Gray's Reef National Marine Sanctuary
Sanctuary Advisory Council Meeting
Stevens Wetlands Education Center
Richmond Hill, GA
July 29, 2008

Advisory Council Members Present:
Joe Kimmel, Chair, NOAA Fisheries
Spud Woodward, GADNR CRD
Doug Lewis, GADNR WRD LE
Danny Gleason, Research GSU
Dorset Hurley, Sapelo Island NERR
Clark Alexander, Research
Venetia Butler, Education
Jamey Lands, USCG
Tim Tarver, Sport Fishing

Advisory Council Members Absent:
Christi Lambert, Conservation
Will Berson, Conservation
Ralph Neely, Sport Diving

Advisory Council Seats Vacant:
Charter/commercial Fishing
Education University

GRNMS and Other NOAA Staff Present:
Karen Raine, NOAA GC EL
Al Samuels, NOAA OLE
GRNMS:
George Sedberry, Superintendent
Greg McFall, Research Coordinator
Becky Shortland, Stewardship Coordinator
Gail Krueger, Outreach Coordinator

Public Attending:
Paul Gayes, Coastal Carolina University
Wes Woolf, Center for a Sustainable Coast
Christine Griffiths, the Nature Conservancy
Wendell Harper, charter boat captain

Welcome, Introductions and Advisory Council Business

Advisory Council Chair Dr. Joe Kimmel opened the meeting and welcomed everyone. Introductions were completed.

April Meeting Summary: Dr. Kimmel asked members to consider approval of the summary from the April 2008 meeting. The summary was approved unanimously.

Executive Committee: Joe Kimmel next asked members to consider a request from GRNMS to establish a standing executive committee of the council made up of the officers (chair, vice-chair, secretary and the sanctuary superintendent as ex-officio). Dr. George Sedberry explained that the executive committee can be very helpful in planning each meeting and can help to address such needs as vacant council seats and new appointments. Brief discussion by members began and was followed by a motion, second and approval to create the executive committee. The Advisory Council Charter will then be amended to add the executive committee as a standing council committee.

National meeting: Dr. Kimmel gave an overview of the National Advisory Council Chairs/Coordinators meeting that hosted by the Monitor NMS in Newport News, Virginia in May. He discussed the highlights including a national update, management plan review process and performance evaluation for the Office of National Marine Sanctuaries (ONMS).

He then repeated for the Advisory Council the case study presentation – "Marine Zoning: Involving and Accounting Back to Stakeholders" – that he gave at the national meeting on behalf of the Southeast, Gulf of Mexico, Caribbean Region. (See following presentation.)

Membership: Joe Kimmel introduced a request that has been made by GRNMS staff to amend the Advisory Council Charter and add a new government seat for the NOAA Office for Law Enforcement (NOAA OLE). After brief discussion on the benefits, a motion was made to add the seat. A second was offered and the Advisory Council voted unanimously to amend the charter and add the NOAA OLE seat. Becky Shortland also mentioned that there are still 2 seats vacant on the Advisory Council, but selectees should be approved soon and the seats filled by the next meeting. She also noted that three other seat terms will be ending soon: sport fishing, regional conservation and sport diving. Those seats will be advertised in early fall.

Law Enforcement Working Group

Sgt. Doug Lewis reported on behalf of the Law Enforcement Working Group about the annual meeting that was held in Savannah at the end of June. Others present in the room who attended include Karen Raine from NOAA Office for Enforcement and Litigation and NOAA OLE Special Agent Al Samuels, in addition to GRNMS staff Becky Shortland and George Sedberry. The first day of the meeting consisted of partner updates and information, which Doug noted affords partners the opportunity to understand the functions of our other partners. The second day focused more on training for GADNR rangers. The relationships that have been established by these meetings have been instrumental in the development of better coordination between departments and have greatly benefited the goals of the sanctuary. As a result, techniques in handling enforcement issues such as how to prepare a case file have been established. All participants are committed to making this an annual event.

Karen Raine went on to emphasize how very good it has been working with all the partners. She offered to present detailed information at a future meeting. Al Samuels noted that GADNR is becoming a shining star in the NOAA law enforcement program.

Sgt. Lewis went on to report GADNR activities through the Joint Enforcement Agreement (JEA6). The planned 180 hours were actually exceeded (190 hours) not including meetings and tournaments attended.

"Islands in the Stream" and Other Protection Initiatives

Dr. George Sedberry gave a presentation, as requested by the Advisory Council, on other marine protected area initiatives that have been surfacing recently. These include areas proposed for protection as Marine National Monuments in the Gulf of Mexico (important habitats linked by currents) and off the Southeast U.S. coast (deepwater coral banks of the South Atlantic Bight including the Charleston Bump). At this time, NOAA has not taken any action on the concepts, which are moving through the Bush Administration. (See following presentation.)

Upcoming Events and Programs Report

Dr. Sedberry reminded everyone of the resurrected "GRNMS Programs Report" that was sent electronically in advance. The purpose of the report, requested by the ad hoc executive committee, is to use meeting time more efficiently. This item on the agenda is to allow Advisory Council members to ask questions or ask for discussion of any report items.

George Sedberry mentioned the new NOAA 41-foot catamaran, which will be available for some months to test various platforms including research, law enforcement and education. He also highlighted the annual Gray's Reef Ocean Film Festival scheduled for September 18-21 in Savannah and the status of the GRNMS Condition Report, which should be released in coming weeks. The overall status of the sanctuary is seen as "fair." Clark Alexander asked if GRNMS will be participating in the Skidaway Marine Science Day. George replied that we are planning our part in that annual event to be held October 11. It may be possible to show the 41-foot catamaran to the public at that time.

Some discussion followed on the programs report and its value as a tool to keep not only the Advisory Council apprised of activities with GRNMS, but to use as an outreach tool. It was suggested that the report should include more on research as it comes out.

Spearfishing Draft Environmental Assessment

Dr. Sedberry reported that the South Atlantic Fishery Management Council (SAFMC) considered a request for draft spearfishing gear regulations at the SAFMC's June meeting. The request was made according to provisions of the National Marine Sanctuaries Act. The SAFMC concurred with the approach to ban the use of all spearfishing gear in the sanctuary and asked that GRNMS prepare the regulations instead of SAFMC. It was also noted that the possible spearfishing gear ban was discussed during the law enforcement working group meeting and that attendees further emphasized the need for the ban and difficulties in enforcing a ban if transit through the sanctuary with stopping were allowed. George Sedberry also demonstrated the similarities of powerheads and standard point spearguns during the law enforcement meeting.

The Draft Environmental Assessment and Proposed Rule will be completed in the near future for internal clearance. A 30-day comment period and public meeting are anticipated at the release of the assessment.

Research Area Designation

Joe Kimmel reviewed the 6 scenarios that were included in the scoping process and then the outcomes from the July 1-2 Research Area Working Group (RAWG) meeting. The recommendations from the working group were reviewed in detail (See following RAWG recommendations.)

Clark Alexander talked about his concerns about habitat in the southeast area of the preferred boundary alternative #6. He has multi decadal maps to show a different perspective regarding sand transport in that area. His concern is that the actual number of ledges available for research in that area may have decreased since the 2001 surveys due to sand cover. He posed the question that if the theory is correct, would there still be sufficient habitat in boundary option #6 for that to be the preferred alternative. This idea led to discussion about the need to explore that concept as a scientific question about what volumes of sand may be moving around, into and out of the sanctuary, thus, another justification for a research area. (See following Habitat Change presentation.)

Tim Tarver then made a motion to accept the RAWG recommendations. Spud Woodward seconded the motion and discussion followed on provisions for a good definition for "stowed" in order to properly enforce regulations. It was also suggested that the definition might include no hooks or bait on rods. Karen Raine suggested that we should look at what regulatory language already exists and modify that for GRNMS purposes. Karen will send copies of the current regulations she is aware of.

Dorset Hurley brought up the topic of marker buoys and the recommendation for "line-of-site" buoys to mark the boundary and the need to deploy corner buoys. He suggested that corner buoys could perhaps be marked with different colors. There was also discussion about compliance and enforcement challenges if the buoys are lost in the future. One thought was to make it clear in the preamble of the regulations that missing buoys will not prevent an enforcement action once the research area is well established on charts and with user experience.

Clark Alexander questioned the statement that boundary options #1, #2 and #3 had "no identifiable scientific gains over boundary options #6". He believes the statement is inaccurate given two of the options were determined with a higher emphasis on scientific needs. It was ultimately decided that that statement can be removed from the recommendations that proceed from the advisory council to NOAA GRNMS.

Members then discussed the concept of a "sunset clause" on a research area; to limit the area's life unless reauthorized. The final agreement among members is that the provision in the National Marine Sanctuaries Act to review and revise if needed all management plan every 5 years would suffice along with other recommendations for annual and transparent review of research area performance. Discussion then followed on the definition of "performance", what that means and how that might be interpreted. Various edits were suggested and

members finally concluded with the need to develop acceptable and workable performance evaluation criteria for the research area and to integrate that into the Draft documents. Becky Shortland suggested that the goals and objectives used by the FKNMS for its MPAs may be a resource. Overall, there is a sense that GRNMS should communicate to the public and users how the research area benefits them.

Becky Shortland then asked for some discussion on the RAWG recommendation that recreational diving only take place under a permit and with NOAA personnel accompanying the recreational divers. Members expressed that this was a good provision and would help the sanctuary gain needed data on divers and dive activities.

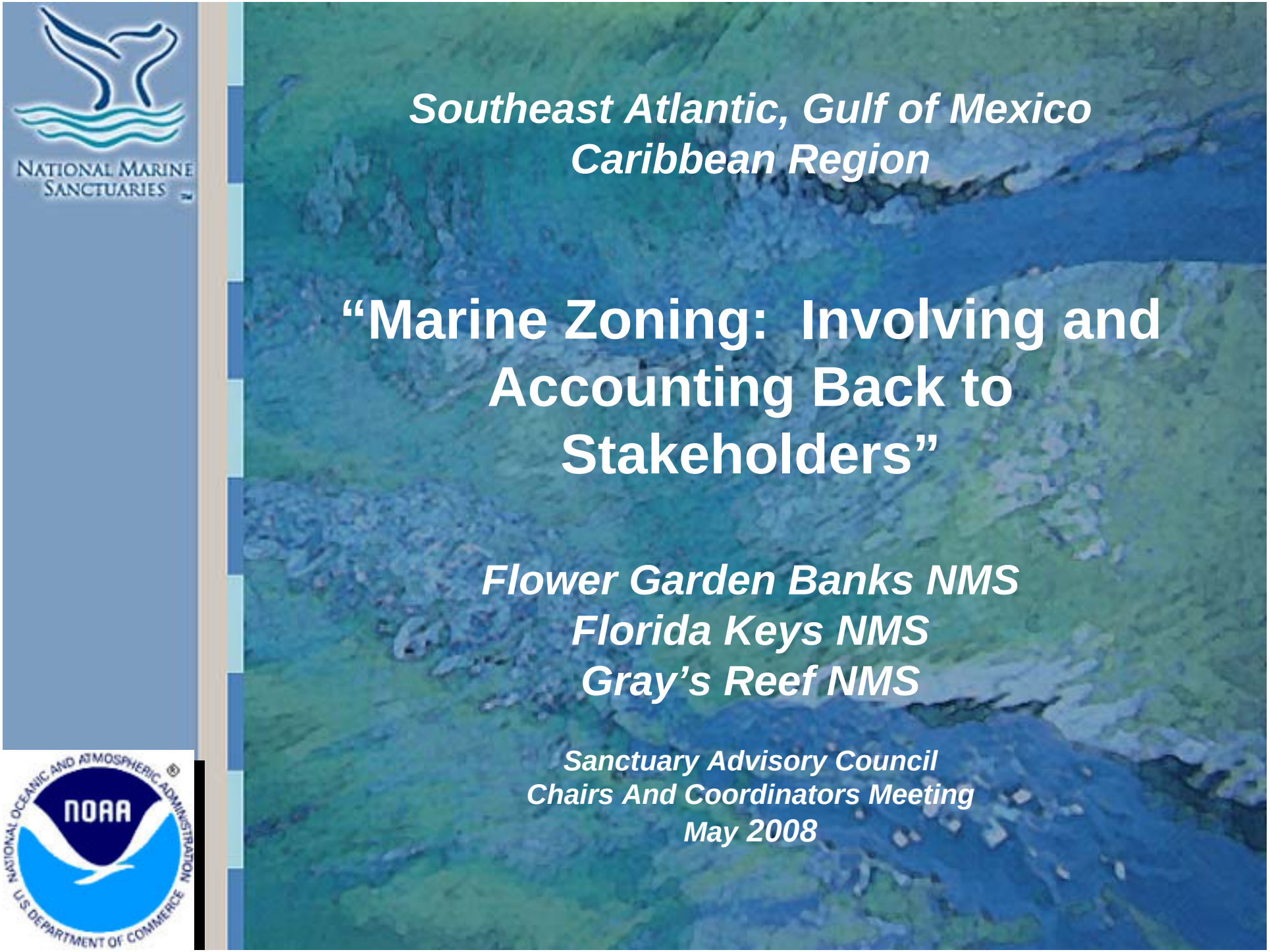
Danny Gleason noted that there may be an omission in the RAWG recommendations. That there was significant discussion about the need to establish a research advisory group responsible for guiding GRNMS with projects in the area. The advisory group could screen research proposals and provide GRNMS with guidance on projects to be permitted or not. Further discussion among members concluded with a desire to have a broad range of membership on such an advisory body, including sport fishermen and divers. It was also strongly suggested that the membership be formalized unlike the RAWG or Research Advisory Panel (convened to develop the GRNMS condition report).

The Advisory Council then sought to return to the motion on the table and vote as it was proposed. The motion failed, but discussion followed to form a new motion incorporating amendments to the existing RAWG recommendations as discussed. Members ultimately requested that GRNMS staff use the discussion to draft a new set of recommendations from the Advisory Council to NOAA GRNMS. Becky Shortland will work with others to draft and gain approval of the new set of recommendations.

Public Comment
Wendell Harper stated that he did not really have any comments, but that he agrees with the proposal to ban spearfishing.

Next Meeting
Members discussed and then decided to seek a date in early October that would work for the majority of members and attempt to hold the meeting at the Georgia Southern Museum in Statesboro. October 2nd is the best date for members present.

The meeting was adjourned at 8:15 p.m.


NATIONAL MARINE SANCTUARIES
Southeast Atlantic, Gulf of Mexico
Caribbean Region
"Marine Zoning: Involving and Accounting Back to Stakeholders"
Flower Garden Banks NMS
Florida Keys NMS
Gray's Reef NMS
Sanctuary Advisory Council
Chairs And Coordinators Meeting
May 2008
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

Marine Zoning: Involving and Accounting Back to Stakeholders

- **Current status of marine zoning for each sanctuary in the region (Flower Garden Banks, Gray's Reef, and Florida Keys)**

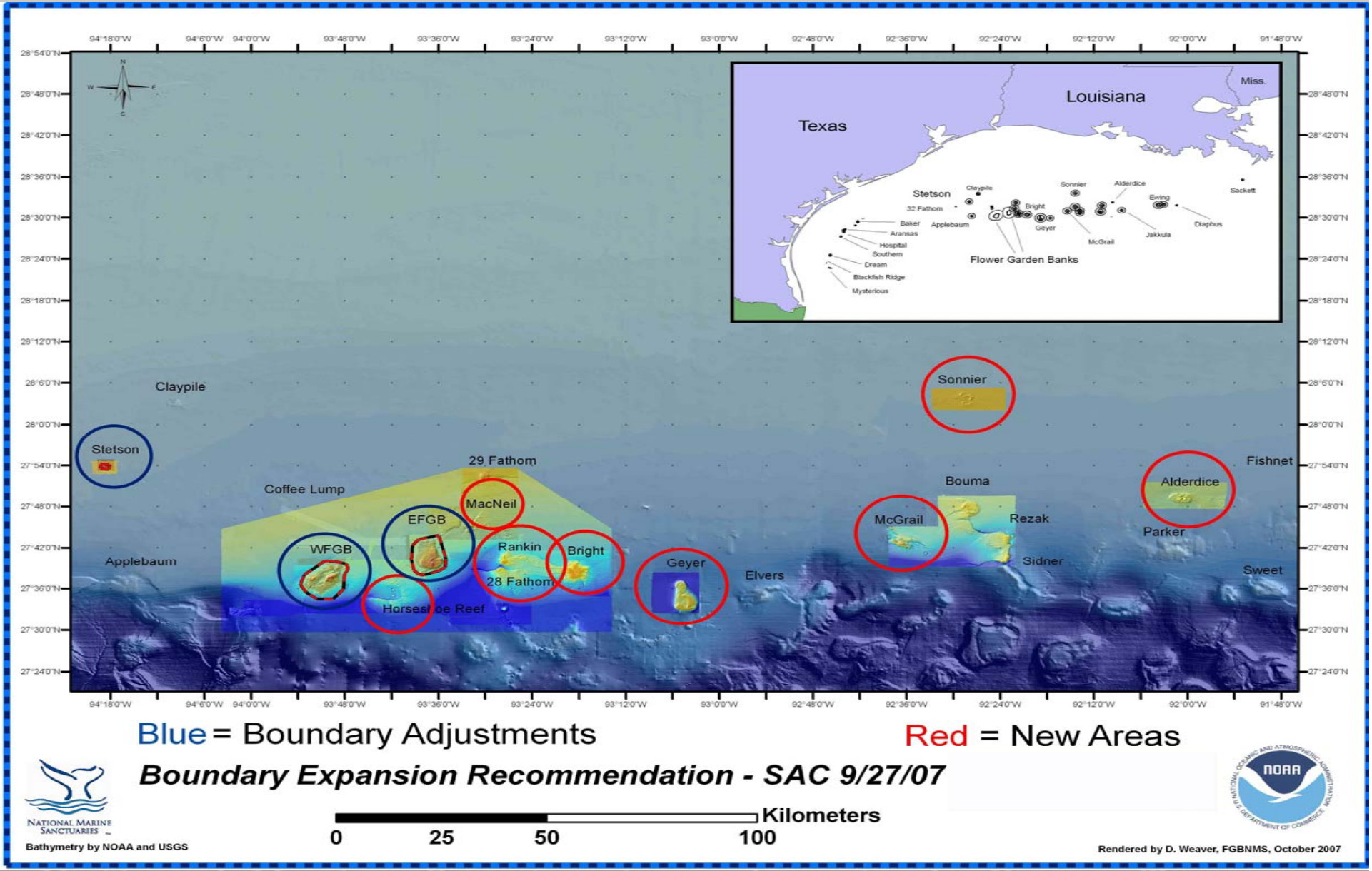
  - A brief account of the Gray's Reef NMS Research Area process

  - A brief account of SAC and stakeholder involvement with marine zoning at the Florida Keys NMS from the beginning

  - Summary remarks

  - Any questions?

Flower Garden Banks NMS



Blue = Boundary Adjustments

Red = New Areas

Boundary Expansion Recommendation - SAC 9/27/07

Kilometers

0 25 50 100

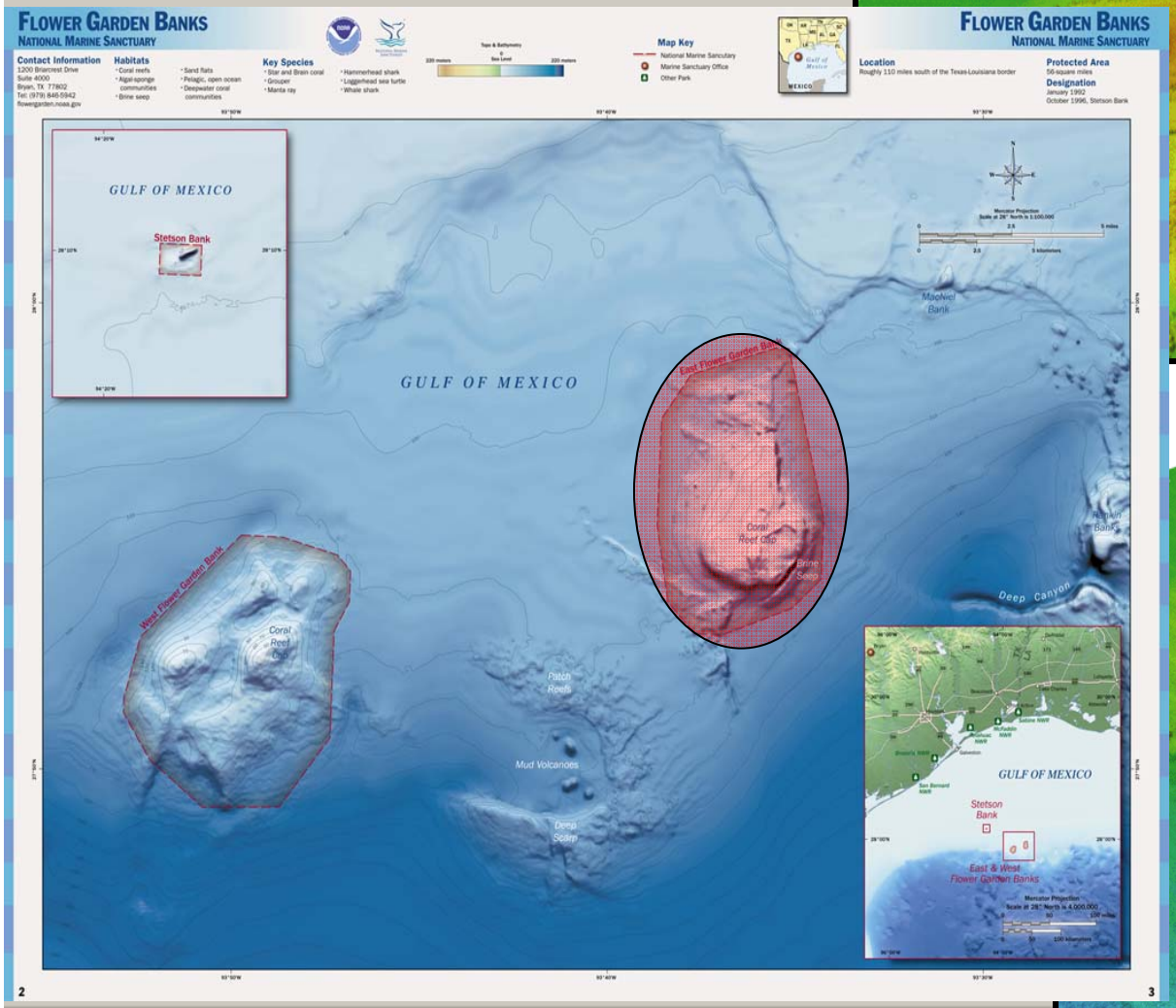
National Marine Sanctuaries

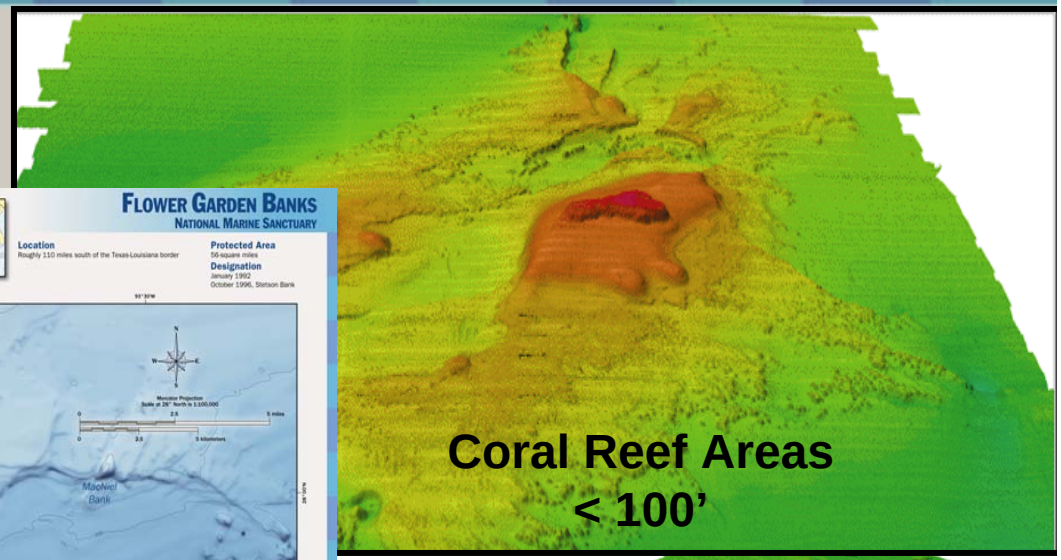
Bathymetry by NOAA and USGS

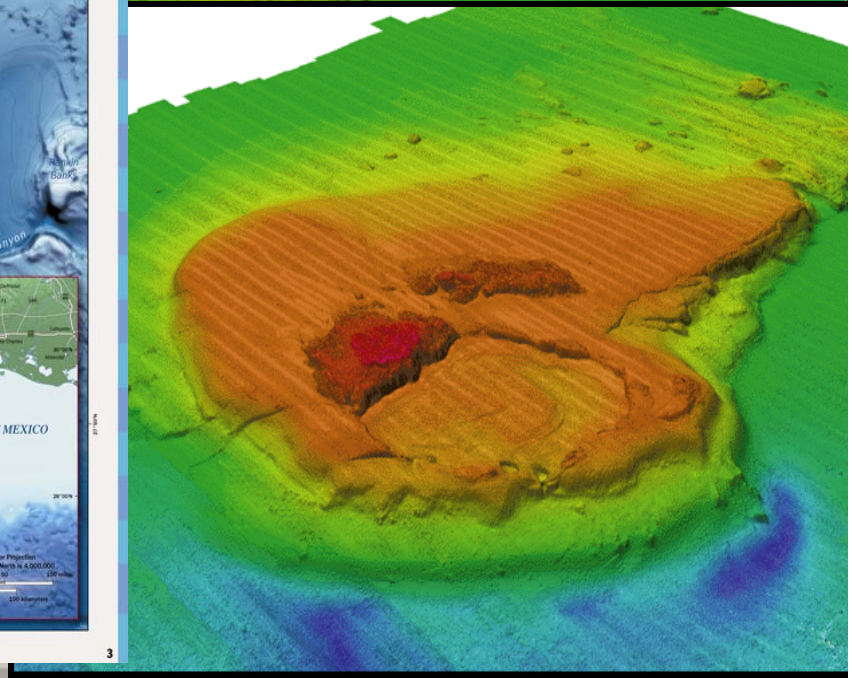
Rendered by D. Weaver, FGBNMS, October 2007

Flower Garden Banks NMS

Experimental Fishing Closure
Possible Alternative







Research Area Concept:

<u>The Problem</u>: There are no naturally occurring, live-bottom sites within the Sanctuary (or the region) established exclusively for research

<u>The Desired Outcome</u>: Increase opportunity to discriminate scientifically between natural and human-induced change to species populations in the Sanctuary

Current Status of Marine Zoning Activities and Council Involvement

- **Revised Management Plan approved 12/07**
- **Following that, SAC held educational marine zoning workshop 3/08**

- **4/08 SAC recommended more education on marine zoning needed, including broader outreach to specific user groups (divers, fishers, etc.)**

- **SAC and community to be involved in prioritization, education and public regulatory processes from 2008 - 2011, utilizing previous lessons learned**

Gray's Reef NMS - *Research Unknowns? (May 2004)*

- **Impacts of extractive activities?**
- **Differences between "natural" and "impacted" reefs?**
- **Can Sanctuary help conserve natural resources?**

Gray's Reef NMS - *Research Questions*

- **Fishing Impacts, if any?**
- **Fish populations in absence of fishing?**
- **Bottom invertebrate community in absence of fishing?**
- **Natural community spatial and temporal dynamics different when fished?**
- **Fishing affect size, movements, spawning?**
- **Natural system variability?**
- **Are we conserving the resources?**

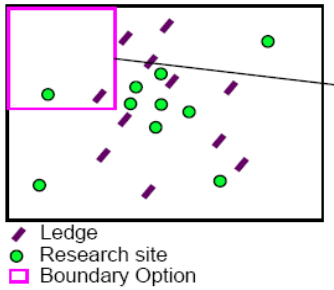
Gray's Reef NMS – *Research Area Working Group*

RAWG **- Sport diving, sportfishing, commercial fishing, enforcement, scientists, educators, conservation, state, federal**

GIS **to explore the concept**

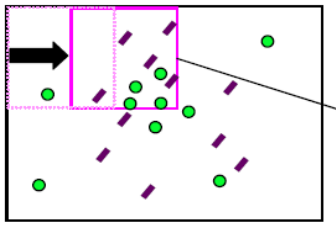
- **Criteria - ledges - other bottom types - prior research – fishing**
- **Boundary shapes**
- **Sliding window tallied options – 30,307 options**
- **Acceptable quantitative cut-offs**
- **Acceptable options plotted and summarized**

Start the window in northwest corner of the sanctuary, this is option 1.



