

# Managing Impacts to Coastal and Submerged Resources in Virgin Islands National Park and Coral Reef National Monument

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Virgin Islands National Park/Coral Reef National Monument

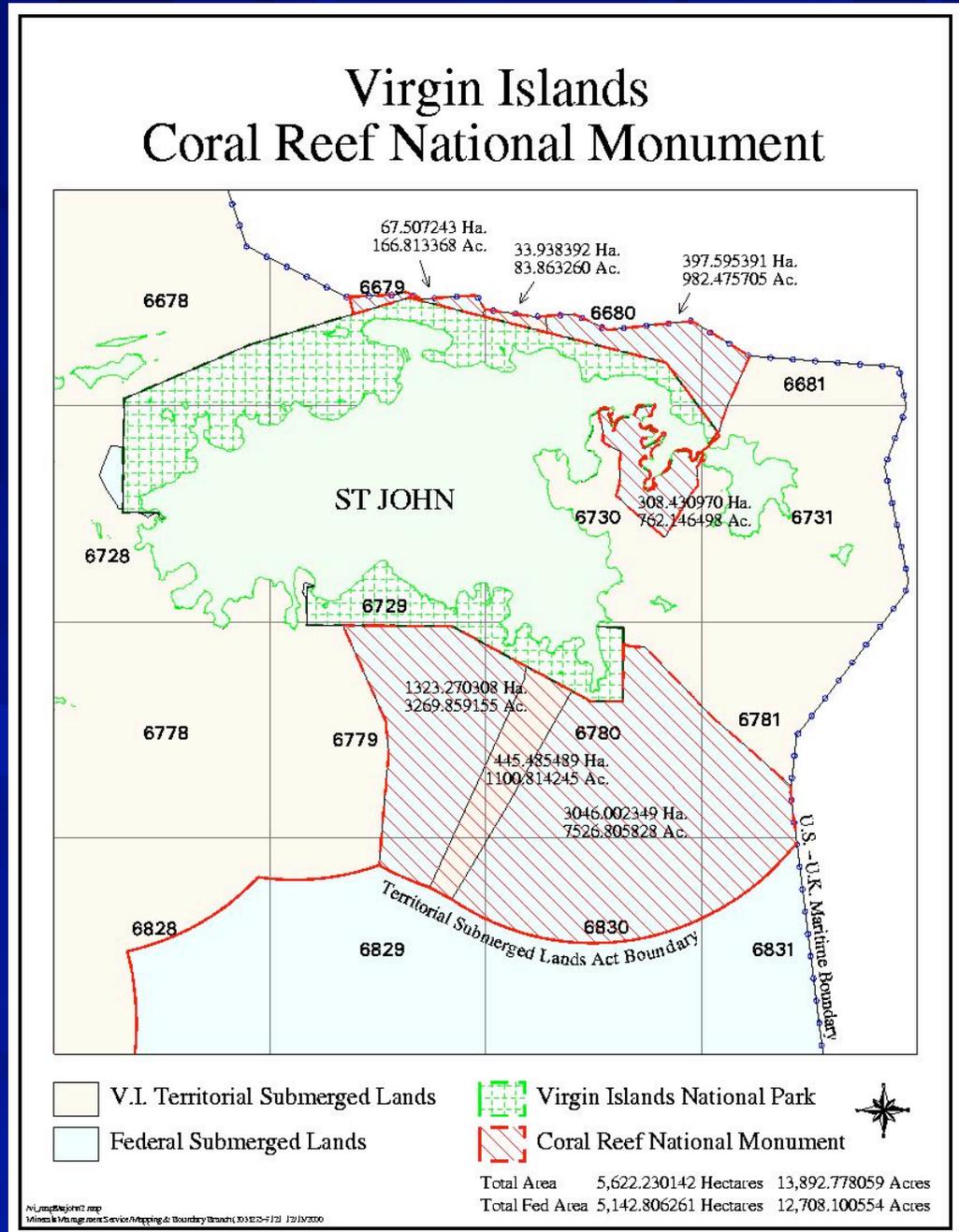
PRDNER August 2008

**National Park Service**



# V.I. National Park and Coral Reef National Monument

VINP – 5,650 acres SL,  
7,500 acres Upland  
VICRNM – 12,708 acres SL



# St. John: A Small Tropical Island



12,580 acres (48 km<sup>2</sup>)

VIIS: Almost 60% of St. John

Approx. 5000 residents

Approx. 1,000,000 visitors/yr



**HELP!!!!**  
**WE ARE BEING**  
**“LOVED” TO**  
**DEATH.**

Need to develop approaches to protect:

