



## Marine Reserves for People A National Park Perspective





# National Park Service



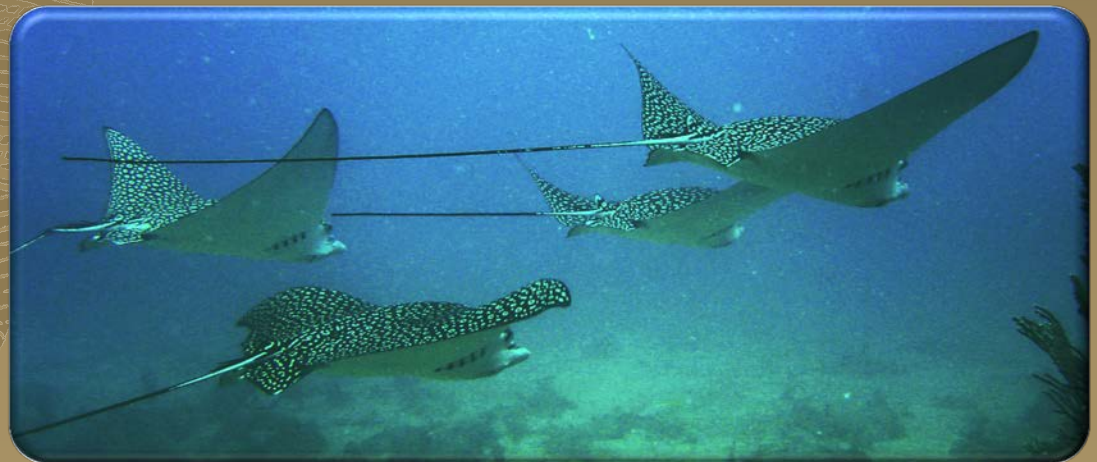
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**786-335-3643**



**Biscayne National Park**



# National Park Service

From just south of Key Biscayne to just north of Key Largo.

