

# TROPIC BIRD

October 2000

NPS and USGS-BRD Inventory & Monitoring Activities  
in the U.S. Virgin Islands and South Florida



## Fish Tales

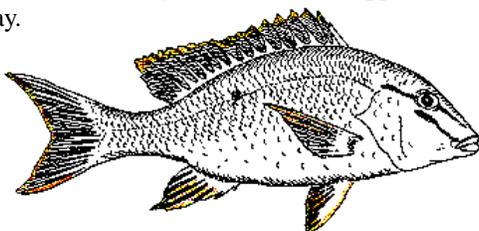
This year marks the NPS I&M Program's first expenditures towards monitoring natural resources! During June and July, Dr. Jim Beets (Jacksonville University, Florida) and Dr. Alan Friedlander (Oceanic Institute, Hawaii) were hired to conduct fisheries resources monitoring around St. John. USGS-BRD, NPS I&M and NPS Resource Management staff provided assistance with additional monitoring of juvenile reef fish and commercially valuable species such as groupers and snappers. We now have eleven years worth of data for four sites and have expanded our monitoring to four new sites (Cinnamon Cay, Hawksnest Bay, Trunk Cay, and Waterlemon Cay).

This year also marks the first year of an exciting collaboration with NOAA's Biodiversity Program. Dr. Mark Monaco and his team of NOAA divers assisted in censusing grouper and snapper populations and conducted censuses of adult fish in many habitats found around St. John. Later this year, they will visit Buck Island Reef National Monument to conduct more cross habitat censuses.

Over the course of two weeks, 38 dives were made totaling 50 hours of bottom time for the crew. 123 censuses were conducted and 126 species were counted. That is over 85,000 individual fish!

Disappointingly, while our data has shown quite a bit of variation over ten years, for four straight years three sites (Haulover, Newfound, and Tektite) have suffered precipitous declines in groupers. Most disturbing is that while populations of groupers were increasing for three years at Yawzi, a 63% decline was observed last year (see graph).

Populations of snappers have fallen even faster. Tektite and Yawzi suffered 82% and 87% declines respectively from 1999 to 2000. However, all is not so bleak, one promising result is a consistent three year increase in snappers within Newfound Bay.



## Milestones

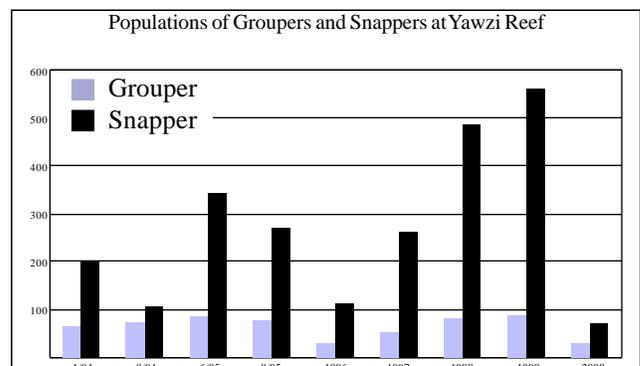
In the last six months, three major milestones have been achieved by the NPS Inventory & Monitoring Program! At a May 2, 1999 meeting of National Park Service Superintendents within our region, it was decided to expand the Prototype Long-Term Ecological Monitoring Program to include Biscayne National Park (Florida) and Salt River Bay Historic Site and Ecological Preserve (St. Croix, US Virgin Islands). These additional areas have extensive marine ecosystems and bring our cooperative effort up to five National Park Service Units.



For the first time since it's inception in 1992, the NPS I&M program has begun monitoring. During the summer of 2000, NPS paid Dr. Jim Beets (Jacksonville University, Florida) and Dr. Alan Friedlander (Oceanic Institute, Hawaii) to conduct monitoring of fisheries resources around St. John (see related article).



Our third milestone is equally exciting. Since the program's start, personnel issues have plagued the NPS. Since 1992 there has been only one individual paid by the program and almost a year went by with no NPS staff at all! All that changed this year when Jeff Miller accepted a position as a Fisheries Biologist. For the first time in eight years, the NPS has more than one person as I&M on staff!



