

## MARINE RESERVE ZONES

Biscayne National Park began the process of updating its General Management Plan in 2001. They are currently in the “Alternatives Development” phase of the planning process and have made adjustments to the initially proposed management zones. Additional scientific work and transitions within the management team at the park has resulted in changes to the locations and sizes of the proposed zones and to the alternatives within which they zones may be applied. A sound and documented scientific approach to the alternative zoning has been developed and will be used to explain the locations, sizes, and shapes for this zone, as presented throughout all alternatives. Particular attention has been placed on the proposed marine reserve zone, which was shown only in Alternatives 4 and 5

Criteria and other considerations for proposed marine reserve and monitoring objectives summarized in this report were developed over a series of two meetings held in 2008 with the park’s management team consisting of the superintendent and division chiefs, several resource management program managers, law enforcement rangers, and the NPS South Florida Caribbean Network Coordinator and marine ecologist.

### **Purpose and Objectives**

The purpose of the proposed marine reserve is to provide snorkelers and divers with the opportunity to experience an unfished reef, while not being so big as to completely eliminate the opportunities for fishing the park’s reef areas. The objectives of preserving an environment that supports larger fish, larger populations of fish, a larger diversity of fish species, and healthier diverse corals were determined to be as follows:

A no-take marine reserve would be expected to provide an improved visitor experience for divers and snorkelers while preserving intact ecological communities and reducing the impacts of fishing to organisms and benthic habitats. The proposed marine reserve should be large enough to accommodate many dive sites with enough mooring buoys that would not only protect reefs from anchor damage but also provide an uncrowded snorkel or dive experience, with the ability to relocate mooring buoys to other equally suitable locations should reef monitoring indicate that sites are being impacted to an unacceptable level.

Several draft criteria were recommended by the planning team for selecting appropriate locations including:

- Reefs at risk of loss or damage.
- Types of reef structure that park visitors want to experience.
- Impacts on fishing community.
- Impacts on snorkelers, divers, and other non-consumptive user groups.
- Enforcement issues - Enforcement is easier with visual markers, and with “zero” lat/long lines that are clearly marked on maps and GPS. Several small no-take areas would be much more difficult to enforce than one larger area.
- Potential for connectivity with other protected areas (existing or future) - The Florida Keys National Marine Sanctuary could be approached regarding designation of deep-water reserves adjacent to the park’s proposed reserve.

- Qualitative and/or quantitative comparisons of locations on park map - The U.S. Coral Reef Task Force recommends that 20% of each marine protected area should be a no-take reserve.

### **Science Data**

Various data layers were used to determine sizes, shapes, and locations of possible marine reserve areas. The data layers used were:

- Benthic habitat maps
- Percent cover of live coral
- Fish species richness
- Targeted fish species densities
- Boating use data
- Aids to navigation – existing and proposed

Public input and engagement is an important part of designing any management plan. Successful implementation of various management zones will require public support and stewardship gained through outreach and education programs.