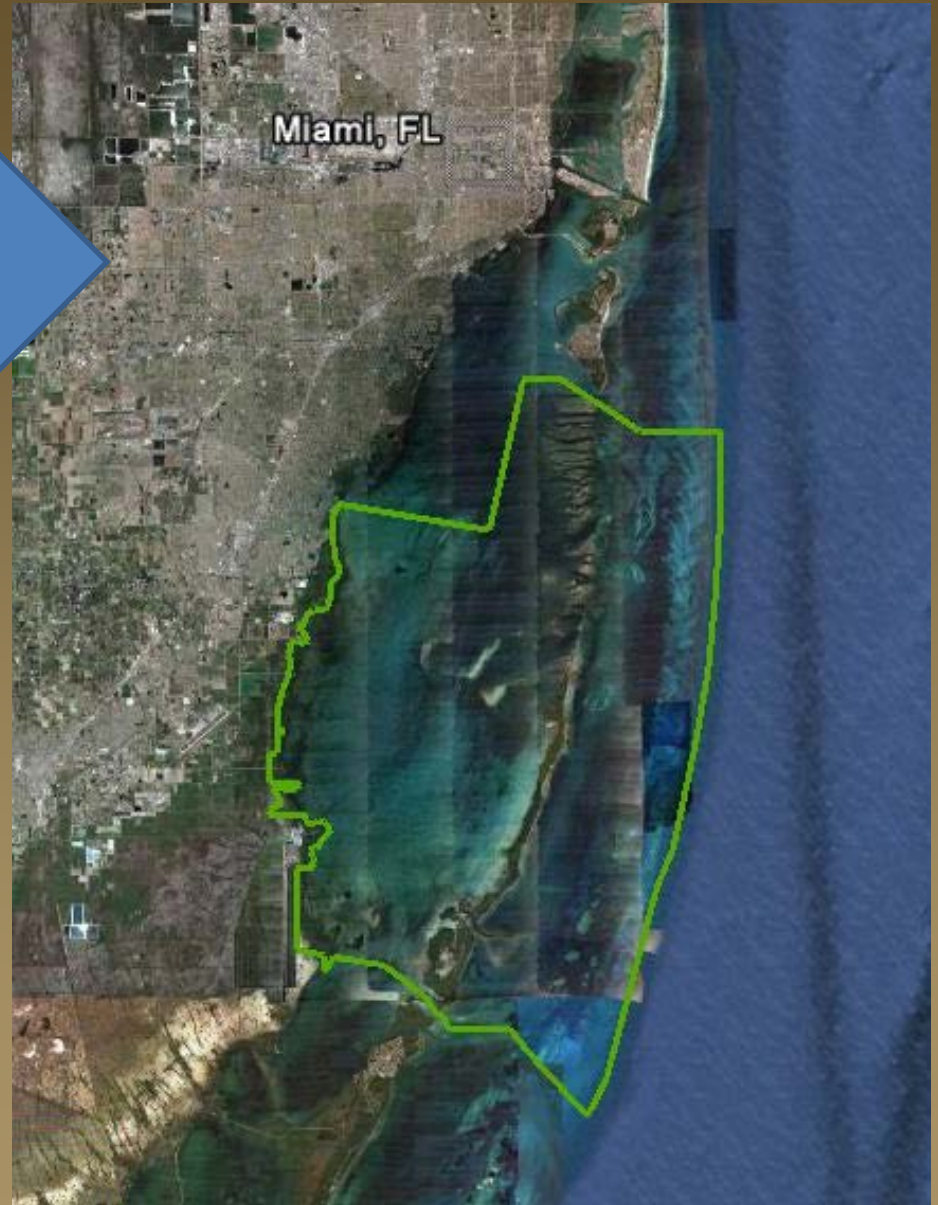




# National Park Service

Adjacent to approx  
3 million people

Biscayne National Park



## Biscayne National Park

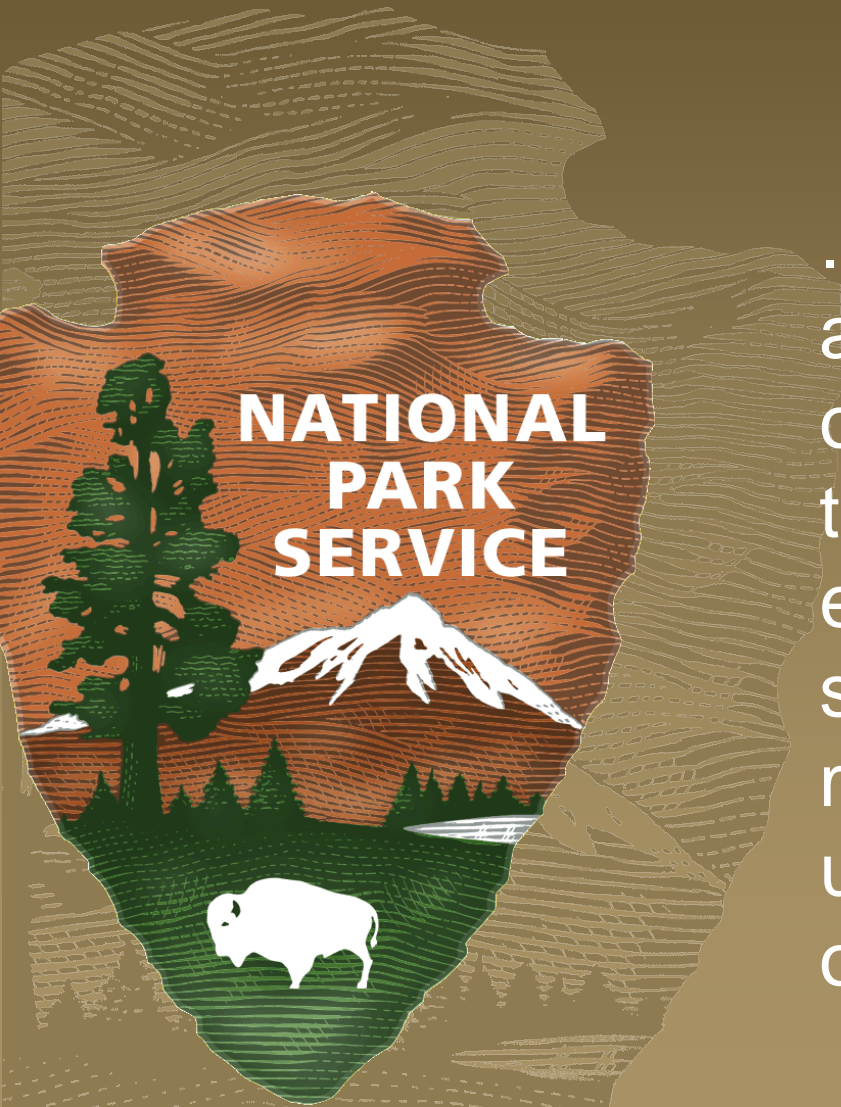


- preserves and protects 173,000 acres of reefs, islands and most of Biscayne Bay;
- contains over 5,000 patch reefs;
- is the largest tropical marine park in the National Park system;
- is a tourism, recreation & education destination for over ½ million people each year.



## Mission of the National Park Service

...to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.





# National Park Service

## Why consider a marine reserve for Biscayne NP?

The purpose of the marine reserve would be to provide the public the opportunity to experience a healthy, natural reef with a wide diversity of fish species and sizes;





# National Park Service

## Why consider a marine reserve for Biscayne NP?

to create an area of the park where visitors can experience greater abundance, larger individuals, and higher diversity of fishes, corals, and other organisms.







