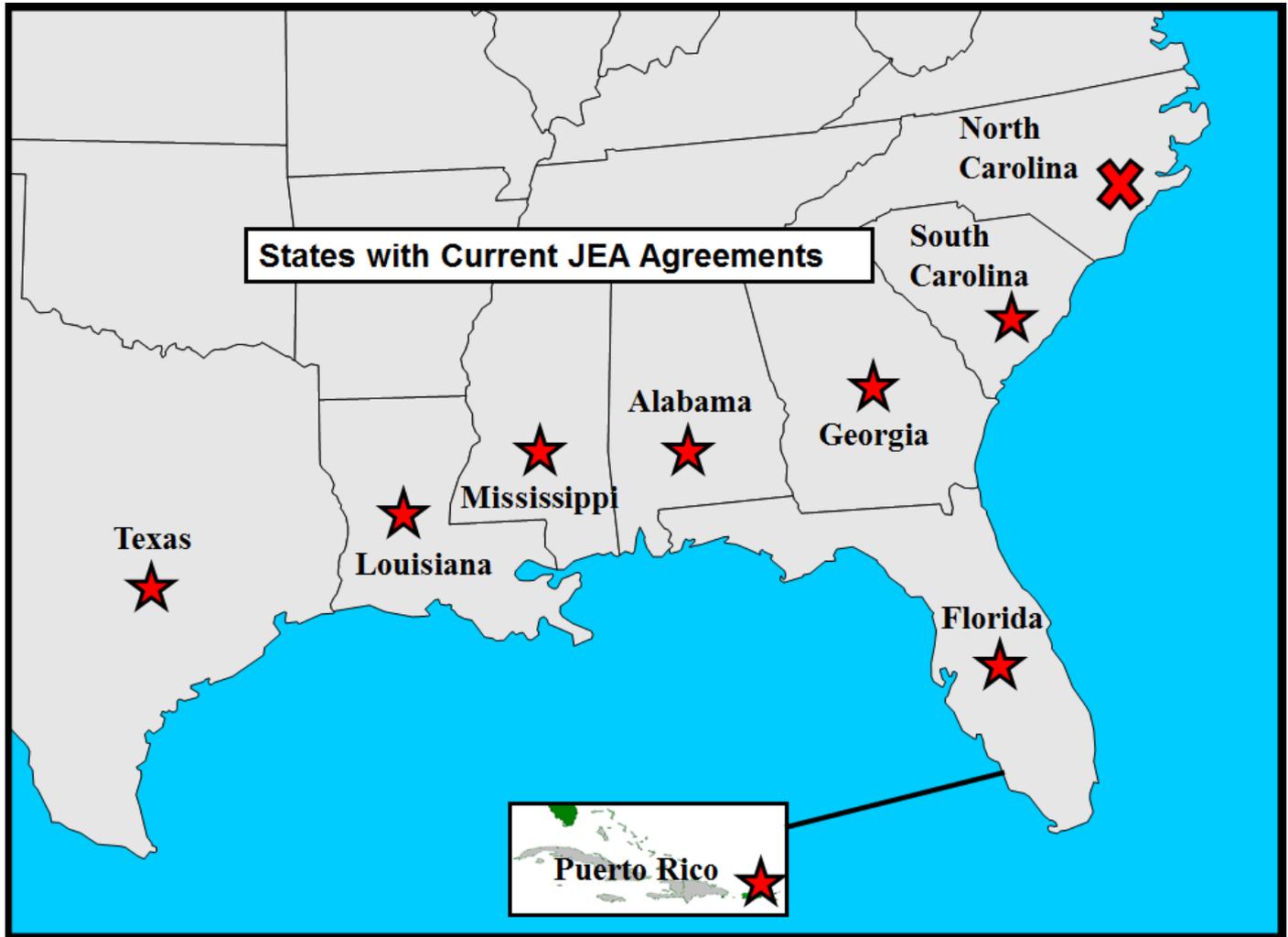
# Regional, Science Center, Coast Guard and JEA Partner Use

- All users complete account activation form and non-disclosure agreement
- Forms highlight responsibilities of individual users





## Current State JEA Agreements





# Current Approved VMS Units

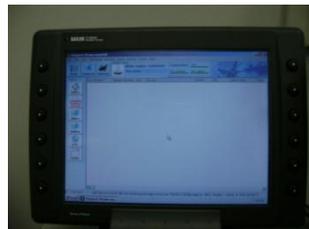


# Current Vessel Monitoring Systems

- Type Approval Regulations require all new VMS units to be Enhanced Mobile Transmitting (E-MTU) units
- Five current VMS vendors provide a variety of pricing options to fit vessel's usage
  - Units cost \$3100 to \$3800 depending upon options
  - Monthly usage fees cost between \$45 and \$60 for hourly reporting only
  - Additional costs for e-mail usage, other features



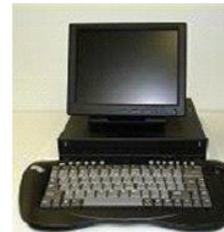
Boatracs



Thrane



Faria



CLS



Skymate 18



# Some Examples of E-MTU VMS Benefits

- Newer E-MTU VMS units have ability to send/receive e-mail
  - Provides capability to owners, operators as well as NOAA offices
  - Enables NOAA to send critical fishery information to vessels at sea (fishery closures, area closures, etc)
  - Enables NOAA OLE to send warning e-mails to vessels observed near closed areas
- Capability to send E-Forms which provides greater flexibility and timeliness to fishery managers



# Current Vessel Monitoring Systems

- Current units range from small (7" by 5") touchscreen Faria model suitable for smaller vessels



- To larger monitor sized models with keyboards more suitable for larger vessels with pilothouse





# Current Vessel Monitoring Systems

- Some VMS units have an in-harbor mode to report every 4 hours vice hourly reducing costs even further.
- VMS airtime costs vary based on vendor and type of usage. Depending on type of fishing activity, certain units are more cost effective than others.
- Prospective owners should review capabilities of each to determine unit that best fits their particular usage level, vessel configuration and available power.



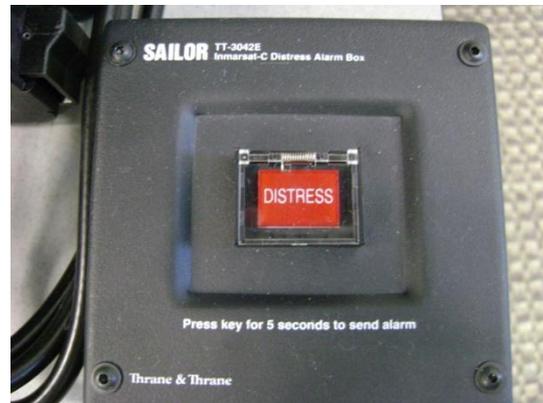
# Search And Rescue Tool

(Secondary purpose)



# Search And Rescue (SAR) Tool

- Certain models can send distress messages, including positional data, from their VMS unit if fisherman choose that capability from their vendor
- **Does not replace** the EPIRB and long established Coast Guard Rescue Coordination Center as the primary safety tool, but it provides a secondary capability that has proven useful to fisherman





# Coast Guard and JEA Partner Use for SAR Purposes

- Coast Guard and State Partners routinely use VMS data to assist in locating vessels
- Provides last known position of vessel when vessel is VMS equipped.
- Provides location of vessels in local area that can readily assist when vessel is disabled
- Proper positioning and continued reporting confirm vessel not in distress



