

Ecosystem Protection: Ecological Reserves / Preservation Areas & Wildlife Protection Working Group: Recommendations for Sanctuary Advisory Council



Chris Bergh, Sanctuary Advisory Council – Conservation & Environment & Working Group Lead
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August 19, 2014

Working Group Membership: Sanctuary Advisory Council



Sanctuary Advisory Council Members:

- Chris Bergh, SAC Conservation and Environment
- Ben Daughtry, SAC Commercial Fishing – Marine/Tropical
- Rob Harris, SAC Fishing – Charter Sports Fishing
- Suzy Roebling, SAC Citizen at Large – Upper Keys
- Dave Vanden Bosch, SAC Citizen at Large – Middle Keys
- Joe Weatherby, SAC Tourism

Working Group Membership: Other Community Members



Community/Public Members:

- Maria Brandvold, Recreational Fisherman
- Tad Burke, Florida Keys Fishing Guides Association
- Mark Chiappone, NOVA Southeastern University
- Don DeMaria, Sea Sampler
- Manny Herrera, Florida Keys Commercial Fishermen's Association
- Ernie Piton, Florida Keys Commercial Fishermen's Association
- Scott Saunders, Fury Water Adventures
- Mimi Stafford, Reef Relief

Working Group Objectives



1. Review and evaluate existing reserves designated for protection of coral reef ecosystems.
2. Review current exceptions to regulations in SPAs and ERs.
3. Review and evaluate SPAs reduction of conflicting uses.
4. Recommend new or modified ecological reserves to ensure protection of a diversity of resources:
 - Spawning aggregations
 - Full suite of marine flora and fauna
5. Consider temporal zoning to address seasonal impacts associated with intense uses or seasonal ecological activities (i.e., nesting, breeding, spawning).
6. Ensure the FKNMS zoning scheme promotes sustainable use of the sanctuary resources and protects areas that represent diverse habitats as well as areas important for maintaining natural resources and ecosystem functions.

Seven Working Group Meetings March – July, 2013 (Phase I)



March 14: Clarified Role and Authority of Working Group.

April 4: Identified primary habitats, resources, and data layers, and geographic regions to be considered.

May 2: Identified criteria and factors to consider for Ecosystem Protection.

May 23: Discuss fish spawning aggregation data and identify on maps areas and uses of concern. Review existing marine zones for potential modification.

June 13: Identified biological data and discussed boundary modifications and justifications for existing SPAs and ERs.

July 11: Reviewed and discussed draft maps showing working group member ideas for marine zone modifications.

July 29: Heard public comment, and voted to host regional meetings and identified water quality, education, and enforcement as priorities for the SAC.

Summary of Recommendations: Working Group Meetings (Phase I)



1. Classify all areas of the Sanctuary as a specific zone type (SAC principle 2).
2. Additional, regional meetings are needed to solicit community input for changes to existing or potential new zones for ecosystem protection.
3. Water quality, education, and enforcement should be addressed by the SAC.



Four Regional Stakeholder Information & Listening Sessions



September 23: Solicit input about the Middle Keys region.

September 24: Solicit input about the Upper Keys region.

September 25: Solicit input about the Lower Keys region.

September 26: Solicit input about the Marquesas and Dry Tortugas regions

Following these regional public meetings, the working group reconvened:

September 30: Discussed input received through regional public sessions and made a decision to continue to meet and develop recommendations for Sanctuary Advisory Council review.

Six 2-Day Regional Working Group Meetings, March – July, 2014 (Phase II)



March 6 & 7: Reconvene, review the working group charge, review the scientific and use data available and begin to work with the data. Discuss and make ecosystem protection recommendations for the Dry Tortugas region.

March 25 & 26: Discuss and make ecosystem protection recommendations for the Upper Keys region.

April 17 & 18: Discuss and make ecosystem protection recommendations for the Middle Keys region.

May 13 & 14: Discuss and make ecosystem protection recommendations for the Lower Keys region.

June 10 & 11: Discuss and make ecosystem protection recommendations for the Marquesas region.

July 8 & 9: Review preliminary recommendations for all regions, final discussion, and develop suite of ecosystem protection recommendations for consideration by the Council.

Natural Resource Information



- Habitat
 - Habitat types
 - Patch & linear reef
 - High relief reefs
 - Turtle grass density
- Coral
 - Stony coral cover
 - Stony coral diversity
 - Soft coral cover
 - Soft coral diversity
 - Resilient reefs
 - Federal and State threatened coral
- Fish
 - Reef fish abundance
 - Reef fish diversity
 - Fish aggregations



Regional Analysis & Data Review



How much area is within current marine zoning scheme?

How are habitat types distributed within current marine zoning scheme?

Where are the locations of high relief reefs? Of resilient reefs?

Where are the locations of Federal and State threatened coral species?

Where are the locations of known fish aggregation areas?

Where are coral cover and diversity surveys?

