



ALTERNATIVES FOR CORAL REEF ECOSYSTEM PROTECTION WITHIN BISCAYNE NATIONAL PARK

Marine Reserve Zone- Alternative 4

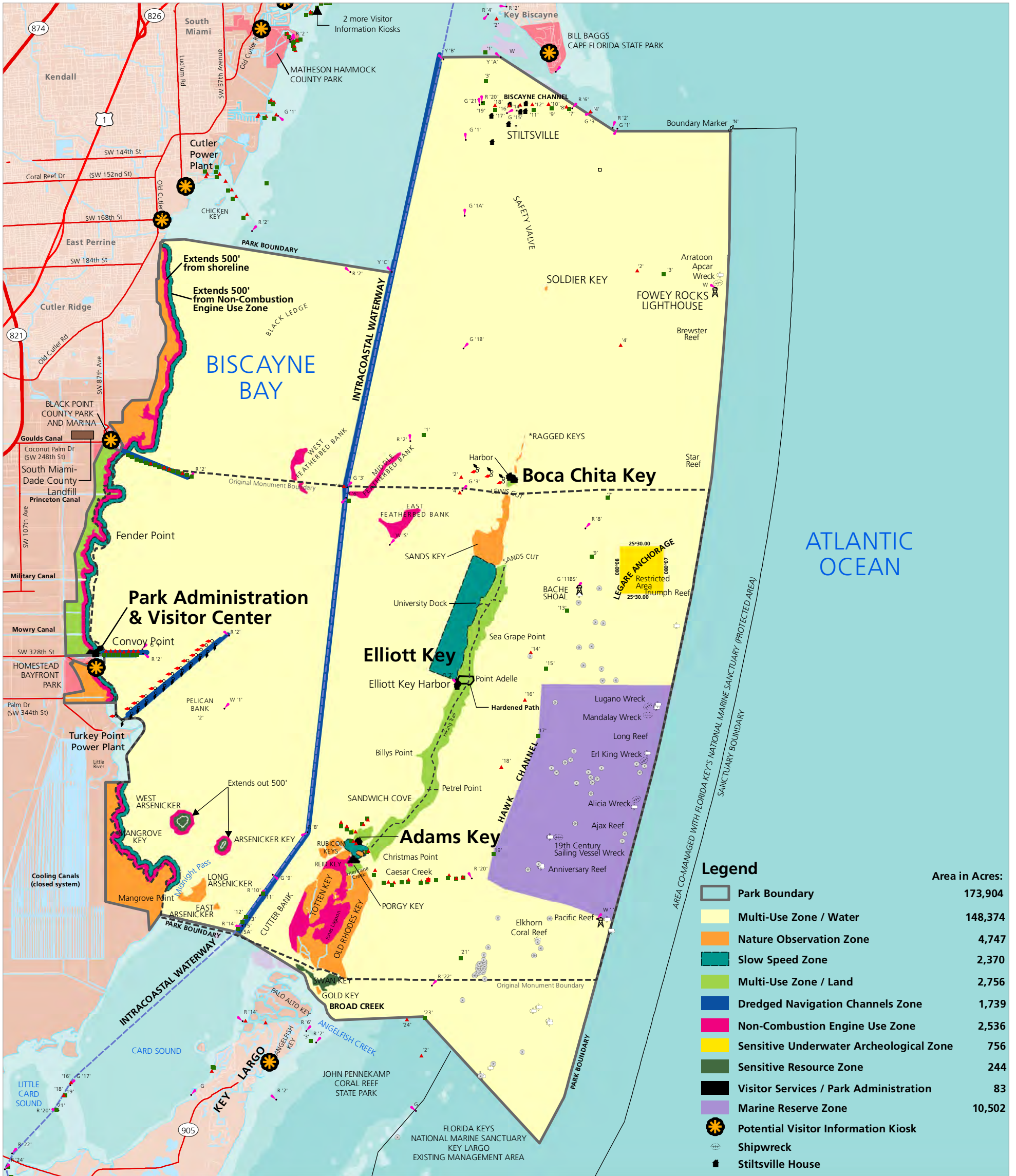
Description: The main objective for the marine reserve zone is to provide park visitors with “the opportunity to experience a healthy, natural coral reef, with larger and more numerous tropical reef fish and an ecologically intact reef system” and to protect a portion of Biscayne National Park’s threatened coral reef ecosystem. Within the MRZ, commercial and recreational fishing and anchoring would be prohibited but other activities, such as swimming, diving, and boating would continue to be allowed.