## F/V PETE'S DREAM CASE

- 65 Foot F/V PETE's DREAM overtaken by Hurricane Ike on September 10<sup>th</sup>, 2008 while trying to return to port following fishing trip.
- Pounding waves split seam on vessel causing them to go dead in the water. Extremely heavy rolls while sitting in trough of 25 foot waves/100 plus MPH winds prevented deploying EPIRB mounted on top of cabin.
- Hit "Distress Button" on their VMS unit which was only alert Coast Guard received. CG Falcon Jet deployed two dewatering pumps to vessel, keeping it afloat until Hurricane passed.
- **"It (VMS) literally saved our lives."** quote by Captain Kris Guidel in *St. Petersburg Times* on October 5<sup>th</sup>, 2008

**On way to Tarpon Springs, boat wrangled with hurricane Ike**

Rita Farlow, Times Staff Writer  
Saturday, October 4, 2008 3:18pm



# VMS Beneficial Use Examples



## South Atlantic Coral Amendment 8

- 23,089 Rock Shrimp VMS points analyzed
- Helped determine effort and location to gauge impact of proposed Oculina Bank closed area expansion

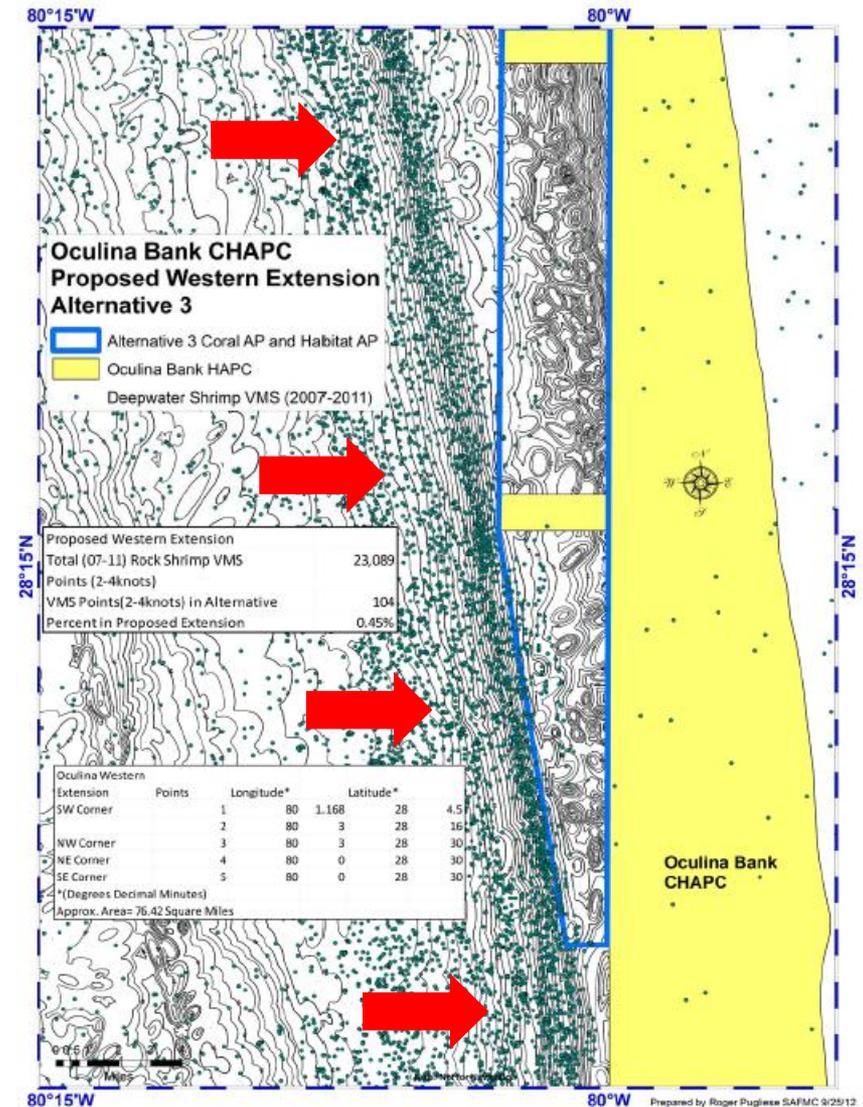
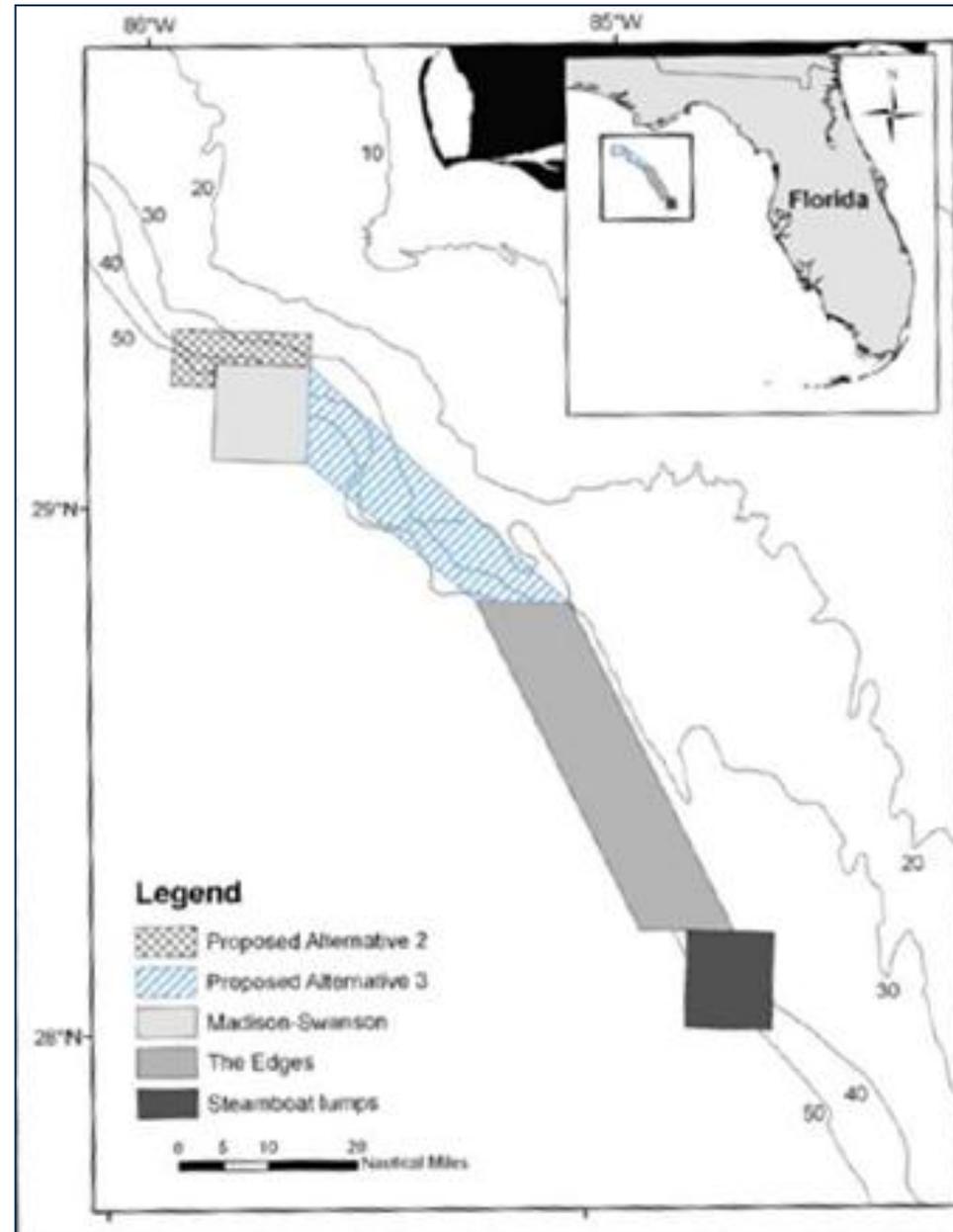


Figure 5. Action 1, Alternative 3. Modification to the western boundary of the Oculina Bank HAPC. The west boundary would follow the 80° 03' W longitude between 28° 30' N and 28° 16' N which is the western border of the Oculina HAPC satellite regions, and would follow the 60 meter contour as represented in the simplified polygon. This is a preferred option of the Coral and Habitat APs.