# National Park Service

## Why consider a marine reserve for Biscayne NP?

If you go to Yellowstone NP you expect to see bison;



If you go to Redwoods NP you expect to see giant trees;



# National Park Service

## Why consider a marine reserve for Biscayne NP?

If you go to the largest tropical marine park in the national park system, you expect to see healthy coral reefs teeming with diverse and large fish.



Biscayne National Park



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## Why do we need to consider a marine reserve for Biscayne NP?



Biscayne National Park

Live coral cover is extremely low.

Sites we monitor have LCC of 5 to 7%

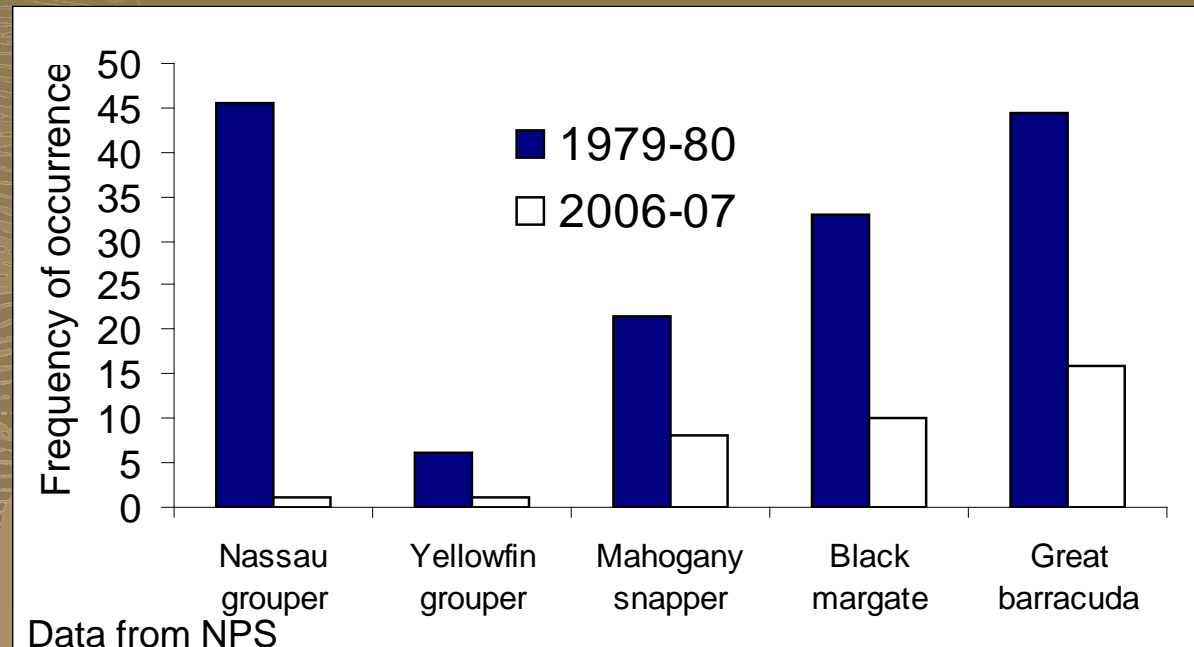


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## Why do we need to consider a marine reserve for Biscayne NP?

Studies show a drastic reduction in fish abundance over the past ~30 years among almost all species, especially the targeted reef species.

Biscayne National Park



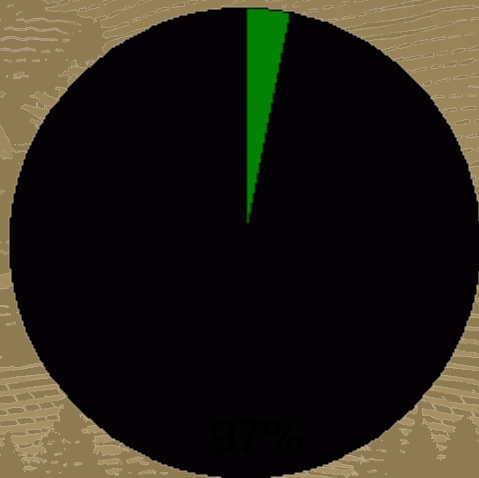
## Why do we need to consider a marine reserve for Biscayne NP?

and almost all of the targeted fish species in the park are smaller than the legal minimum size

Red Grouper

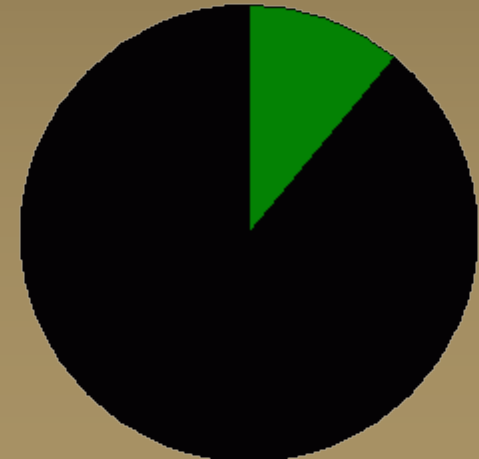
3%

■ Legal-size  
■ Undersize



Black Grouper

11%



## Why do we need to consider a marine reserve for Biscayne NP?

because we have a mission far beyond “sustainable fisheries”

the mission of the park is to protect, to preserve, to inspire, and to showcase the natural wonders of America.