- Seagrass Beds and Coral Reefs
- Mangroves

These have required different levels of community/user involvement

# Coral Reefs and Seagrass Beds

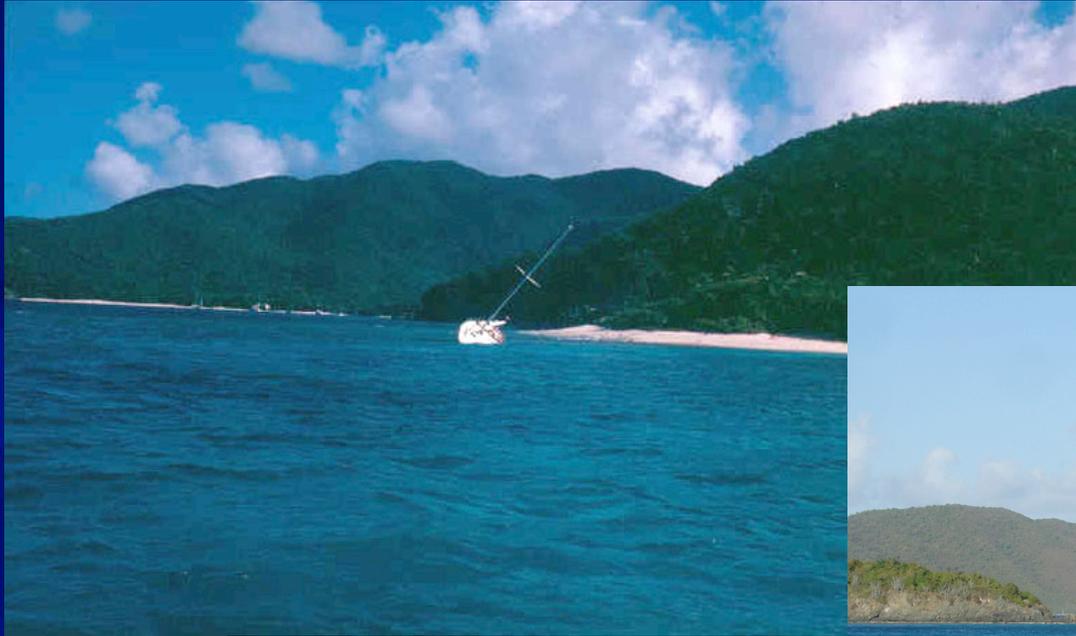


Similar visitor issues

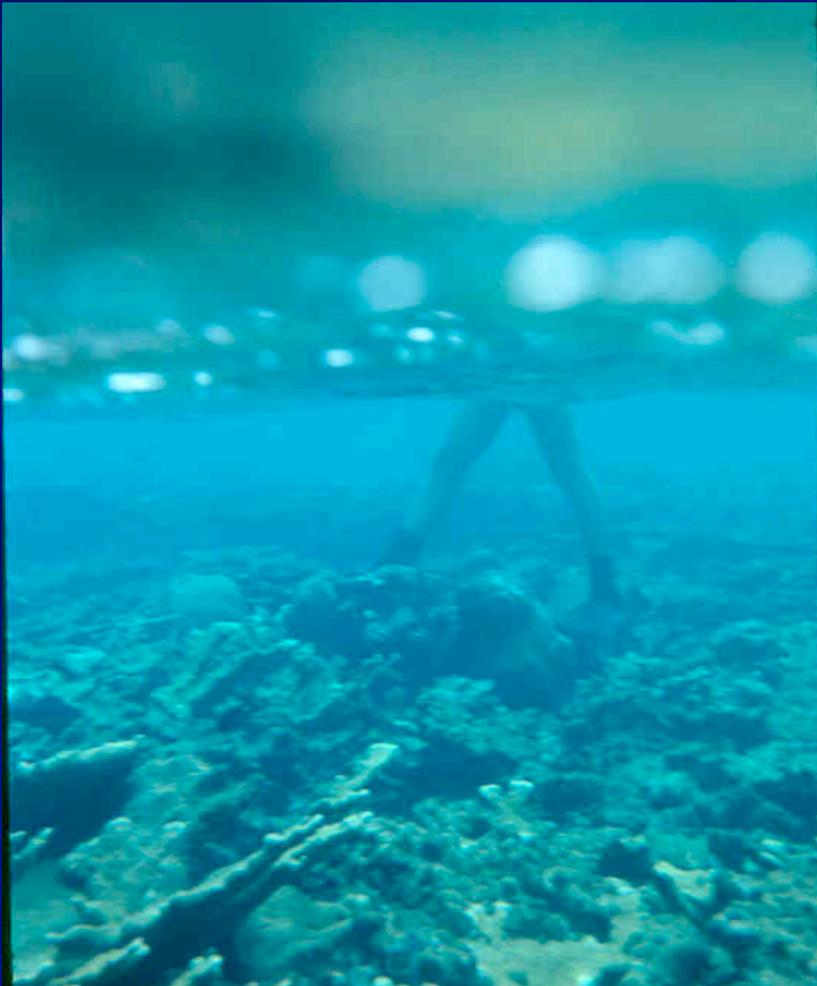