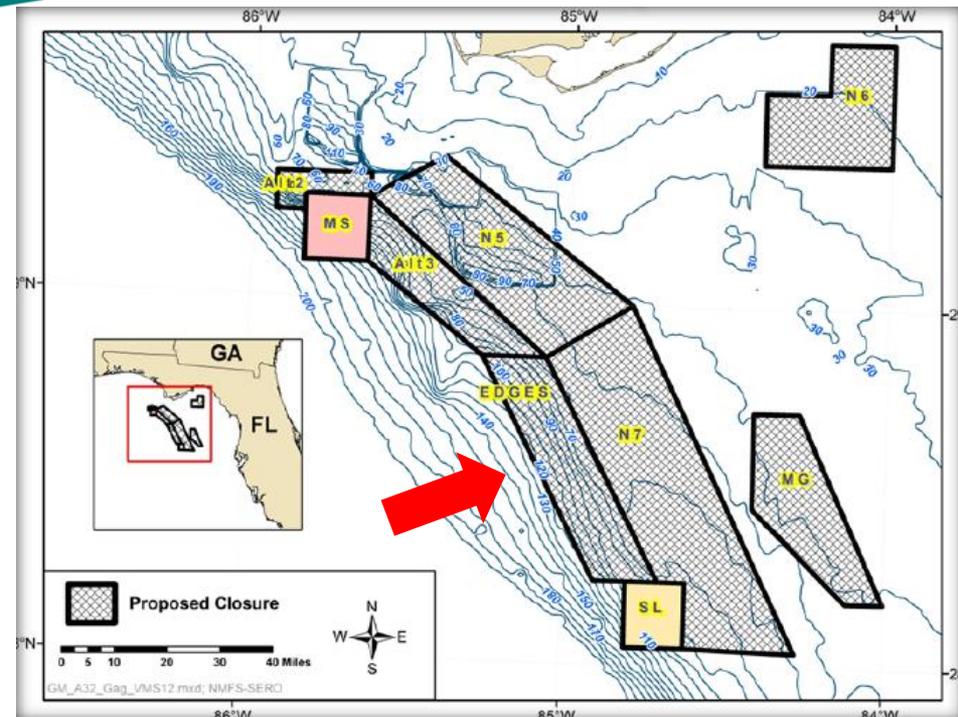
## Gulf Amendment 32 Gag & Red Grouper

- Estimate reduction in gag and red grouper landings associated with time-area closures
- Reduce gag harvest while minimally impacting red grouper
- Linked logbook data to VMS (2008-2009) data using vessel speed and distance from shore





# Enabled More Detailed Analysis of Impact of Proposed Commercial Closure Areas

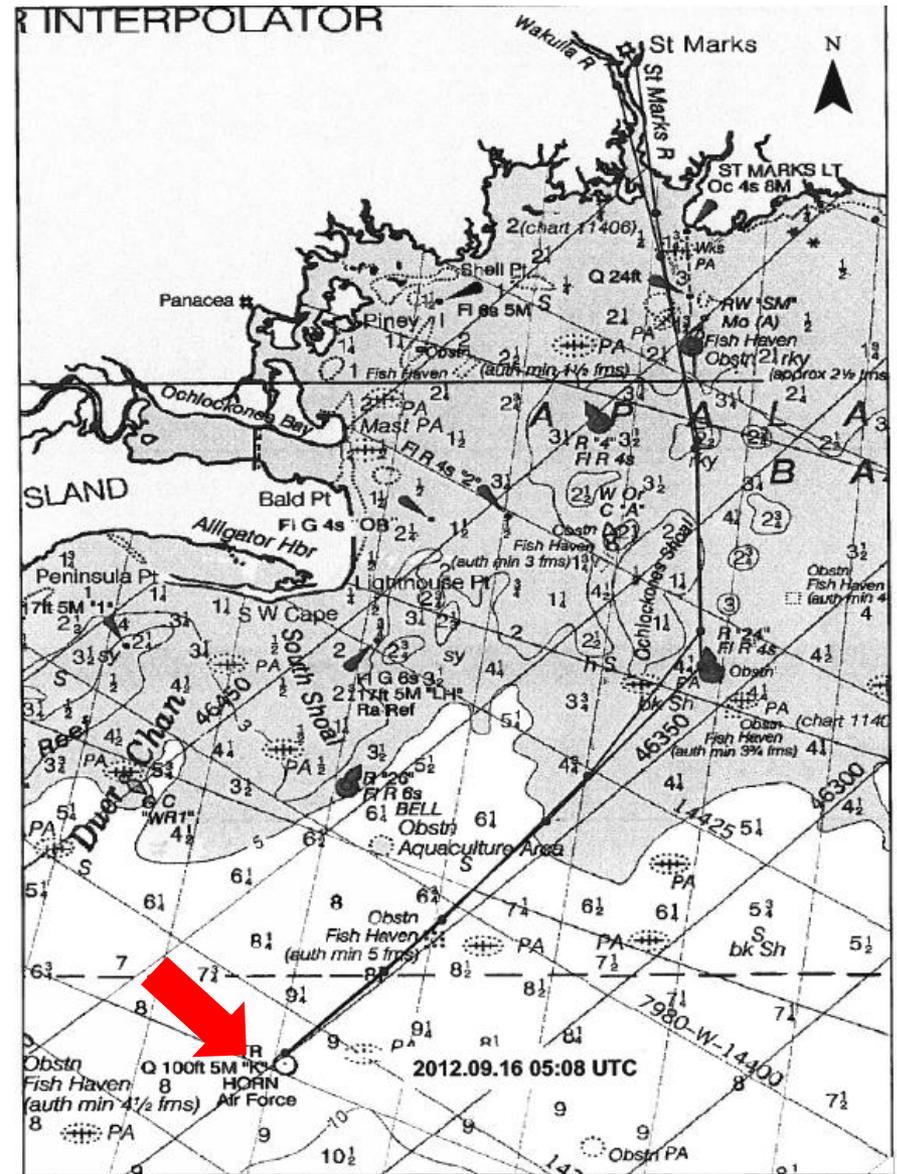


| Closed Area                             | Area (nm2)  | % of WFL Shelf | Percent Reduction |              |
|---|-------------|----------------|-------------------|--------------|
|   |             |                | Gag               | Red Grouper  |
| Alt 2 - Madison Swanson Banks Extension | 70          | 0.2%           | 1.2%              | 0.4%         |
| Alt 3 - Edges Extension                 | 244         | 0.7%           | 5.9%              | 0.9%         |
| Florida Middle Grounds                  | 340         | 1.6%           | 4.5%              | 4.1%         |
| Inshore Big Bend                        | 340         | 0.9%           | 3.3%              | 0.6%         |
| <b>Edges</b>                            | 390         | 2.5%           | 8.9%              | 2.4%         |
| Extension of Alt3                       | 574         | 0.9%           | 9.0%              | 0.8%         |
| East of Edges                           | 917         | 0.0%           | 11.7%             | 7.8%         |
| <b>Total</b>                            | <b>2875</b> | <b>6.8%</b>    | <b>44.5%</b>      | <b>17.0%</b> |