Size and Location: The proposed MRZ would cover approximately 7% of the park’s waters and less than 13% of the offshore reefs of the park. It would be located between Hawk Channel and the park’s eastern border, extending from Pacific Reef north to Long Reef and would cover 10,522 acres. The zone would protect 2,663 acres of the park’s coral reefs. It is located to the north of Caesar’s Creek.

Effectiveness: Scientific data indicates that no-take marine reserves are more effective at reducing mortality, particularly for reef species, than other management tools, including catch and release, slot limits, quotas, and seasonal closures. A marine reserve would accomplish three necessary goals: provide a protected area where declining reef fish can recover, provide an area to protect internationally endangered coral reef communities, and provide visitors with the opportunity to experience the wonders of a vibrant coral reef ecosystem.

Enforcement: Marine reserves are easy to enforce because the same rules apply to everyone using the area. Enforcement officials could easily observe those in violation of the zone’s regulations. When considering the limited and continually declining resources of the National Park Service, effective and inexpensive enforcement would greatly contribute to the success of resource conservation.

Feasibility: The rules of a marine reserve are simple: within its boundaries there would be no fishing, no taking of resources, and no anchoring. Because the rules are straightforward, it would be easier for park users to comply. Furthermore, the costs of implementing the reserve would be extremely low in comparison to other alternatives, perhaps only requiring the cost of installing mooring buoys.



0 1 2 Kilometers
 0 1 2 Statute Miles
 0 1 2 Nautical Miles
Map not for navigation

Note 1: Existing conditions and some features such as the locations of shoals, reefs, and shallow coral areas, may be considered unchanged.

Note 2: To show visually, the size of zone colors have been enlarged in certain areas.

Note 3: Some areas in the Park Boundary are not NPS owned but do not appear at this map scale. Zoning shown would not apply to non NPS lands unless they were acquired from a willing seller.