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So how do we design a  
MRZ for People?



## Coral Considerations

- Should healthy or threatened reefs be included?
- Where are the T&E species located?
- Can we include a variety of reef types and reef structure?



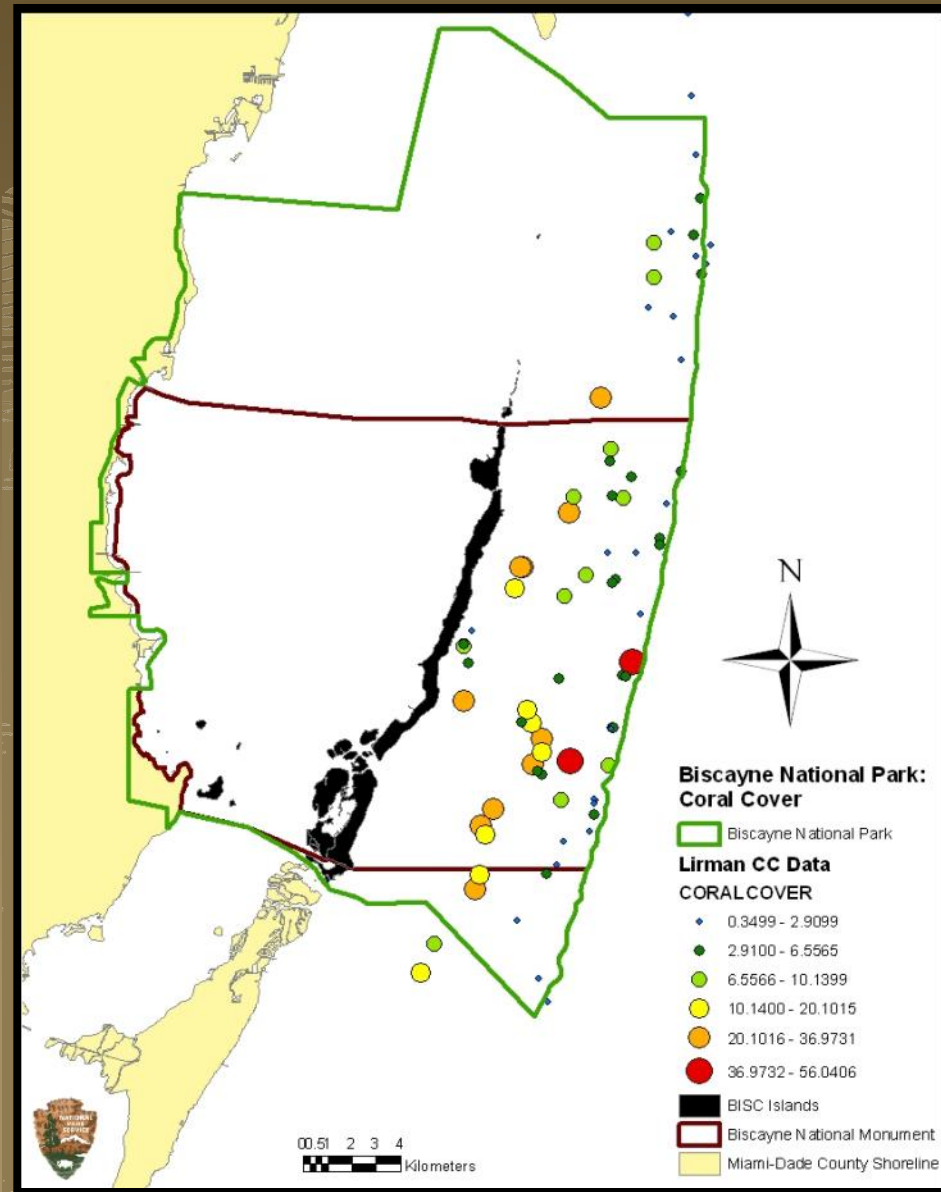


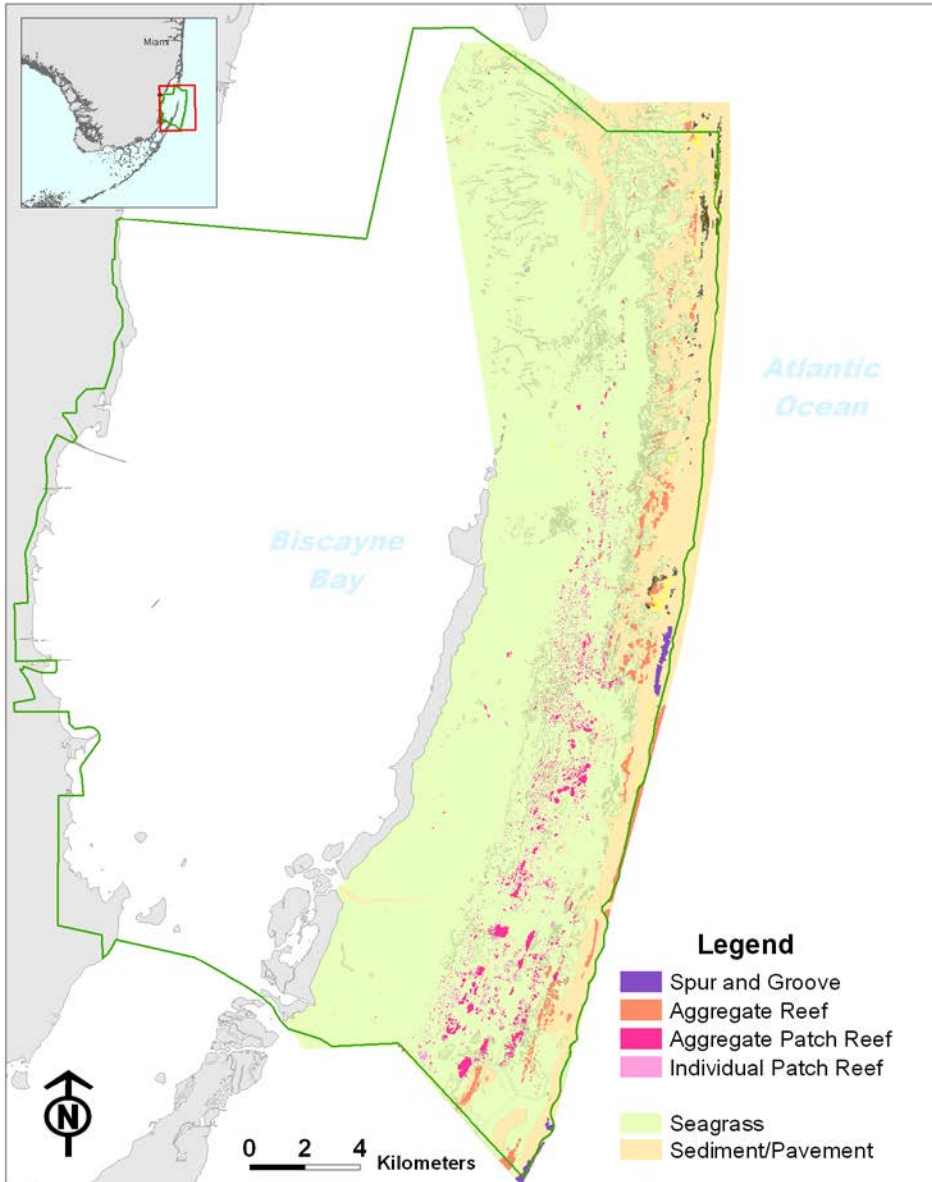
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## Live Coral Cover