## VMS Track for Liability Purposes

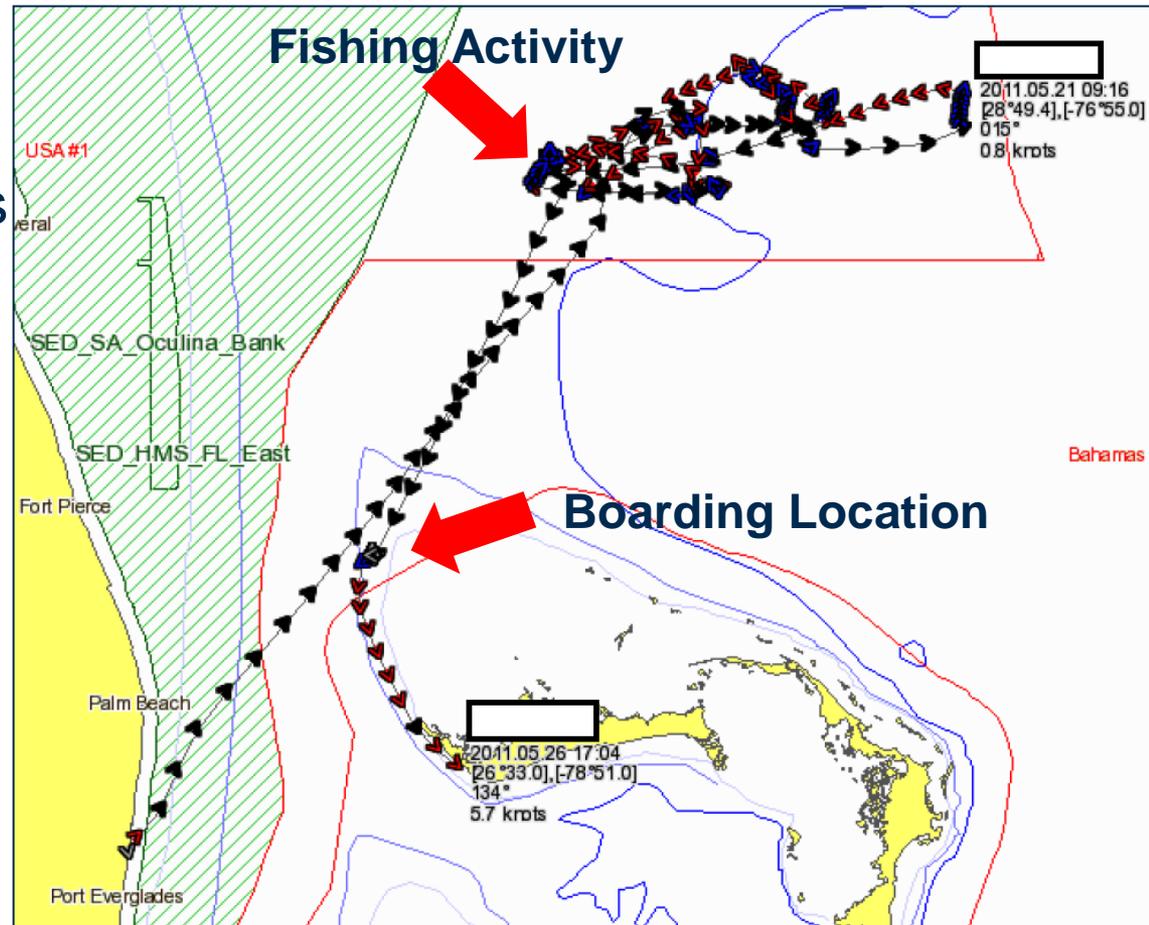
- Vessel struck “unlit” fixed tower
- Owner requested assistance in determining proof of vessel’s trackline and position for insurance purposes
- VMS staff provided positional data and accompanying chartlet





## VMS Track to Prove Where Vessel was **NOT** Fishing

- Vessel detained and crew jailed by Bahamian officials for “fishing in Bahamian waters”
- VMS staff provided data to owner & Bahamian Attorney General to prove all fishing took place in U.S. waters
- Crew ultimately released because of VMS data after spending 5 days in jail

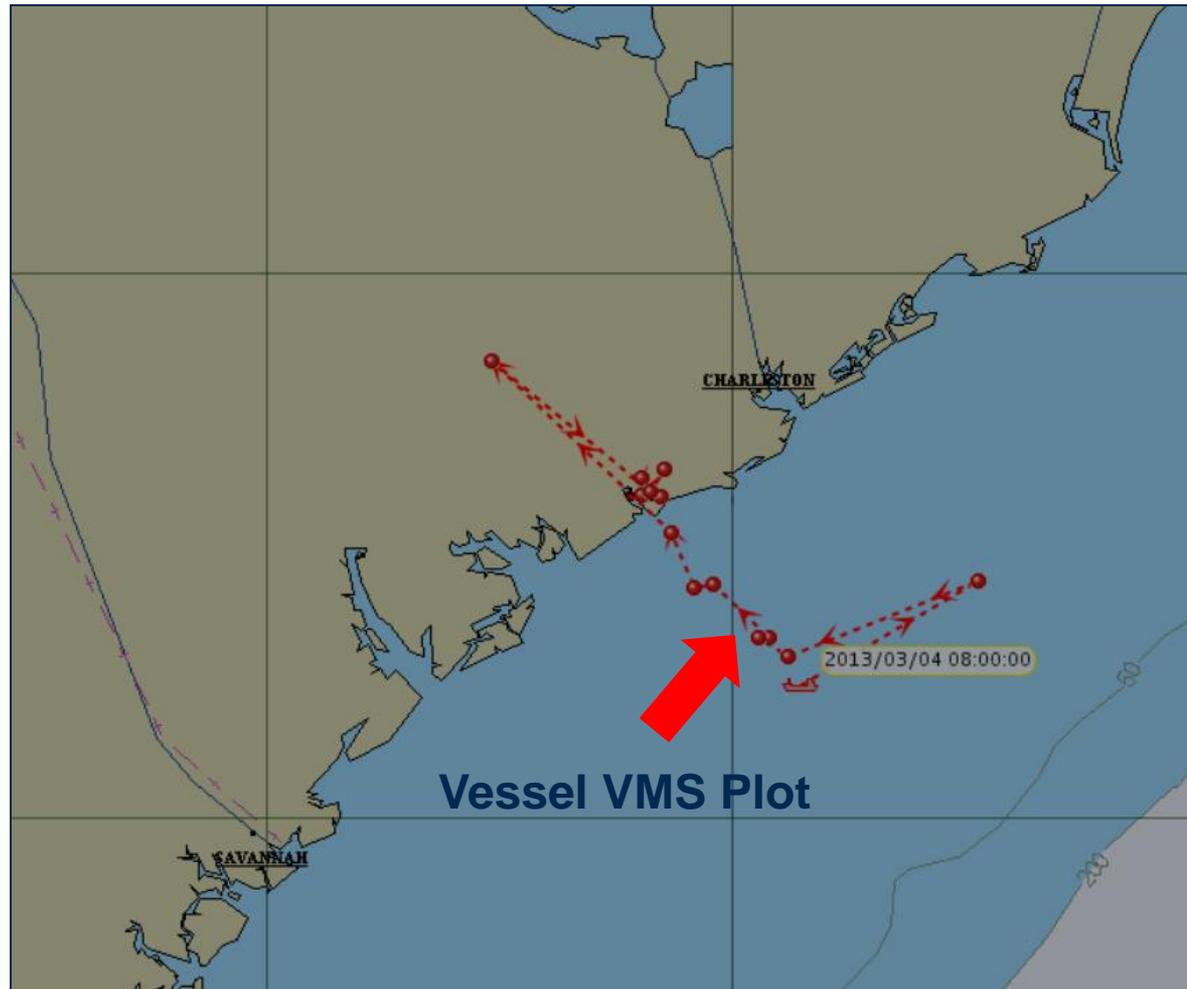




## VMS Tracking for Vessel Owners

(CLS America Example of Vessel Plot)