*RAGGED KEYS #2, #3, and #5 are Private Properties

Alternative 4

Biscayne National Park

United States Department of the Interior - National Park Service

DSC / October 2013 / 169 - 20056

Special Recreation Zone- Alternative 6

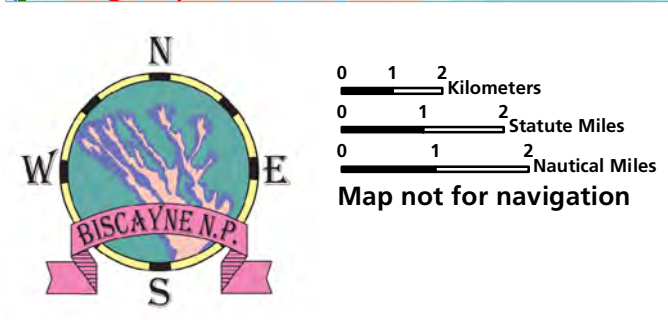
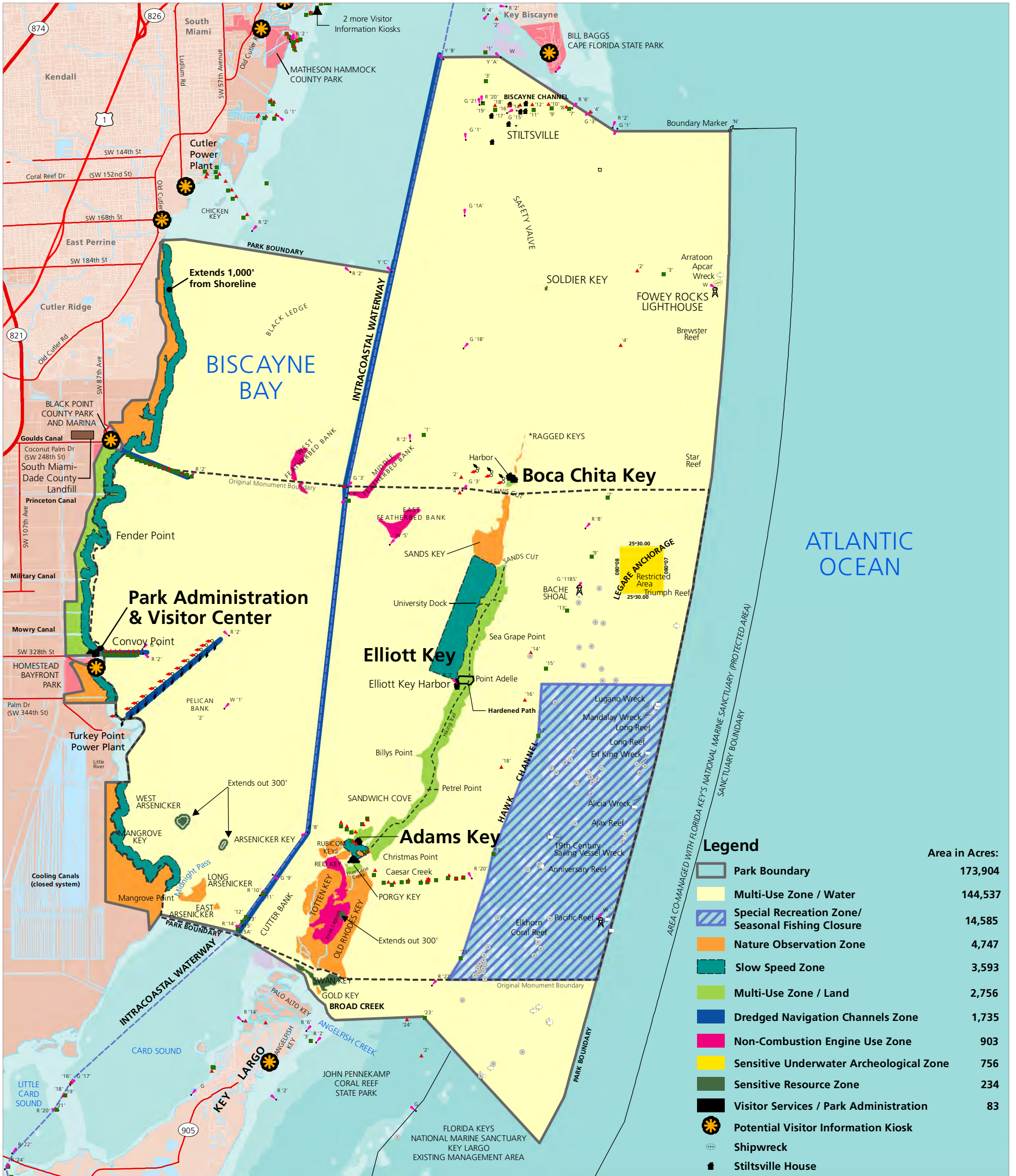
Description: The goal of the special recreation zone is to provide “a healthier coral reef ecosystem for a more enjoyable and diverse visitor experience,” while continuing to allow some recreational fishing. The SRZ would primarily limit fishing within the zone by the creation of a permit system, which would provide annual permits to 430 recreational anglers and 70 commercial guides via a lottery system. A number of additional limitations would be placed on fishing activities within the zone. The SRZ would be implemented using an adaptive management strategy that would monitor resource conditions and adjust regulations and permit numbers accordingly. If certain goals were not met in 10 years, the entire area would convert to a marine reserve zone.

Size and Location: The proposed SRZ would contain about 8% of the park, or 14,585 acres, and would extend from Hawk Channel to the park’s eastern boundary, extending two miles south of Pacific Reef north to Long Reef.