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## Coral Corner

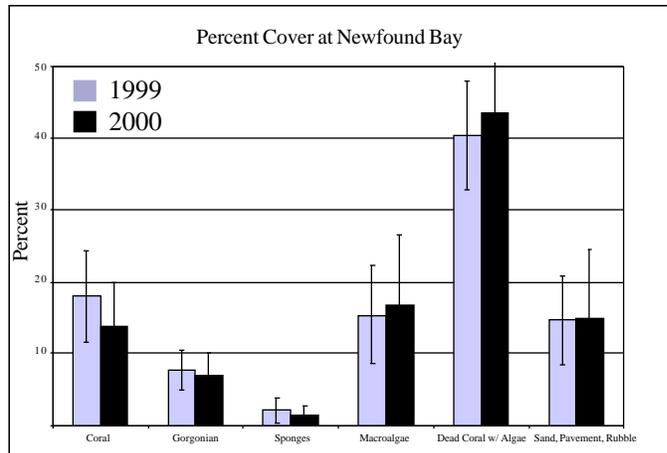
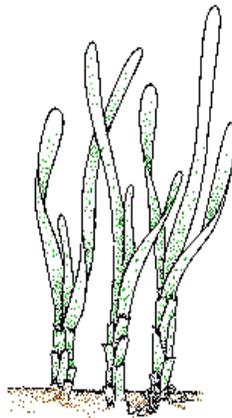
As reported in previous issues, USGS-BRD has been conducting monthly monitoring of disease outbreaks of "Plague Type II". We now have 34 months of data at Yawzi Point, and while no overwhelming patterns have emerged, some interesting observations can be made. Disease has been present in every month censused. There is no clear pattern of seasonality, strong showings have occurred in April, May, and December. While the percentage of coral tissue affected is typically less than 1%, it should be noted that none of the sixteen different species affected by this disease have ever recovered. Tissue dies and is later overgrown with macroalgae therefore, a consistent 1% decline per month over many years can translate to massive mortality.

This summer, USGS-BRD brought Dr. Laurie Richardson (Florida International University) to St. John to inspect diseased areas and collect samples of infected tissue from several different species. It is our hope that she will be able to confirm the pathogen and discover more about its life cycle.

## Quick Bits

This summer Dr. Lisa Muehlstein (Jacksonville University, Florida) continued working on a protocol to monitor seagrasses. USGS-BRD, NPS I&M and NPS RM staff assisted her with several weeks of field work including using the AquaMap™ navigation system to locate sampling areas. We expect to begin operational monitoring next year.

The NPS I&M Program sponsored a part of Dr. Pete Edmunds' (California State at Northridge) field work this summer. Dr. Edmunds has been conducting monitoring of coral recruitment and survival for over 14 years at Lameshur Bay.



## What a Difference a Year Makes

Both Newfound and Lameshur Bays have been revisited using the video monitoring protocol developed by USGS-BRD. Twenty randomly chosen 10 meter long transects were located in each of these bays, filmed in 1999, and refilmed in 2000. As you can see by the graph, the percent of live coral in Newfound Bay decreased from 18.0% in 1999 to 13.9% in 2000. This four percent decrease in live coral cover is statistically significant and translates to a 22% loss! The results of this monitoring are disconcerting, especially in light of the high percentages of dead coral with algae and macroalgae (60% of the total bottom) and that Newfound Bay is one of St. John's least disturbed watersheds.

Just this month, NPS I&M staff completed field work on Mennebeck Bay, a new site for our coral reef monitoring. Twenty randomly chosen 10 meter long transects were located and filmed. This bay is now part of our permanent monitoring program. We expect to add two additional sites to our Buck Island Reef National Monument monitoring effort in the next six months.

## Who's New

Jeff Miller recently joined the National Park Service as a Fisheries Biologist. Many of you know Jeff because he has been working for the USGS-Biological Resources Division for the last three years. Jeff graduated with a bachelors from Florida Institute of Technology and before working for the USGS, worked for Division of Environmental Protection, DPNR for four years. Jeff brings us considerable monitoring expertise, welcome aboard we are glad to have you as a permanent employee!



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