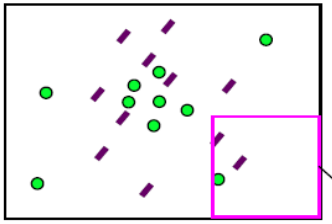
Option	# Ledges Inside	# Research Sites Inside	# Ledges Outside	# Research Sites Outside
1	1	1	9	9
2				
.				
.				
n				

Slide the window east to encompass a new set of variables, this is option 2.



Option	# Ledges Inside	# Research Sites Inside	# Ledges Outside	# Research Sites Outside
1	1	1	9	9
2	5	4	5	6
.				
.				
n				

Continue sliding until the entire sanctuary has been assessed, this is option N.



Option	# Ledges Inside	# Research Sites Inside	# Ledges Outside	# Research Sites Outside
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2	5	4	5	6
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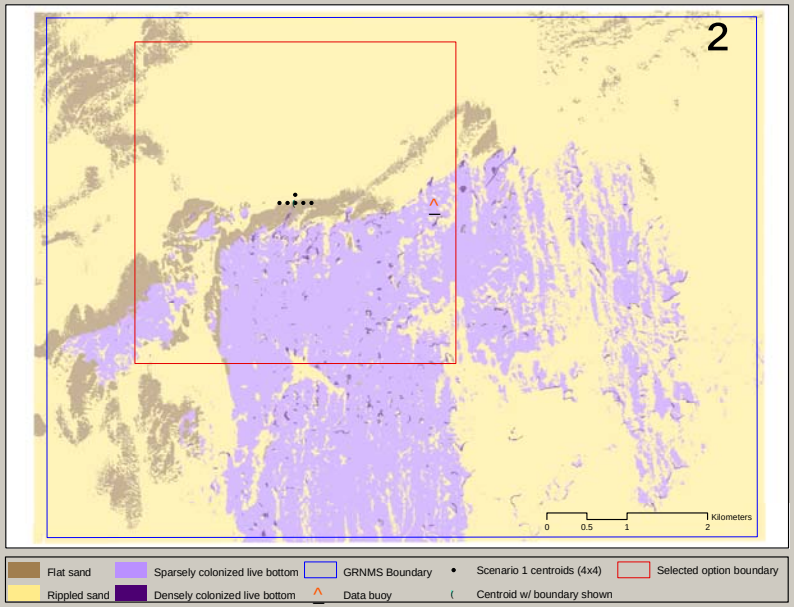
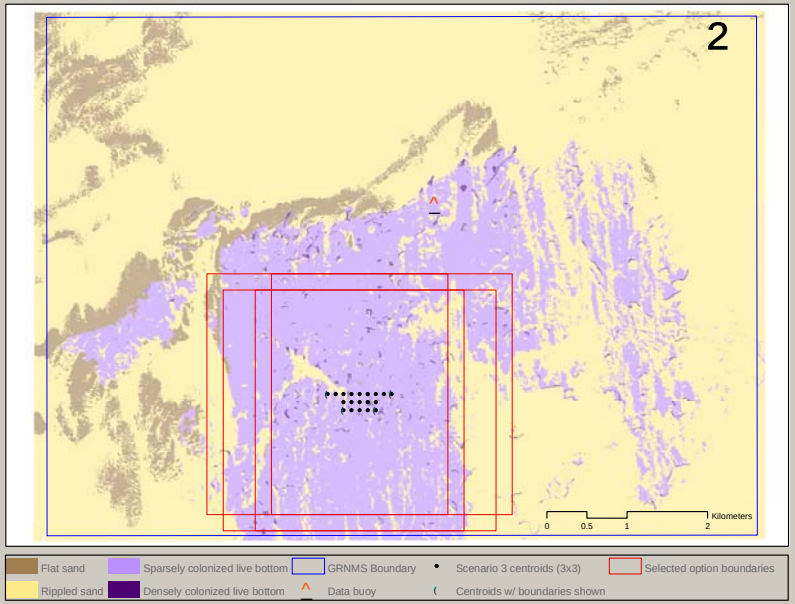
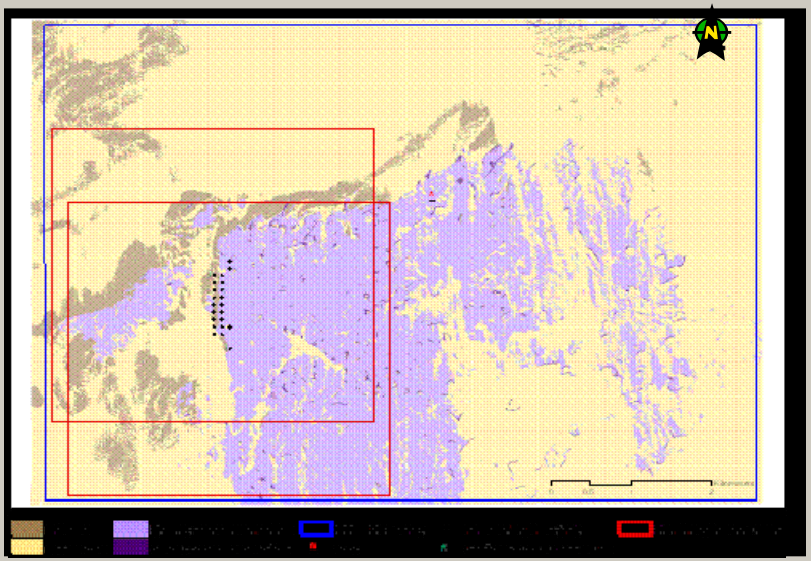
n	2	1	8	9

Gray's Reef NMS - Six scenarios to scoping

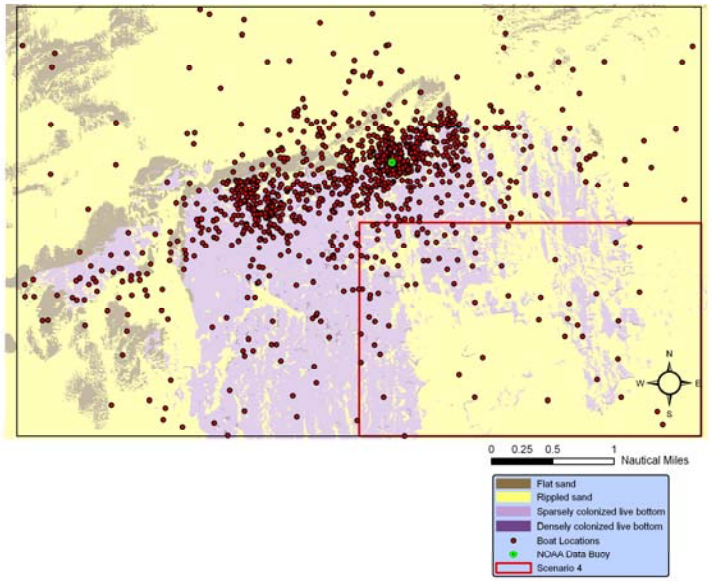




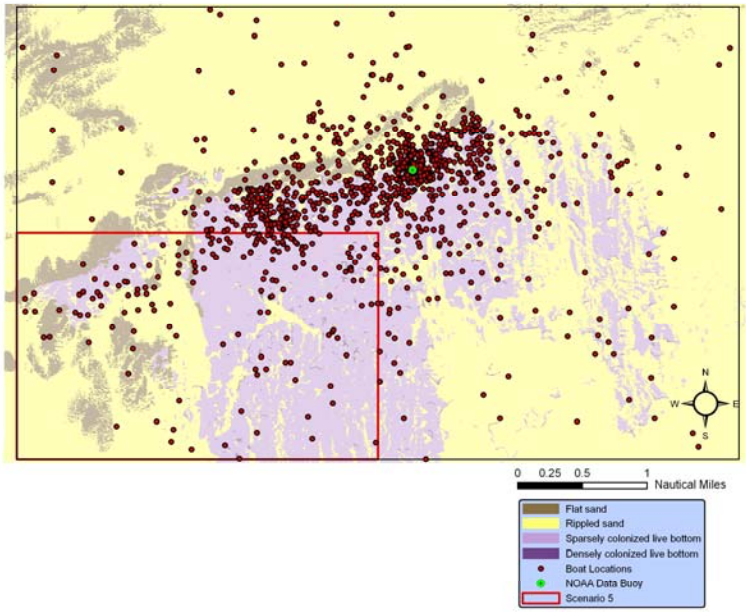


Gray's Reef NMS - Six scenarios to scoping

Scenario 4: Southeast Quadrant



Scenario 5: Southwest Quadrant

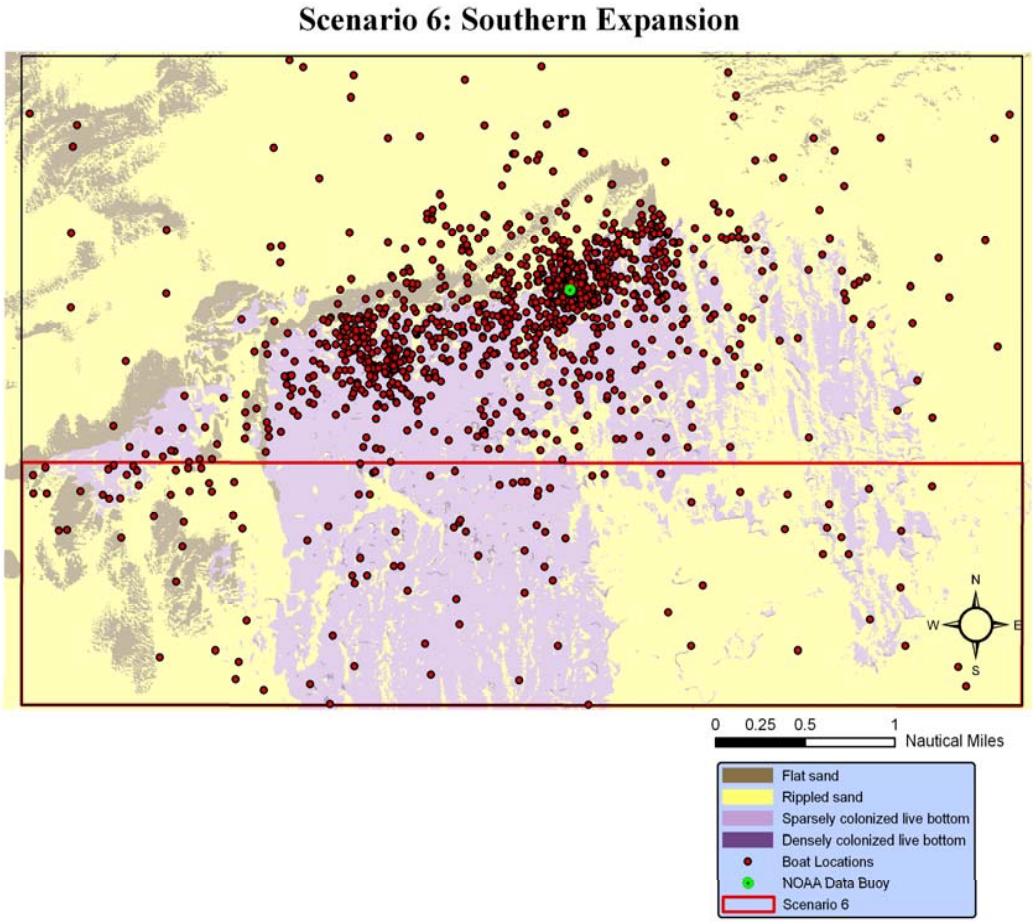


Gray's Reef NMS - Six scenarios to scoping

Research Area Success =

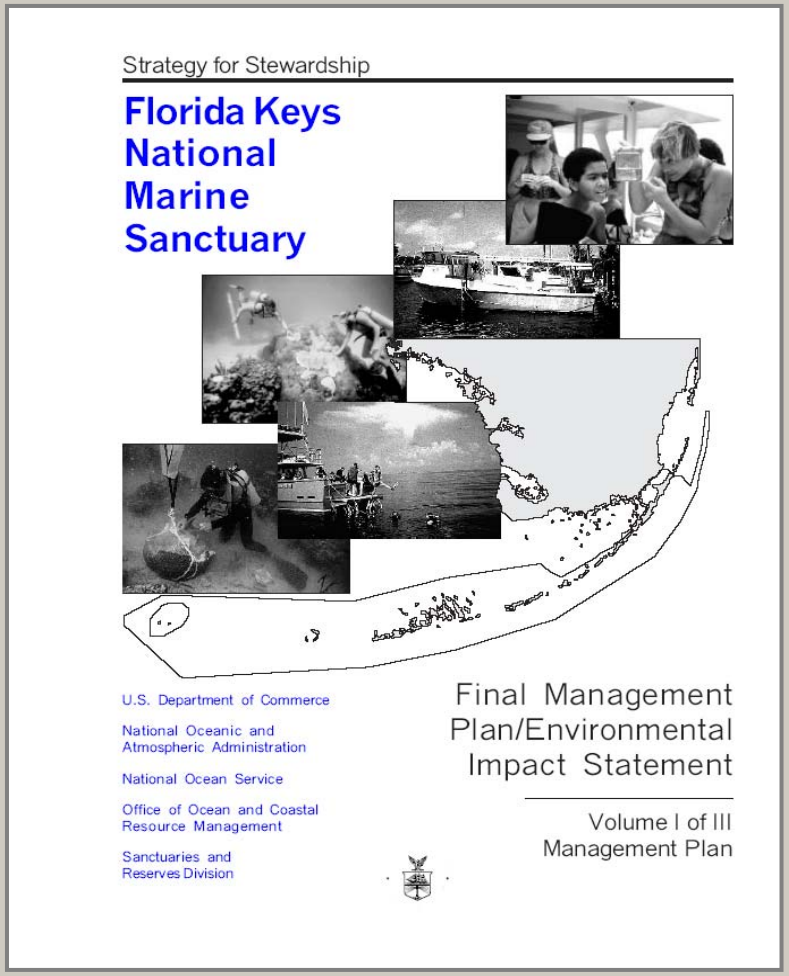
Visitor Use, Enforcement, Accountability back to stakeholders

- **Allow trolling, transit, diving?**
- **Boundary Markers?**



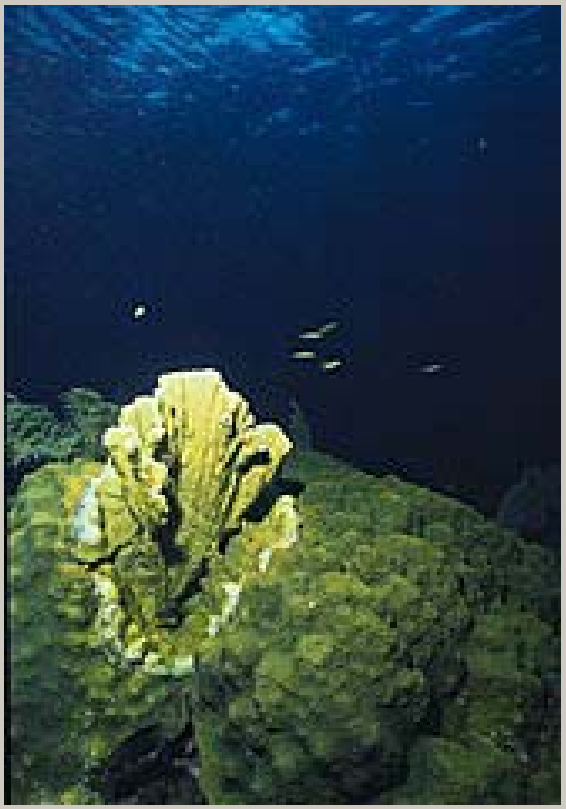
Development of First Management Plan

- Original management plan adopted 1996
- Process began in December 1991 - purpose was to discuss the concept of using marine zoning as a management tool
- Hosted an interagency meeting in Marathon – received over 3 dozen examples



Florida Keys NMS

- January 1992 held a full week of all-day marine zoning workshops
- Different constituent group each day Conservation Groups, Commercial Fishermen, Recreational Fishermen, Divers, and Scientists
- Gave examples (e.g. Great Barrier Reef Marine Park Authority of how marine zoning used internationally
- Gave ground-rules and sought input
- SAC involved since February 1992



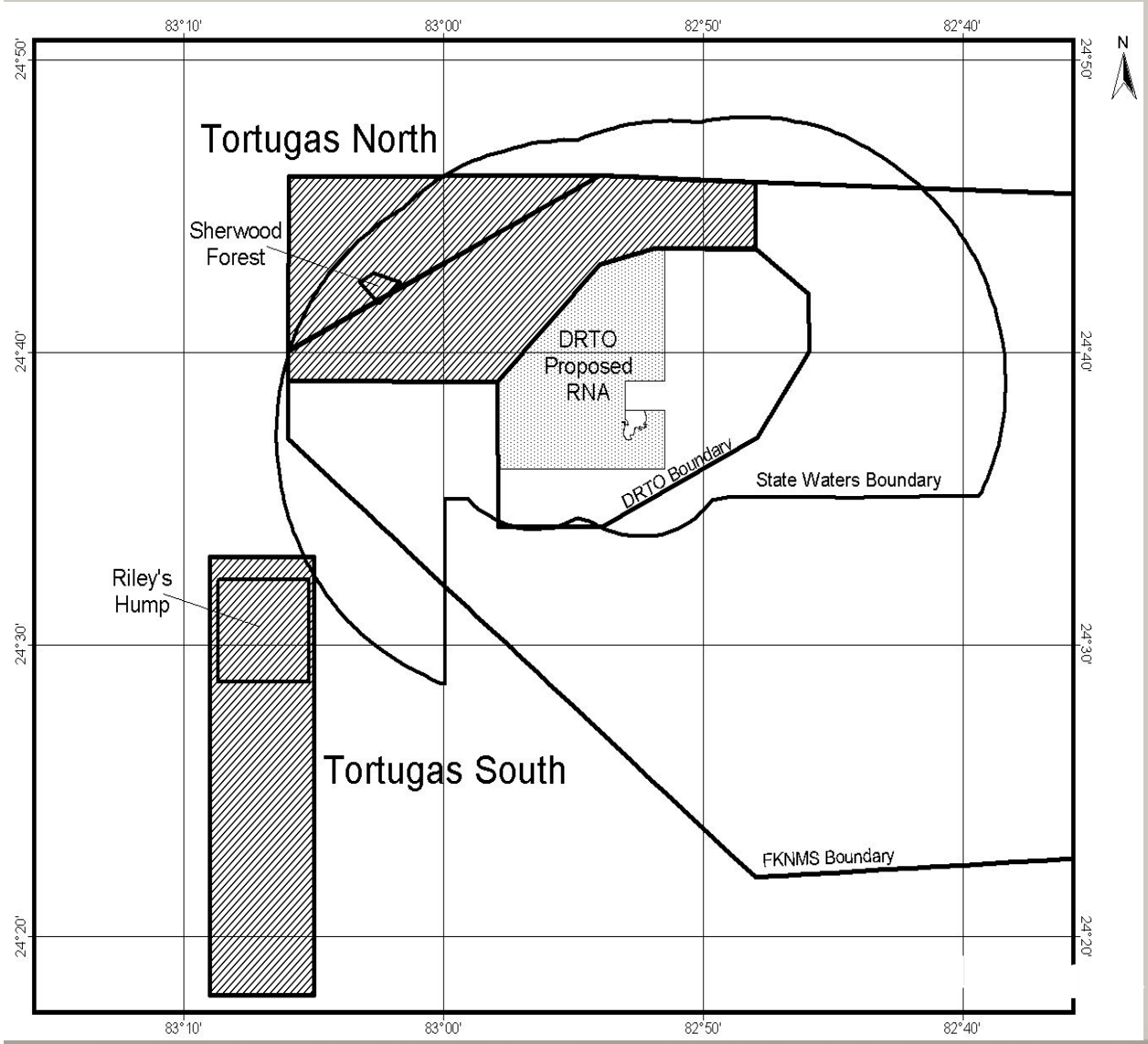
Select SAC Marine Zoning Goals

- Protect areas that represent a wide variety of habitats and that maintain ecosystem function
- Ensure areas of high ecological importance evolve naturally
- Preserve biodiversity and ecosystem integrity
- Protect nationally significant coral reef resources
- Protect and preserve sensitive areas
- Facilitate use activities compatible with resource protection
- Reduce user conflicts

Select SAC Marine Zoning Objectives

- Protect contiguous, diverse habitats
- Protect areas experiencing habitat declines
- Eliminate injury to sensitive areas
- Reduce stresses on sensitive wildlife populations by restricting access
- Provide undisturbed monitoring sites and control areas for research
- Disperse heavy concentrations of uses
- Minimize adverse socioeconomic impacts

Florida Keys NMS



Tortugas Ecological Reserve

- Started process in 1998 and implementation was July 1, 2001
- 25-member SAC working group involved & 7 separate jurisdictions
- South Atlantic FMC
- Gulf of Mexico FMC
- Highly Migratory FM
- Natl. Park Service
- Natl. Marine Sanctuary
- State of Florida – FWC
- State – Gov & Cabinet

Key Points for Marine Zoning Processes

- **Involve stakeholder leadership in process (Working through SAC is key to this)**
- **Integrate the best available natural and socioeconomic science into the process**
- **Utilize a process that is precise and science driven, but incorporates the best available anecdotal information when necessary**
- **Process should not wait for complete scientific validation**
- **Overcome perceptions of social and economic injustices by incorporating socioeconomic data**