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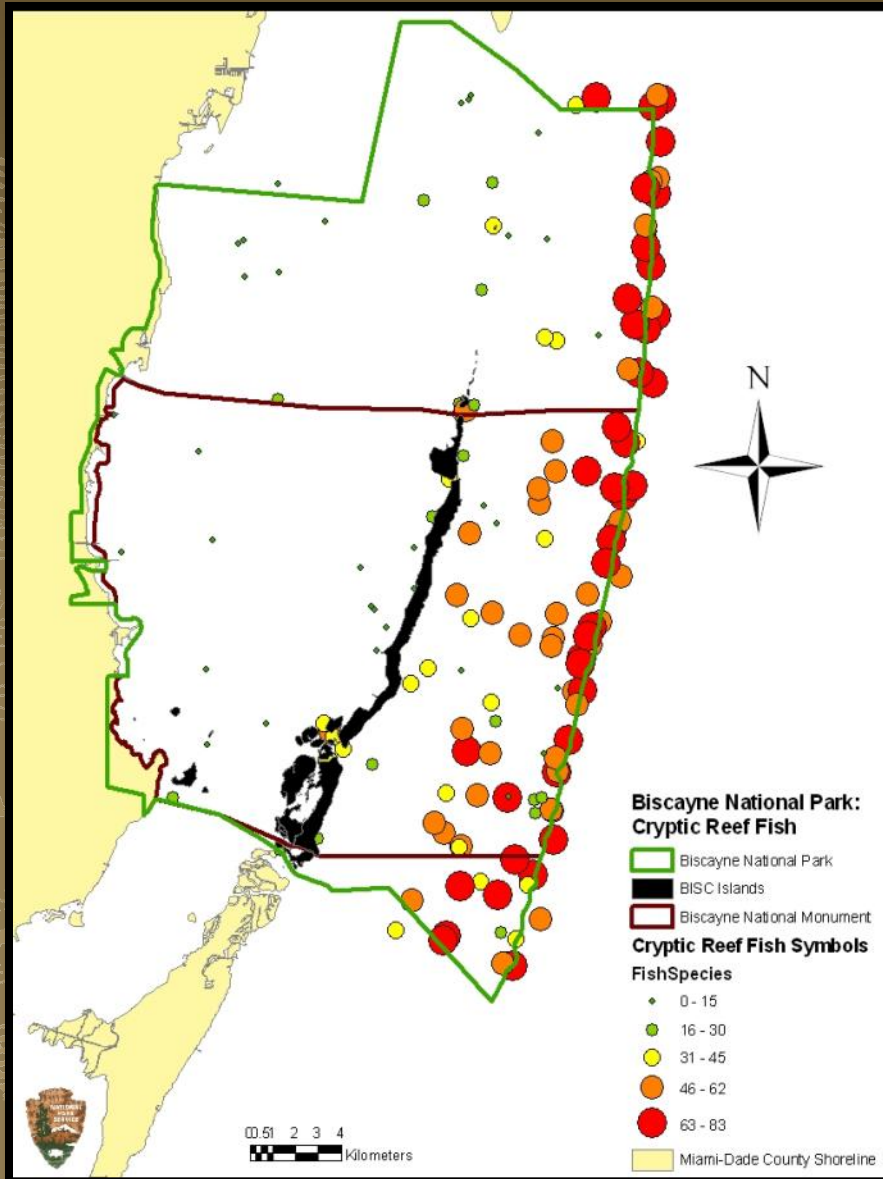