# Impact from anchors



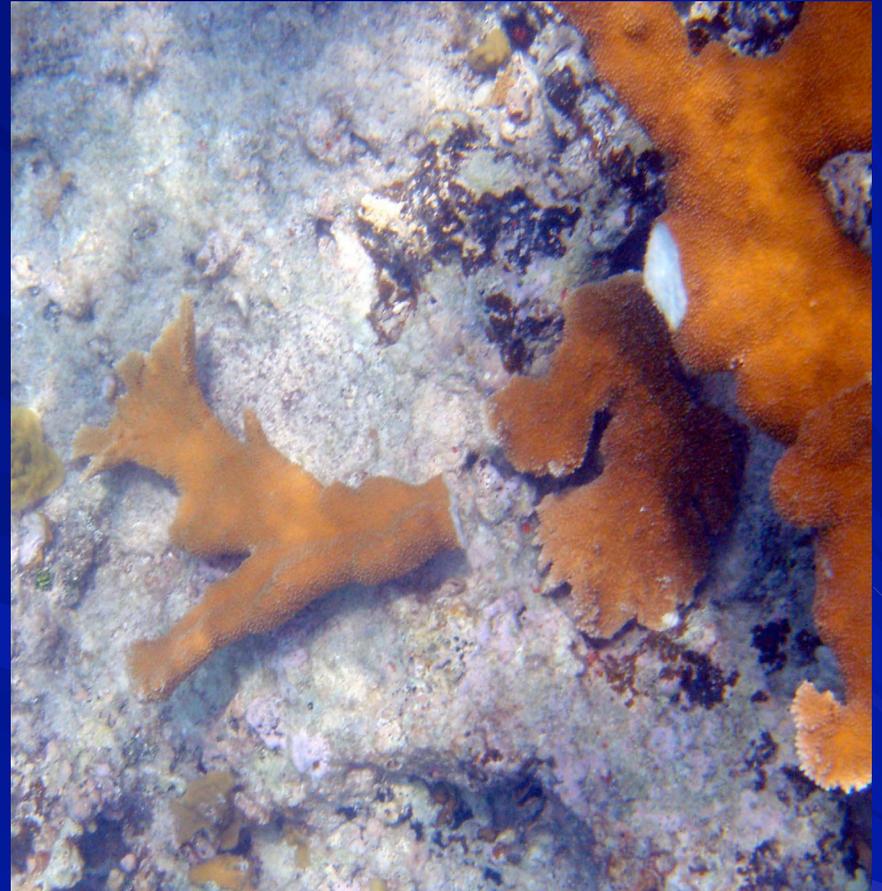
# Boat groundings



# Careless actions

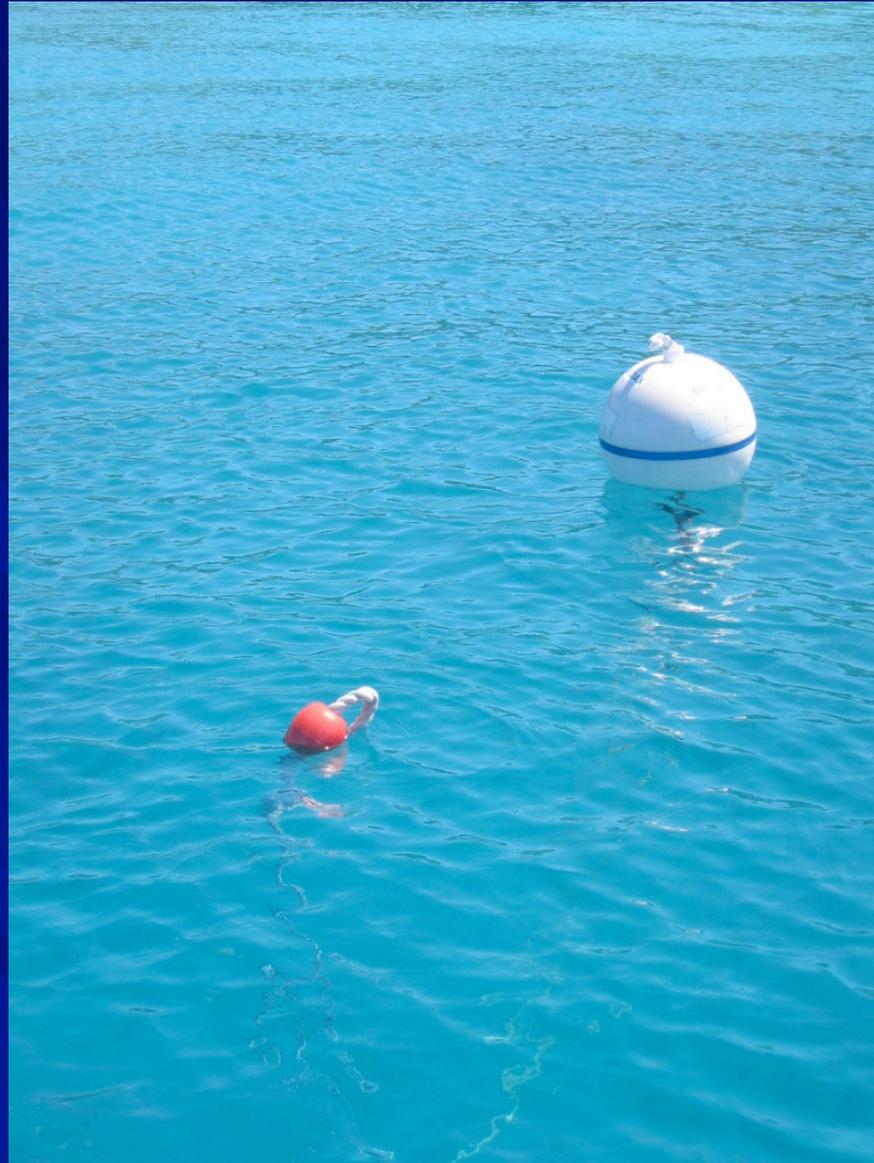


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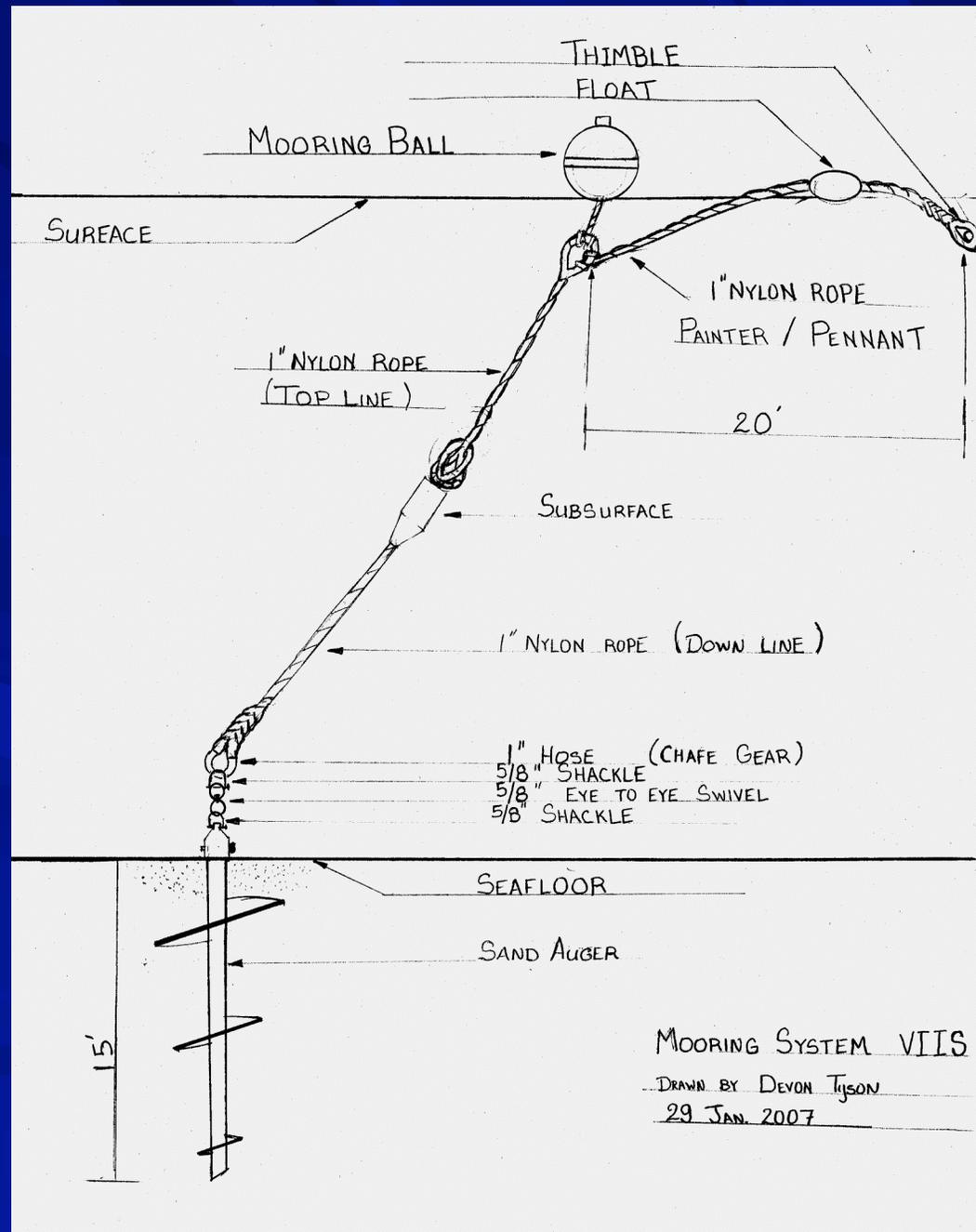


Education and possible limited access to shallow reefs (T&E species)

# Moorings – in lieu of an anchor



# Mooring installation in sand



# Regulatory Buoys – no boats



# Floating Objects



# Coral Reef/Seagrass Protection (VINP/VICR)

## ■ Mooring Program

- Overnight/day use – 223 (11 VICR)
- Diving – 8 (2 VICR)
- Fishing – 6 (VICR)