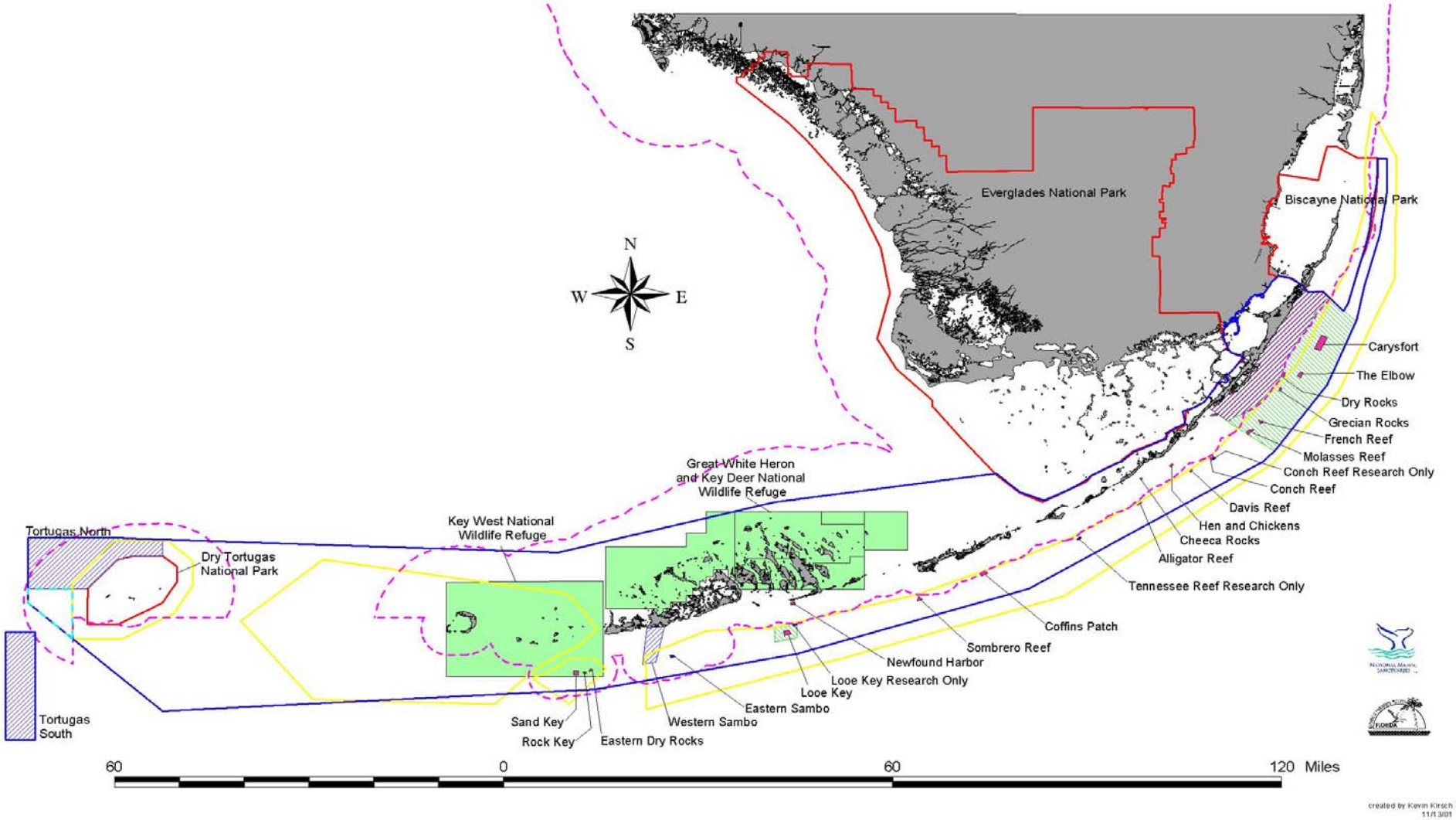
Florida Keys NMS

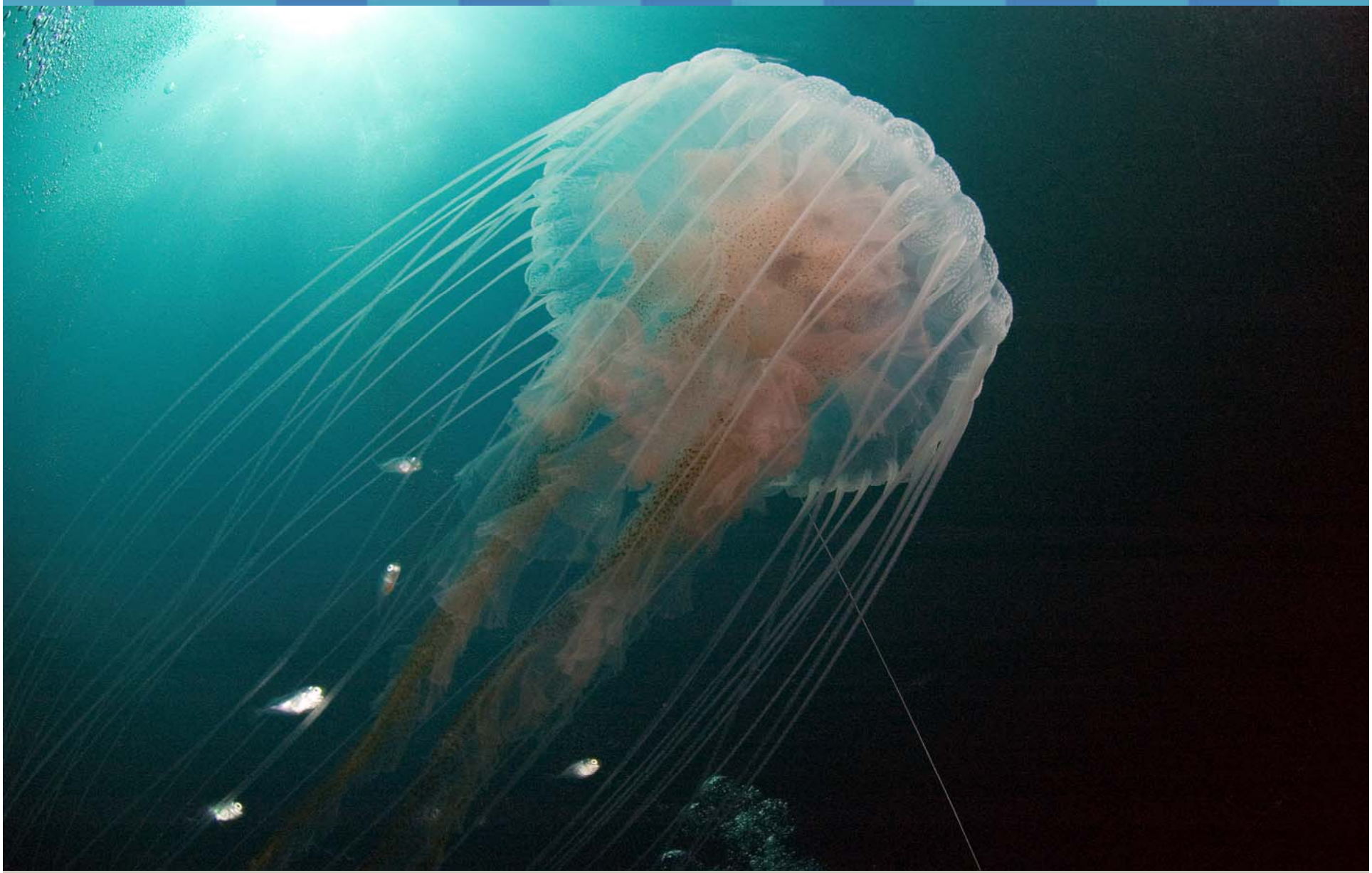
SAC Plays Major Roles in Sanctuary's Efforts to Involve and Account Back to Stakeholders

- Conduit for two-way communication between sanctuary management and represented communities
- Participation in formation of management plan and updates
- Creation of SAC zoning working groups to bring information forward and active involvement
- Leadership in creating positive change…many different ways

Florida Keys NMS

Current Marine Zones





National Marine Sanctuaries • America's Ocean Treasures

GRNMS SAC Meeting, 28 Jul 08

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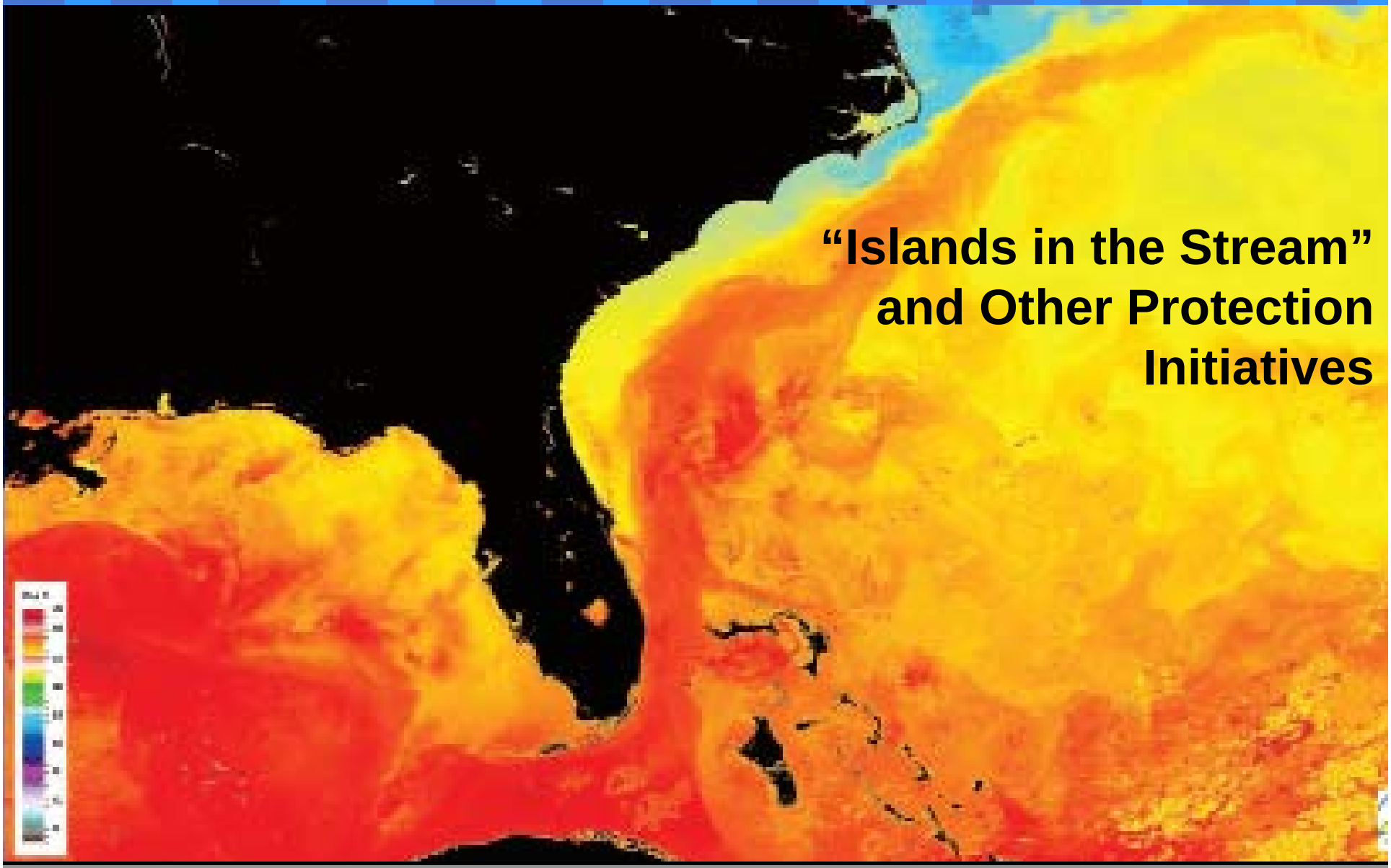
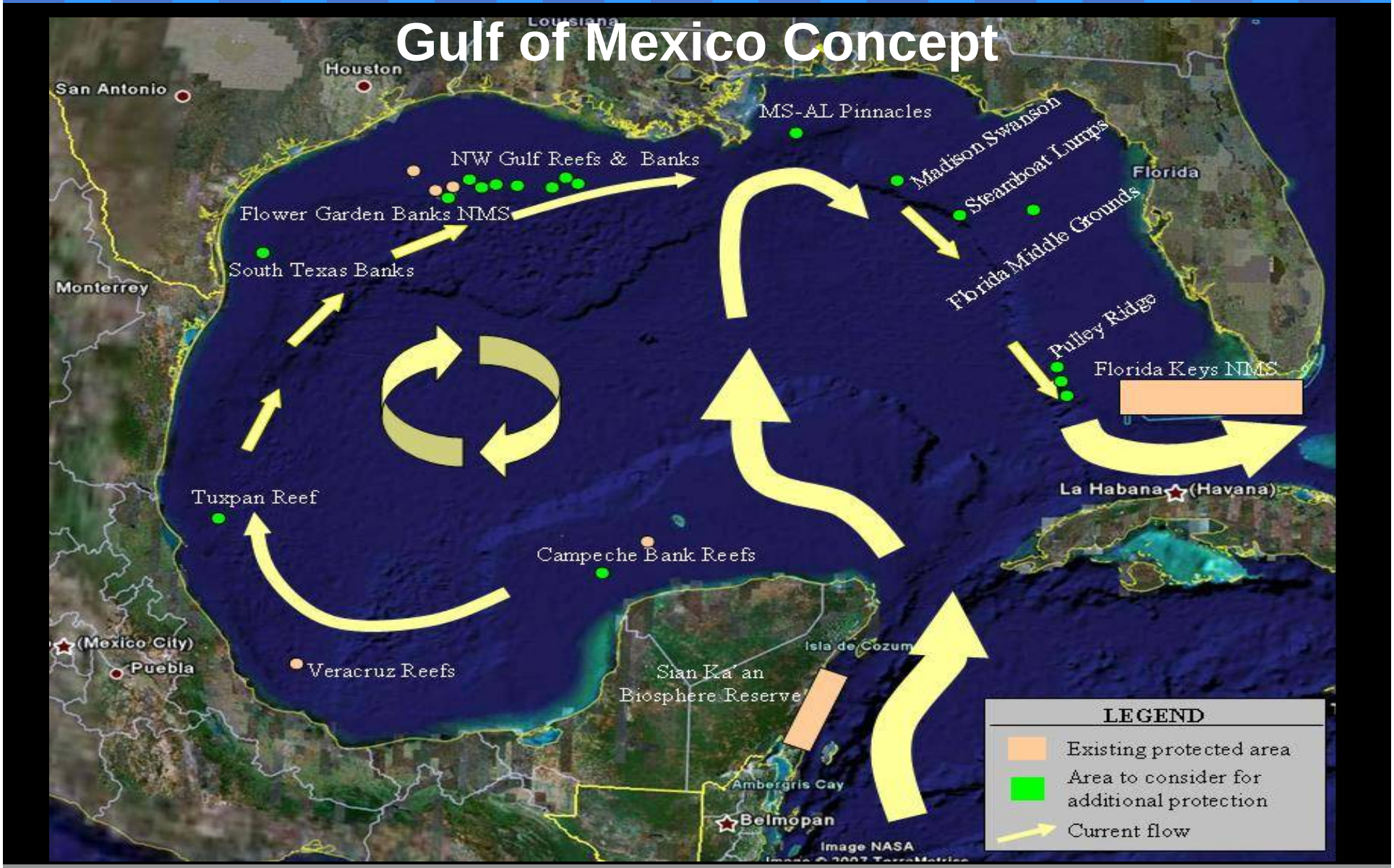


"Islands in the Stream" and Other Protection Initiatives

GRNMS SAC Meeting, 28 Jul 08



Gulf of Mexico Concept

Key Points About This Initiative

- **The Administration has still not taken a formal position on the initiative. Rather, it is considering the merits of this initiative, along with other possibilities.**
- **NOAA has not taken any action on the concept.**
- **NOAA would not support the designation without a thorough public discussion of all the relevant issues.**

Gulf of Mexico Concept

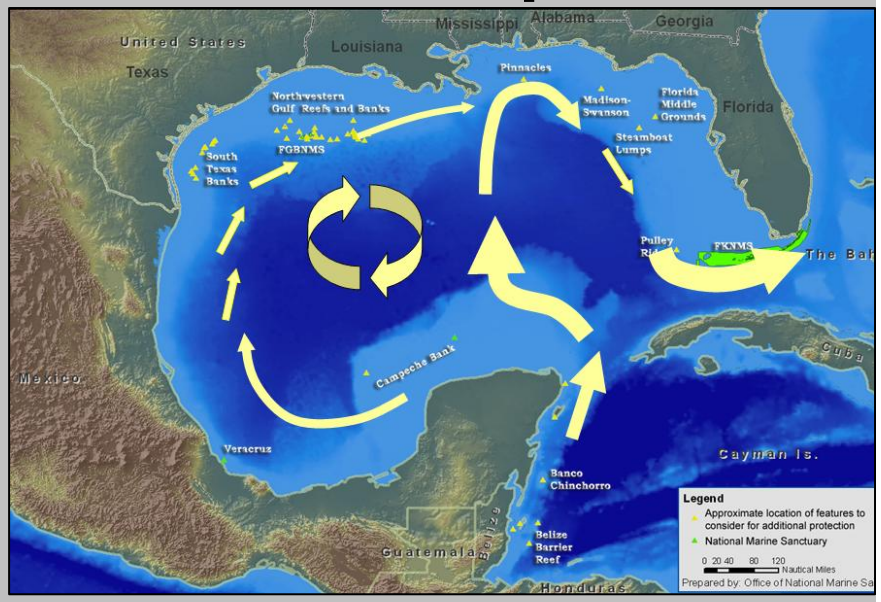
Key Points About This Initiative

- **A unique opportunity exists to protect special marine areas in the Gulf of Mexico.**
- **Functionally-connected network of the Nation's northernmost coral reefs, banks, ridges and pinnacles**
- **Ensure conservation of sensitive habitats and communities critical to the Gulf's most recognizable and threatened living resources would provide for uses compatible with the primary objective of conservation**
- **Would establish the largest and first ever internationally connected network of MPAs**
- **Will improve on ocean governance**
- **Apply an ecosystem-based approach to management**
- **Gulf of Mexico: ideal location – energy and marine conservation can co-exist**

GRNMS SAC Meeting, 28 Jul 08

- **Many of the areas identified on the map have already been set aside for some level of protection through MMS or Fisheries processes-- A great deal of public attention has already been given to these areas.**
- **The special marine areas proposed would still be assessed through a comprehensive stakeholder process.**

Gulf of Mexico Concept

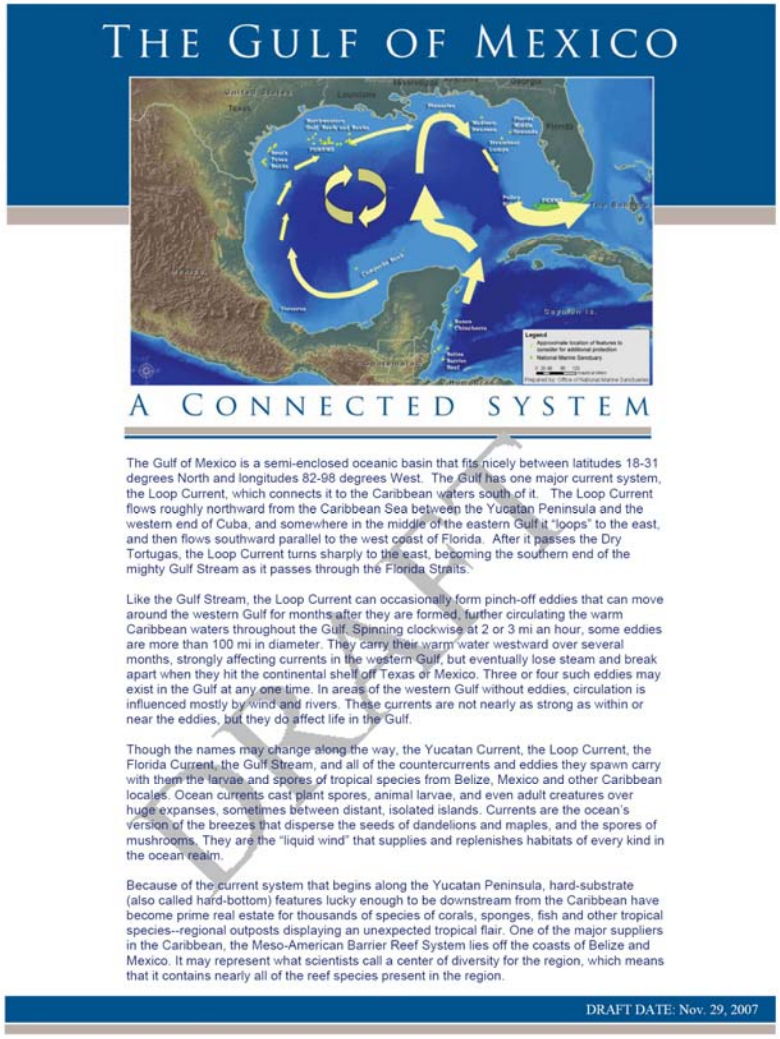


- **A proposed extension of current efforts with Mexico and Belize would provide for a "full" ecosystem approach and demonstrates leadership worldwide.**

GRNMS SAC Meeting, 28 Jul 08

Gulf of Mexico Concept

Staff of the Office of National Marine Sanctuaries has drafted a more comprehensive *Site Characterization* of the proposed sites.



THE GULF OF MEXICO

A CONNECTED SYSTEM

The Gulf of Mexico is a semi-enclosed oceanic basin that fits nicely between latitudes 18-31 degrees North and longitudes 82-98 degrees West. The Gulf has one major current system, the Loop Current, which connects it to the Caribbean waters south of it. The Loop Current flows roughly northward from the Caribbean Sea between the Yucatan Peninsula and the western end of Cuba, and somewhere in the middle of the eastern Gulf it "loops" to the east, and then flows southward parallel to the west coast of Florida. After it passes the Dry Tortugas, the Loop Current turns sharply to the east, becoming the southern end of the mighty Gulf Stream as it passes through the Florida Straits.

Like the Gulf Stream, the Loop Current can occasionally form pinch-off eddies that can move around the western Gulf for months after they are formed, further circulating the warm Caribbean waters throughout the Gulf. Spinning clockwise at 2 or 3 mi an hour, some eddies are more than 100 mi in diameter. They carry their warm water westward over several months, strongly affecting currents in the western Gulf, but eventually lose steam and break apart when they hit the continental shelf off Texas or Mexico. Three or four such eddies may exist in the Gulf at any one time. In areas of the western Gulf without eddies, circulation is influenced mostly by wind and rivers. These currents are not nearly as strong as within or near the eddies, but they do affect life in the Gulf.

Though the names may change along the way, the Yucatan Current, the Loop Current, the Florida Current, the Gulf Stream, and all of the countercurrents and eddies they spawn carry with them the larvae and spores of tropical species from Belize, Mexico and other Caribbean locales. Ocean currents cast plant spores, animal larvae, and even adult creatures over huge expanses, sometimes between distant, isolated islands. Currents are the ocean's version of the breezes that disperse the seeds of dandelions and maples, and the spores of mushrooms. They are the "liquid wind" that supplies and replenishes habitats of every kind in the ocean realm.

Because of the current system that begins along the Yucatan Peninsula, hard-substrate (also called hard-bottom) features lucky enough to be downstream from the Caribbean have become prime real estate for thousands of species of corals, sponges, fish and other tropical species--regional outposts displaying an unexpected tropical flair. One of the major suppliers in the Caribbean, the Meso-American Barrier Reef System lies off the coasts of Belize and Mexico. It may represent what scientists call a center of diversity for the region, which means that it contains nearly all of the reef species present in the region.