- Vendors provide capability to monitor vessel's VMS reporting to ensure compliance
- Enables owner and/or anyone else they allow to track vessel's location
- Provides security and safety function to owner





# **Reimbursement Program and Enhanced VMS Capabilities**



# Reimbursement for VMS System Purchases

- Current Reimbursement Program makes up to \$3100 available to vessel operators/owners who purchase VMS equipment “for the purpose of complying with fishery regulations requiring the use of VMS” if not previously reimbursed
- Approximately \$6 Million dollars remains in the Reimbursement Account for future VMS deployments
- VMS Reimbursement funds are on a “first come” basis and are not an endless fund unless additional grant money is provided
- Reimbursement fund use has been expanding to include other monitoring tools (video monitoring in NW and electronic logbook programs in Gulf)
- Money currently exists to support VMS expansion



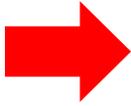
# Notes on Gulf Reef Fish Fishery

- VMS unit required to be on 24/7 regardless of location or what they are fishing for:
  - If they possess Gulf Reef Fish Permit
  - No matter where they operate (both Gulf and South Atlantic waters)
  - No matter what they are fishing or underway for (mullet, stone crab, mackeral, octopus, recreation, etc)
  - Can request power down approval if going to be in port for 72 hours or greater. Signed original power down approval must be onboard if their VMS unit is powered off. Vessel must make Power Down declaration.



## Notes on Gulf Reef Fish Fishery (cont)

- Vessels must make Declaration prior to departing port to report their targeted species and gear being used.
- Declaration can be made by call-in Integrated Voice Recording (IVR) system or on VMS unit itself.
- VMS units must be installed by qualified marine electrician
- Recommend that any South Atlantic Snapper Grouper VMS regulations mirror existing Gulf Reef Fish VMS regulations (Monroe County vessels fish both sides)



## Declaration Form Currently in Use in Gulf Reef Fishery

**Trip Declaration and Catch Reporting System**

|                         |         |
|-------------------------|---------|
| <b>Trip Declaration</b> | Reports |
|-------------------------|---------|

Type

|           |                |
|-----------|----------------|
| Gulf      | South Atlantic |
| Caribbean | HMS            |

There is NO Current Declaration.

To change Declaration, either use the mouse or the TAB and SPACE keys.



# Declaration Form Currently in Use in Gulf Reef Fishery

Select Region  
of Trip



**Trip Declaration and Catch Reporting System**

|                         |         |
|-------------------------|---------|
| <b>Trip Declaration</b> | Reports |
|-------------------------|---------|

**Type**

|             |                |
|-------------|----------------|
| <b>Gulf</b> | South Atlantic |
| Caribbean   | HMS            |

**Activity**

|               |               |               |                  |
|---------------|---------------|---------------|------------------|
| Reef Fish     | Red Snapper   | King Mackerel | Spanish Mackerel |
| Stone Crab    | Spiny Lobster | Shrimp        | Power Down       |
| Research Trip |               |               |                  |

There is NO Current Declaration.  
To change Declaration, either use the mouse or the TAB and SPACE keys.



# Declaration Form Currently in Use in Gulf Reef Fishery

**Trip Declaration and Catch Reporting System**

Trip Declaration: **Trip Declaration** | Reports

Type: **Gulf** | South Atlantic | Caribbean | HMS

Activity: **Reef Fish** | Red Snapper | King Mackerel | Spanish Mackerel | Stone Crab | Spiny Lobster | Shrimp | Power Down | Research Trip

Permit Type: **Commercial** | Charter | Recreational

Fishing Area: **Gulf - excl. MS/SL/FM/FG/PR/SE/MB/TN/TS** | Gulf - excl. Tortugas North/South | Gulf - excl. TC/SSCSZ I III IV V/SFSTC/TSS/MS/SL/TN/TS

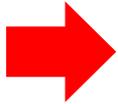
Options: N/A

Gear Type: **Bottom Longline**

Set 'GUL-RFS-GBCBXX' Declaration

There is NO Current Declaration.  
To change Declaration, either use the mouse or the TAB and SPACE keys.