Effectiveness: Because the SRZ is a new and novel concept, it is scientifically untested and there is no scientific evidence or precedent to support claims that it will be effective.

Enforcement: The SRZ would be extremely difficult to enforce, as enforcement officials would need to approach each individual fishing within the area in order to determine whether or not they possessed the required permit and if they are following the specific list of regulations. Given current budget constraints and continuing cuts to park funding, enforcing this alternative is simply not feasible, which would likely lead to a high number of violations and the continued decline of park resources.

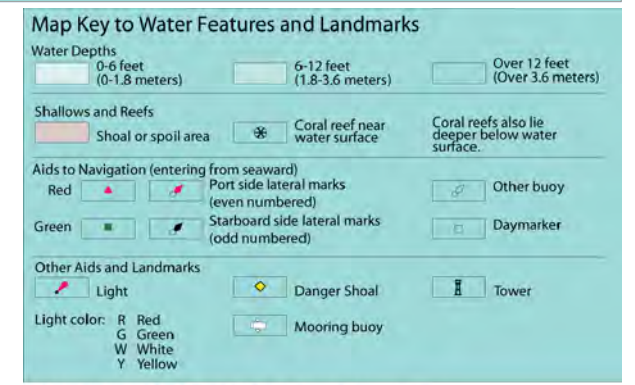
Feasibility: Effective implementation, enforcement, and frequent evaluation of the SRZ and the attendant permit system would be extremely costly and time-consuming and are not feasible given the limited resources and capacity of the National Park Service.



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Alternative 6

Biscayne National Park

United States Department of the Interior - National Park Service
 DSC / October 2013 / 169 - 20059

Special Recreation Zone- Alternative 7

Description: The goal of the SRZ is to provide “a healthier coral reef ecosystem for a more enjoyable and diverse visitor experience,” while continuing to allow some recreational fishing. Recreational fishing within the SRZ would be prohibited June-September. A number of additional limitations would be placed on fishing activities within the zone throughout the rest of the year. The SRZ would be implemented using an adaptive management strategy that would monitor resource conditions and adjust regulations and permit numbers accordingly. If certain goals were not met in 10 years, the entire area would convert to a marine reserve zone.

Size and Location: The proposed SRZ would contain about 8% of the park, or 14,585 acres, and would extend from Hawk Channel to the park’s eastern boundary, extending two miles south of Pacific Reef north to Long Reef.