DRAFT DATE: Nov. 29, 2007

Pulley Ridge

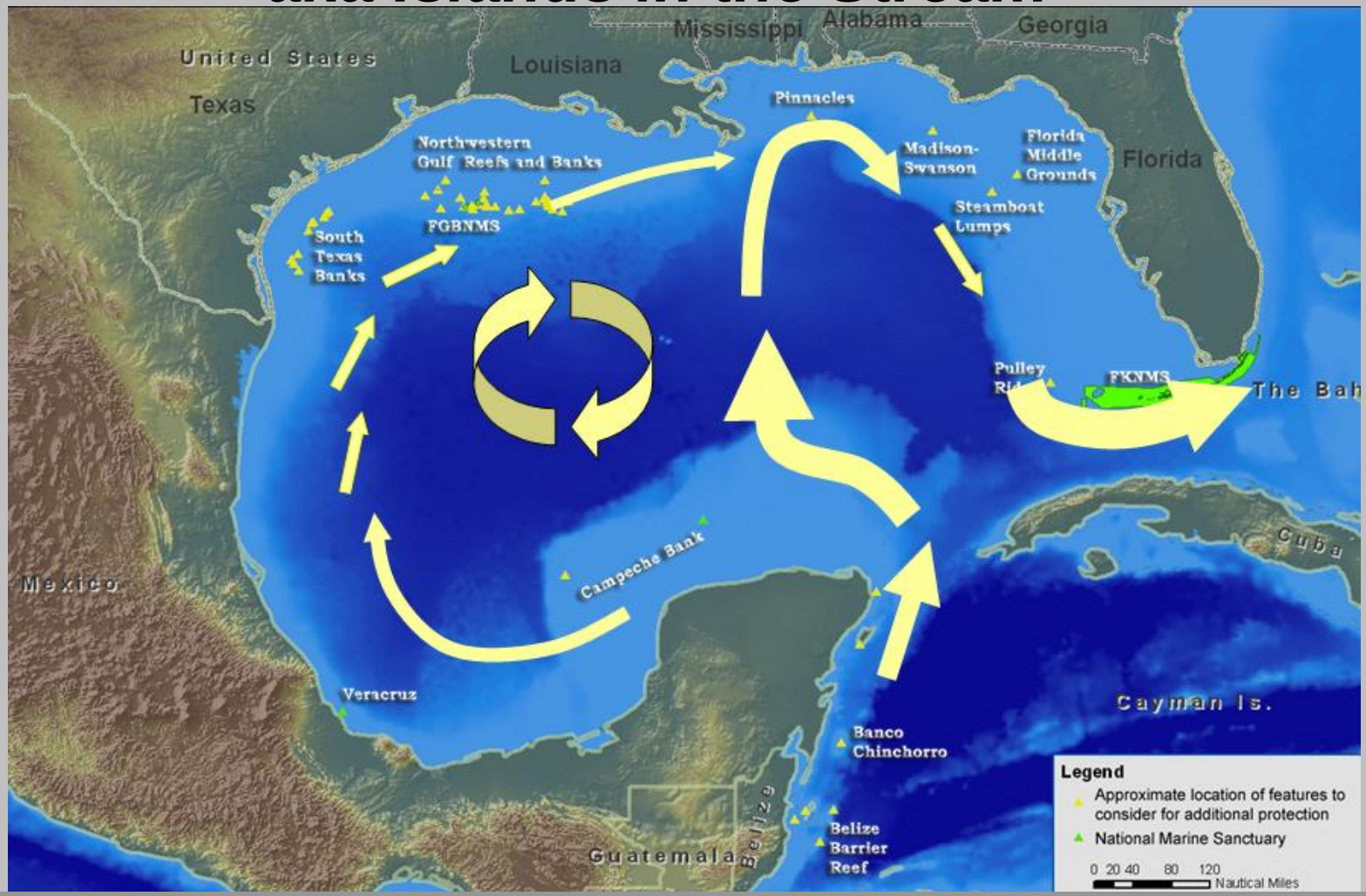
Gulf of Mexico Concept

The "Islands- the special places- in the Stream (Loop Current)" in the US include:

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

Gulf of Mexico Concept

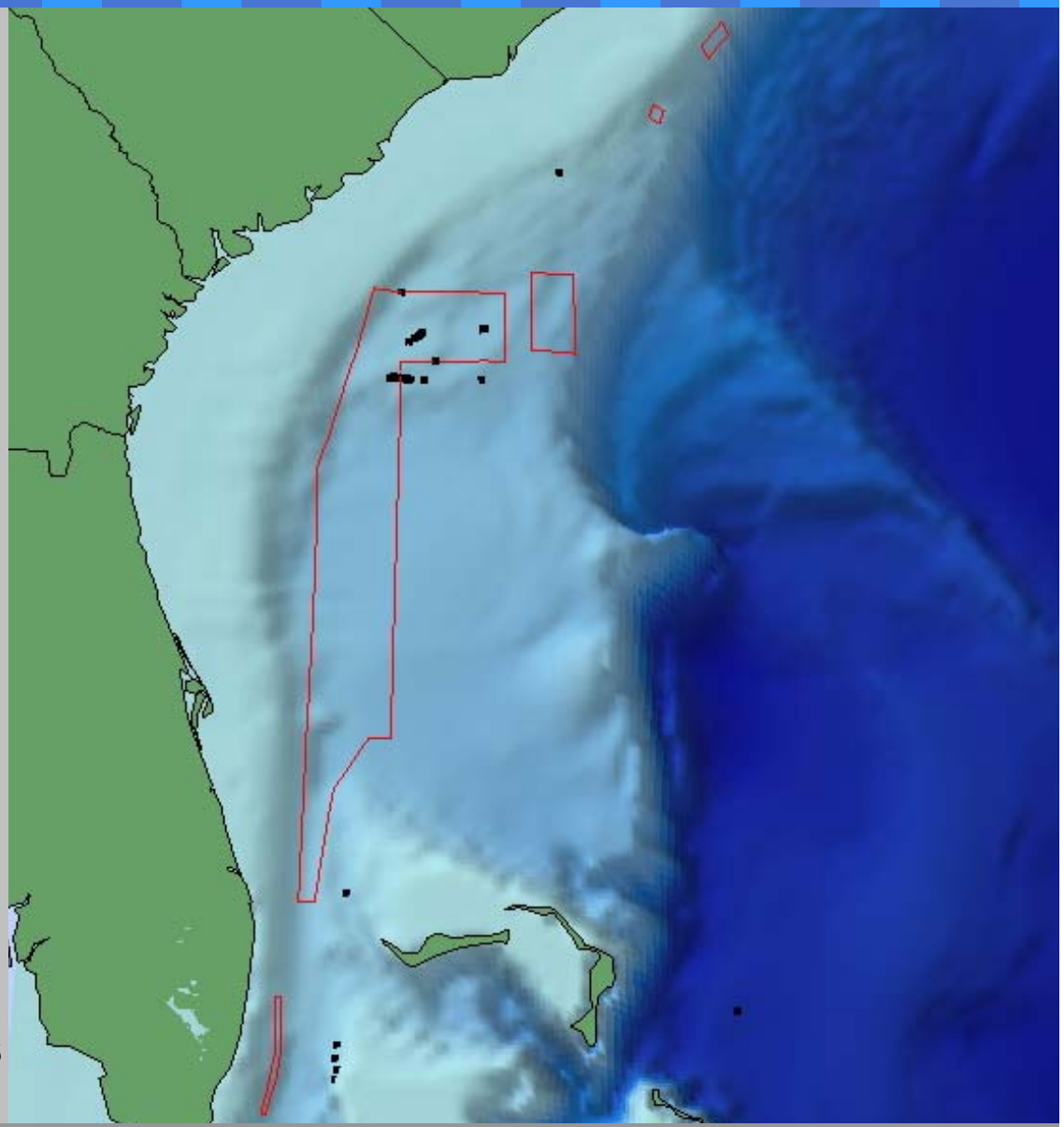
aka Islands in the Stream



GRNMS SAC Meeting, 28 Jul 08

Deepwater Coral Banks of the South Atlantic Bight

Also being considered as MNM



SAFMC Deep Coral HAPC

Wreckfish Capture Locations

Will a deep-ocean marvel be preserved?

BY BO PETERSEN (CONTACT)
The Post and Courier
Saturday, June 7, 2008

PROVIDED

The alphonsino is a common species of deep-sea coral habitats, where many unusual creatures reside.

VIDEO

Atlantic Coast Deep Sea Corals National Monument video:

Revealing the deep

This ancient landscape is alive.

The thousand-year-old coral runs for miles in sweeping, spindling reefs and branches, towers and rock bottom mounds hundreds of feet tall, all swarmed by fish, sponges and other creatures deep under the Gulf Stream.

The vast ocean-bottom reef that Gov. Mark Sanford has asked President Bush to name a national marine monument is as big as South Carolina itself, just off the lip of the Continental Shelf, starting roughly 60 miles out.

"Beautiful, extensive, huge, wonderful," said Steve Ross, associate research professor at the University of North Carolina at Wilmington, who has cramped into a small submarine to dive 1,000 feet down to see it. He found starfish and crabs he didn't know existed, and rare fish such as cat sharks swimming in coral branches like birds through the trees.

"A vast array of creatures. You know you're looking at an environment nobody has ever seen," Ross said. "We don't know anywhere near what we thought we did. All these animals were so deep nobody ever thought to look."

As resources deplete closer in to shore, the largely unexplored coral reef is becoming the new ground for mineral mining, and for energy industries such as oil, natural gas, even methane.

A bill proposed in 2006 in the U.S. Senate would have expanded offshore oil and natural gas drilling to South Carolina and elsewhere; it was later withdrawn. Water-powered turbines have been proposed to tap the Gulf Stream in Florida. Long-line fishing boats already make passes over the reefs.

Conservationists say disturbing the irreplaceable coral destroys it.

The creatures in that coral might hold a key to medicines, including a potential cure for pancreatic cancer in sponges that is being researched by Latasha Amisial, a former Medical University of South Carolina graduate student who studied at the Hollings Marine Laboratory at Fort Johnson.

"We call it 'bio-prospecting.' Any time you're doing bio-prospecting, if you destroy something, you never know what you've lost," said Eric Lacy, national Marine Biomedicine and Environmental Sciences Center director, who is based at the Hollings lab.

Conservationists say keeping a network of the delicate, slow-growing coral intact preserves not only a matchless seascape but a nursery for deep-sea plants and animals. Designating the dark world a national monument would be like making it a national park, regulating how it's used and banning such uses as bottom trawling.

The proposed Atlantic Coast Deep Sea Corals National Monument is shaped oddly like a sea horse. It would run for 23,000 square nautical miles from about North Carolina to Florida, with its tail along the South Florida shoreline.

More than a third of the reef is off South Carolina, including the Charleston Bump, 80 miles out from its namesake, rising nearly 1,000 feet from the bottom 2,000 feet deep, deflecting the Gulf Stream like a mountain would channel clouds. The Bump is a fishing mecca for migrating species including the white marlin and swordfish.

Sanford focused on the Bump when seeking the designation, saying, "This deepwater coral ecosystem constitutes a national treasure on par with Yosemite Valley and the Northwest Hawaiian Islands."

Bush named the northwest islands a marine sanctuary in 2006. Sanford sent the letter at the urging of conservationists and scientists who were encouraged by the Hawaiian designation. A similar letter went to the Bush administration's Council on Environmental Quality, signed by more than 100 scientists.

"We didn't see a downside. We don't view this as politics. This is a chance to protect a natural resource," said Joel Sawyer, Sanford's communications director. "There have been so many (fishing) restrictions placed on (the Bump) already, we didn't feel this would make a significant difference. The area is already being regulated out of (fishing) existence."

Sanford has opposed offshore drilling in South Carolina. Bush supports offshore drilling. Doug Rader, an Environmental Defense scientist who signed the council letter, said designating the monument would be a massive achievement, but "you can speculate as well as

Posted on Fri, May. 23, 2008

Sanford seeking protection of reef

Deep-water area off S.C. coast is 'national treasure,' letter to Bush says

By SAMMY FRETWELL - sfretwell@thestate.com

Gov. Mark Sanford has asked President Bush to protect a deep-water reef that environmentalists say is vulnerable to fishing and oil exploration.

In a recent letter to Bush, Sanford called the reef a "national treasure" and compared it to Yosemite National Park or parts of Hawaii.

Relatively few people know about the reef, because unlike shallow tropical reefs, the one off South Carolina is about 1,000 feet deep in an area that gets virtually no sunlight. It attracts many species of fish people never see, but also is frequented by commercial species such as the wreck fish. It is more than 60 miles off South Carolina and is part of a reef system that extends from North Carolina to Florida.

Protection of the area as a marine national monument would not likely affect current commercial fishing, but could limit or prohibit future endeavors to catch deep-water species, according to the conservation group Environmental Defense.

A marine national monument Bush designated in Hawaii two years ago restricted access by fishermen in a string of small islands with an abundance of sea life. The designation off South Carolina also could limit offshore energy exploration if the work threatened to damage the reef, officials said.

Sanford's letter to Bush — the first by a Southeast governor seeking protection of the reef — does not mention specific threats, including fishing or oil exploration. But Sanford was clear that he would like it protected.

"The fragile nature of these slow-growing and long-lived corals makes them highly vulnerable to disturbance," Sanford wrote. "The deep-water coral ecosystems offshore from South Carolina, along with the coral ecosystems adjacent to the other Southeast states, are in need of your attention and leadership."

Attempts to reach a White House spokesman were unsuccessful Thursday afternoon. In contrast to Bush, Sanford has been cool to the idea of offshore oil drilling because of its potential impact on tourism.

Lewis Gossett, who heads the South Carolina Manufacturers Alliance, said his association favors more oil and gas exploration, but did not have an official position Thursday on Sanford's request for a marine national monument.

Environmental Defense officials praised Sanford for his efforts. The reef is so deep that it has likely never been disturbed by humans. The greatest concentration of deep-water corals are believed to lie off the South Atlantic coast, said Steve Ross, a researcher at

Dole urges Bush to move to save Carolinas' reefs

The N.C. senator wants the president to create a national monument to protect the coral banks.

By Bruce Henderson
bhenderson@charlotteobserver.com

Charlotte.com
The Charlotte Observer

Sen. Elizabeth Dole, R-N.C., has urged President Bush to protect deep-water coral reefs off the Carolinas as a national monument.

MCT

Sen. Elizabeth Dole, R-N.C., chairwoman of the National Republican Senatorial Committee, right, listens as Sen. Chuck Schumer, D-N.Y., chairman of the Democratic Senatorial Campaign Committee, during a luncheon and discussion regarding the upcoming November elections at the National Press Club in Washington Wednesday, Oct. 25, 2006. (CHUCK KENNEDY/MCT)

■ Graphic | Treasure under the sea

Dole's letter to the president Tuesday followed a report on the pristine reefs, which extend from North Carolina to Florida, in Sunday's Observer. It adds to a growing chorus of support to protect the reefs, which could potentially be damaged by offshore drilling and deep-sea trawling.

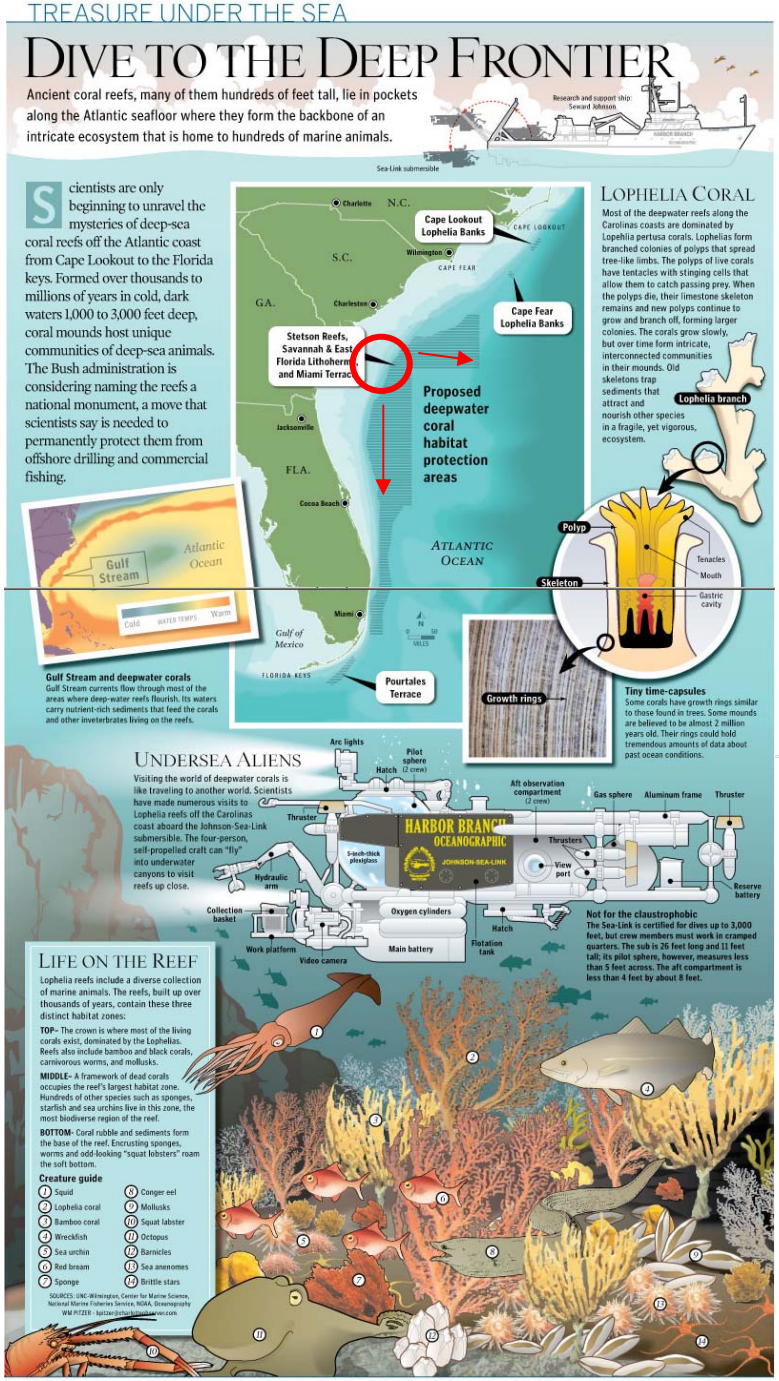
Bush drew conservationists' praise in 2006 for creating a vast national monument in the waters off the Northwestern Hawaiian Islands. The southeastern reefs, which are just beginning to be explored, are said to be on a short list of other potential monument designations the administration is considering.

Bush also called last month for more offshore gas and oil exploration, much of which is banned by congressional and presidential orders. Dole reversed her longstanding opposition to drilling off the N.C. coast to support giving states the option of allowing exploration.

"While environmentally sound exploration for new resources is vital for our country's economic vitality, so is protecting the countless other natural resources in our oceans," Dole wrote to the president.

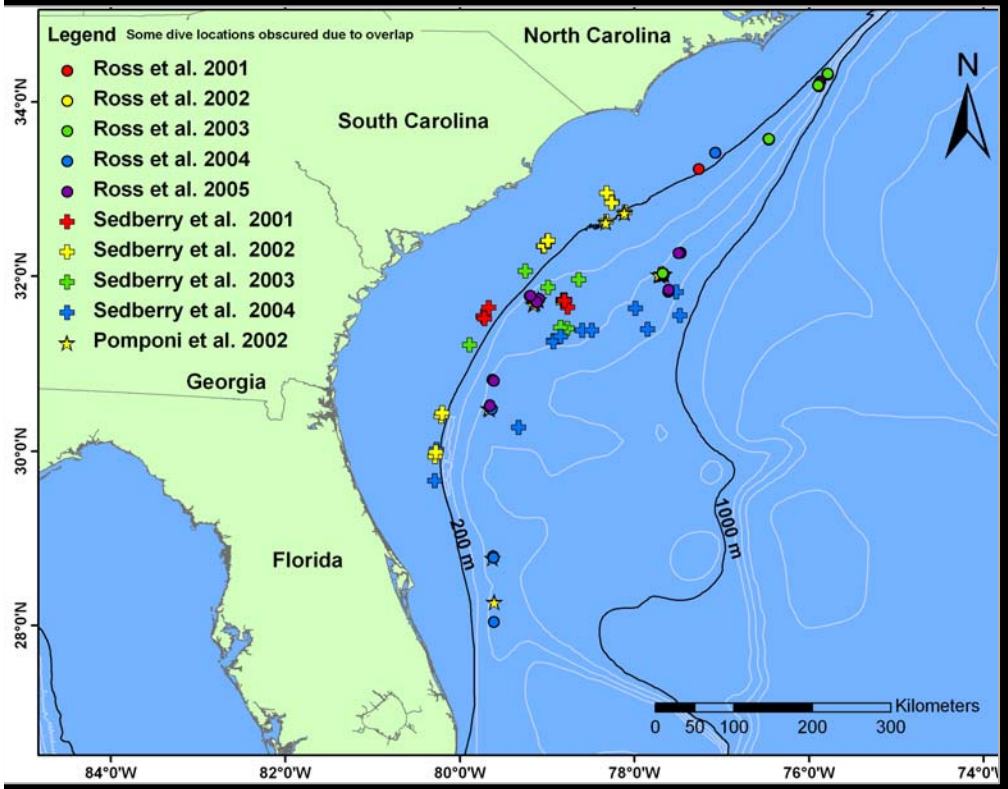
"I am confident a marine national monument will not only protect this sensitive ecosystem, but also be good for fishing and not inhibit access to new natural resources. This area is a national treasure and deserves the protection that comes with a national monument designation."

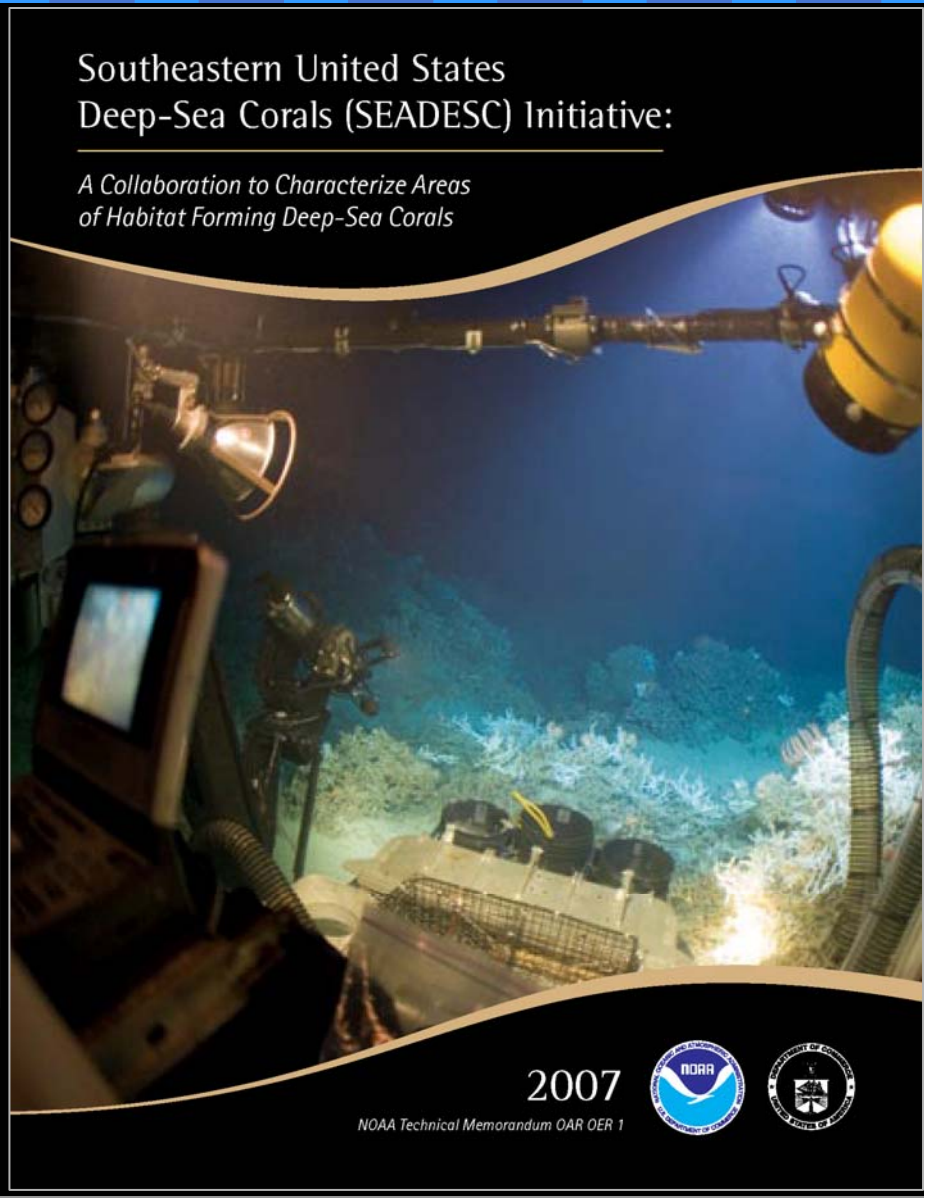
TREASURE UNDER THE SEA



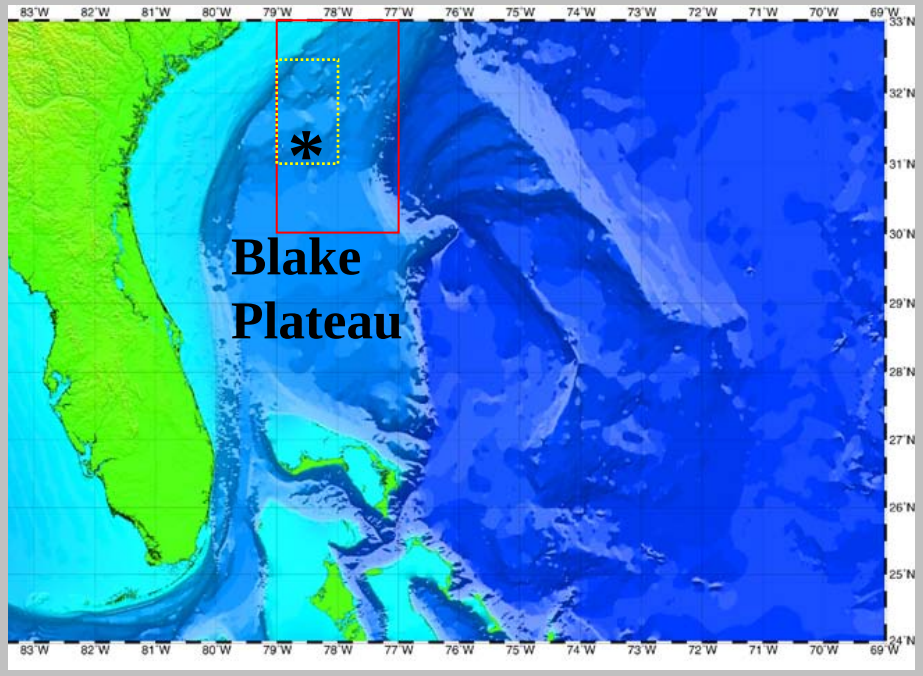
MORE: Find out why our Carolina coral reefs are at risk. **1A** ■ **Videos and slideshows** take you to explore this new world at **www.charlotte.com/news**

