

Conserving Marine Resources in Florida

Ocean Governance,
Ecosystem-Based Management and
Marine Protected Areas

David J. White, Esq.

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Florida Constitution

Article X, Section 16 (1994)

“The marine resources of the State of Florida belong to all of the people of the state and should be conserved and managed for the benefit of the state, its people, and future generations.”

Ocean Governance in Florida

State Waters

- Florida Fish and Wildlife Conservation Commission (FWC)
- Governor and Cabinet (Trustees for the Internal Improvement Trust Fund)
- Florida Department of Environmental Protection (DEP)

Florida Governor's Ocean Committee (1999)

- Florida's Ocean Assets
- Florida's Ocean Challenges
- Florida's Ocean Strategies

Florida Governor's Ocean Committee

Strategy For Achieving and Sustaining Diverse Marine Ecosystems:

“Explore the impacts and benefits of marine protected area management regimes such as limited-use areas, seasonal harvests, and no-take/no-fishing marine reserves on ocean resources and resource users.”

Implementing Agency: FWC

Florida Governor's Ocean Committee

Strategy For Achieving and Sustaining Diverse Marine Ecosystems:

“Based on research, develop criteria for marine protected areas. Following the precautionary principle, the state should not wait for perfect information before implementing protected area management techniques.”

Implementing Agency: FWC

Florida Oceans and Coastal Resources Act (2005)

“Florida’s marine biodiversity at the species, natural community, seascape and regional levels must be protected by restoring, rehabilitating, and maintaining the quality and natural function of ocean and coastal resources through an ecosystem-based management approach”

HB 1855, amending Part IV of Chapter 161, F.S.

State Policy on Marine Fishing

“The Legislature hereby declares the policy of the state to be management and preservation of its renewable marine fishery resources, based upon the best available information, emphasizing protection and enhancement of the marine and estuarine environment in such a manner as to provide for optimum sustained benefits and use to all the people of this state for present and future generations.”

Marine Fisheries: Policies and Standards, Section 370.025, F.S.

DEP State Aquatic Preserves “Place-Based Conservation”

“It is the intent of the Legislature that the state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value, as hereinafter described, be set aside forever as aquatic preserves or sanctuaries for the benefit of future generations.”

Section 258.36, F.S.

DEP State Aquatic Preserves “Place-Based Conservation”

The Legislative intent is to maintain natural conditions, promote the propagation of fish and wildlife, and preserve public recreation within aquatic preserves so that the aesthetic, biological, and scientific values of these areas “may endure for the enjoyment of future generations.”

Chapter 18, Section 20.001, FAC

Marine Protected Areas (MPAs)

“Any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment.”

IUCN — The World Conservation Union. 1988. Resolution 17.38 of the 17th General Assembly of the IUCN. Gland, Switzerland and Cambridge, UK: IUCN.

MPAs in the U.S.

National Marine Sanctuaries

National Parks

National Wildlife Refuges

National Monuments

Fishery Closures

State Parks and Beaches

Dozens of other designations

Marine Reserves:

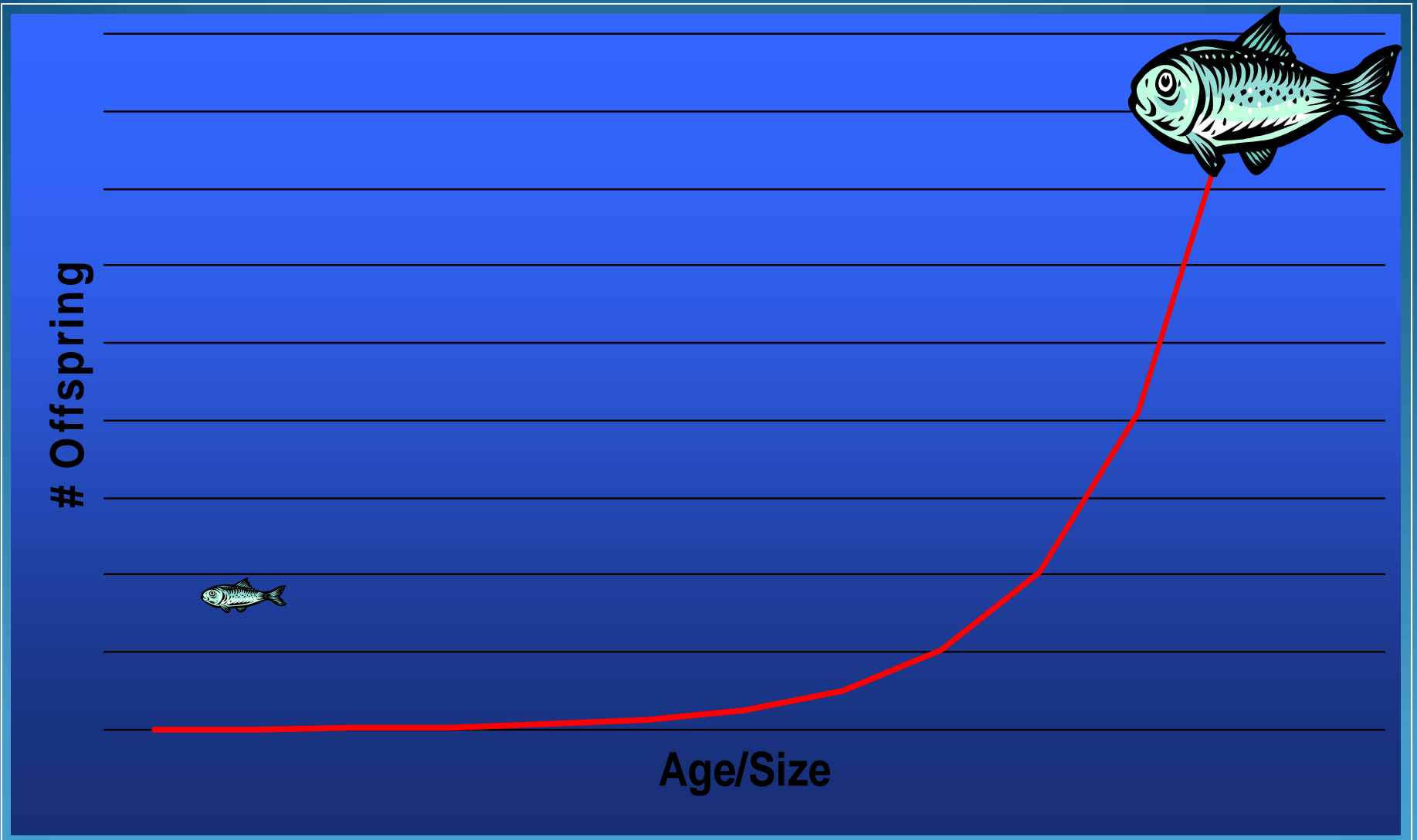
(Ecological Reserves, No-Take Areas)

“Areas of the sea completely protected from all extractive activities. Within a reserve, all biological resources are protected through prohibitions on fishing and removal or disturbance of any living or non-living marine resource, except as necessary for monitoring or research to evaluate reserve effectiveness.”

Ecological Effects of Marine Reserves...

- Result in long-lasting and often rapid increases in abundance, diversity and productivity of marine organisms
- Provide refuge for vulnerable species
- Prevent habitat damage and promote habitat recovery
- Provide a critical benchmark for evaluation of other impacts
- Facilitate ecosystem recovery after major human or natural disturbances

Bigger Fish Make More Little Fish



Florida Fish and Wildlife Conservation Commission

“Marine Protected Areas go
against everything the
Commission stands for.”