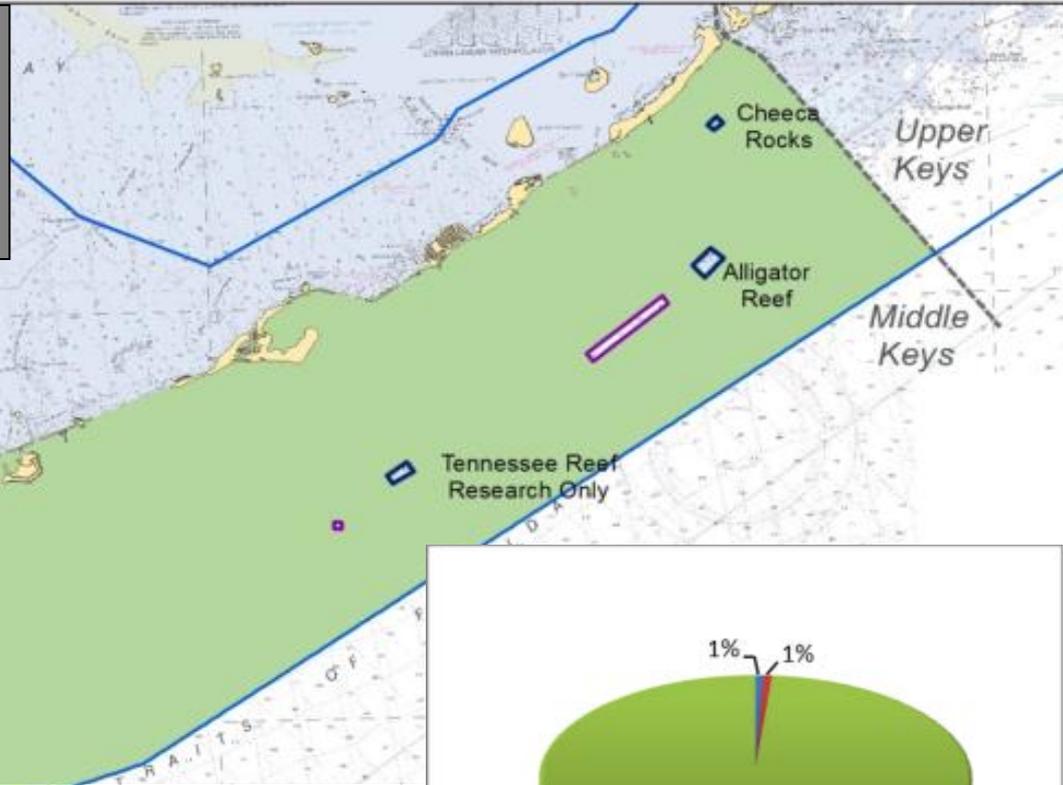
Where are fish abundance and diversity surveys?

Of the coral and fish surveys, where do they show High, Medium, & Low values?

Management Zones

-  FKNMS Boundary
-  SPAs, SUAs
-  NMFS FMP Areas Closed to Lobster Trap Gear

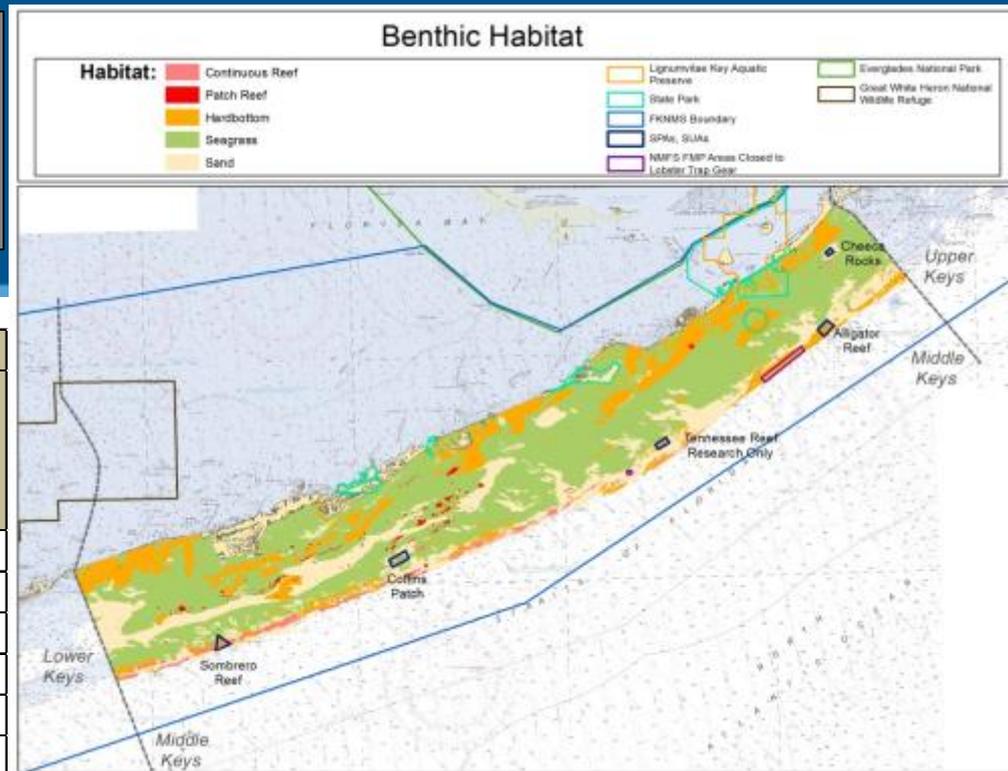
How much area is currently within zones?



Management Zone	Area (km ²)
SPAs, SUAs	13
NMFS FMP Areas Closed to Lobster Traps	12
Remaining FKNMS, oceanside	1295
Resource Total	1320

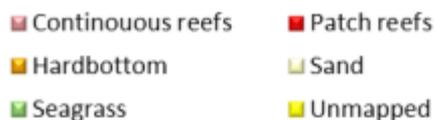
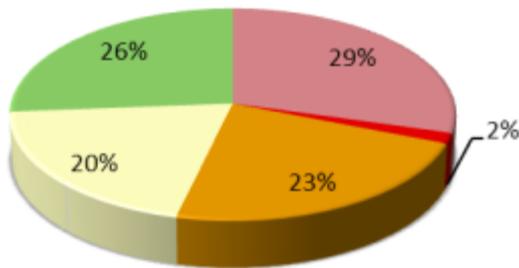


How are habitats distributed?

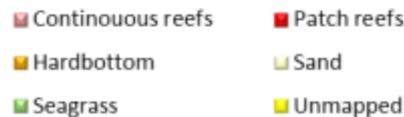
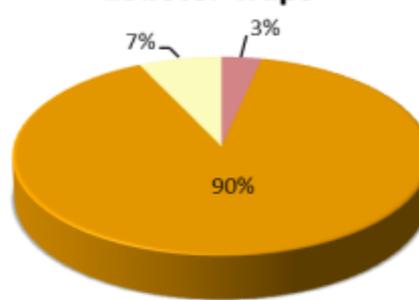


Habitats	Area (Km ²)		
	SPAs, SUAs	NMFS FMP Areas Closed to Lobster Traps	Remaining FKNMS, oceanside
Continuous reefs	0.9	0.1	10
Patch reefs	0.1	0.0	4
Hardbottom	0.7	1.7	107
Sand	0.6	0.1	125
Seagrass	0.8	0.0	364
Unmapped	0.0	0.0	20