Select Species



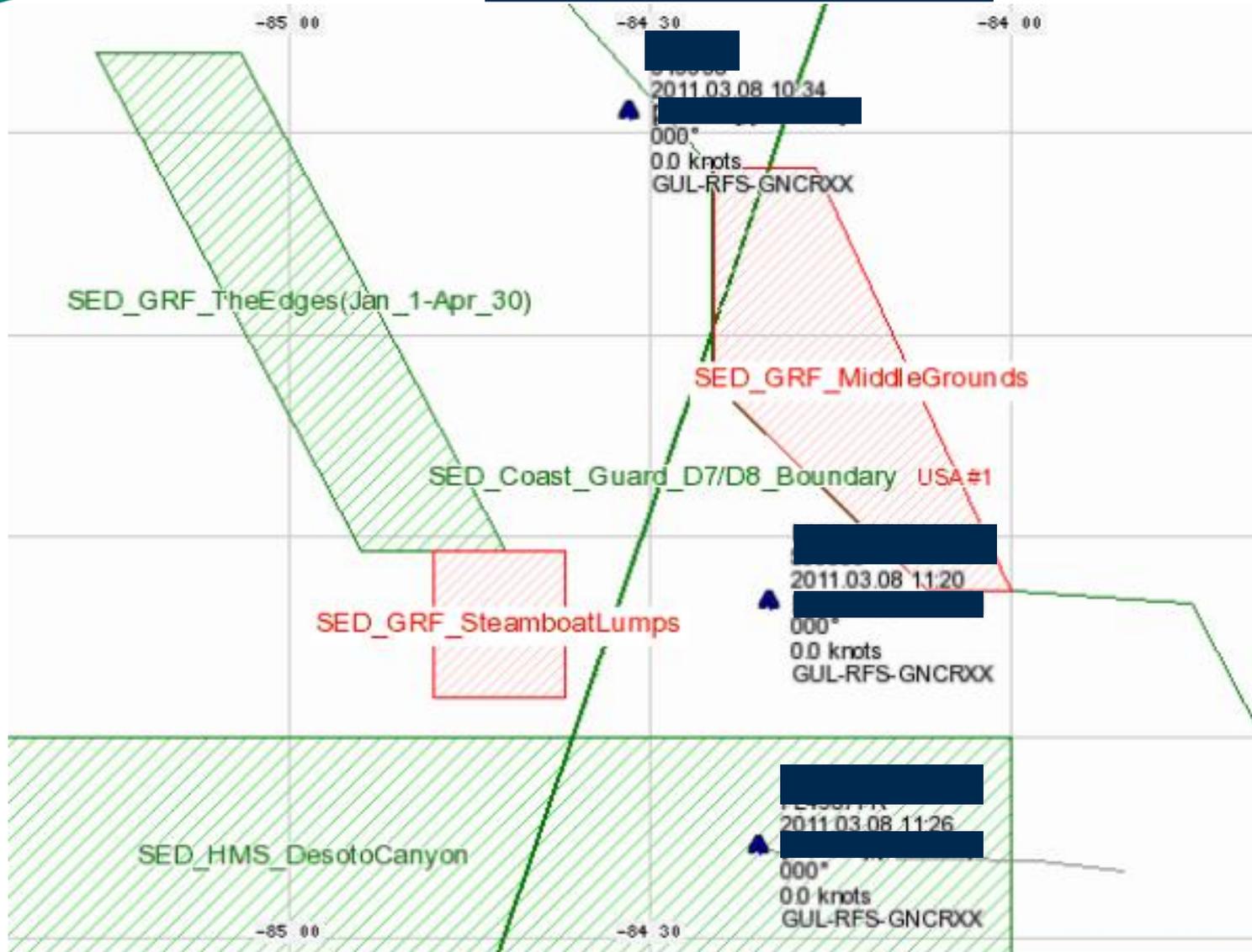
Select Permit Type

Select Gear Type





# Declaration Code Visible on VMS Software





# **Recent VMS Cases**

**(Despite having VMS onboard, incidents still detected)**

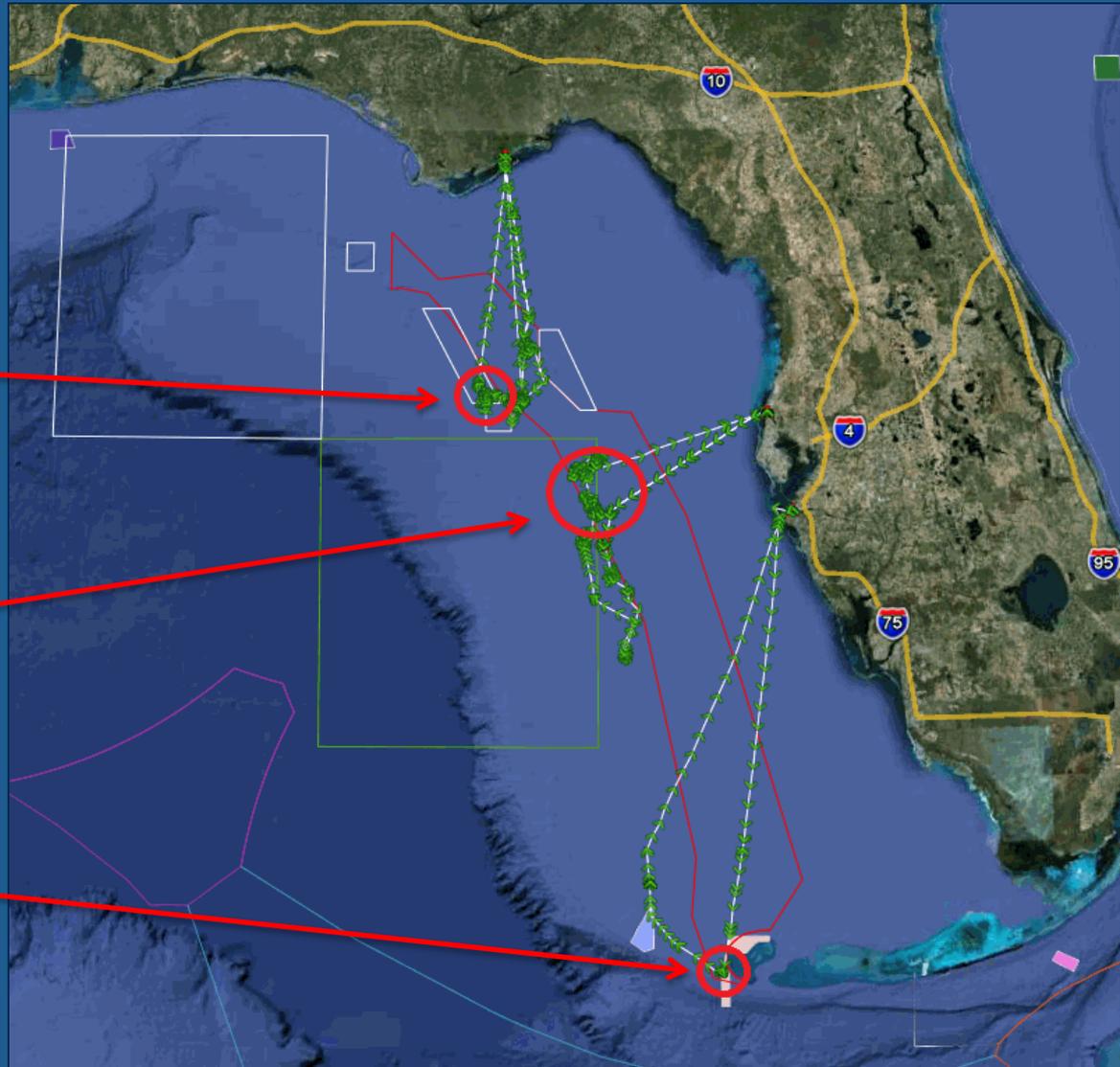
# Examples of Recent VMS Initiated Violations

## Detection Role

F/V XXXXX – inside The Edges Closed Area

F/V XXXX – inside Longline Buoy Closed Area

F/V XXXXXX – inside Tortugas Closed Area



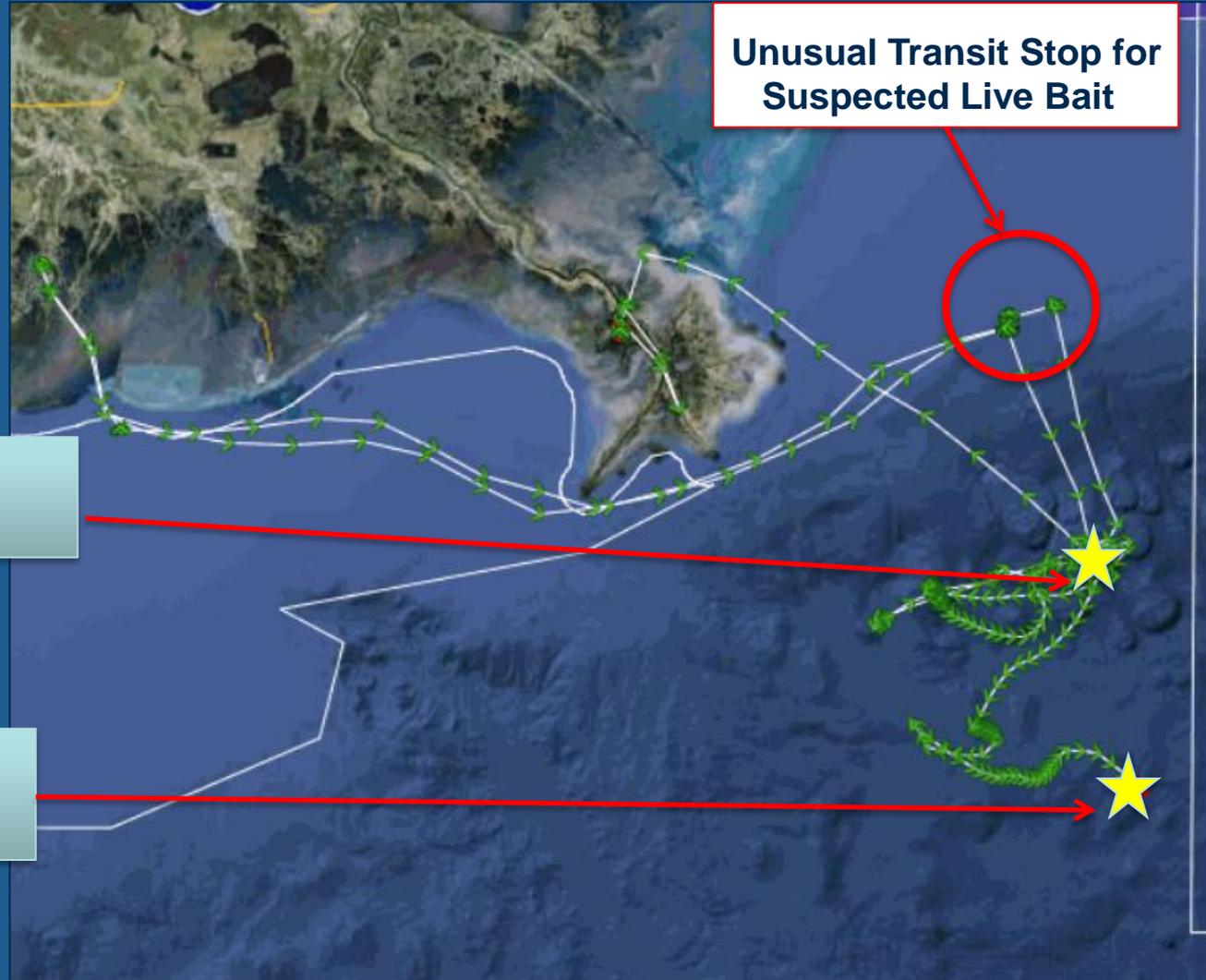
# Recent VMS Initiated HMS Live Bait Violations