Commission Chair Edwin Roberts

FWC Meeting March 2003

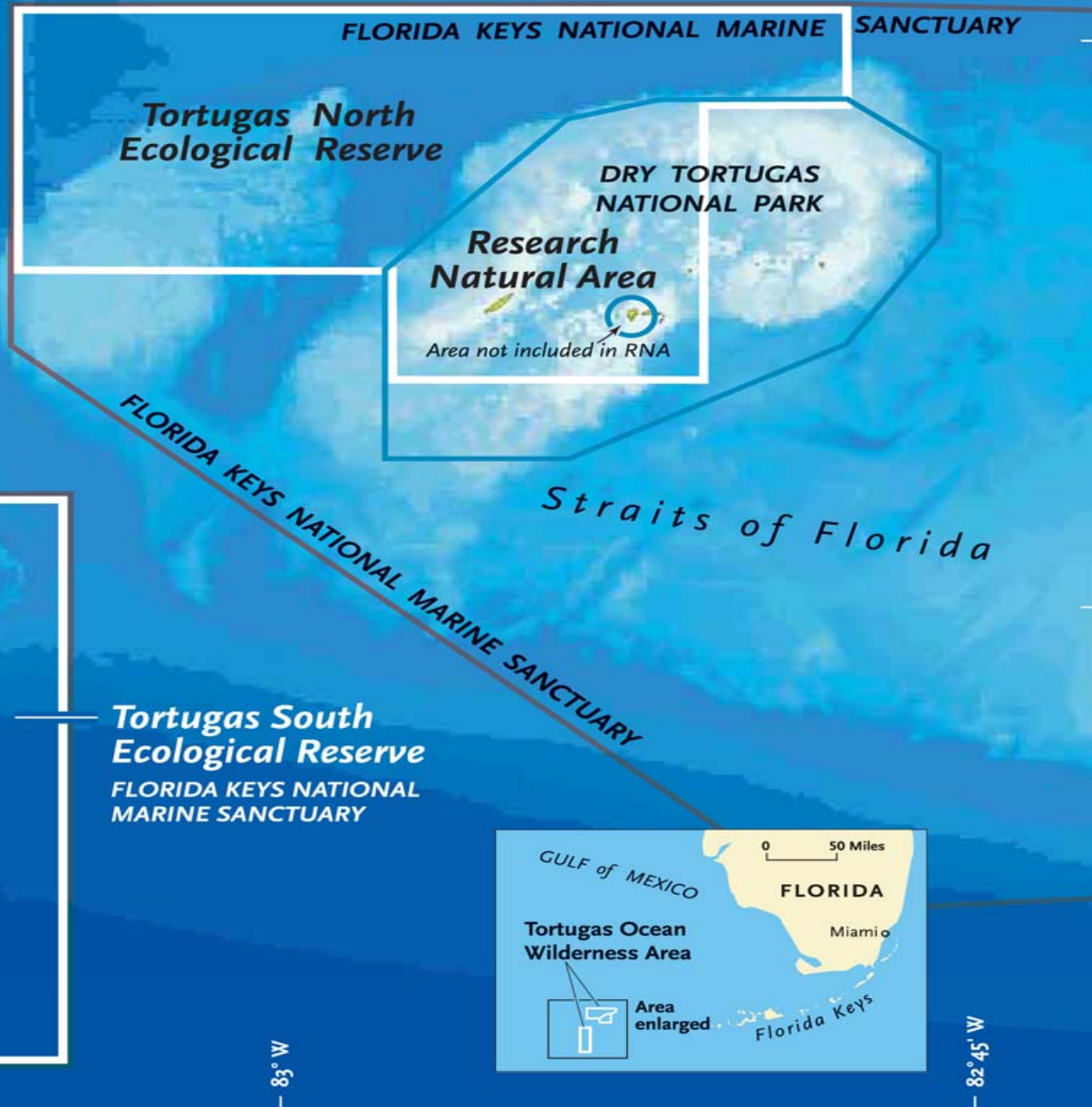
Tortugas Ecological Reserve and Research Natural Area