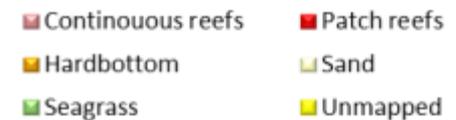
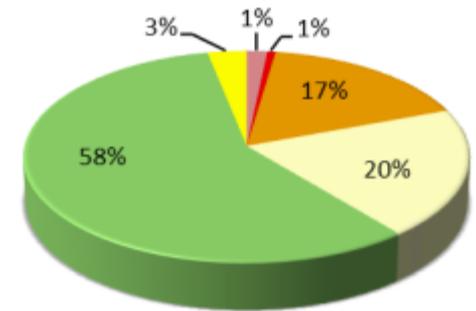
SPAs, SUAs



NMFS FMP Areas Closed to Lobster Traps



Remaining FKNMS, oceanside



High Structural Relief

 High Structural Relief

 Coral Reef and Hardbottom

 Lignumvitae Key Aquatic Preserve

 State Park

 FKNMS Boundary

 SPAs, SUAs

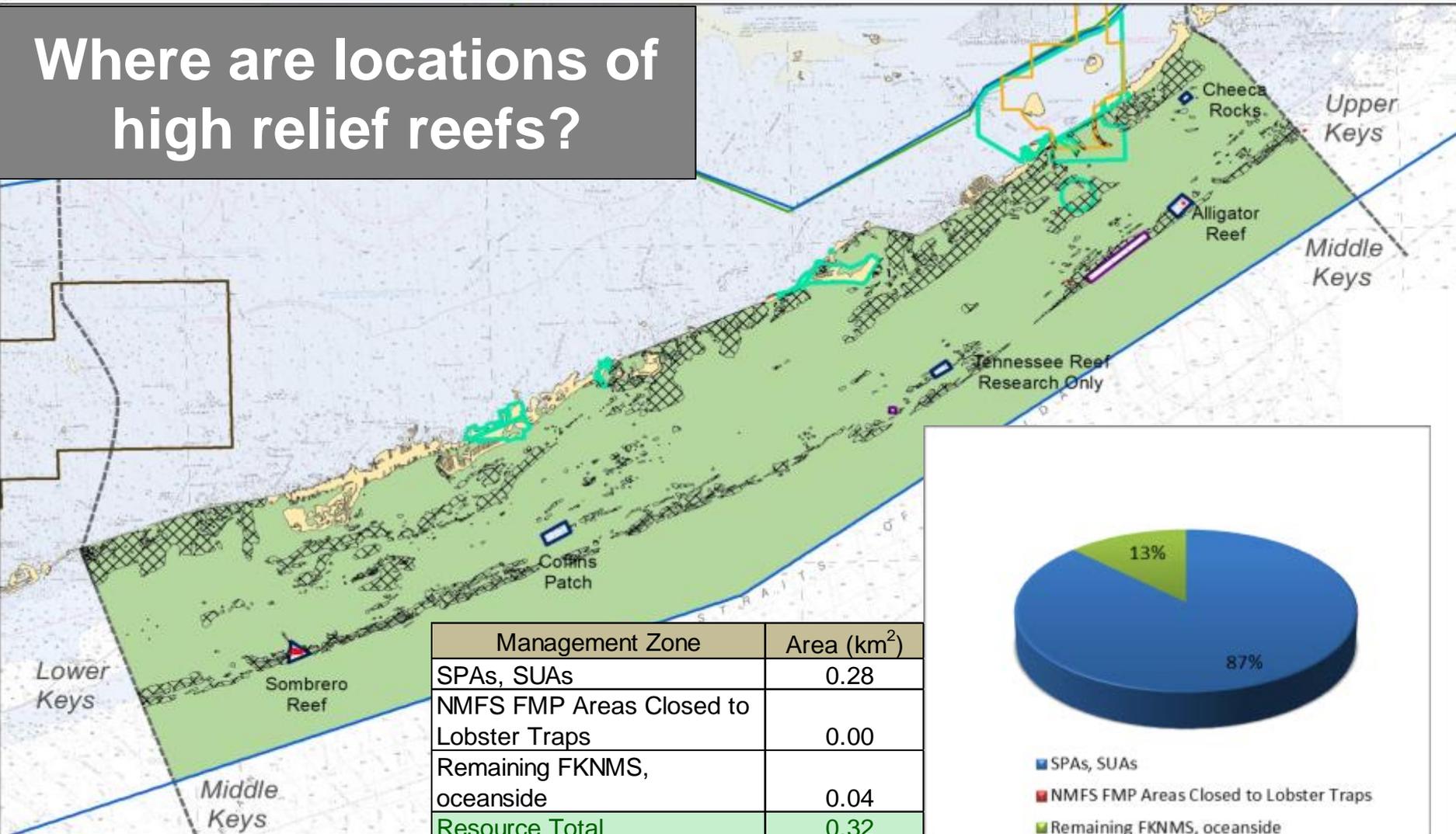
 NMFS FMP Areas Closed to Lobster Trap Gear

 Everglades National Park

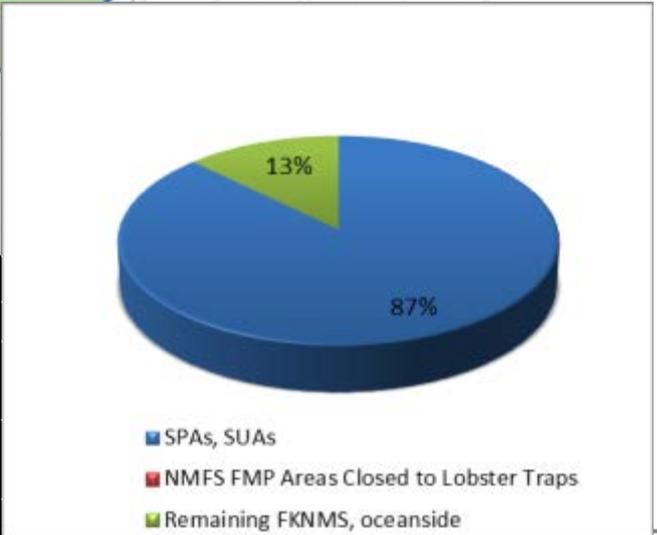
 Great White Heron National Wildlife Refuge

 Middle Keys, Ocean Side

Where are locations of high relief reefs?