## ■ Regulatory Buoys – approx. 150

## ■ Special Protection Buoys

- Boundary - 3
- Johnson's Reef – 5

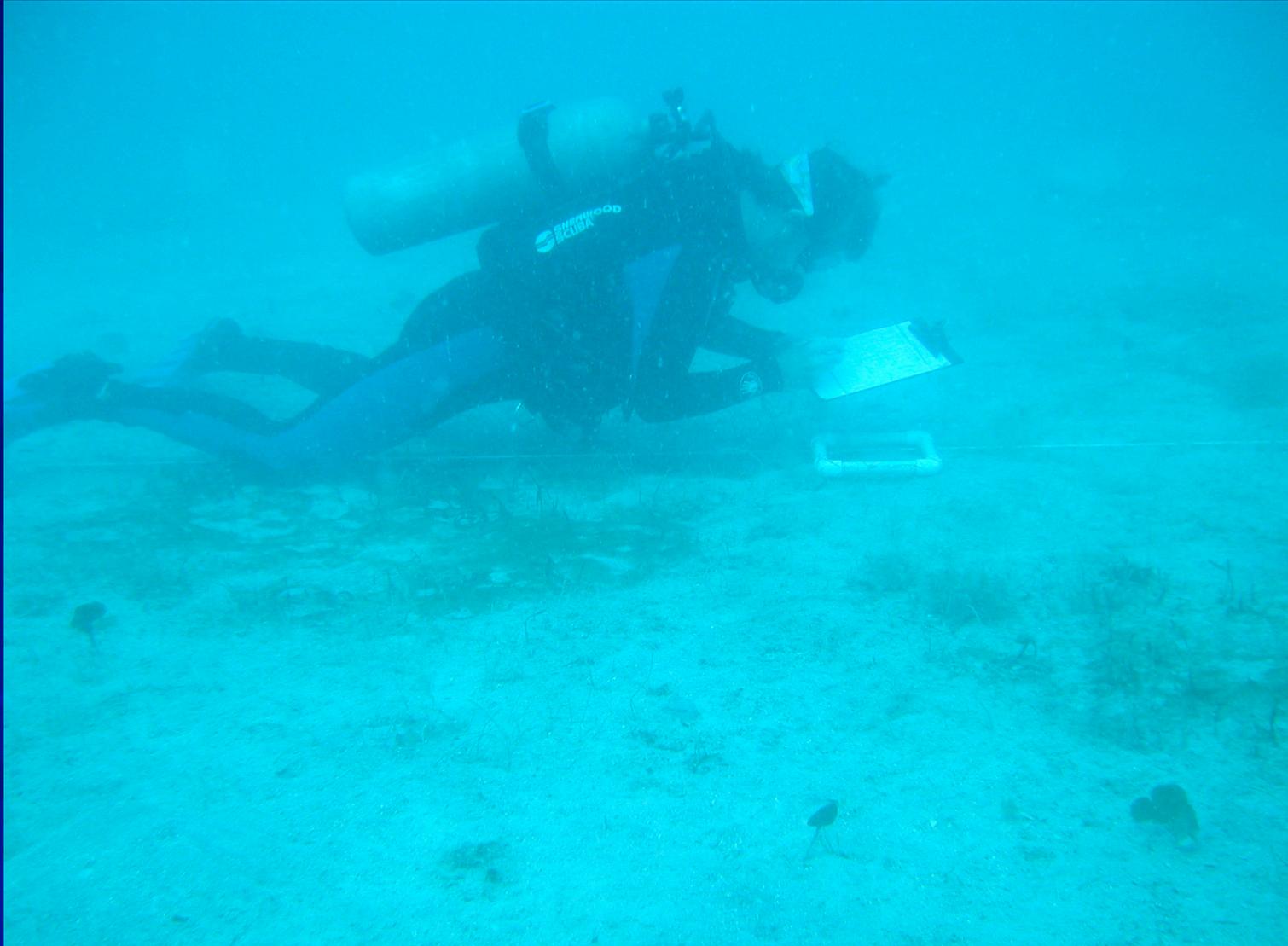


# Moorings and other buoys:

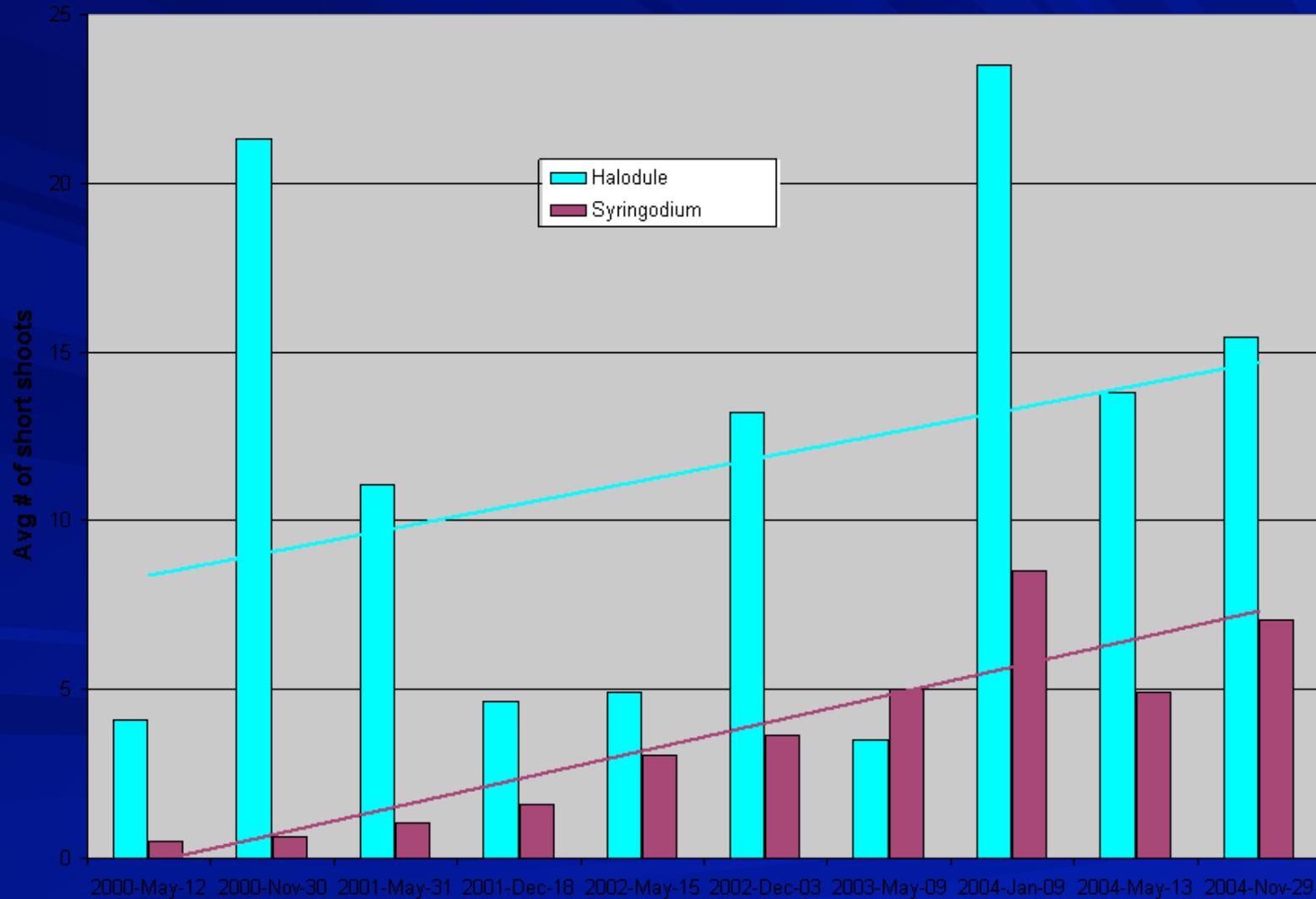
- Involved considerable public involvement re location/numbers
- Have incorporated numerous suggestions from boating public to improve system
- Has generated sufficient Fee money to cover most maintenance costs
- Use of Bay Hosts has increased compliance
- Best compliance with floating fee pay stations
- Overall - has worked!!!