**Intel Role**

F/V XXXXX – Boarded by CG  
with Live Bait onboard

F/V XXXXX – Boarded by CG  
with Live Bait onboard

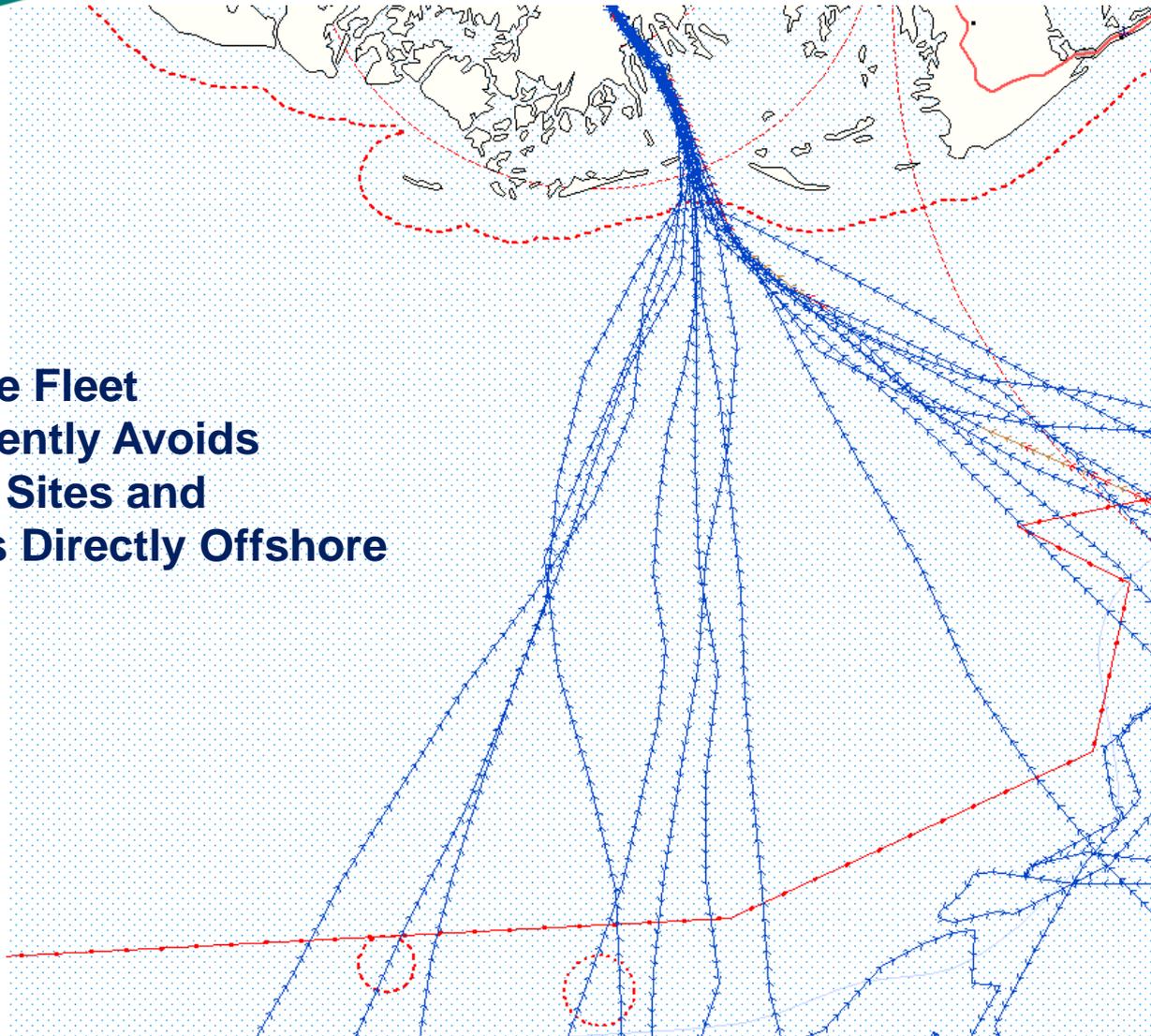
Unusual Transit Stop for  
Suspected Live Bait