Management Zone	Area (km ²)
SPAs, SUAs	0.28
NMFS FMP Areas Closed to Lobster Traps	0.00
Remaining FKNMS, oceanside	0.04
Resource Total	0.32



Resilient Reef

 Resilient Reef

 Coral Reef and Hardbottom

 Lignumvitae Key Aquatic Preserve

 State Park

 FKNMS Boundary

 SPAs, SUAs

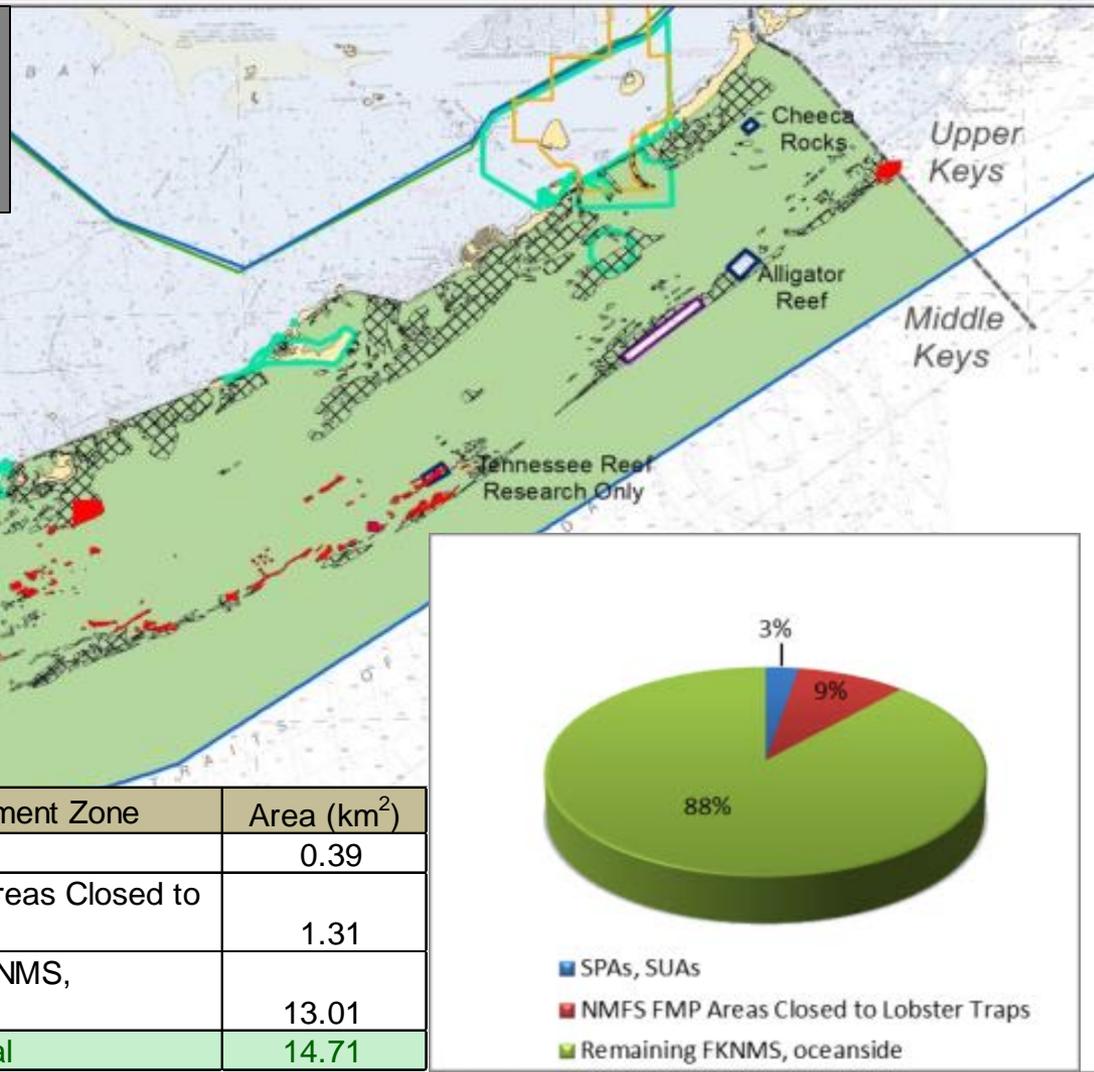
 NMFS FMP Areas Closed to Lobster Trap Gear

 Everglades National Park

 Great White Heron National Wildlife Refuge

 Middle Keys, Ocean Side

Where are locations of resilient reefs?



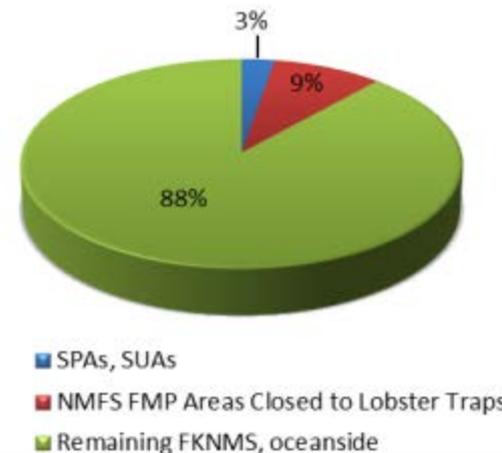
Lower Keys

Middle Keys

Upper Keys

Middle Keys

Management Zone	Area (km ²)
SPAs, SUAs	0.39
NMFS FMP Areas Closed to Lobster Traps	1.31
Remaining FKNMS, oceanside	13.01
Resource Total	14.71