## Biscayne's Ocean Habitats

## Fish

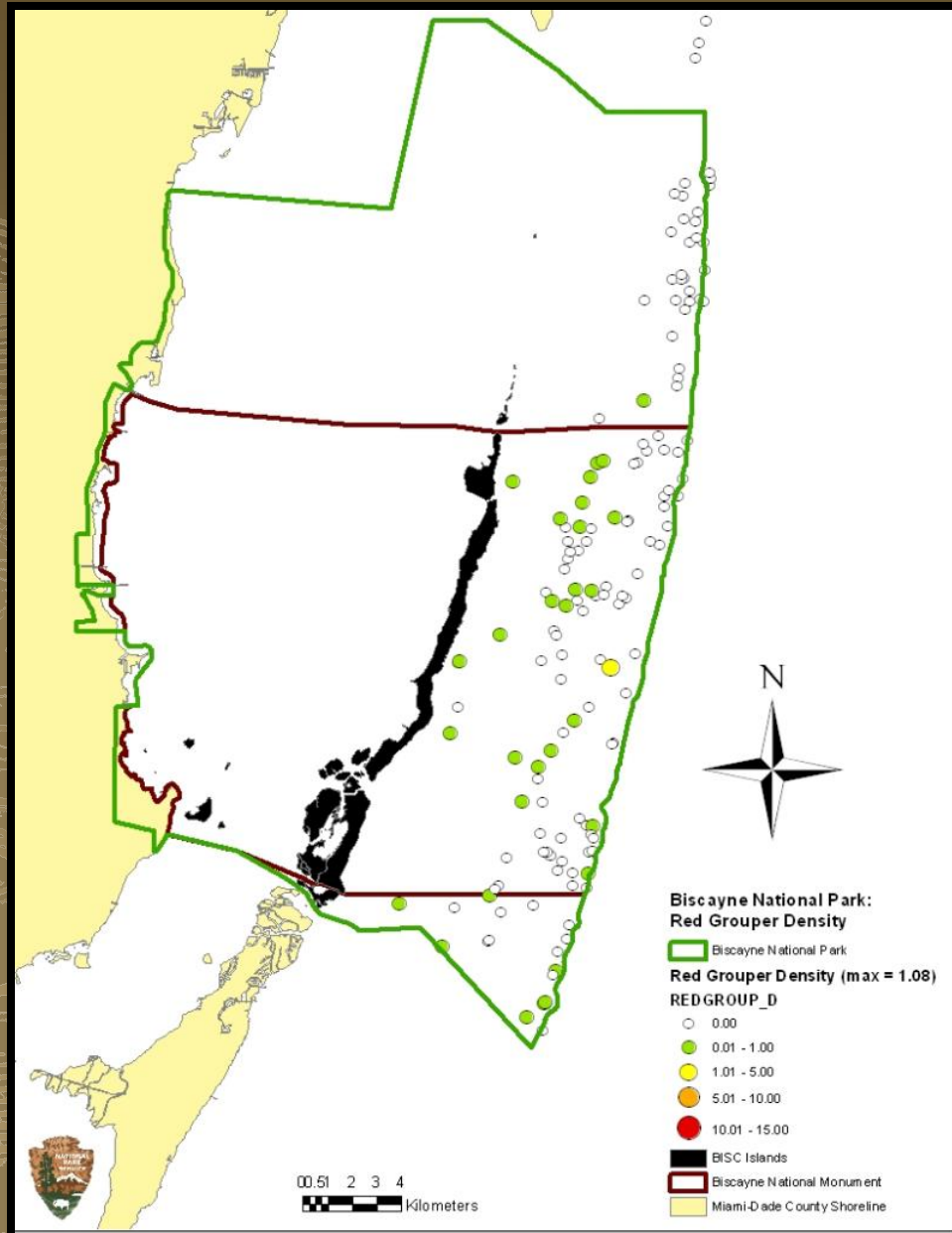
- Abundance
- Diversity
- Location





## Reef Fish Richness





## Targeted Fish Species



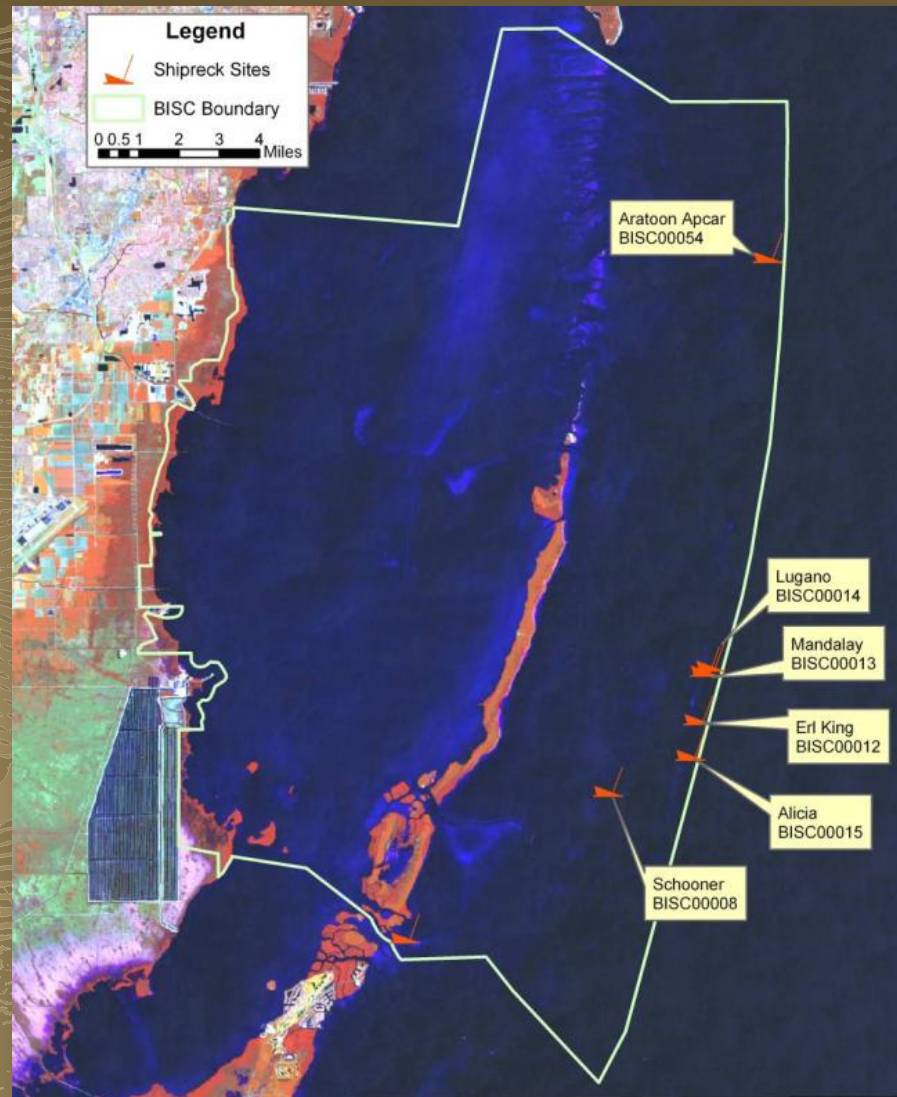
Red Grouper  
density

## Cultural Resources

- Are there cultural sites which should be included in the zone?