— 24°45' N



0 2 Miles

— 24°30' N



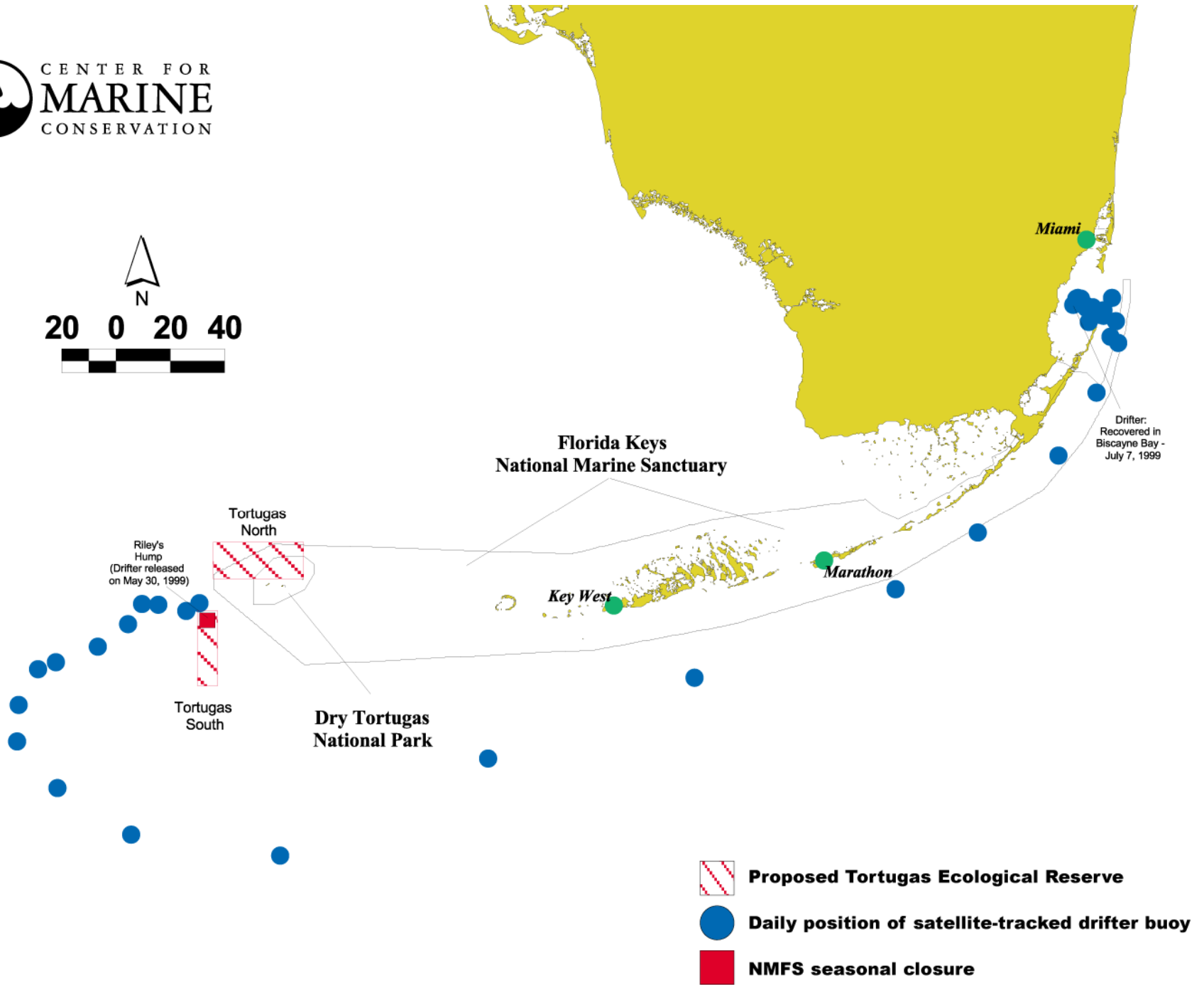
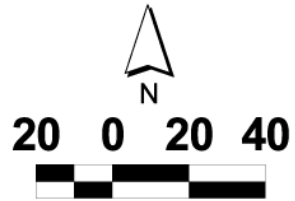
Tortugas South Ecological Reserve
FLORIDA KEYS NATIONAL MARINE SANCTUARY