Fish Spawning Aggregations

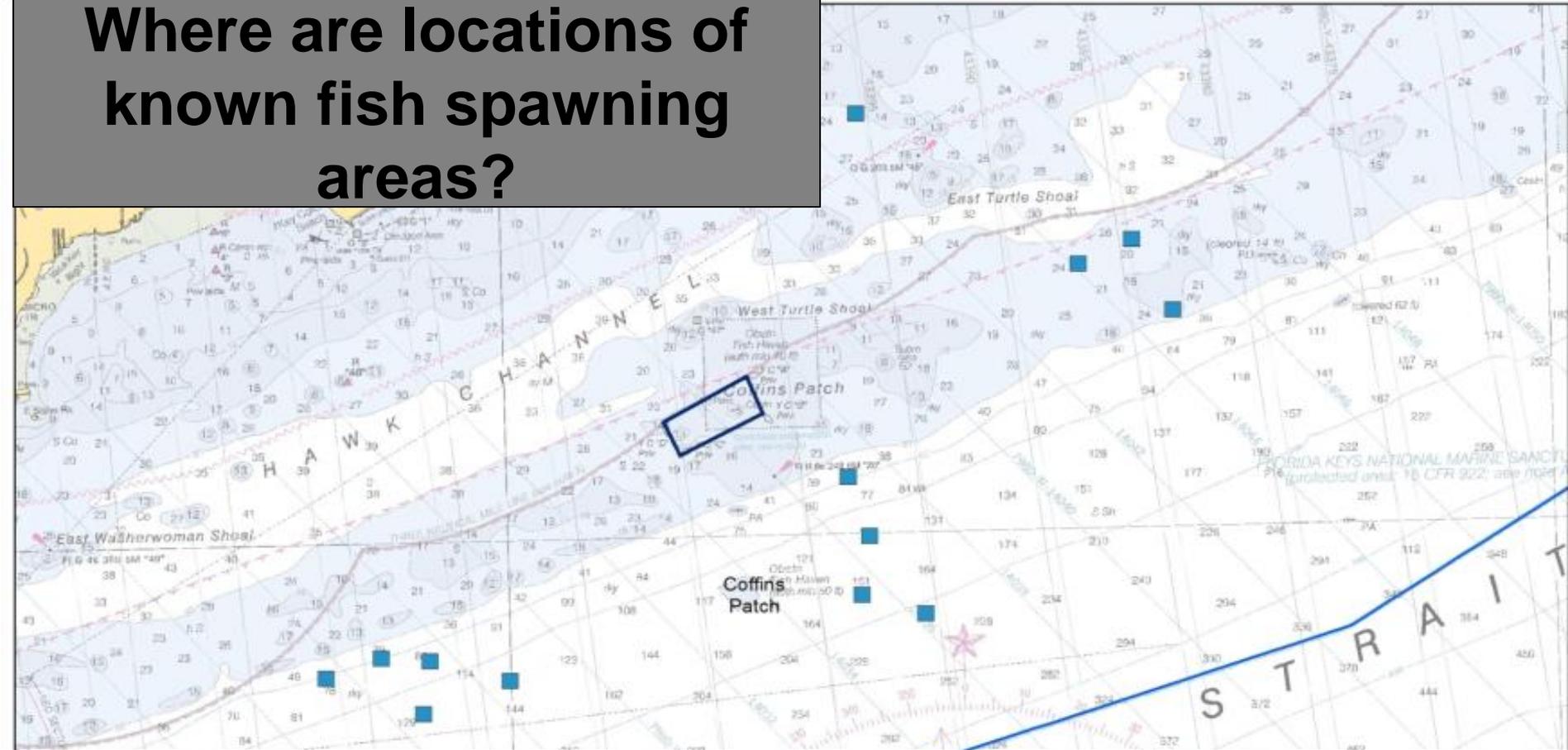
Single Species

■ Reported

- Lignumvitae Key Aquatic Preserve
- State Park
- FKNMS Boundary
- SPAs, SUAs
- NMFS FMP Areas Closed to Lobster Trap Gear

- Everglades National Park
- Great White Heron National Wildlife Refuge

Where are locations of known fish spawning areas?