## Cultural Resources



- Submerged archeological sites
- Maritime Heritage Trail sites

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## Impacts on Park Users

- Impacts on snorkelers, divers, and other non-consumptive users
- Impacts on fishing community and other consumptive users



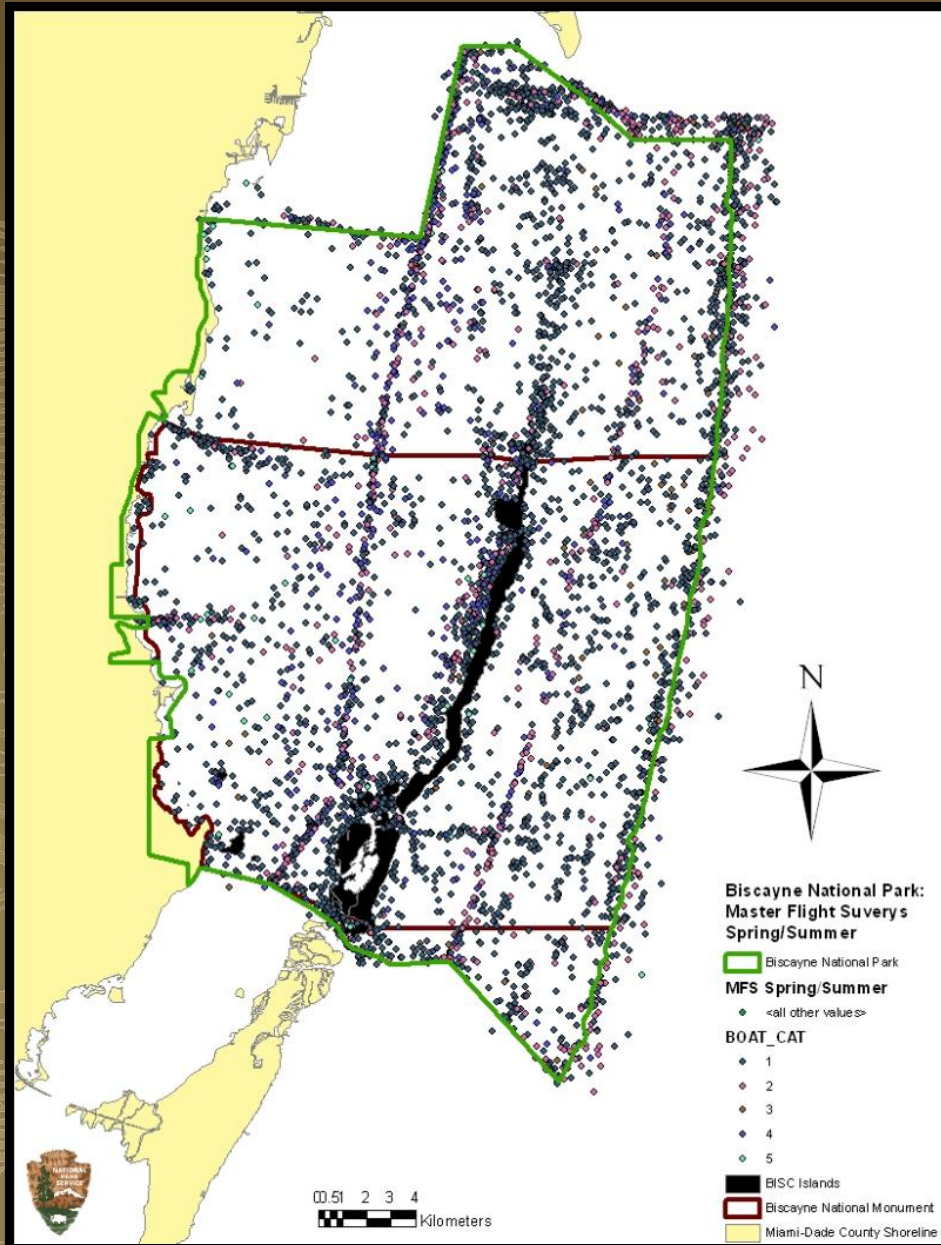


## Compliance and Enforcement

- Use zero lat/long lines or existing Aids to Navigation
- Easier to understand a single larger reserve than several smaller ones
- Public compliance and effective enforcement is essential for reserve success



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## Where do people go in the park?



## Total spring/summer boat use in the Park

## Connectivity

- Potential for connectivity between different habitats within the reserve
- Between multiple marine reserves and between reserves and non-reserves
- Consider how to provide benefit to species that depend on more than one habitat



Young parrotfish  
in seagrass



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## What Does the Public Think?

The park held several series of public meetings.

In one series of meetings, the public was provided with maps, data, criteria, and considerations and asked to develop maps for us. We received 46 maps for consideration





## Designing a MRZ for People

### Criteria:

- Coral structure
- Coral health
- Fisheries resources
- Cultural resources
- Impacts on park users
- Compliance
- Connectivity

### Other Considerations:

- Political and legal boundaries
- Existing aids to navigation
- Enforcement
- Visitor use and behavior
- Public outreach and comments



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## What are we proposing?

The proposed MRZ is approx 10,500 acres

7% of park's marine waters

30% of park's reef tract





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General Management Plan  
comment period is open  
until October 31<sup>st</sup>.



Go on-line and read about it  
And give us your comments  
By Halloween night !



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