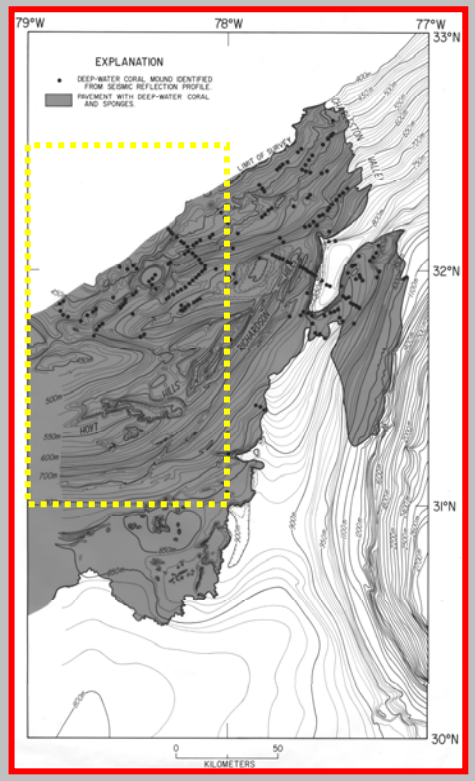
GRNMS SAC Meeting, 28 Jul 08





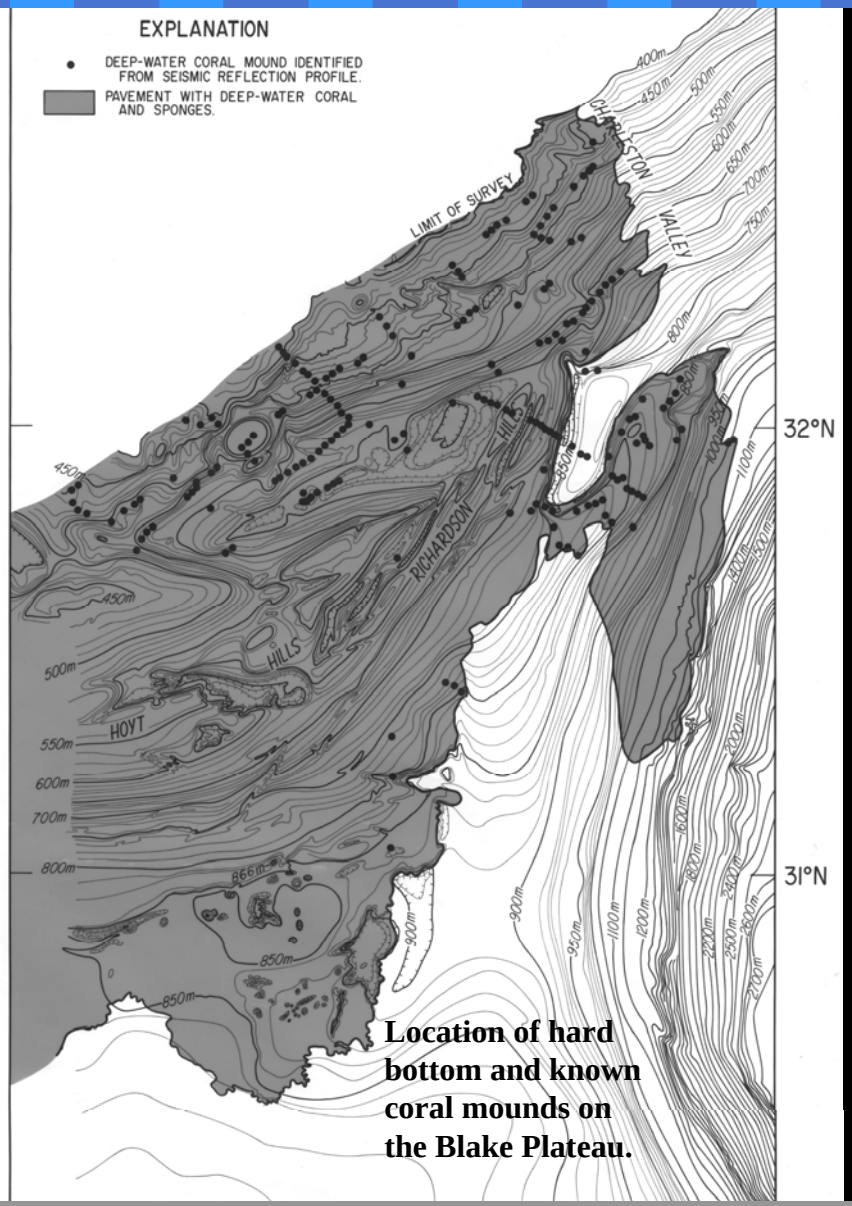
GRNMS SAC Meeting, 28 Jul 08





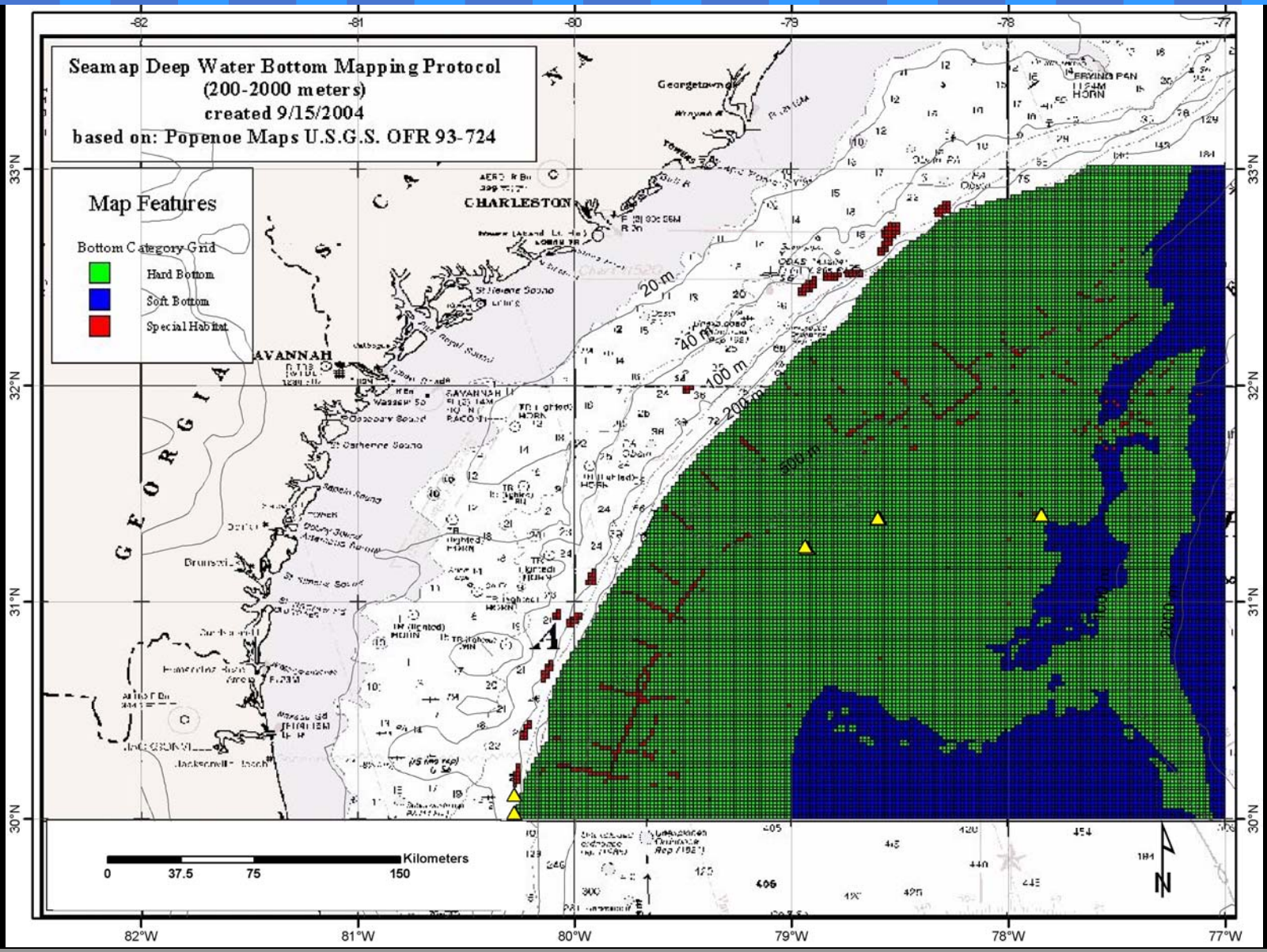
Bottom topography (left) and areas of known hard bottom (right) on the Blake Plateau. The asterisk indicates the location of the "Charleston Bump". The figure at right, which covers the area of the red rectangle on the left figure, shows the location of hard bottom and known coral mounds.

GRNMS SAC Meeting, 28 Jul 08



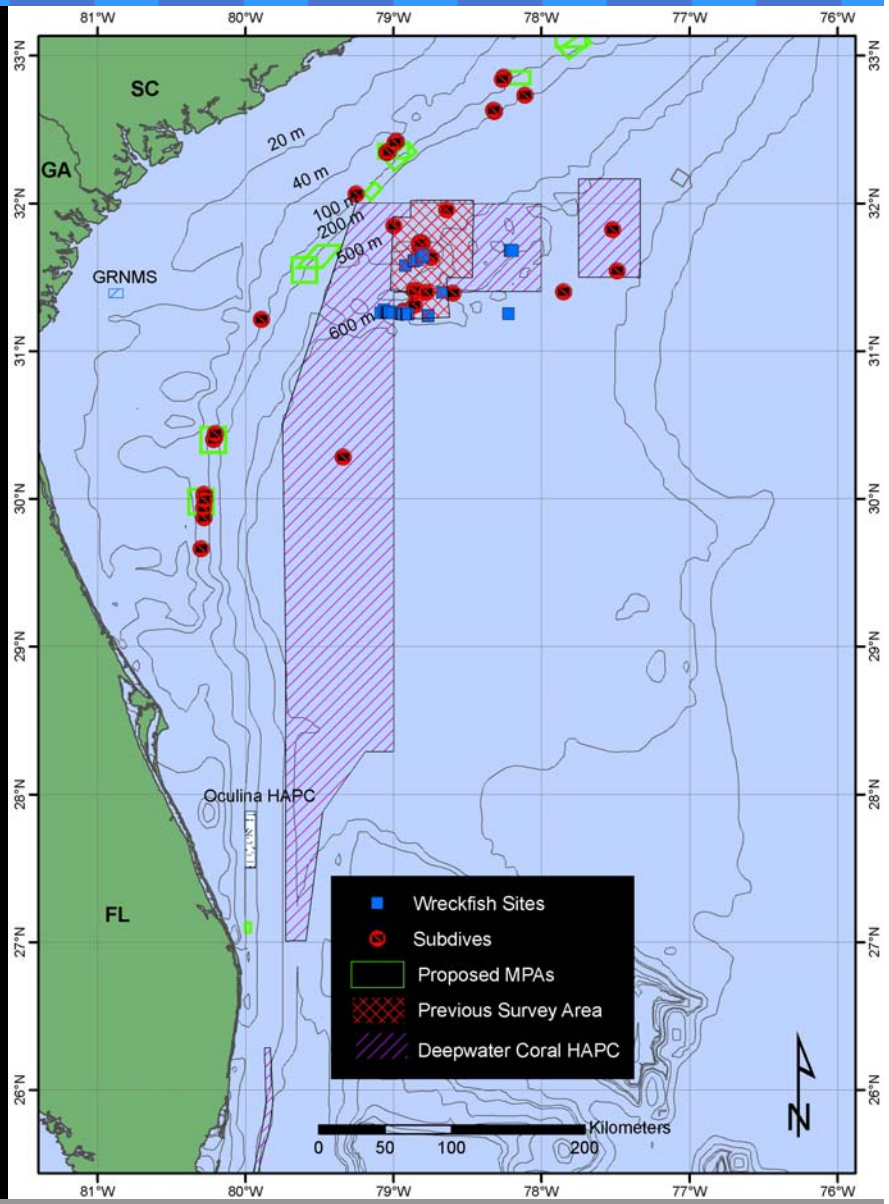
Location of hard bottom and known coral mounds on the Blake Plateau.

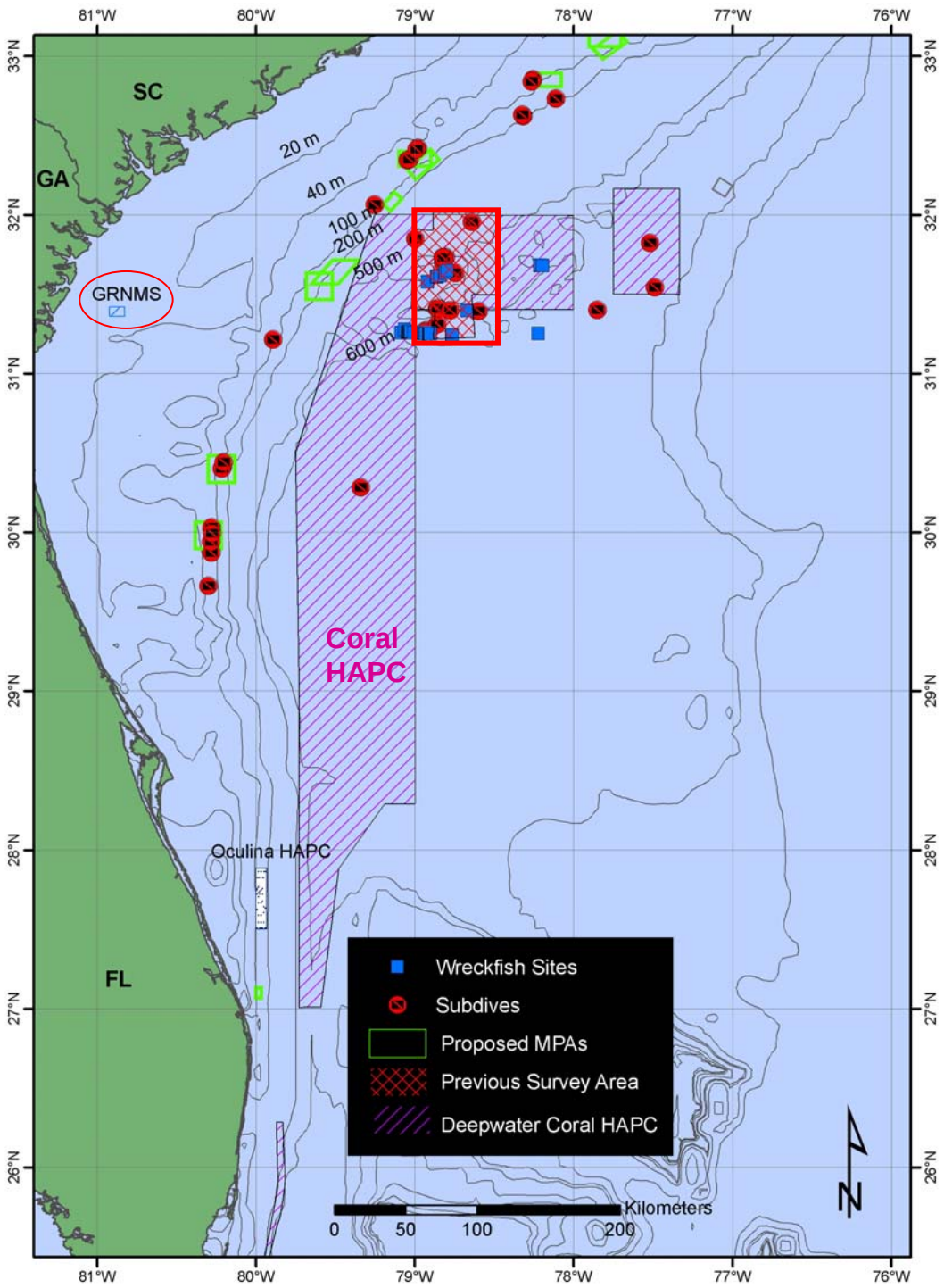
GRNMS SAC Meeting, 28 Jul 08



GRNMS SAC Meeting, 28 Jul 08

Deepwater Coral Banks of the South Atlantic Bight

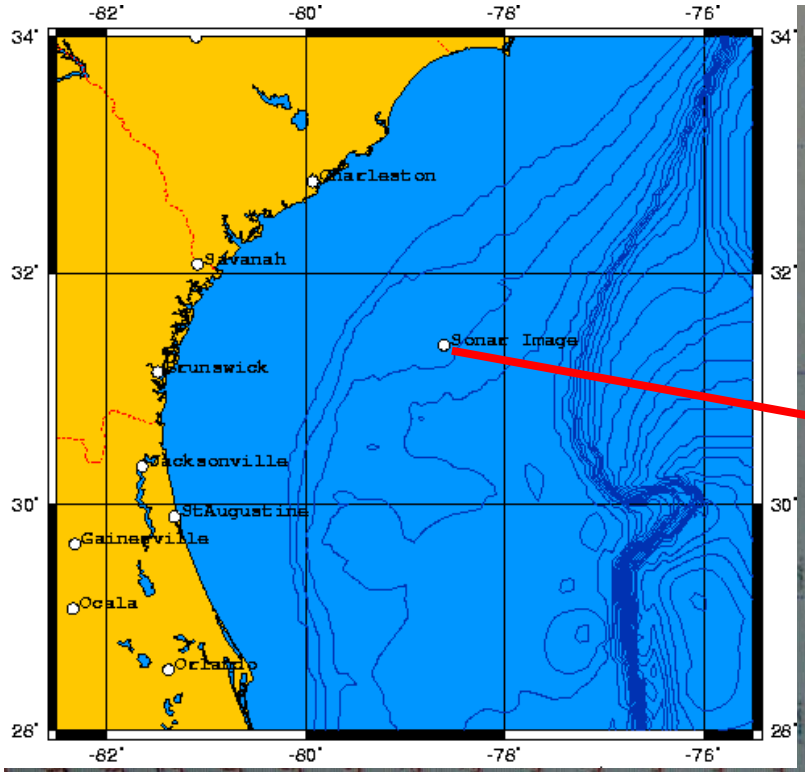


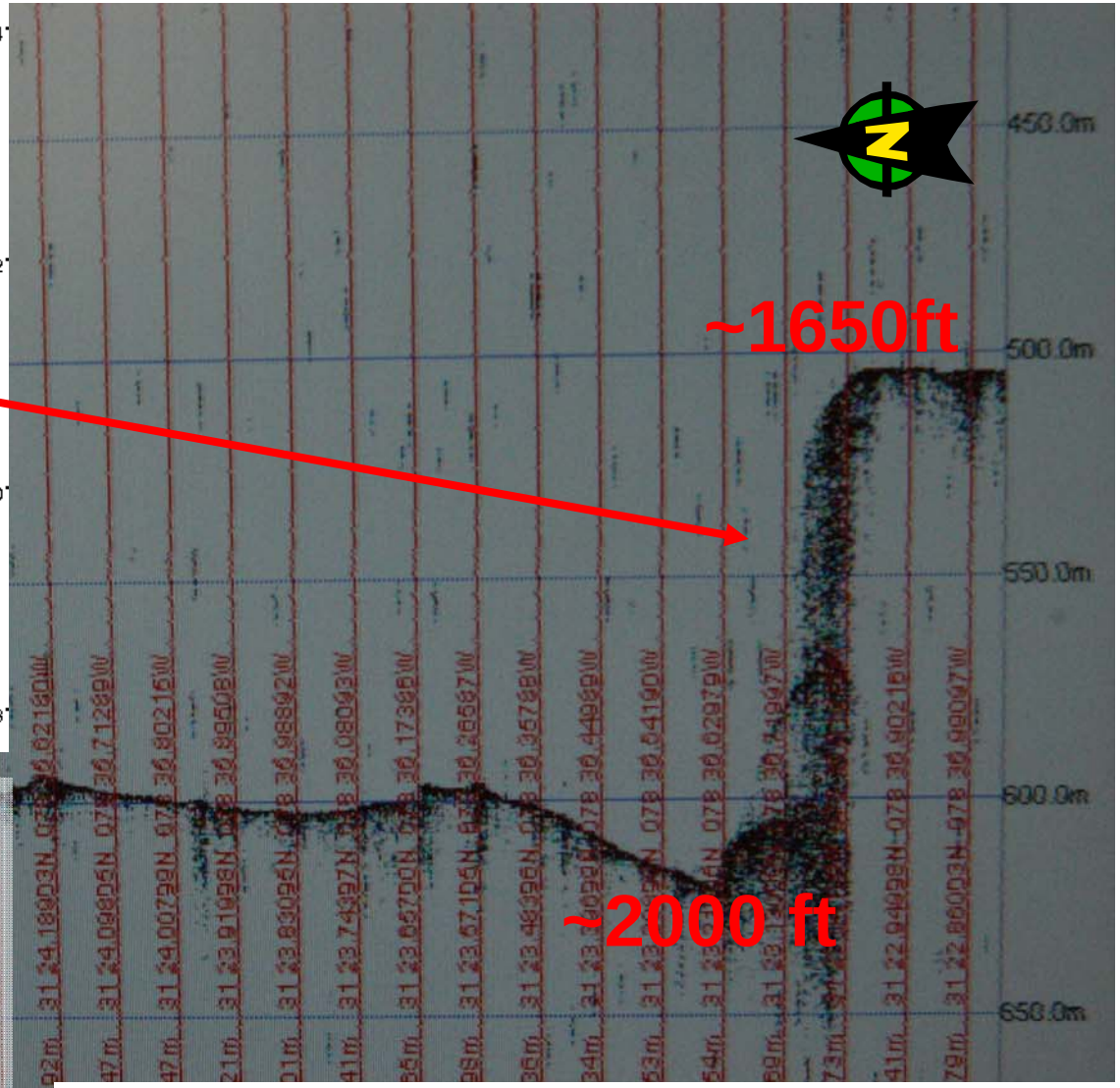


Habitat: "Charleston Bump"

Areas of Interest:

- OE Dive Sites
- Wreckfish Spawning Sites
- Coral HAPC
- Sonar Surveys
- SAFMC MPAs