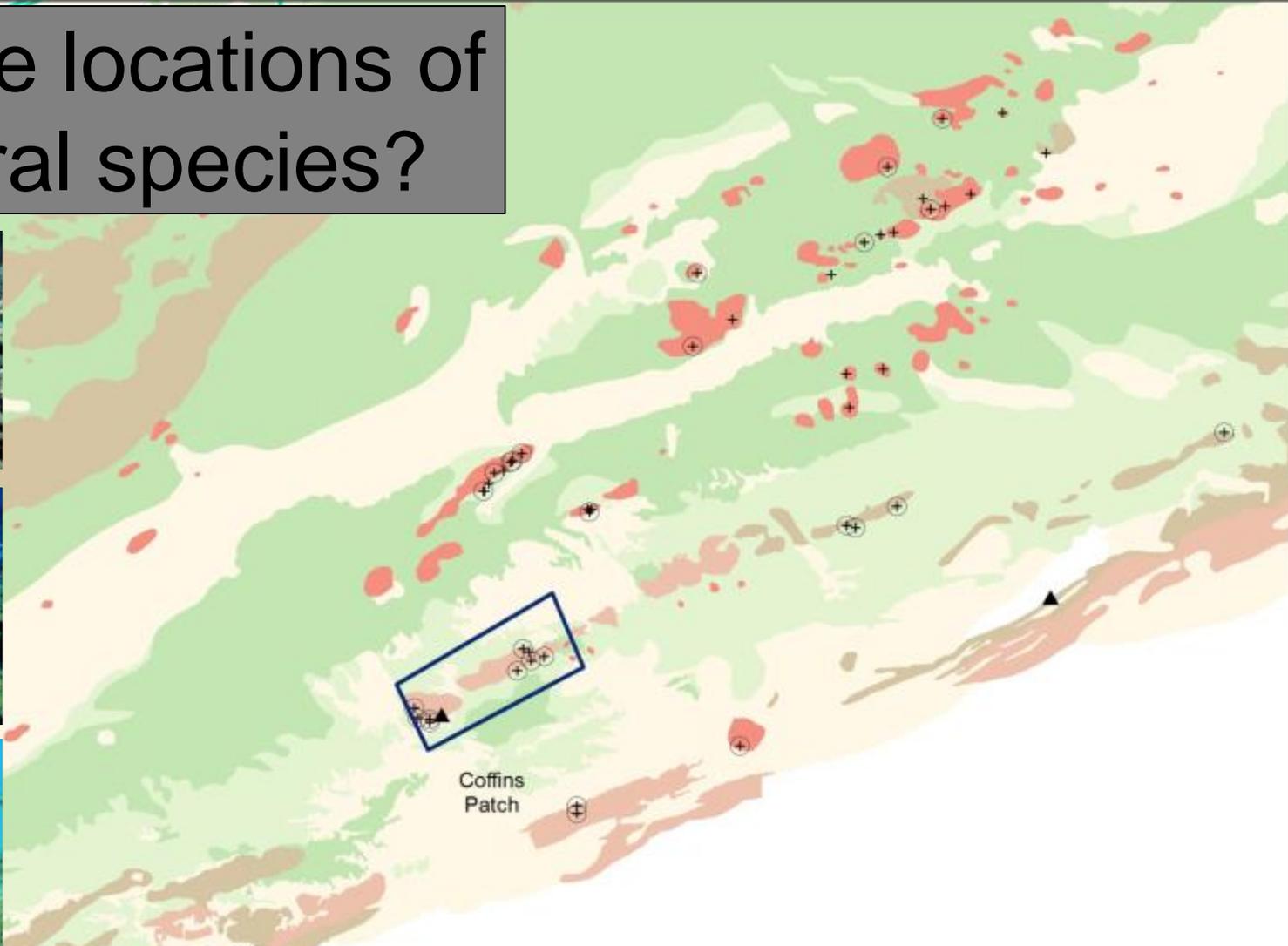


*All locations shown here are suggestions from fishers. Fish species are potentially gray snapper. Locations and species have not been confirmed by researchers. Research effort on aggregations in the middle Keys region have been very limited to date.

Threatened Coral Species



Where are locations of ESA coral species?



How can we tell what areas are good?

Rank survey site relative other sites
in middle Keys

High

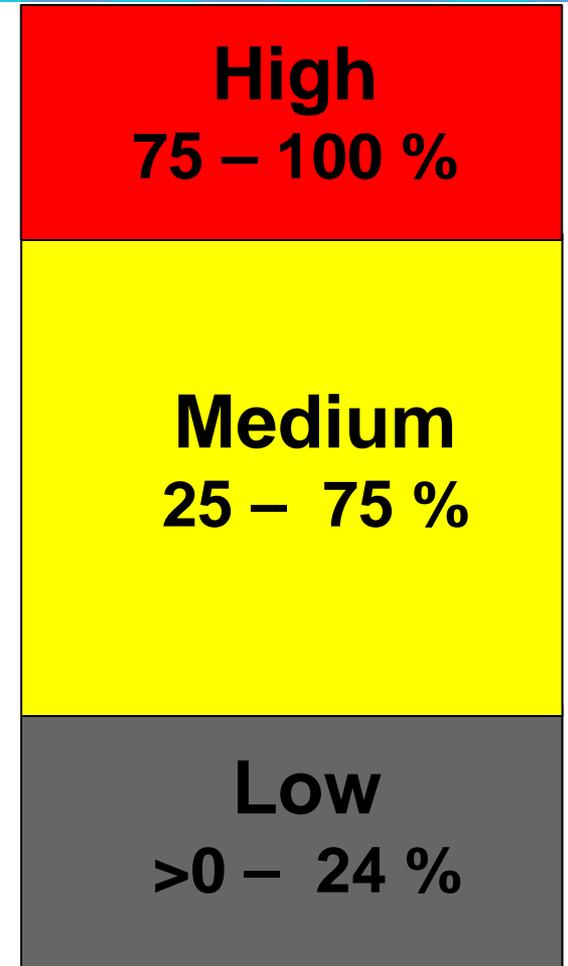
Medium

Low

Top 25%

Middle

Bottom 25%

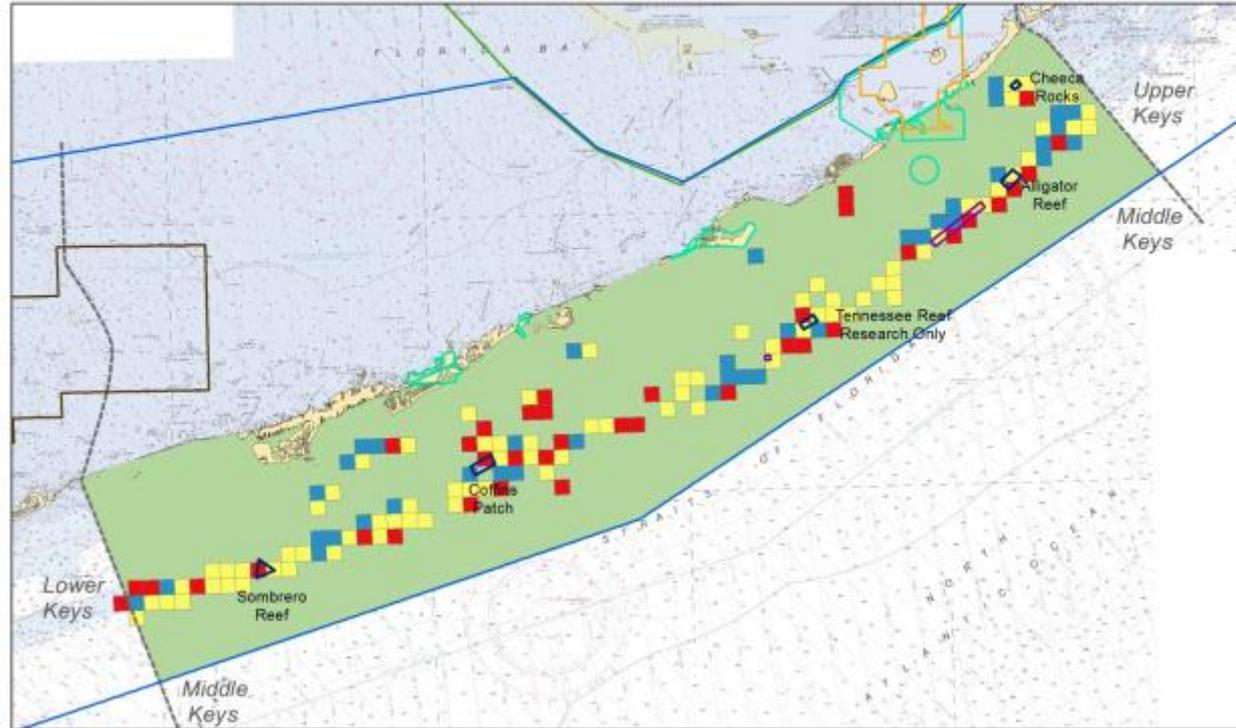


Fish Species Richness

Species Richness (1k)