# Seagrass Recovery



# Maho Bay Mooring #129 (2000-04). Avg. # short shoots/20 cm<sup>2</sup> quadrat (N = 40)



# VICR/Hurricane Hole – mangrove protection – biggest challenge



# Mangroves



# Mangroves – Nursery Value



# Hurricane Refuge



# Traditional Storm Refuge – Tied to the Mangroves



# When things go bad...



There is a need to protect both boats and resources

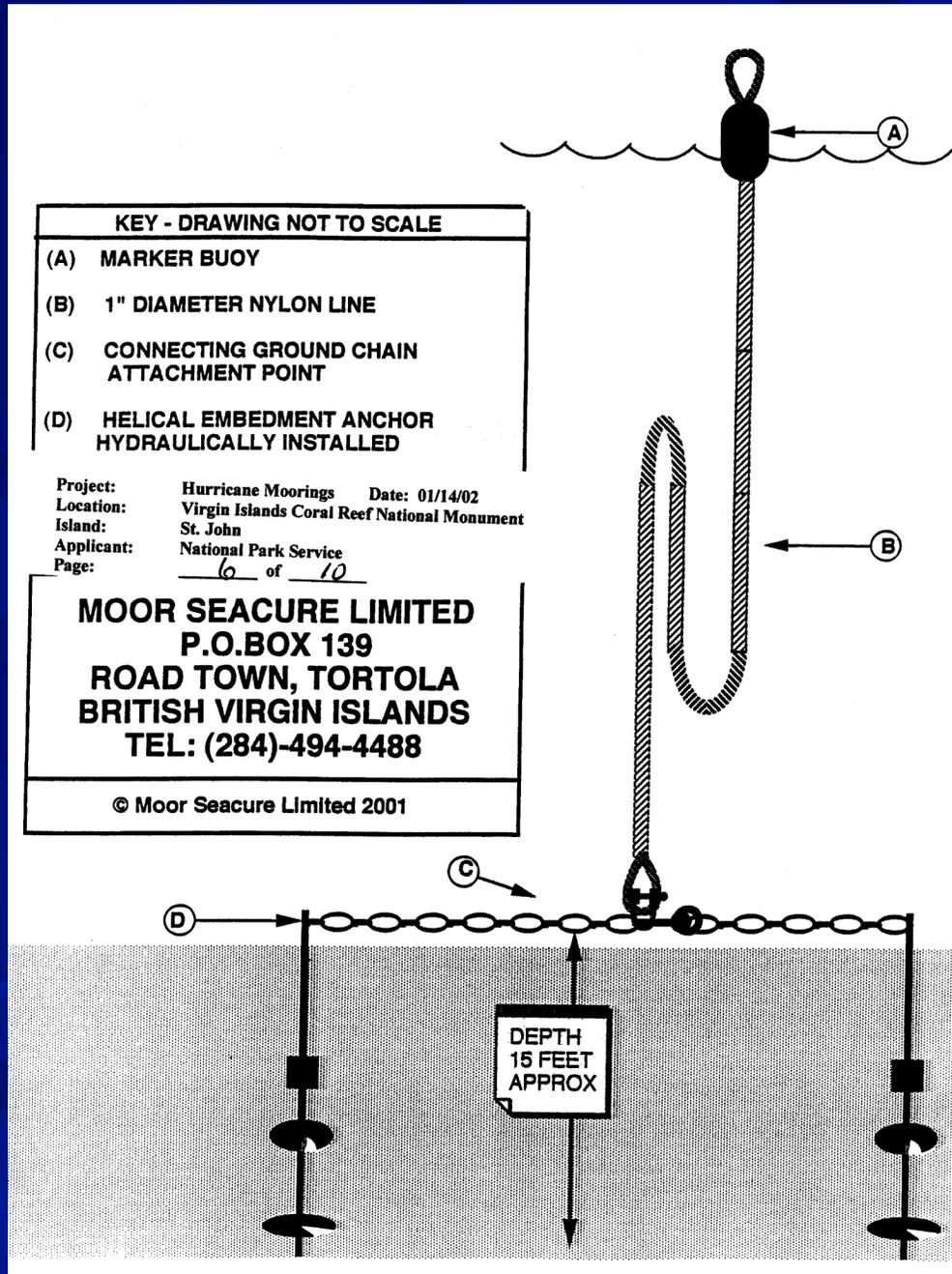
# The Process

- Early 2001 – started discussing storm mooring idea with boating community. Took groups to HH look at possibilities.
- Established Sounding Board (8-12 rep. boaters) – met numerous times throughout process.
- Numerous meetings with local yacht clubs to get input.
- Met with Delegate to Congress and fishermen to discuss plans.
- Mid 2002 – released draft EA. Approx. 3 dozen comments.
- 2003 – considerable controversy but worked with various groups and individuals on understanding need for action.
- Late 2004 – released final EA/FONSI. General buy-in from nearly all involved groups.

# Implementation

- **Early 2005** – Installed first phase of storm moorings (45)
- 2005 – 99 boats registered
- 2006 – 111 boats registered
- **May 2007** – Installed next phase (45)
- 2007 – 119 boats registered
- 2008 – 90+ boats registered so far
- **Dec 2008** – To install last phase (35)