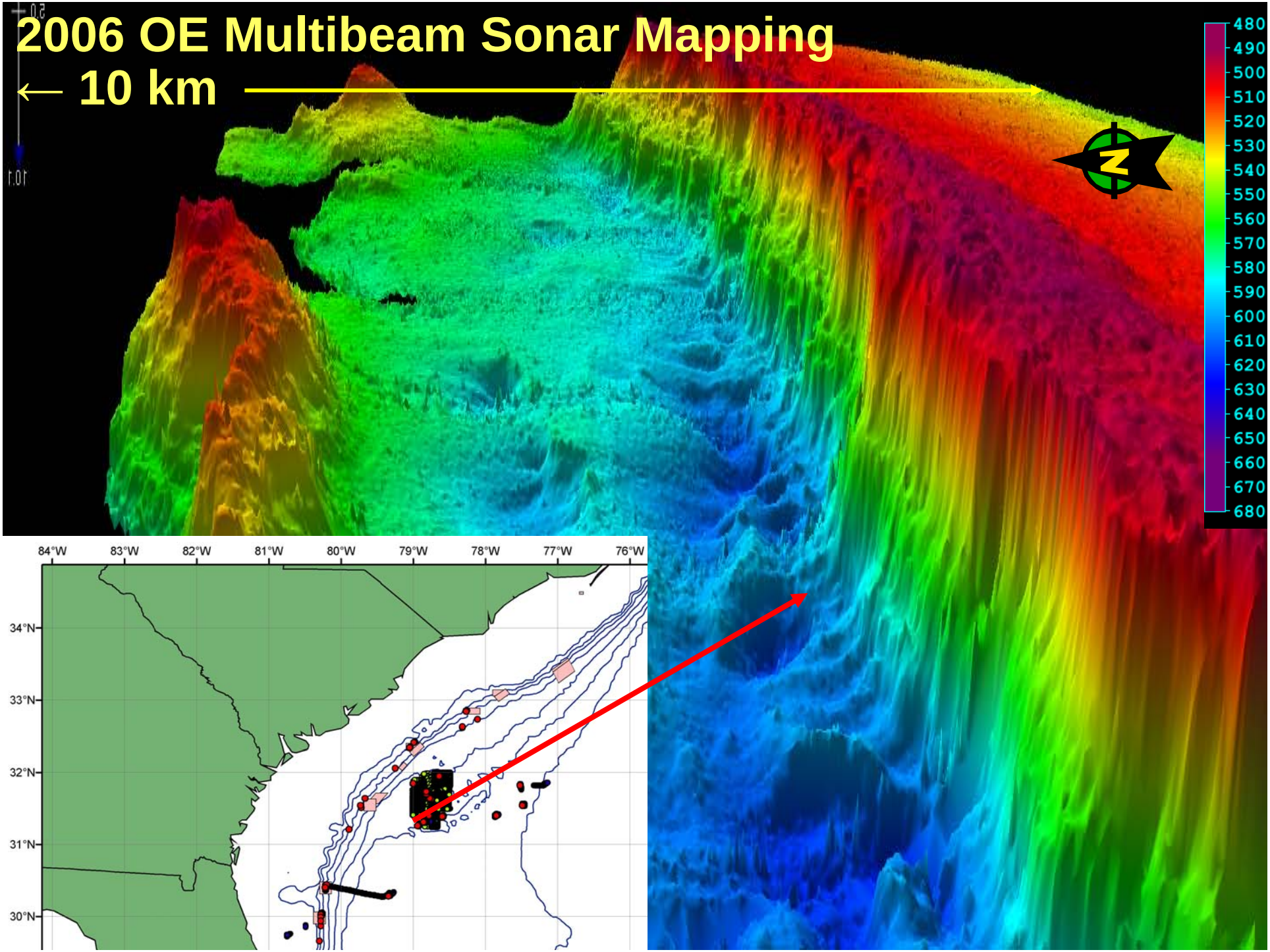


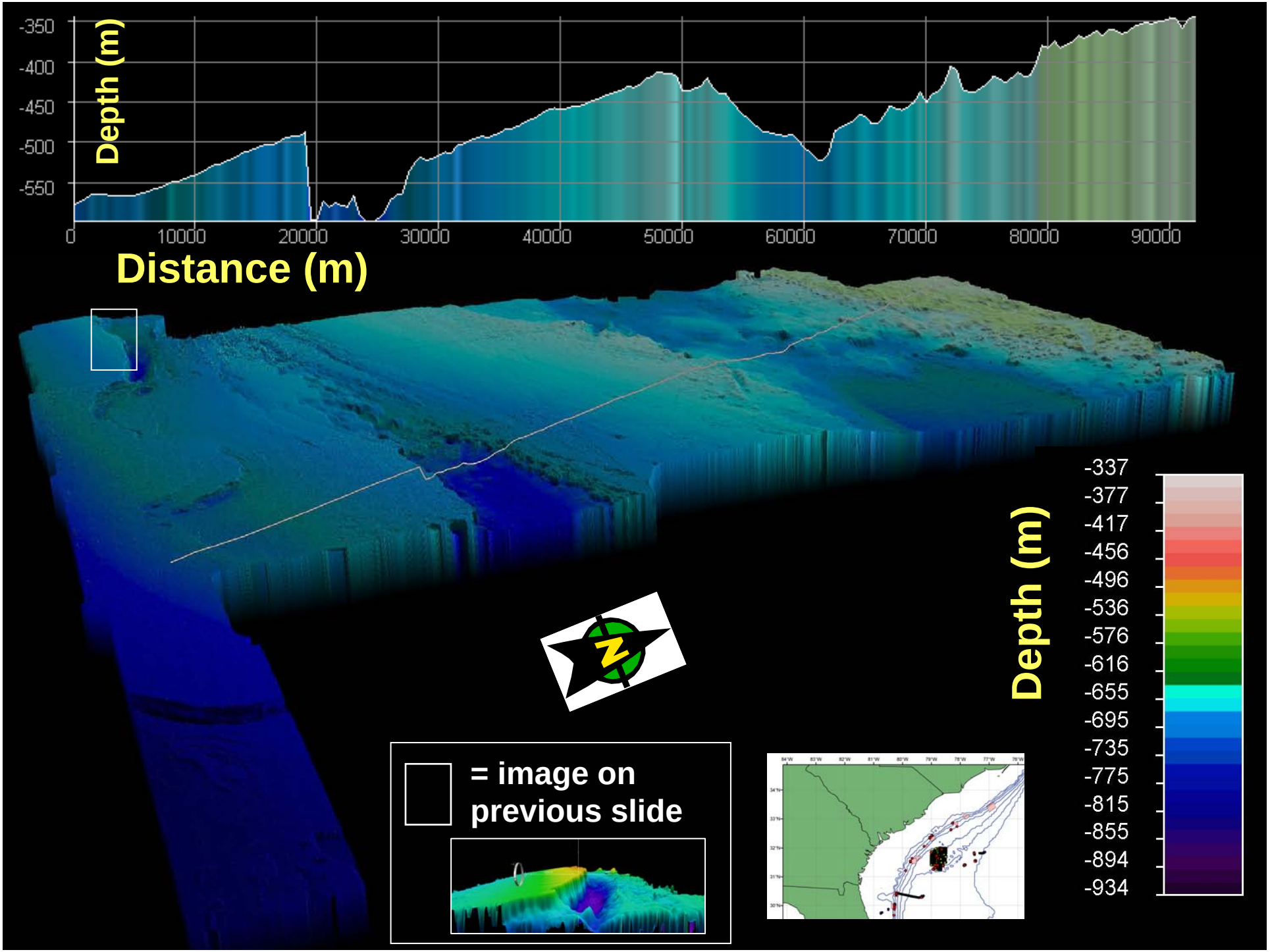


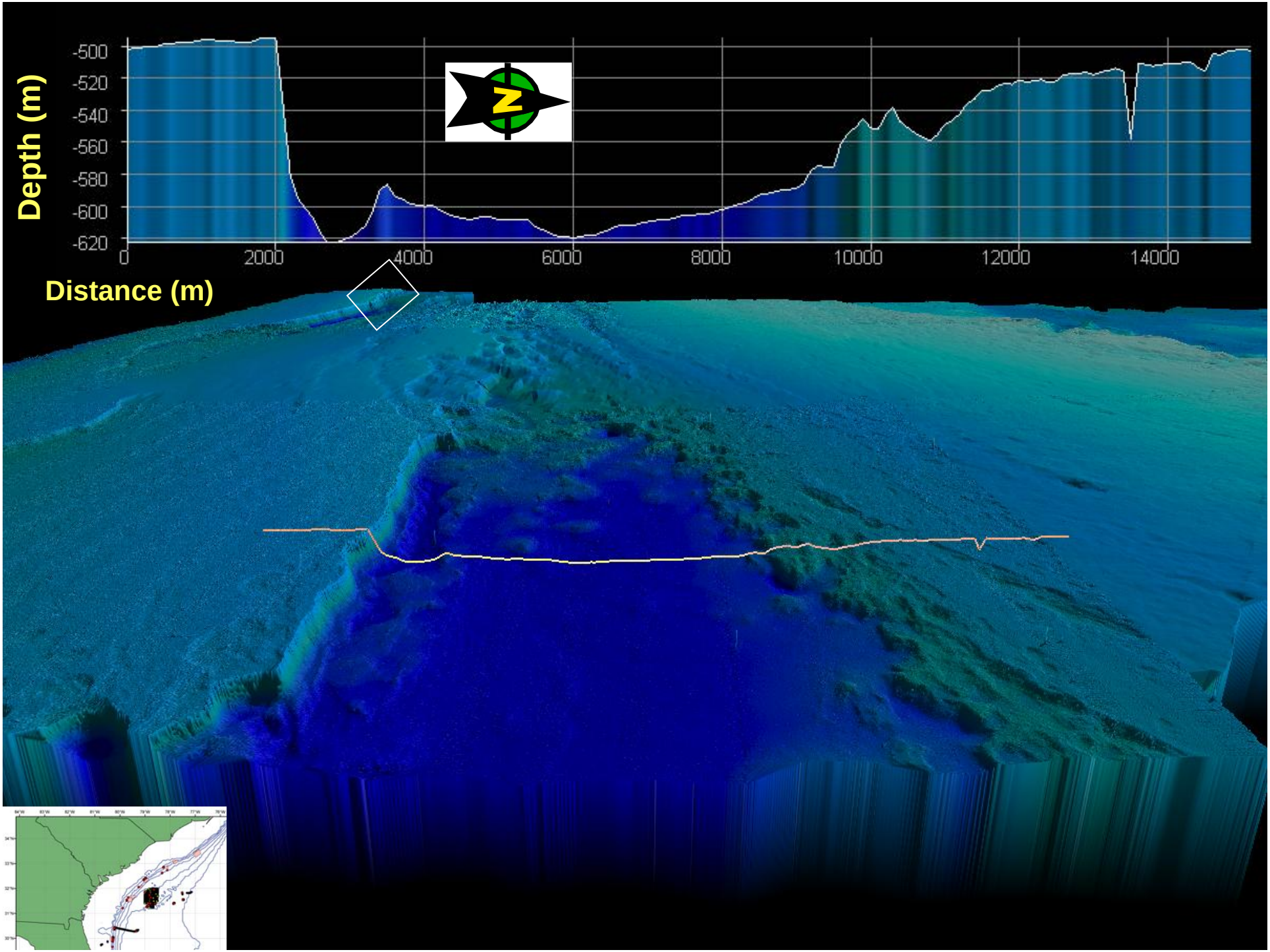
"Charleston Bump" topography affects circulation off the southeastern US

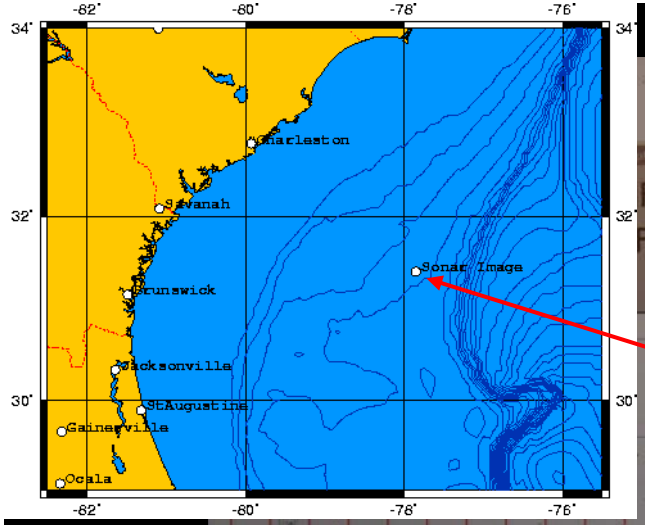
2004 Single-Beam Sonar Echogram (350 ft. scarp)

~31°23.1, 78°36.7


2006 OE Multibeam Sonar Mapping
← 10 km
480
490
500
510
520
530
540
550
560
570
580
590
600
610
620
630
640
650
660
670
680
84°W
83°W
82°W
81°W
80°W
79°W
78°W
77°W
76°W
34°N
33°N
32°N
31°N
30°N


-350
-400
-450
-500
-550
Depth (m)
0
10000
20000
30000
40000
50000
60000
70000
80000
90000
Distance (m)
N
Depth (m)
-337
-377
-417
-456
-496
-536
-576
-616
-655
-695
-735
-775
-815
-855
-894
-934
= image on previous slide

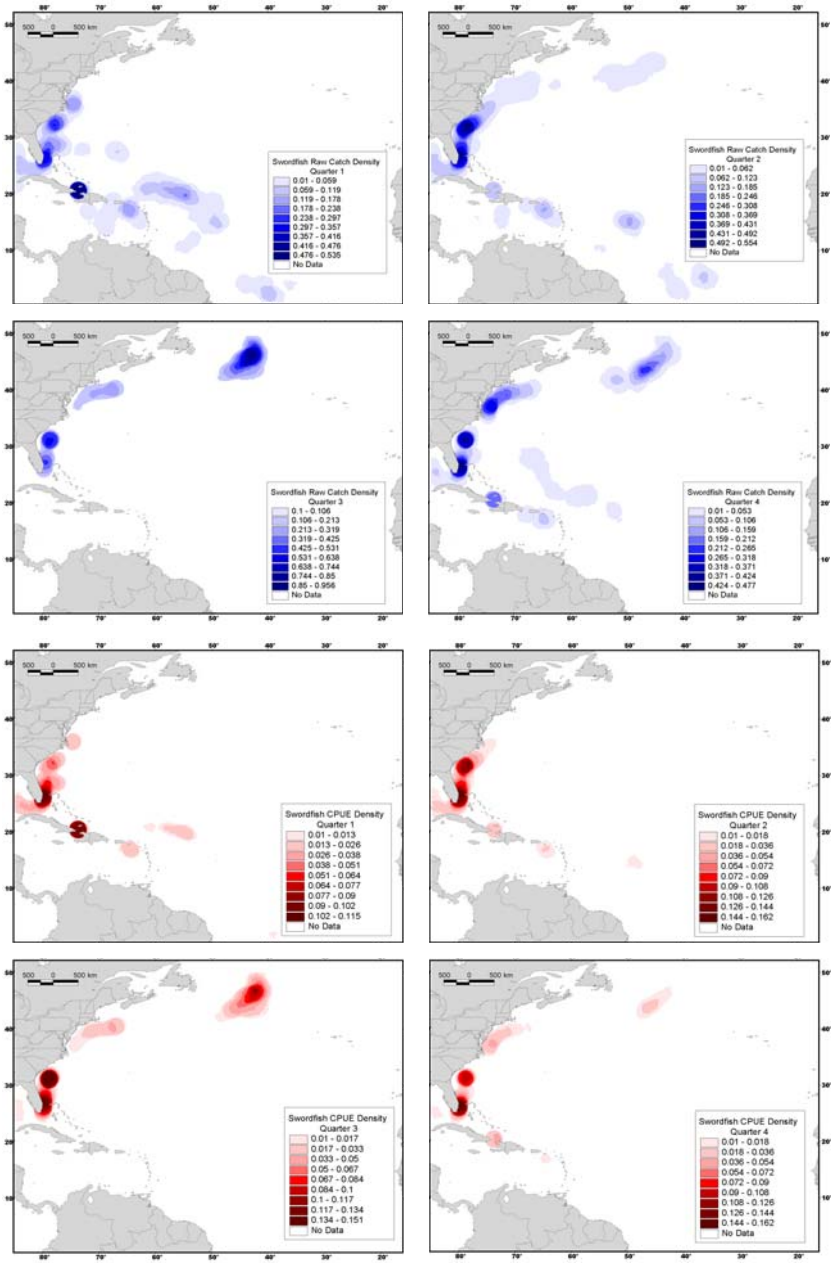

Depth (m)
-500
-520
-540
-560
-580
-600
-620
0
2000
4000
6000
8000
10000
12000
14000
Distance (m)
N


-82°
-80°
-78°
-76°
34°
32°
30°
Charleston
Savanah
Brunswick
Jacksonville
StAugustine
Gainesville
Ocala

Sonar Image
F: OFF
F: 776.1 m
"Cool Corals"

Charleston Bump

The bottom on the Blake ranges from sand to flat hard (with invertebrate growth) to high-relief rocks.



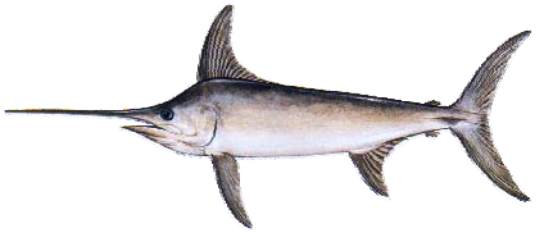


Figure 62. CPUE [catch per 1000 hook-hours (top four maps)] and CPUE per square mile (bottom four maps) for swordfish, by quarter year, from commercial longline logbook data, 1990-1997.

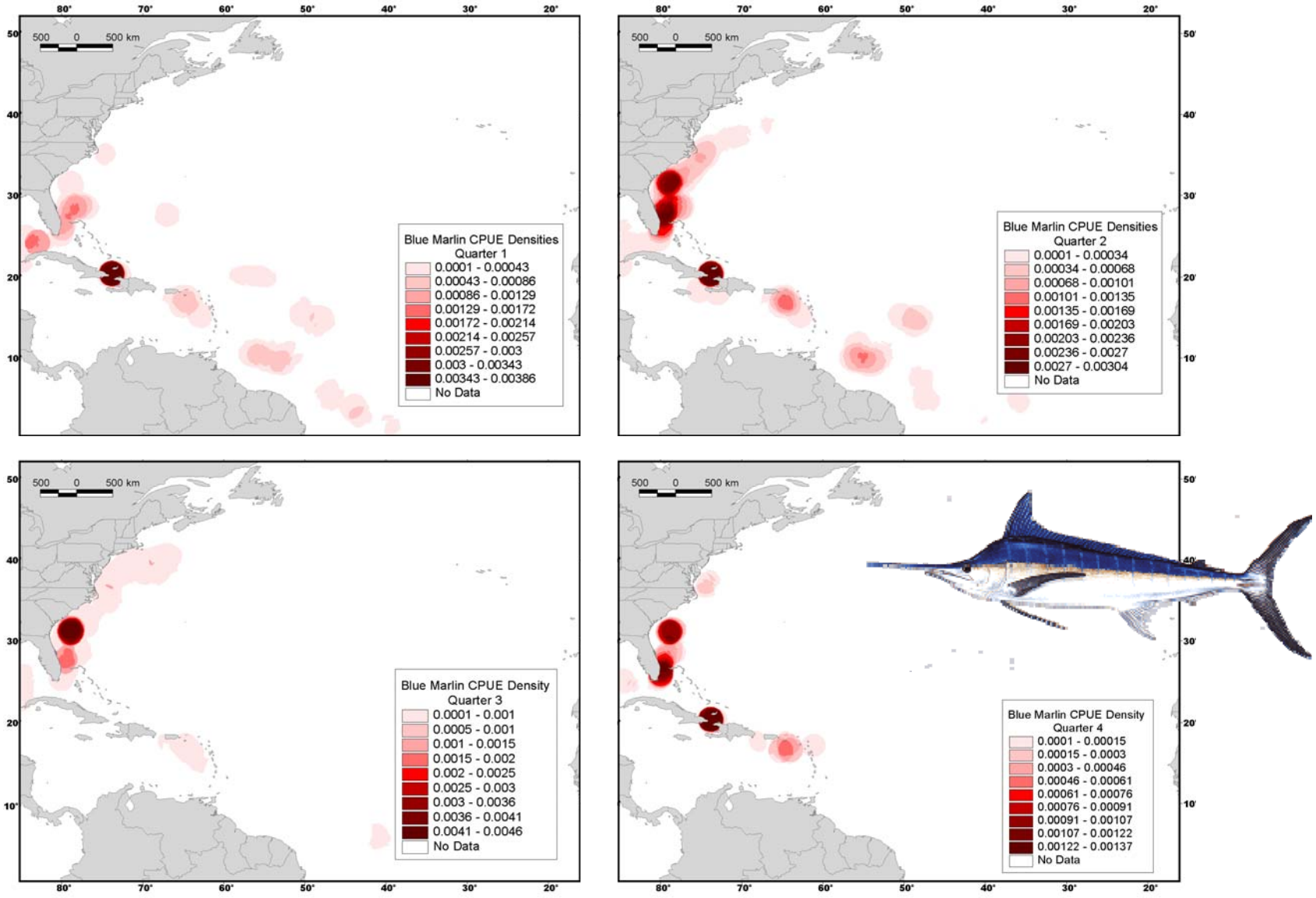
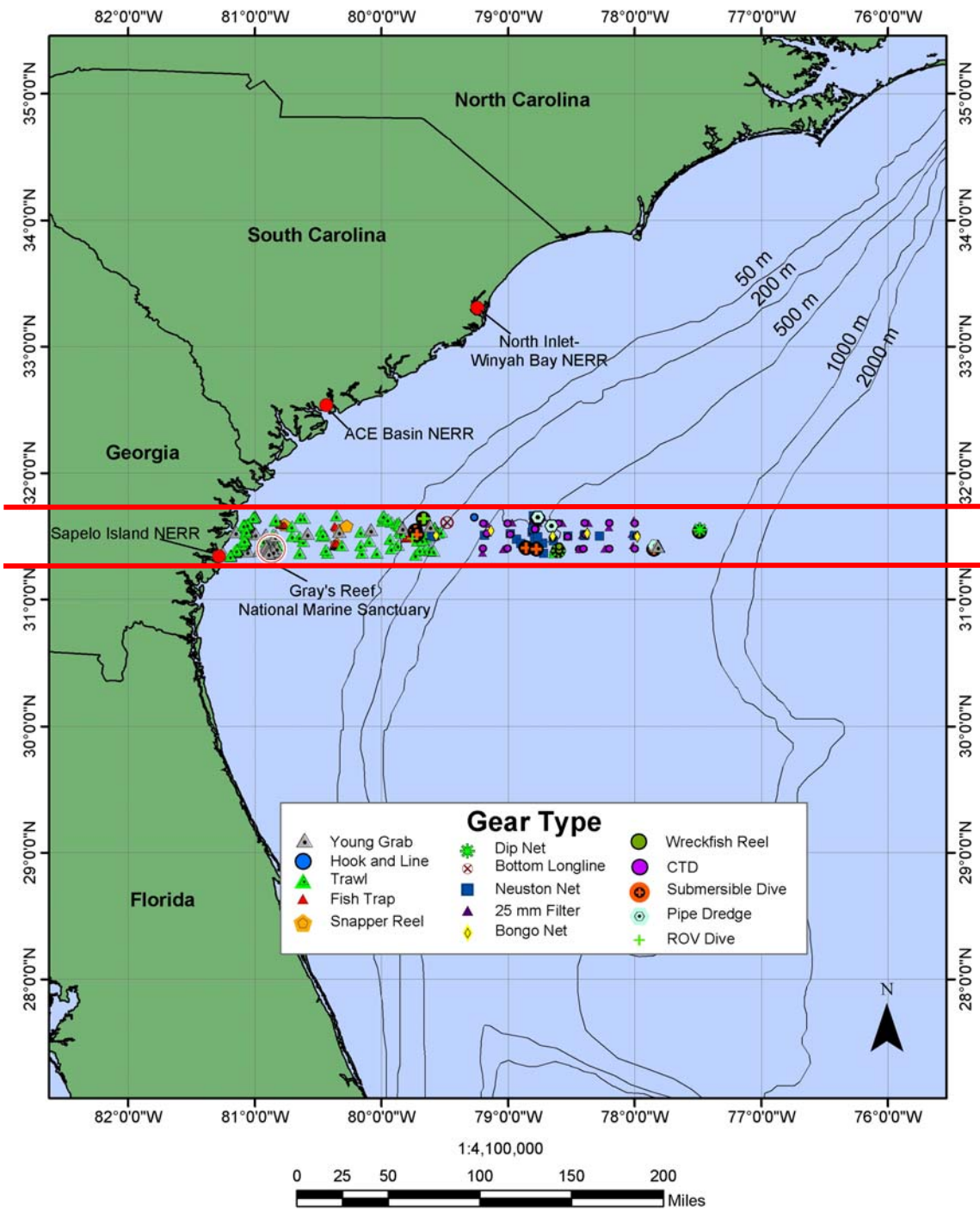


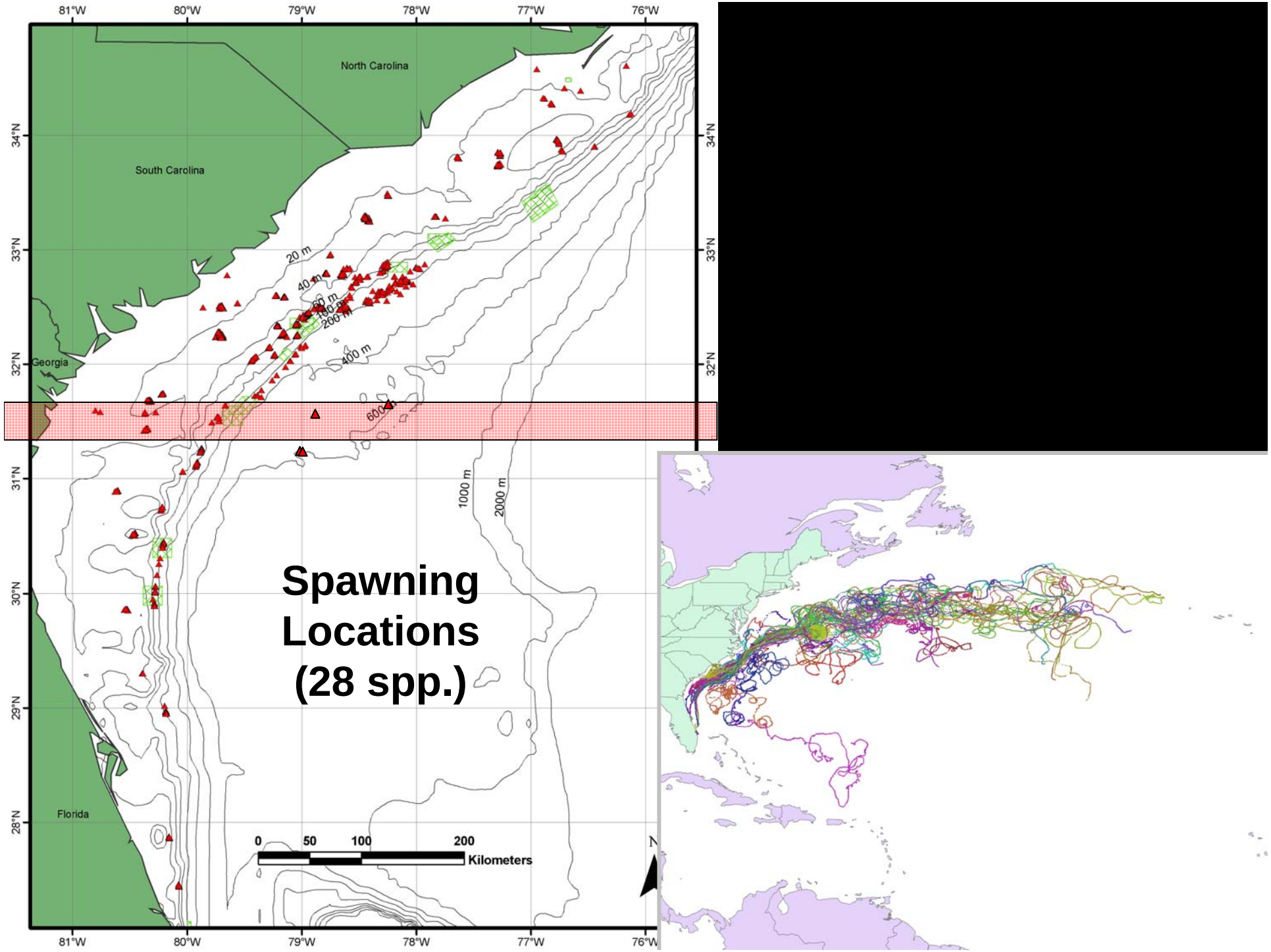
Figure 63. Catch per unit of effort for blue marlin, by quarter year, from commercial longline logbook data. CPUE plotted as catch per 1000 hook-hours per NM^2, 1990-1997.