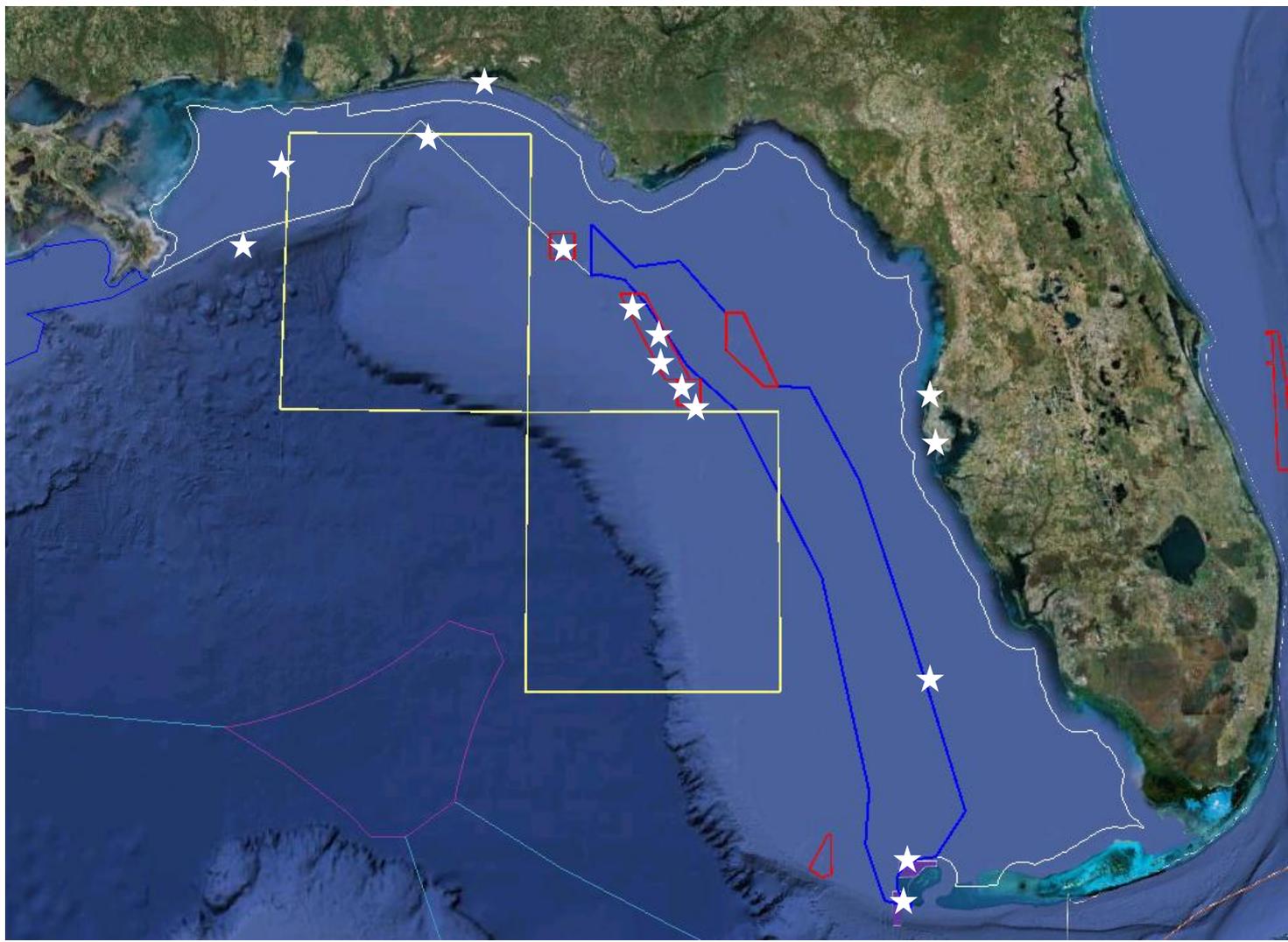
## **VMS as a Deterrent**

**Long Line Fleet  
Subsequently Avoids  
Live Bait Sites and  
Proceeds Directly Offshore**





## **VMS Detected Violations in Gulf Snapper/Grouper Fleet**



# NOAA FISHERIES SERVICE



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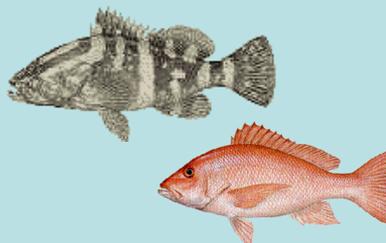
**Jose Sanjurjo**  
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**Matt Walia**  
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 (727) 824-5334  
 Matthew.Walia@Noaa.gov

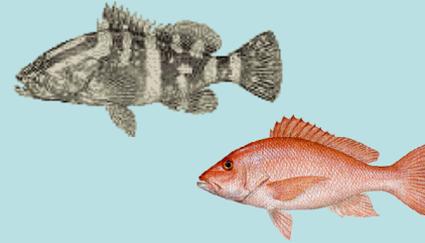
**Erica Nunez**  
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 (727) 824-5322  
 Erica.Nunez@Noaa.gov

- Gulf Reef Fish VMS Monitoring



- IFQ VMS Support

- Gulf Reef Fish VMS Monitoring



- IFQ VMS Support

- HMS Pelagic/Shark Longline VMS Monitoring

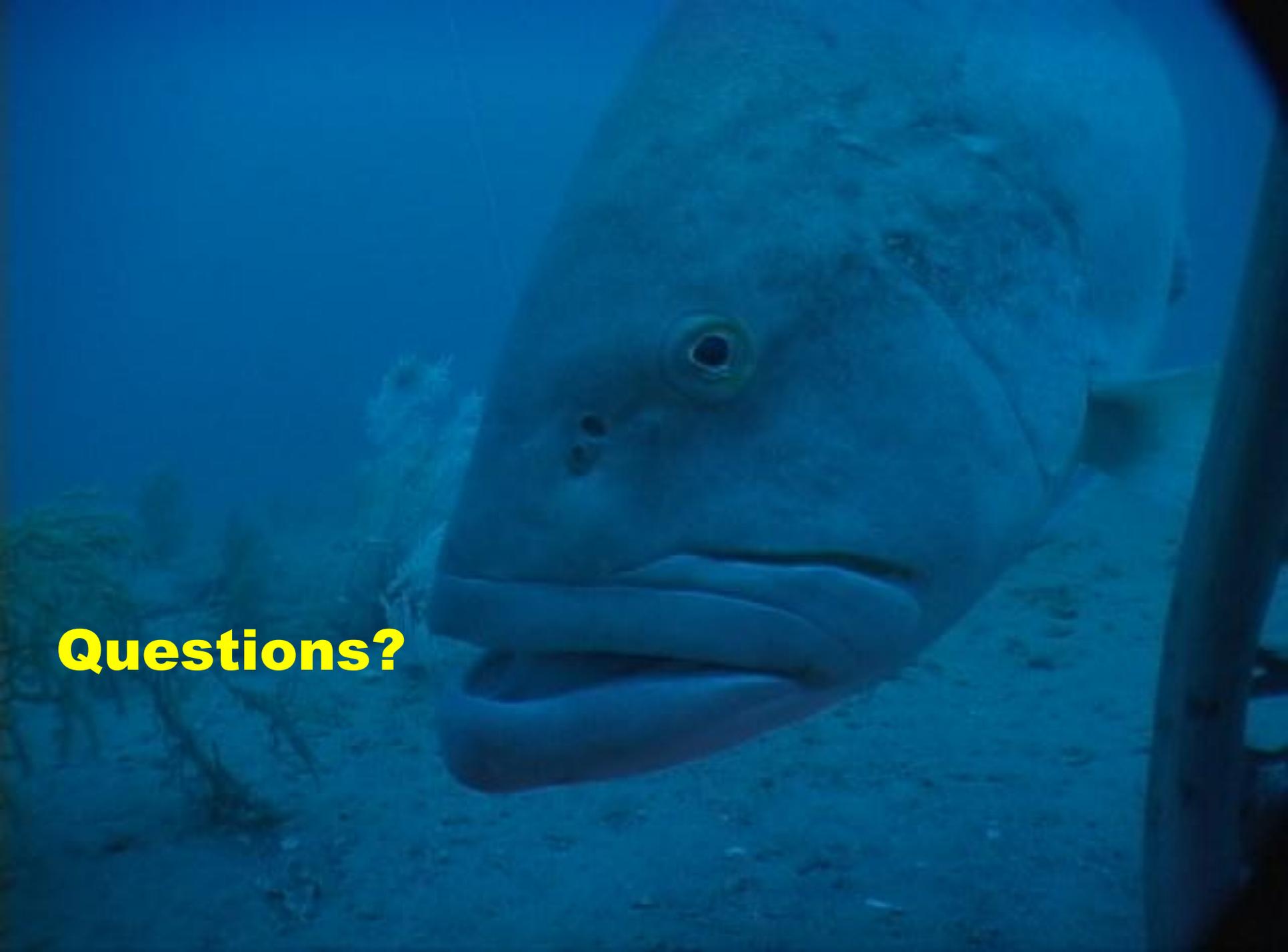


- South Atlantic Rock Shrimp Endorsement VMS Monitoring



- Vessel Registration & VMS vTrack Management
- Case/Evidence Management
- VMS Training Support

## NOAA Fisheries - Southeast Division - VMS Team



**Questions?**



## **Thank You**

- If you have any questions or require more in depth statistics or information on the SED VMS program, please contact:

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