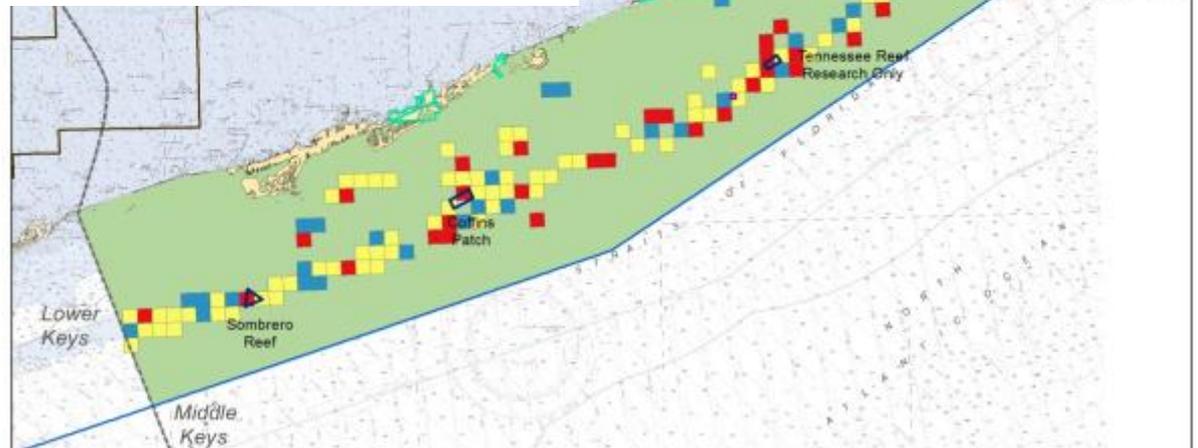


Entire
Middle Keys region



Fish Total Abundance

Abundance (1k)



Human Use Information



- Commercial Fishing
 - Distribution of **Commercial Fishers**
 - Distribution of Commercial Fishing Landings
- Recreational Fishing
 - Distribution of **Recreational and Charter Fishing Vessels**
- Recreational Diving
 - Distribution of **Diving Vessels**
 - Distribution of **Recreational Divers**
- Distribution of **Marine Debris**
- Location of **Vessel Groundings**



Human Use Activity Metrics



- **Commercial Fishing** – How many people fish in a given area?
- **Recreational and Charter Fishing** – Where are boats located?
- **Diving** – How many people dive in a given area; where are dive boats located?