"Latitude 31-30 Transect"

31°40'N

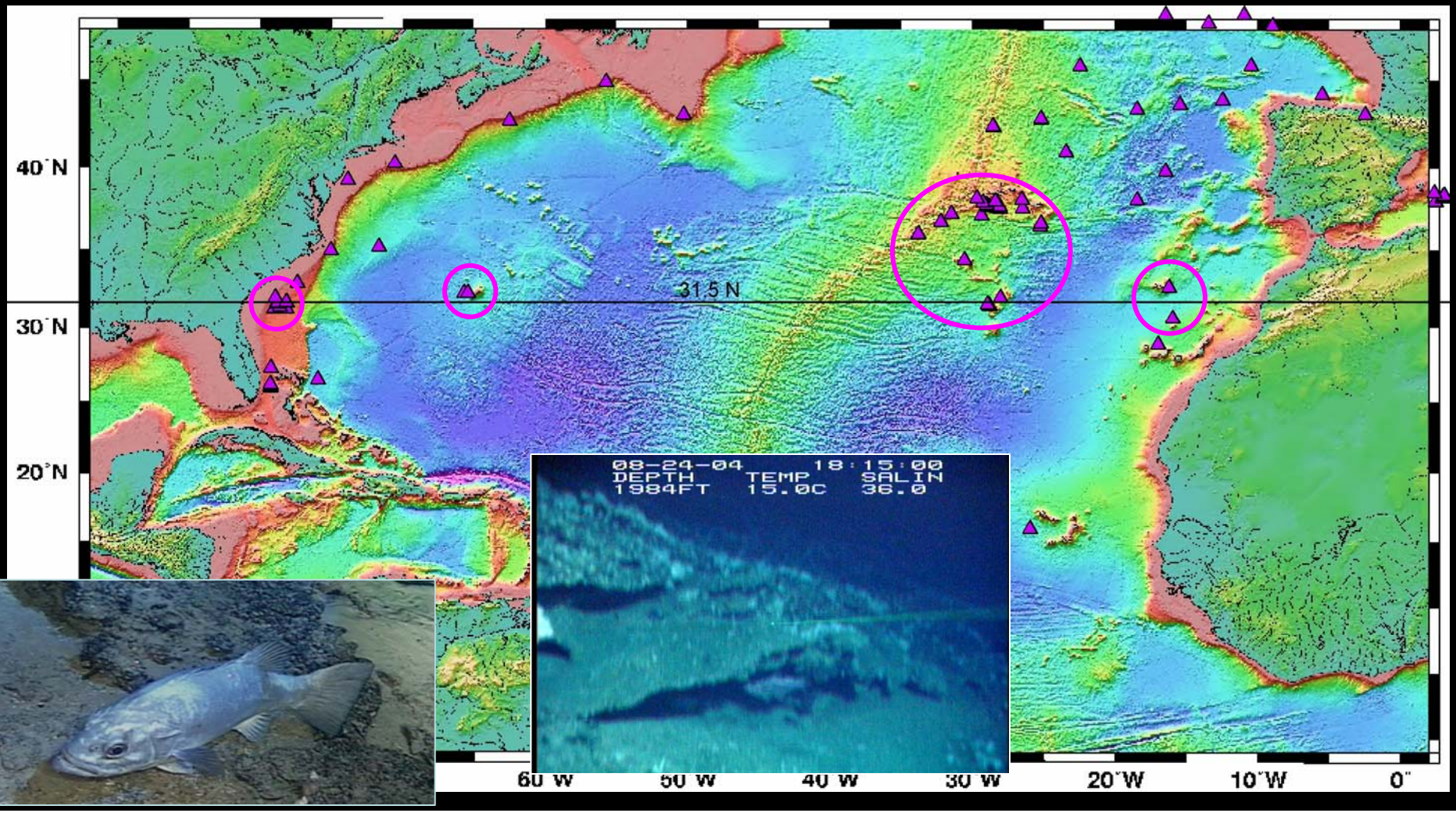
31°20'N

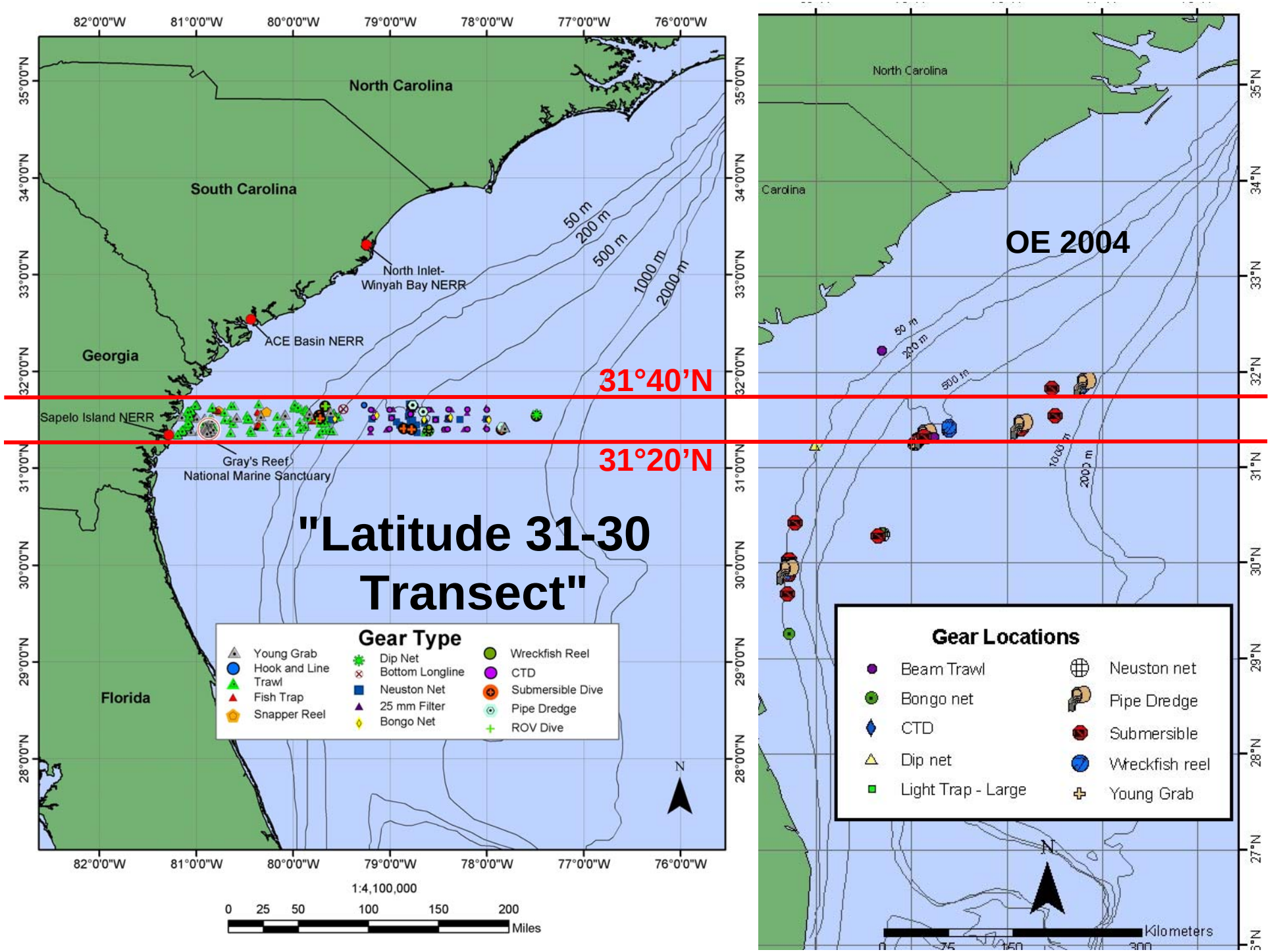

81°W
80°W
79°W
78°W
77°W
76°W
34°N
33°N
32°N
31°N
30°N
29°N
28°N
North Carolina
South Carolina
Georgia
Florida
20 m
40 m
60 m
100 m
200 m
400 m
600 m
1000 m
2000 m
Spawning Locations (28 spp.)
0
50
100
200
Kilometers

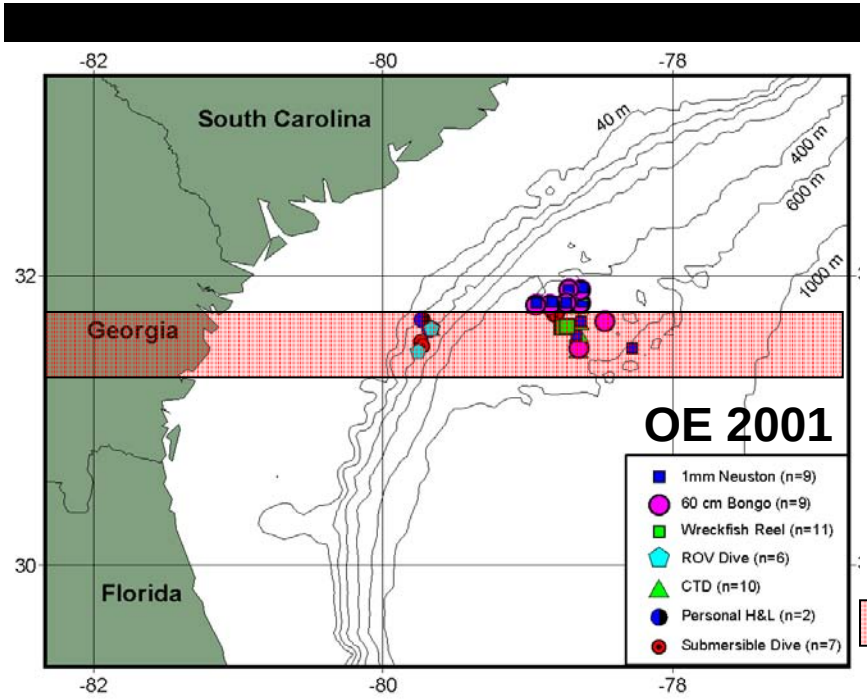
Wreckfish Fisheries (*)

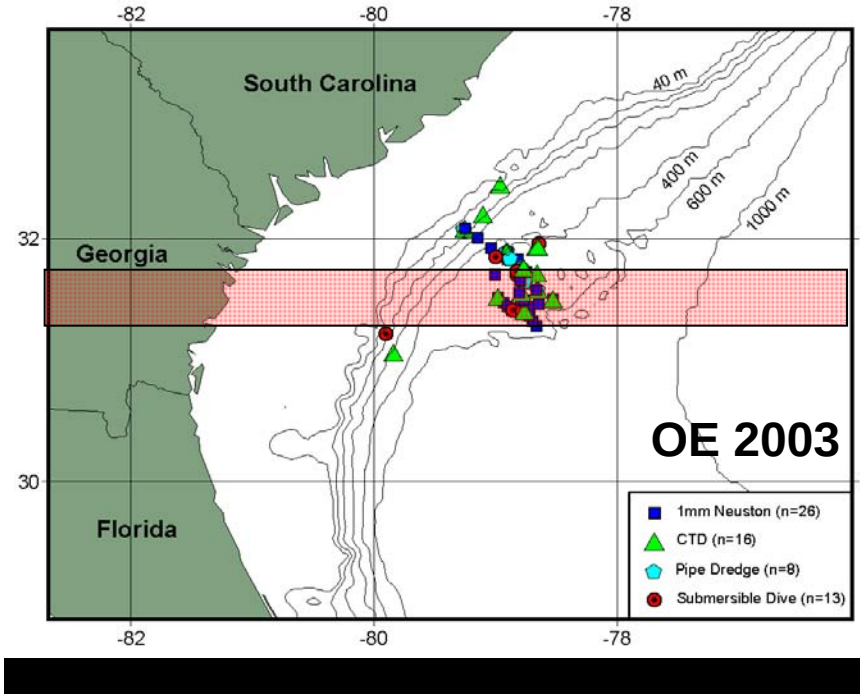
Wreckfish spawn off SC, and drift across the North Atlantic, perhaps back to SC spawning grounds

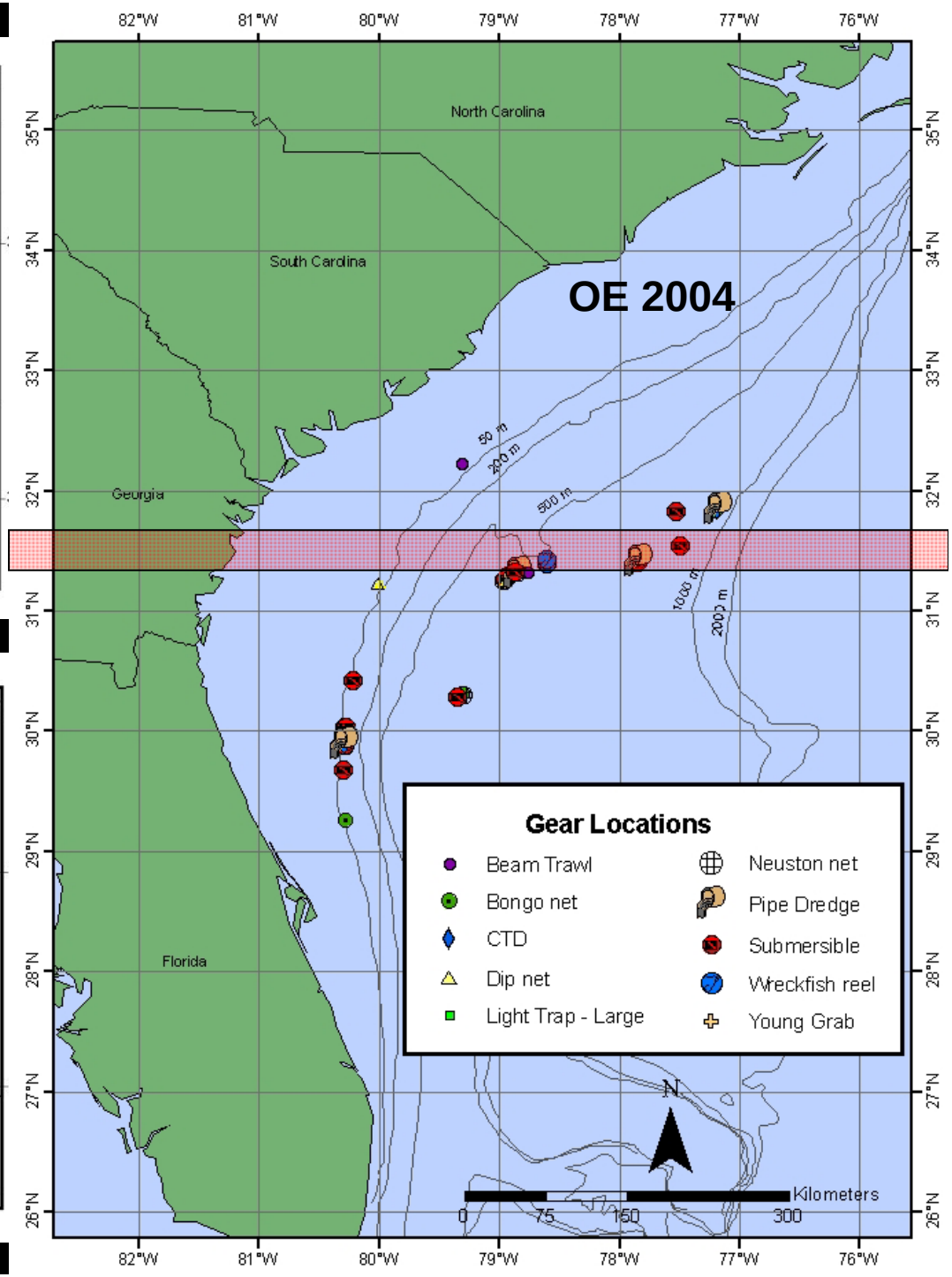
North Atlantic Wreckfish Distribution and DNA Sample Locations for Wreckfish, Red Porgy, Red Bream




"Latitude 31-30 Transect"
OE 2004
North Carolina
South Carolina
Georgia
Florida
Carolina
31°40'N
31°20'N
North Inlet-
Winyah Bay NERR
ACE Basin NERR
Sapelo Island NERR
Gray's Reef
National Marine Sanctuary
50 m
200 m
500 m
1000 m
2000 m
Gear Type
Young Grab
Hook and Line
Trawl
Fish Trap
Snapper Reel
Dip Net
Bottom Longline
Neuston Net
25 mm Filter
Bongo Net
Wreckfish Reel
CTD
Submersible Dive
Pipe Dredge
ROV Dive
Gear Locations
Beam Trawl
Bongo net
CTD
Dip net
Light Trap - Large
Neuston net
Pipe Dredge
Submersible
Wreckfish reel
Young Grab
1:4,100,000
0 25 50 100 150 200
Miles
Kilometers
N


-82
-80
-78
South Carolina
40 m
400 m
600 m
1000 m
32
Georgia
30
Florida
OE 2001
1mm Neuston (n=9)
60 cm Bongo (n=9)
Wreckfish Reel (n=11)
ROV Dive (n=6)
CTD (n=10)
Personal H&L (n=2)
Submersible Dive (n=7)


-82
-80
-78
South Carolina
40 m
400 m
600 m
1000 m
32
Georgia
30
Florida
OE 2003
1mm Neuston (n=26)
CTD (n=16)
Pipe Dredge (n=8)
Submersible Dive (n=13)


82°W
81°W
80°W
79°W
78°W
77°W
76°W
35°N
34°N
33°N
32°N
31°N
30°N
29°N
28°N
27°N
26°N
North Carolina
South Carolina
Georgia
Florida
OE 2004
50 m
200 m
500 m
1000 m
2000 m
Gear Locations
Beam Trawl
Bongo net
CTD
Dip net
Light Trap - Large
Neuston net
Pipe Dredge
Submersible
Wreckfish reel
Young Grab
N
Kilometers
0
75
150
300

Research Area Working Group Recommendations – July 2008

The Research Area Working Group (RAWG) recommends that the Gray's Reef Sanctuary Advisory Council consider the following recommendations for inclusion in a Draft Environmental Impact Statement on the research area concept:

RAWG Recommends…

Boundary option #6 (Southern Option) as the preferred boundary alternative for the following reasons:

- This option meets the criteria for the minimum number of habitat types as defined by the Research Area Working Group (RAWG);
- The larger size offers greater or enhanced opportunity for research and monitoring activities;
- Enforceability and voluntary compliance are improved because it is further away from frequently fished areas;
- Three sides of the boundary align with existing sanctuary boundaries for ease of enforcement, user identification and compliance;
- There is minimal displacement of users and socioeconomic impacts of concern to the fishing community;
- This option was the most frequently favored option in scoping comments.

RAWG Recommends…

Boundary options #1 (Optimal Scientific), #2 (Low Displacement), #3 (Compromise) and "no action" as other alternatives to be considered and analyzed, but not as preferred for the following reasons:

- Boundary option #1 does not address the recommendation to minimize user displacement and has the highest level of displacement (67%) and related socioeconomic impacts of concern to the fishing community;
- Boundary options #1 and #3 would create open areas on all sides of the boundaries resulting in enforcement and compliance complications;
- Boundary option #2 would create open areas on 2 sides of the boundaries resulting in enforcement and compliance complications;
- Boundary marking for options #1, #2 and #3 would require more resources, cost more, and maintenance would be more intensive;

RAWG Recommends…

…not as preferred for the following reasons, continued:

- Boundary option #2, while minimizing displacement, does include some area preferred by tournament fishermen;
- The smaller core size of boundary option #2 does not offer adequate research and monitoring opportunity and may result in more user conflicts;
- Boundary option #3 presents the second highest displacement of known users resulting in socioeconomic impacts of concern to the fishing community;
- There are no identifiable scientific gains over boundary option #6;
- The “no action” alternative is not preferred due to expected scientific benefits of including a research area within GRNMS.

RAWG Recommends…

Boundary options #4 and #5 as alternatives considered but eliminated for the following reason:

- They do not meet the minimum criteria for habitat types as defined by the RAWG.

RAWG Recommends…

That all of the above analyses be considered with the following terms of closure:

- Prohibit all fishing at all times based on issues of enforceability and increased difficulty with voluntary compliance, and because of the potential impacts to the integrity of the research area;
- Allow recreational diving by permit and with direct supervision of NOAA and/or GRNMS staff;
- Boundaries be marked by line-of-sight buoys (approximately every 2 miles) around the research area; and that corner buoys also be deployed and maintained at the remaining unmarked corners of the full sanctuary;
- Transit through the research area be allowed with no stopping; all fishing gear must be stowed and unavailable for use.

RAWG Recommends…

That other terms of closure suggested during the scoping period be eliminated from further consideration; those include:

- "Allow trolling" – the RAWG believes that the research area would be compromised if trolling is allowed due to:

  -Significantly increased enforcement and compliance difficulties;

  -The tight coupling between benthic and pelagic species in the shallow GRNMS marine environment;

  -The potential for increased amounts of marine debris if trolling is allowed;

  -The potential for interference that could render the research area ineffectual.

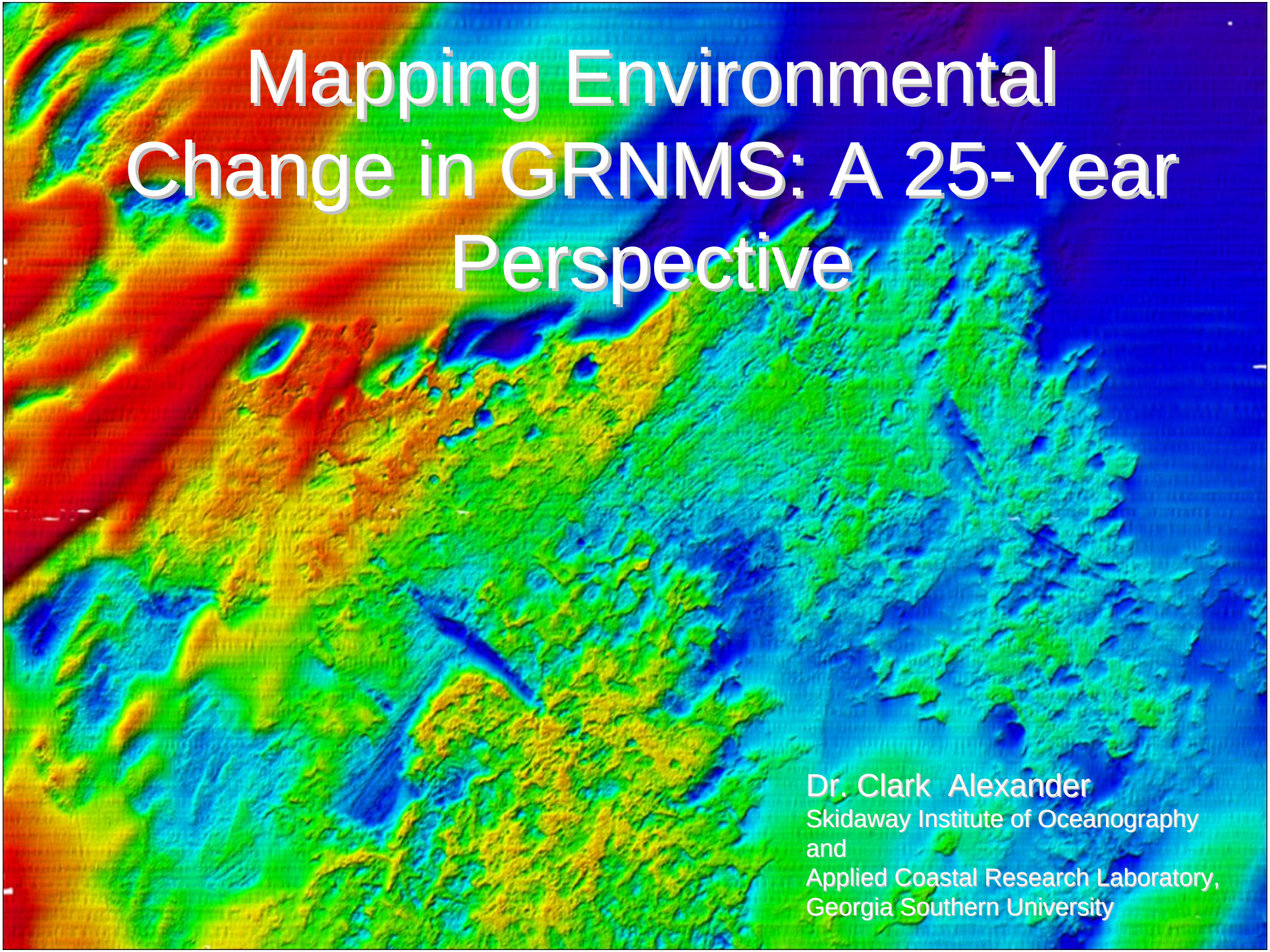
RAWG Recommends…

…eliminate from further consideration, continued

- “Allow seasonal or timed access for tournament fishing” – eliminate for the same reasons trolling (above) should be eliminated.
- “Allow open access recreational diving” – eliminate due to enforcement complications, the potential for damage to the resources, and interference with research projects and equipment that will be left on site.
- “Allow transit with stopping” – eliminate due to the significantly increased enforcement complications and difficulty for voluntary compliance.
- “No transit, no entry” – eliminate due to the potential fuel and time loss to boaters having to go around the area.

RAWG Recommends…

That a research area should not be conditioned by any limit on the number of years of closure due to the potential for long periods of time needed to show significant changes in the ecological system. However, the RAWG does recognize that the public, especially displaced users such as anglers should be kept informed as to the efficacy of the research area. Therefore, it is recommended that GRNMS conduct an annual performance review of the research area. A written report of the findings of this review will be made available to all interested parties. The research area can also be evaluated or reviewed and may be subject to change each time the Gray's Reef Management Plan is reviewed.