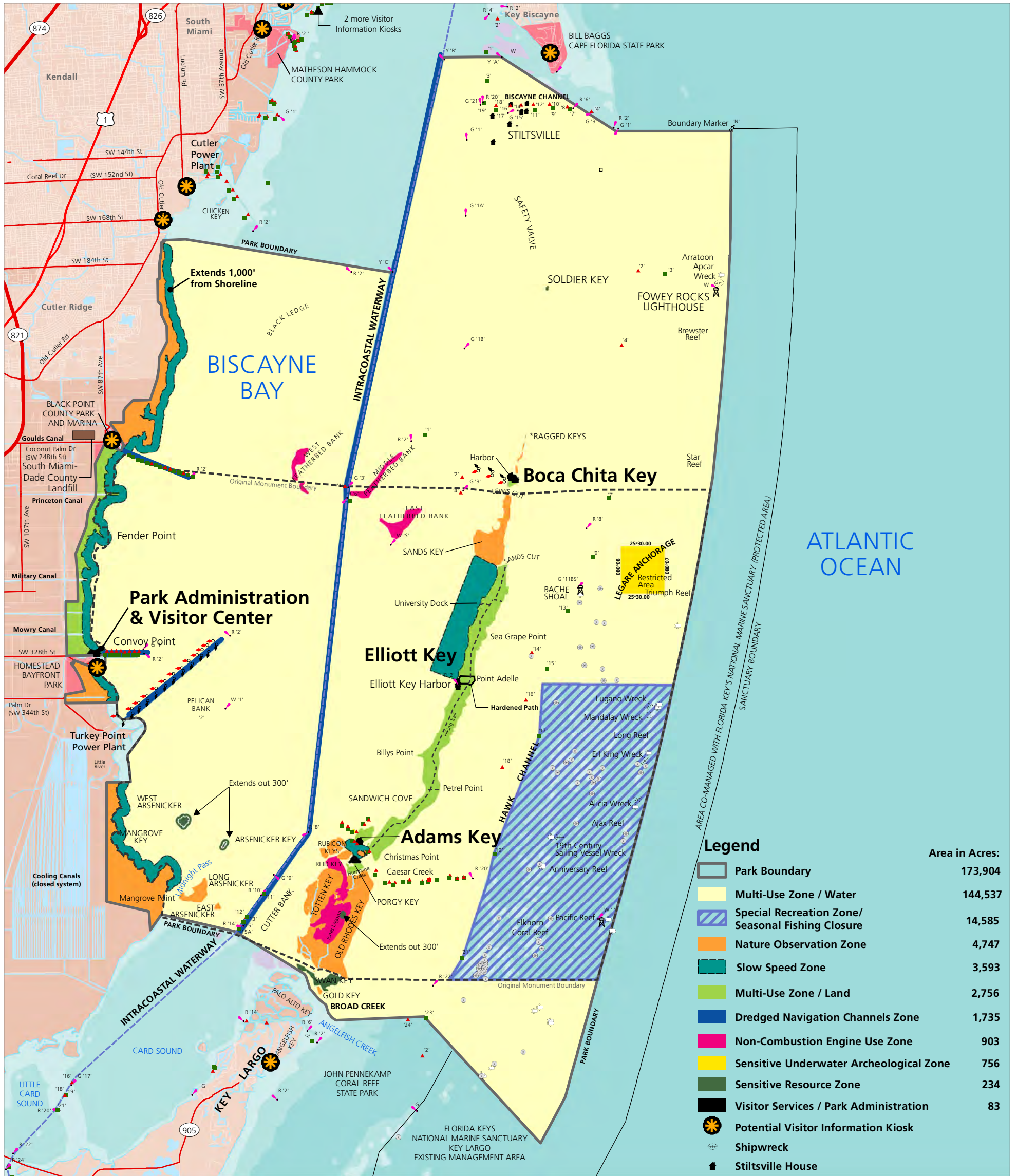
Effectiveness: Recreational fishing would be banned during the summer months when reef fish are already stressed by environmental extremes. When water temperatures are higher, the amount of oxygen in the water declines and fish have a hard time recovering if they are caught and released. While this alternative would provide some protection to coral reef ecosystem, fishing activities will continue largely uninterrupted for eight months a year. Protecting only 8% of the park a third of the time is not enough to stop the declining health of Biscayne’s coral reef ecosystems

Enforcement: The SRZ would be relatively easy to enforce during the summer months when it is a no-take area. During the rest of the year, enforcement would be moderately more difficult because of the additional fishing regulations that apply only to this area.

Feasibility: This option is feasible in terms of cost and implementation but compliance may be difficult due to a lack of understanding regarding regulations. The SRZ will also disproportionately affect local residents that use the park more frequently during the summer months. It is unlikely that this alternative will prevent the continued decline of Biscayne’s coral reef ecosystems given the limited amount of time the resources are protected.

For more information, please contact:

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Map Key to Water Features and Landmarks

| | | | |
|--|---|---|--|
| Water Depths | 0-6 feet (0-1.8 meters) | 6-12 feet (1.8-3.6 meters) | Over 12 feet (Over 3.6 meters) |
| Shallows and Reefs | Shoal or spoil area | Coral reef near water surface | Coral reefs also lie deeper below water surface. |
| Aids to Navigation (entering from seaward) | Red Port side lateral marks (even numbered) | Starboard side lateral marks (odd numbered) | Other buoy |
| Other Aids and Landmarks | Light | Danger Shoal | Tower |
| Light color: | R Red | G Green | W White |
| | Y Yellow | | Mooring buoy |

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Alternative 7

Biscayne National Park
 United States Department of the Interior - National Park Service
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