Recreational and Charter Fishing Vessels - Flyovers

Number of Vessels



Lignumvitae Key Aquatic Preserve

State Park

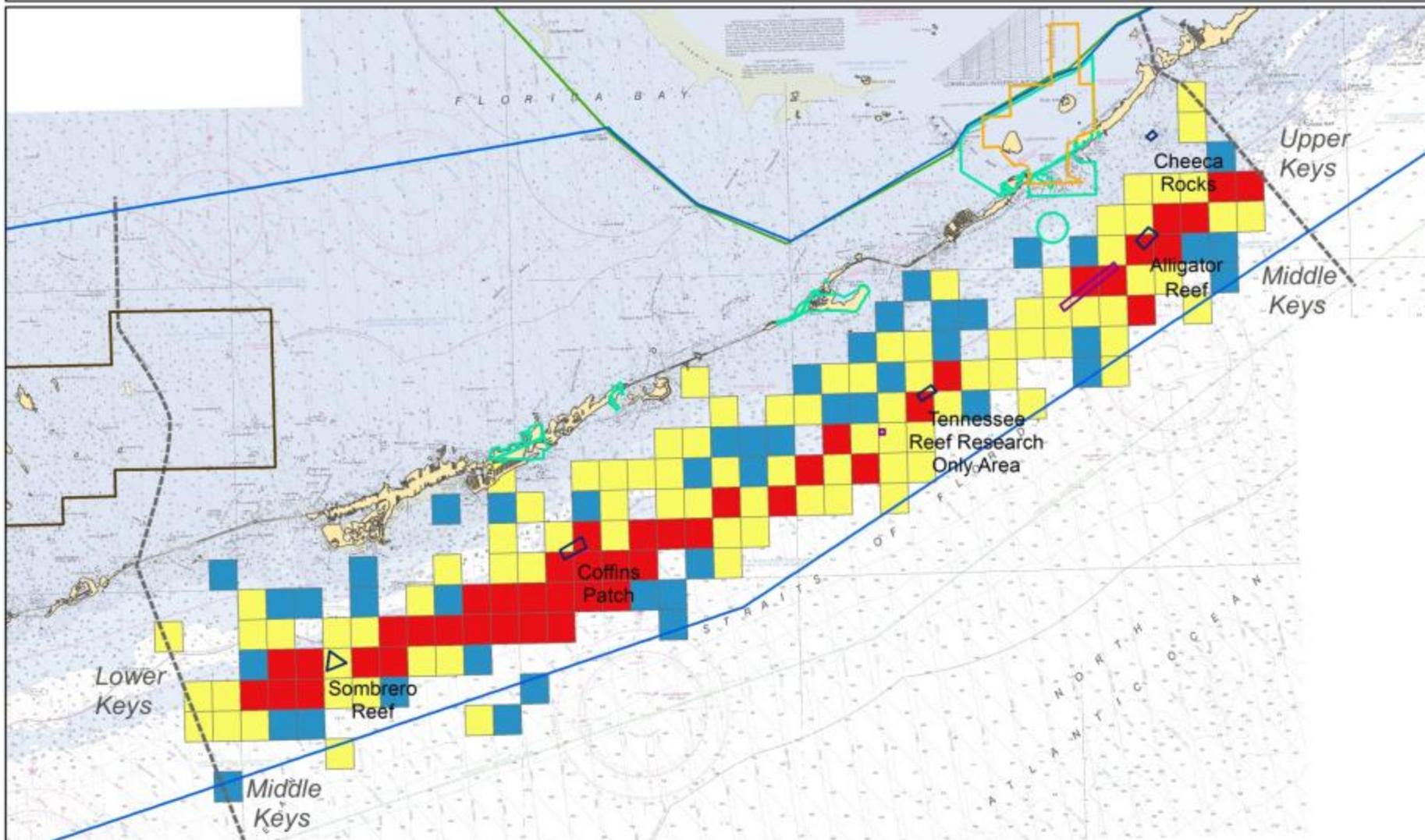
FKNMS Boundary

SPAs, SUAs

Everglades National Park

Great White Heron National Wildlife Refuge

NMFS FMP Lobster Trap Exclusion Areas

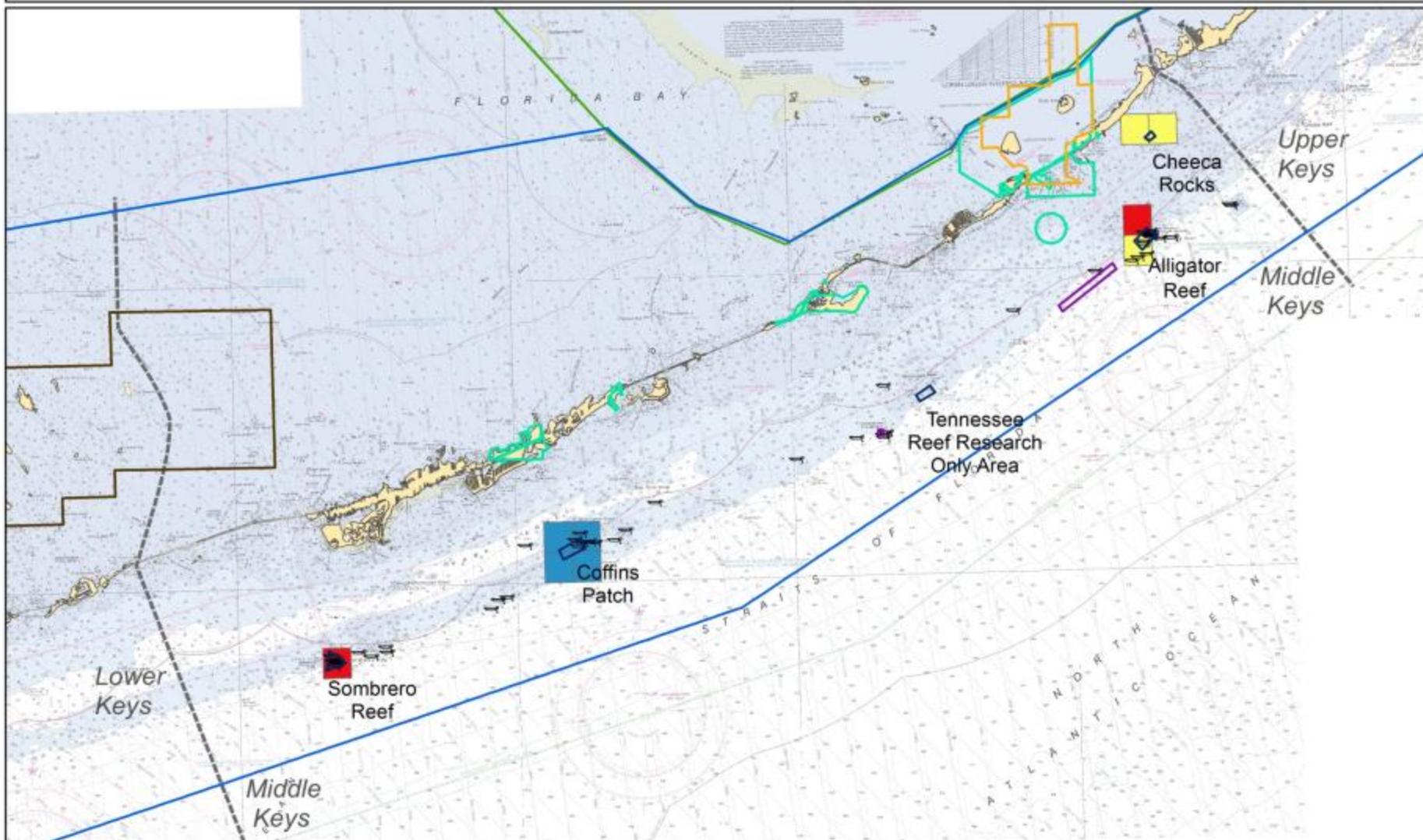


Diving Activity

Number of Divers, 2005



← Dive Boat(s) Observed



Zoning for Ecosystem Protection



Reviewed:

- Sanctuary Preservation Areas, Special Use Areas, Ecological Reserves, Existing Management Areas, the Sanctuary Boundary and the Area to be Avoided (ATBA)

Recommendation:

- Modify 11 existing marine zones
- Modify the Sanctuary and ATBA boundary
- Propose 7 new marine zones
- Remove the catch and release by trolling exception in 4 existing marine zones



Additional Issues for Consideration



- Identified enforcement, water quality, and education as priority issues to address.
- Promote the use of technology to address management needs and education.
- Noted concerns about lobster mini-season.
- Support creation of a Florida Keys specific Fishery Management Council or Sub-Committee
- Promote greater coordination between FKNMS and Biscayne Bay National Park.
- Noted issues to consider related to the turtle protection areas recommended by the Shallow Water Wildlife and Habitat working group.

Marine Zoning and Regulatory Review Information and Working Group Recommendations



Florida Keys National Marine Sanctuary Marine Zoning and Regulatory Review: floridakeys.noaa.gov



Marine Zoning & Regulatory Review

Ecosystem Protection: Ecological Reserves, Preservation Areas and Wildlife Protection Working Group:

<http://floridakeys.noaa.gov/review/reserves.html>



Coral Reef Ecosystem Restoration Working Group
Coral health in the sanctuary has declined over the past several



Shallow Water Wildlife and Habitat Protection Working Group
Hardbottom communities and



Ecosystem Protection: Ecological Reserves, Preservation Areas and Wildlife Protection Working Group