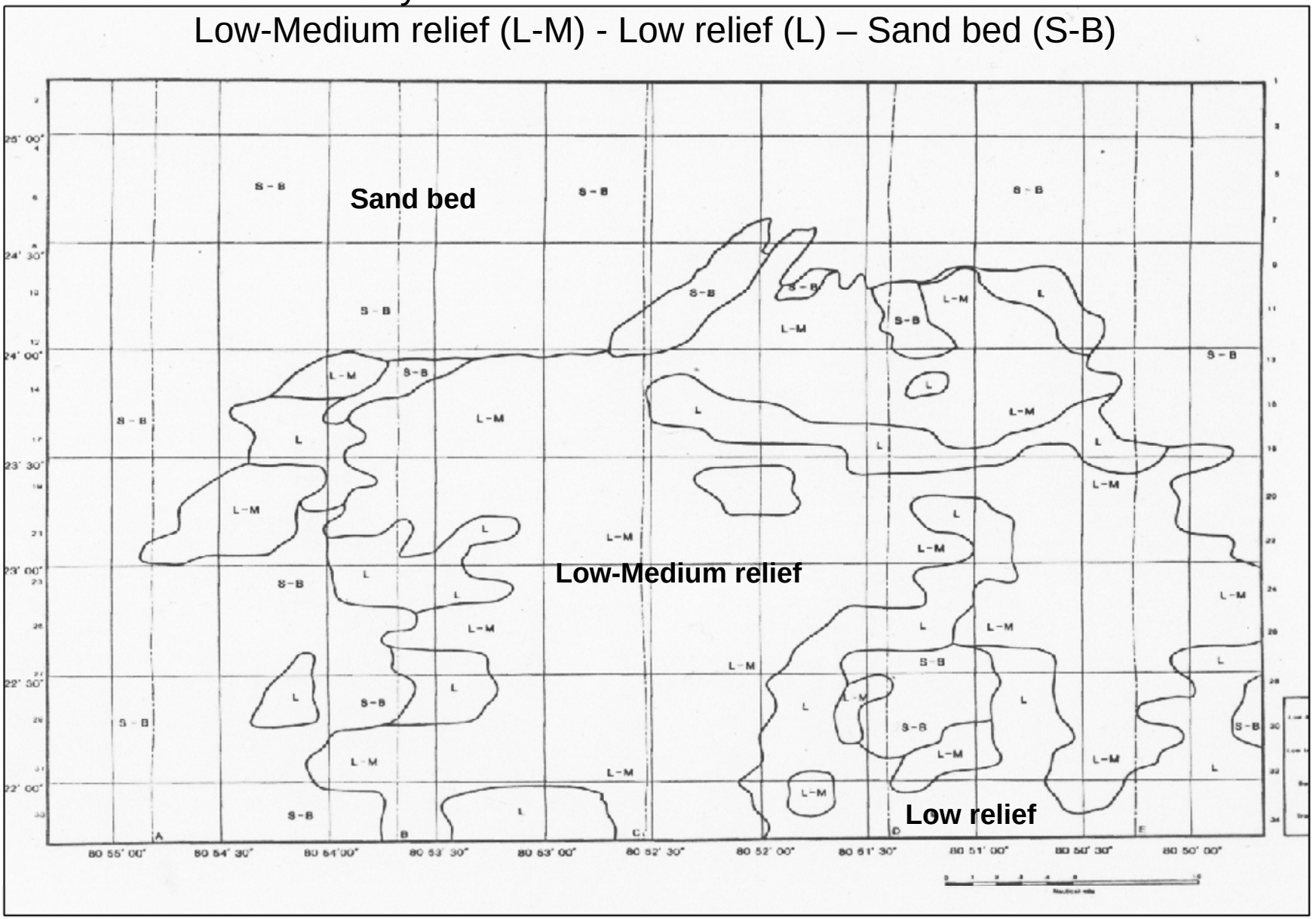


Mapping Environmental Change in GRNMS: A 25-Year Perspective

Dr. Clark Alexander
Skidaway Institute of Oceanography
and
Applied Coastal Research Laboratory,
Georgia Southern University

1983 Grays Reef Habitat Classification – 3 classes

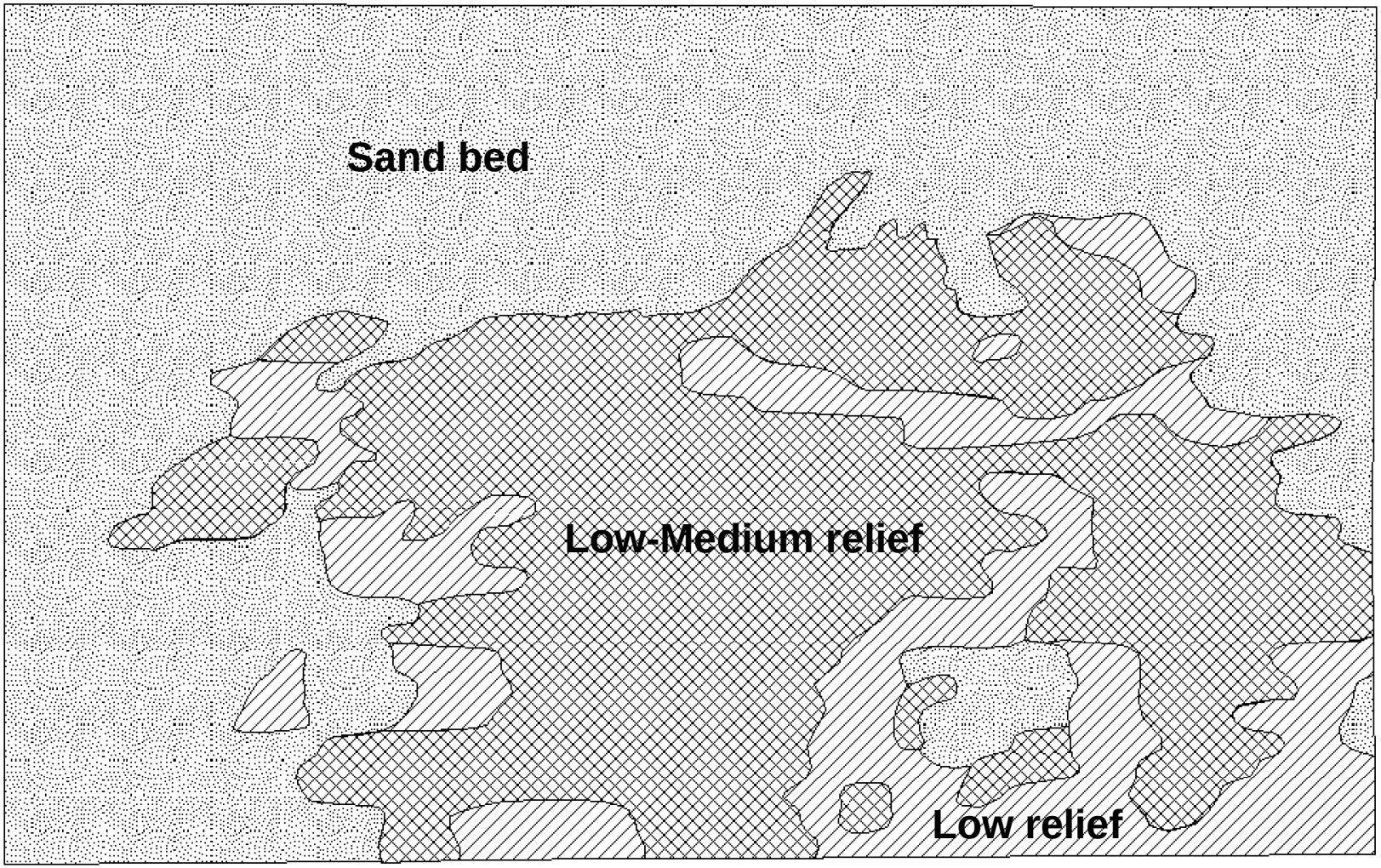
Low-Medium relief (L-M) - Low relief (L) – Sand bed (S-B)



Based on sidescan sonar survey of GRNMS, groundtruthed by towed-diver survey

Henry et al., 1983
Report to GRNMS

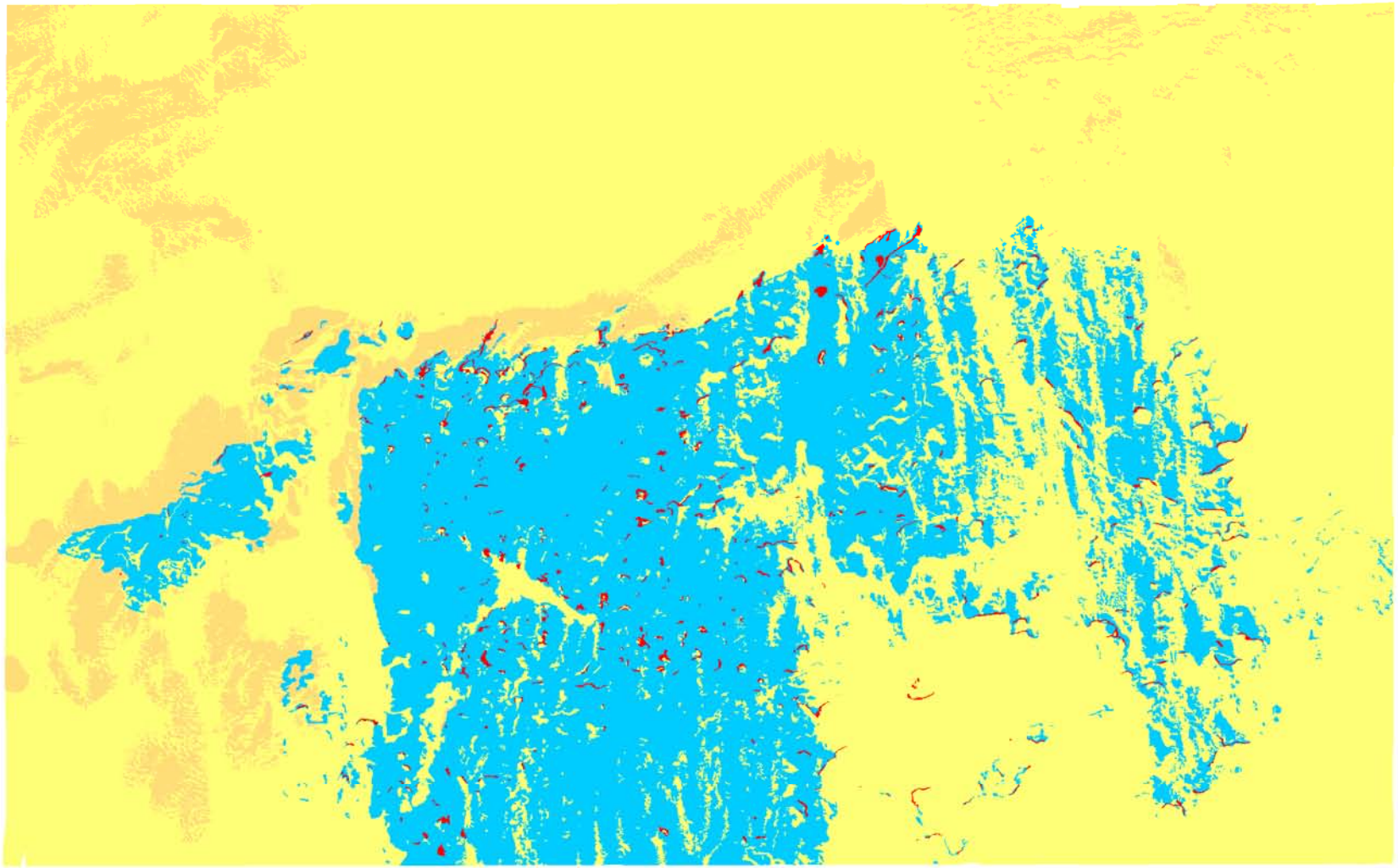
1983 Grays Reef Habitat Classified in GIS – 3 classes



Henry et al., 1983
Report to GRNMS

2002 Grays Reef Habitat Classification – 4 classes

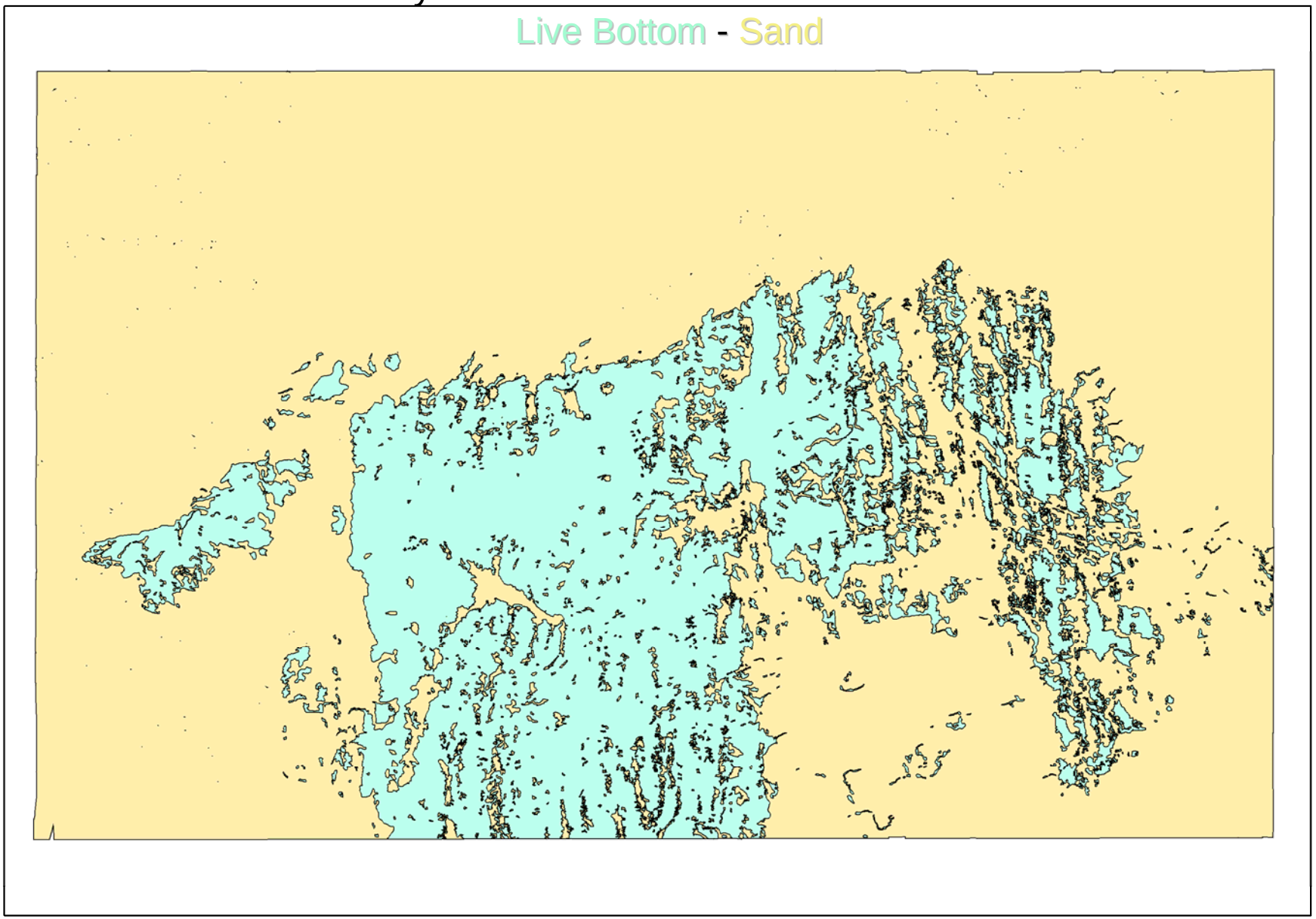
Densely colonized – Sparsely colonized - Flat sand - Rippled sand



Kendall et al., 2002
Report to GRNMS

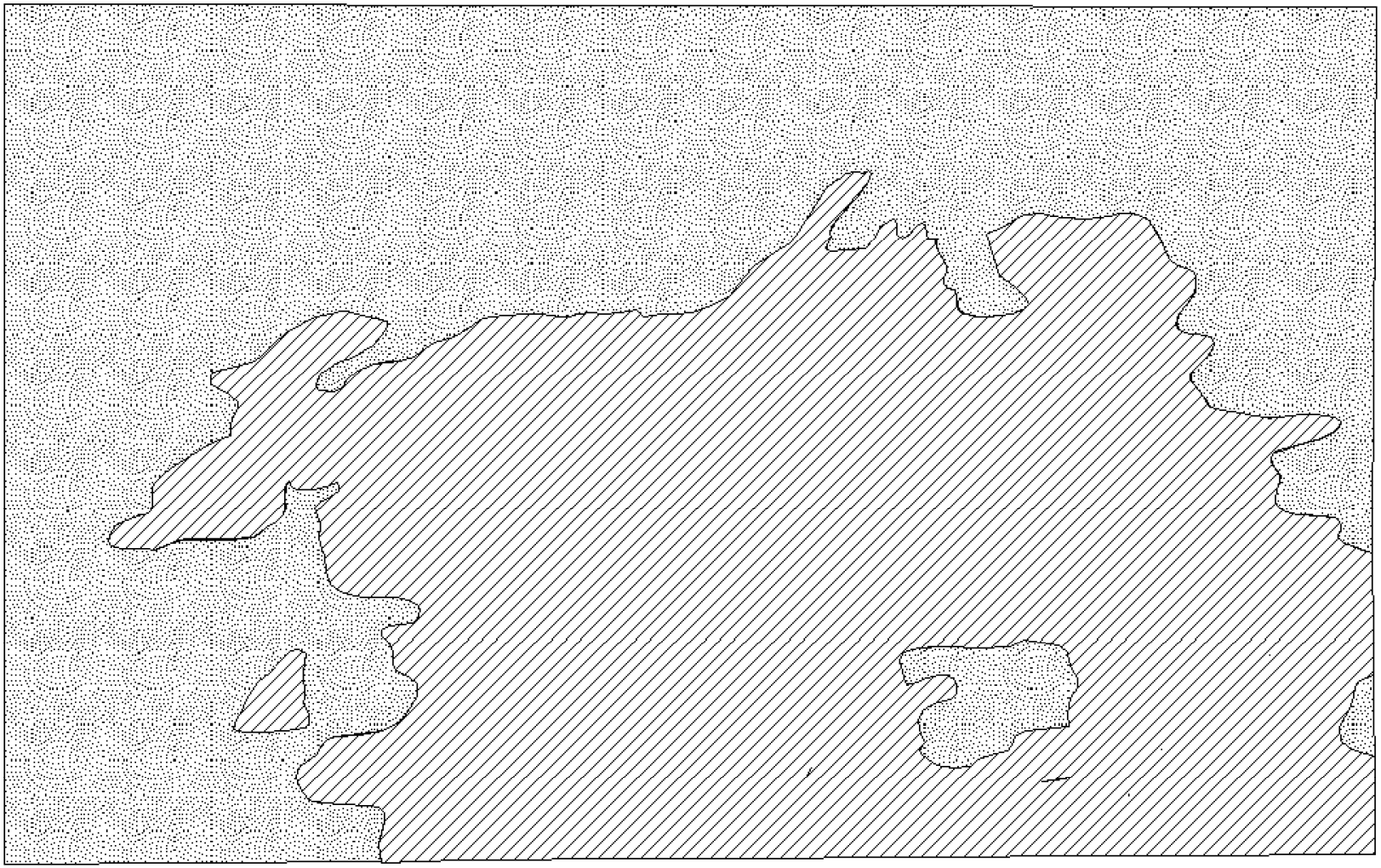
2002 Grays Reef Habitat Classification – 2 classes

Live Bottom - Sand



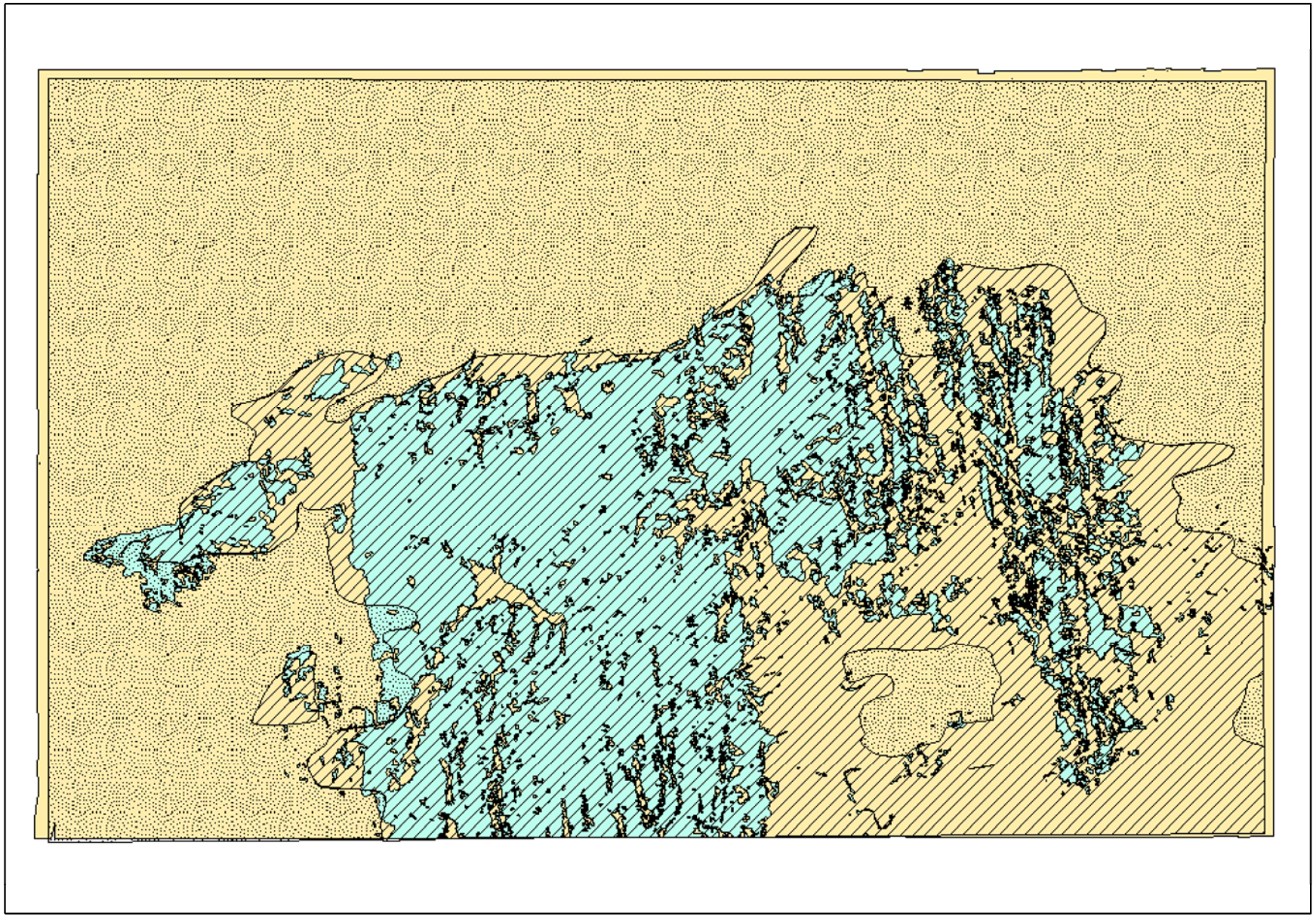
Kendall et al., 2002
Report to GRNMS

1983 Grays Reef Habitat Classified in GIS – 2 classes



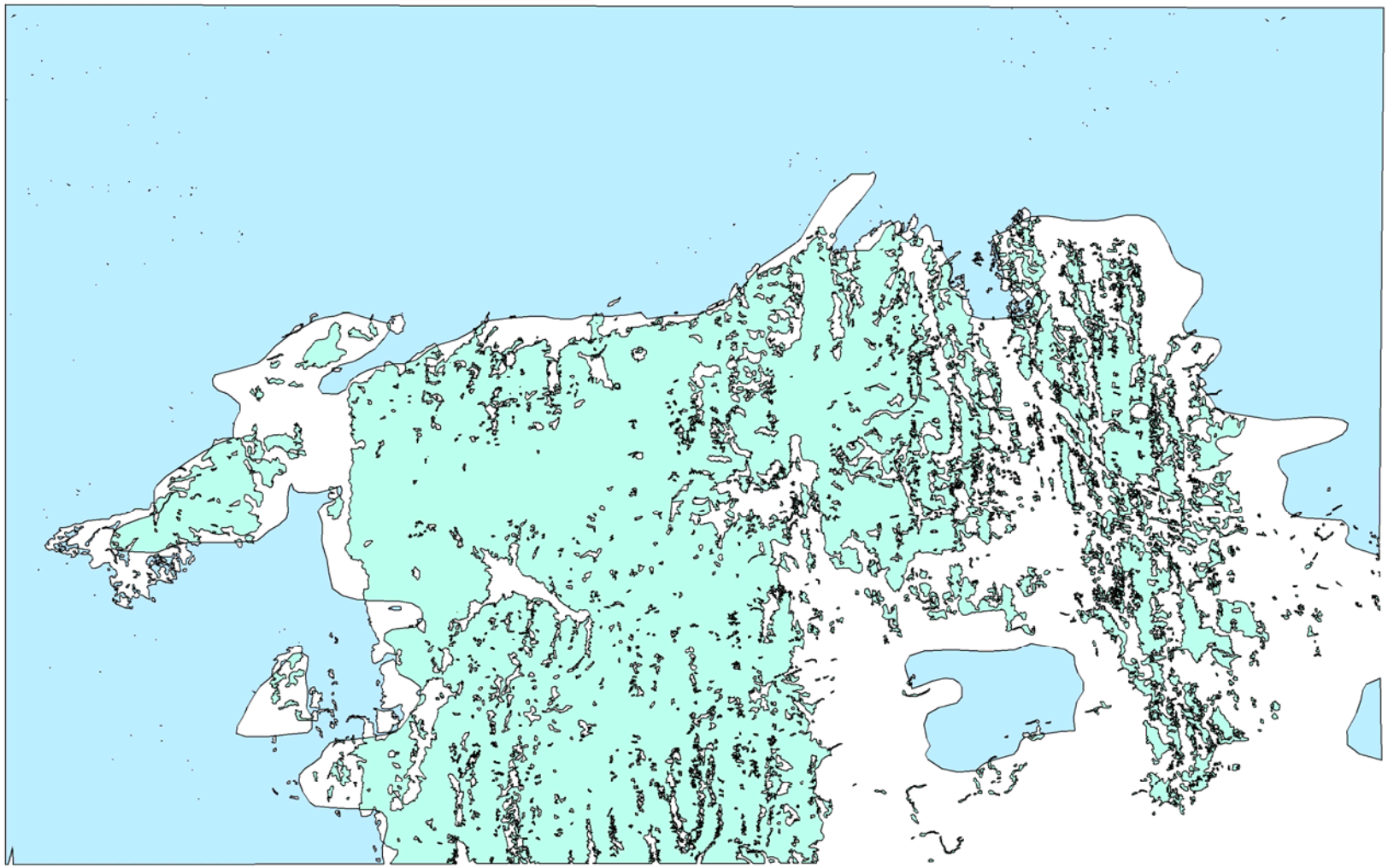
Henry et al., 1983
Report to GRNMS

Overlay of 2002 (color) and 1983 (pattern) Habitat Maps



Overlay of 2002 and 1983 Habitat Maps – Change Map

Live Bottom – Sand – Area of Change



Overlay of 2002 and 1983 Habitat Maps – Change Classification

Live Bottom to Sand – Sand to Live Bottom – No Change