— 83° W

— 82°45' W





Biscayne National Park

Biscayne National Park includes over 180,000 acres of marine habitats, the largest marine park under the protection of the National Park Service



Biscayne National Park

General Management Plan (1983)

Managing Marine Resources:

“The intent of managing commercial and sport fishing within the park will be to sustain a composition of native marine populations similar to that which existed prior to fishing pressures.”



South Florida Fishing Trends: 1964-1998

400% increase in
“fishing power”

444% increase in
recreational boats



Biscayne National Park

“Shifting Baselines”

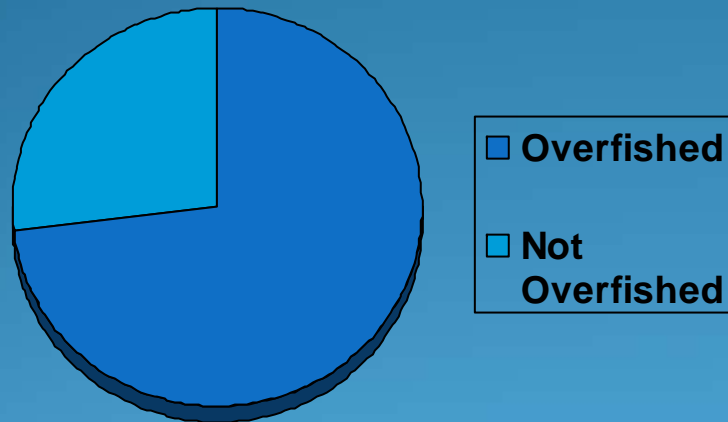
Then: “When I first got here 27 years ago, it was gorgeous. There were fish all over the place, lobster all over the place. The Park was teeming with fish and vibrant corals.”

Now: “The whole system is in jeopardy - there’s no question.”

Richard Curry, BNP Chief Research Coordinator
(Washington Post, October 18, 2004)