# Hurricane Mooring Schematic



# Storm Mooring Details

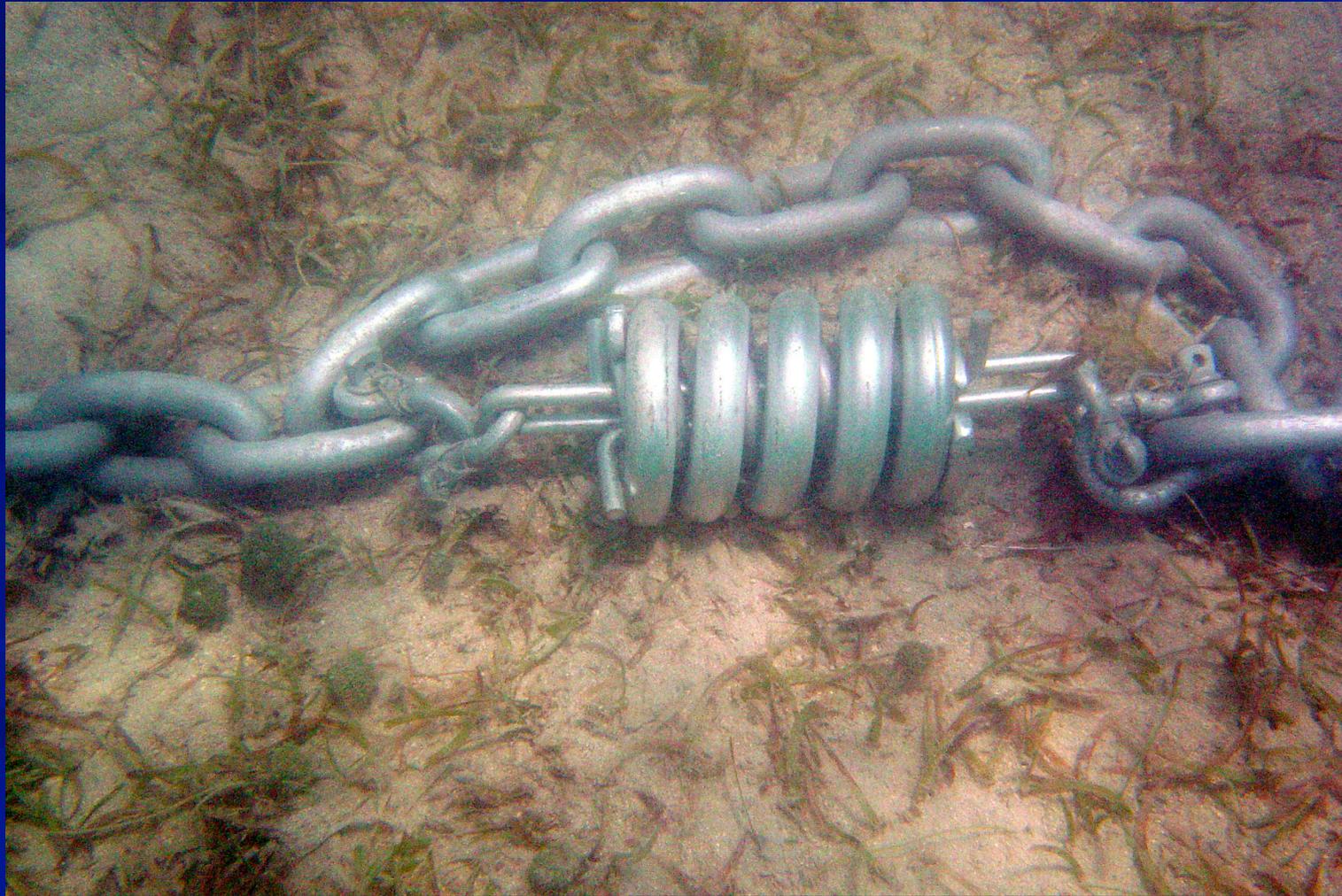


Delivery

Assembly



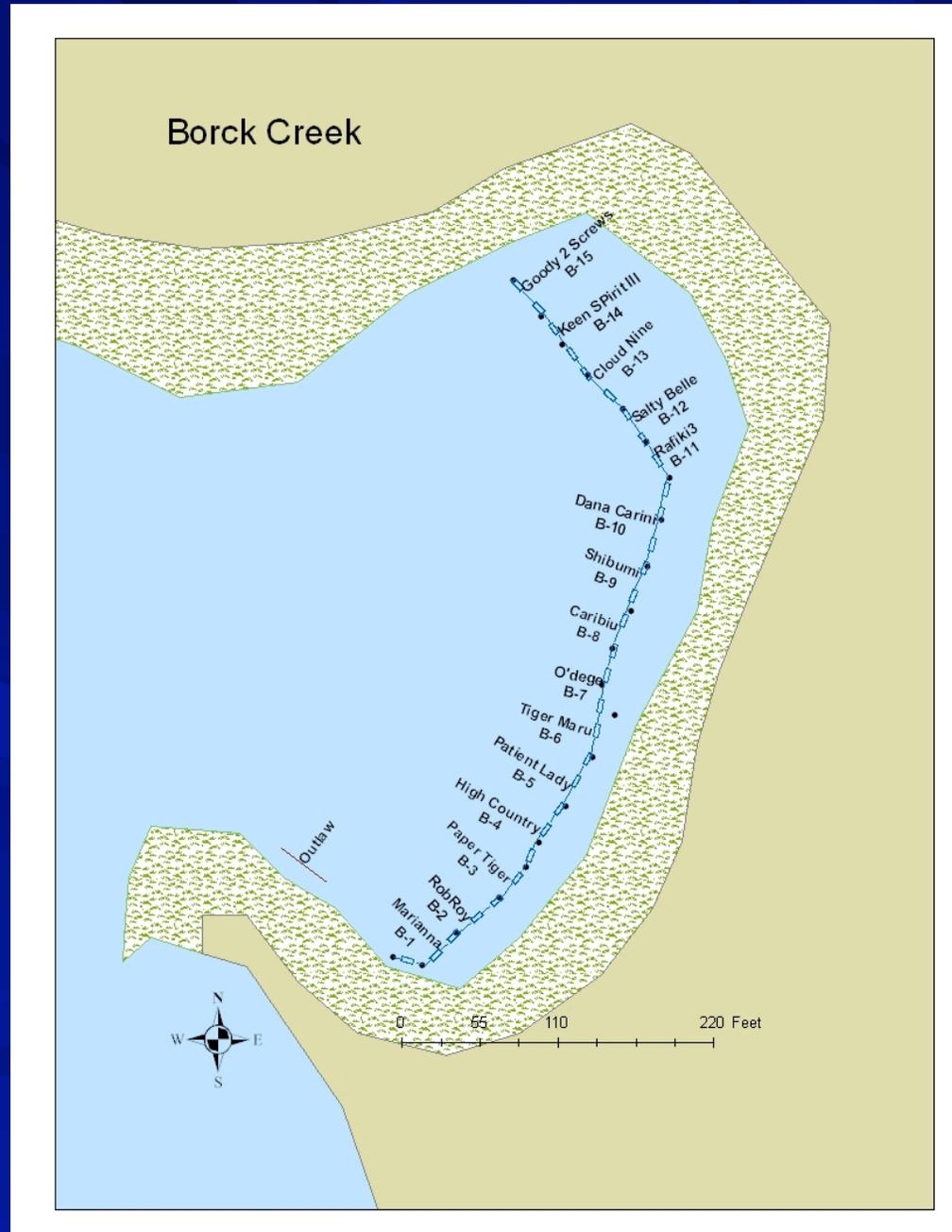
# Storm Mooring Installed



# Storm Refuge System in Place



# Mangrove Protection: Hurricane Mooring System (2005)



## Bottom Line:

- Nothing is easy
- Persistence pays off
- Most people end up appreciating the effort (or at least get used to it)
- The resources benefit in the end

# Sunscreen Concerns

- Anecdotal - baitfish, turtle nesting, etc.
- Recent evidence that levels of sunscreen compounds in high use areas (e.g. Trunk Bay) are way above lethal limits for coral planula (NOAA/Haereticus, pers comm 2008).
- Use of biodegradable sunscreens may help. Proctor & Gamble changing ingredients.



# Lionfish Concerns

- Released 1992 Florida
- Now to RI/Bahamas/DR/Unconfirmed PR
- No natural predators
- Novel predator/naïve prey
- Consume most reef fish, many herbivores
- 79% reduction in reef fish recruitment
- Can recruit 24/ha/day
- Great concern for our reefs
- May be inevitable but must try to prevent or slow down invasion



# Muchisimas Gracias



**National Park Service**