Biscayne National Park

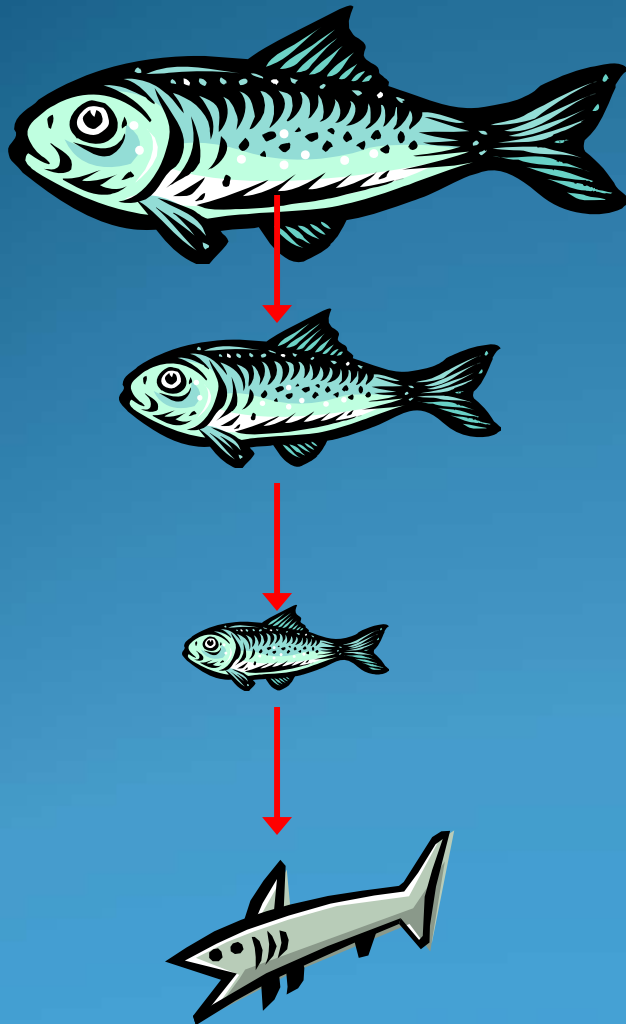
77% of 35 Stocks Overfished



- Stock biomass critically low for most of key targeted species in recreational fishery
- Example: Current fishing mortality for grouper is 3-10 times MSY.
- Some stocks chronically overfished since at least late 1970s

Source: Ault *et al.* May 2001. Site Characterization for Biscayne National Park: Assessment of Fisheries Resources & Habitats. University of Miami, Center for Sustainable Fisheries.

Biscayne National Park



- “Serial Overfishing” toward smaller, less desirable species
- As much as 70% of catch (yellowtail, mutton snapper) is below min. legal size
- 13 of 35 species have min. legal size set lower than min. size of sexual maturity (i.e., captured before they have a chance to spawn)

Biscayne National Park

- The average size of black grouper is now 40% of what it was in 1940 and the spawning stock is now less than 5% of its historical unfished maximum.
- The extremely poor status of reef fish resources (BNP is the worst situation in the entire Keys) signals imminent resource collapses.

Source: Ault *et al.* May 2001. Site Characterization for Biscayne National Park: Assessment of Fisheries Resources & Habitats. University of Miami, Center for Sustainable Fisheries.

Biscayne National Park

Report Conclusion:

“Without some type of immediate proactive fishery management in Biscayne National Park, collapse of many important fisheries resources is imminent.”

Biscayne National Park

NPS/FWC Memorandum of Agreement (2002)

“Both parties recognize the FWC’s belief that marine reserves are overly restrictive and that less-restrictive management measures should be implemented during the duration of this MOU. Consequently, the FWC does not intend to implement a marine reserve in the waters of the Park unless both parties agree it is absolutely necessary.”

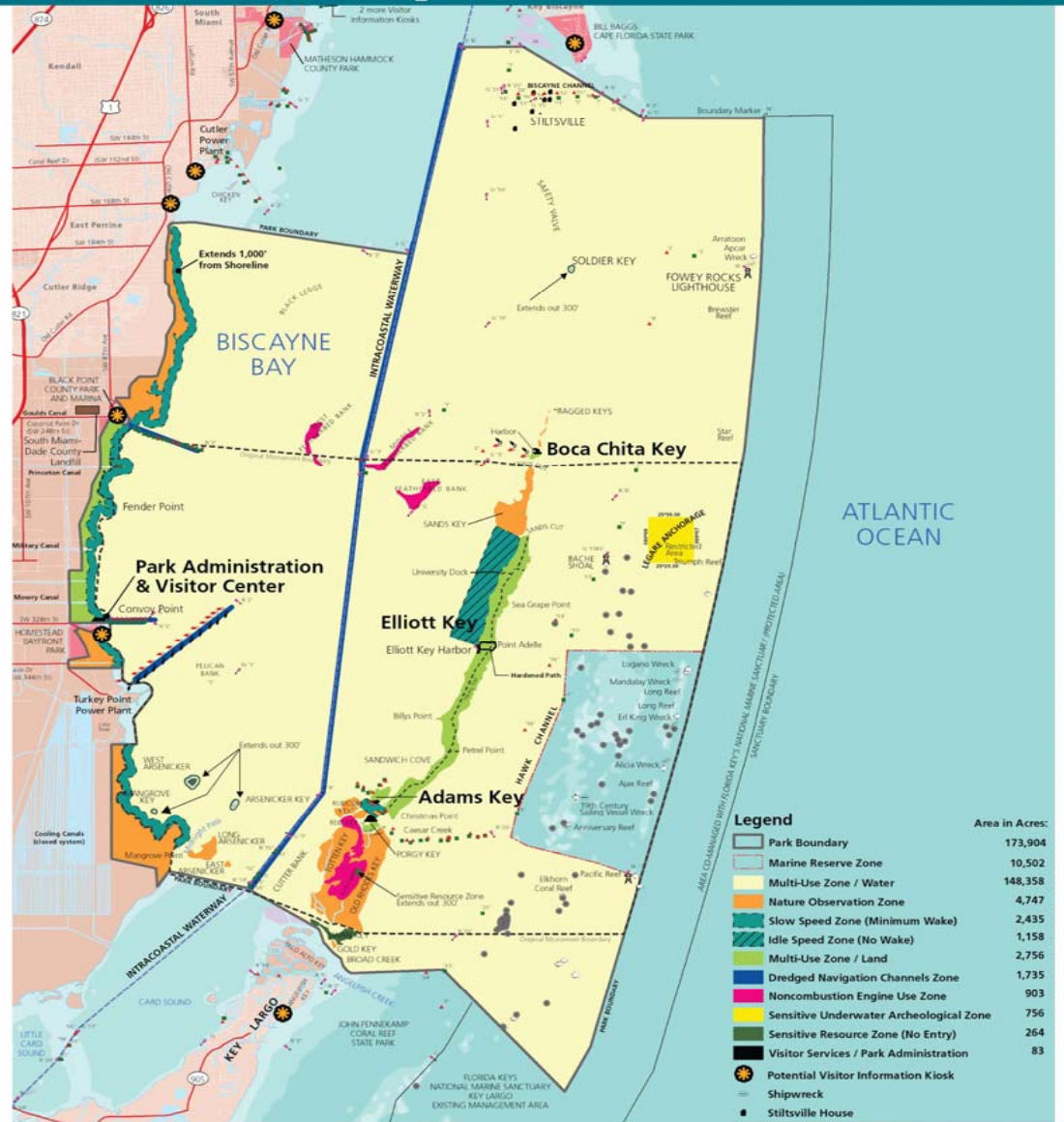
Biscayne National Park

Draft Fisheries Management Plan (2006)

“Following decades of significant recreational and commercial fishing pressure and related habitat impacts, the restoration of BISC’s marine ecosystem to historical, ‘natural’ levels will not occur under any of the alternatives discussed in this DEIS. More stringent management actions, such as the establishment of marine reserves, would be required to protect and conserve ecosystem biodiversity, function, and services, and to begin to restore fishery-impacted ecosystems to natural levels.”

Biscayne National Park

General Management Plan (2015)



0 1 2 Kilometers
0 1 2 Statute Miles
0 1 2 Nautical Miles

Map not for navigation
The NPS makes no warranty, express or implied, related to the accuracy or content of this map.

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.

Map Key to Water Features and Landmarks

Water Depths
0-4 feet (0-1.2 meters) 5-12 feet (1.5-3.6 meters) Over 12 feet (Over 3.6 meters)

Shoals and Reefs
Shoal or spoil area Coral reef near water surface Coral reefs also lie deeper below water surface

Aids to Navigation (centering from starboard)
Red: Port side lateral marks (even numbered) Other buoy
Green: Starboard side lateral marks (odd numbered) Daymarker

Other Aids and Landmarks
Light: Light Danger Shoal Tower
Light color: R: Red G: Green W: White Y: Yellow

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

Managing Marine Resources on an Ecosystem Basis

- Removing even small numbers of fish and other organisms can have cascading effects or other impacts on ecosystems
- Move away from policies that focus narrowly on individual species or components – potentially at the expense of others – that have perpetuated a failed approach of disconnected, piecemeal management
- Take an ecosystem approach that supports all elements in the ecosystem, recognizing complex interactions, such as predator/prey relationships, land-sea interactions, etc.

A New Ocean Ethic

Oceans valued as more than seafood factories

All species valued

Fragility, linkages of ecosystems recognized

Stewardship seen as paramount goal

