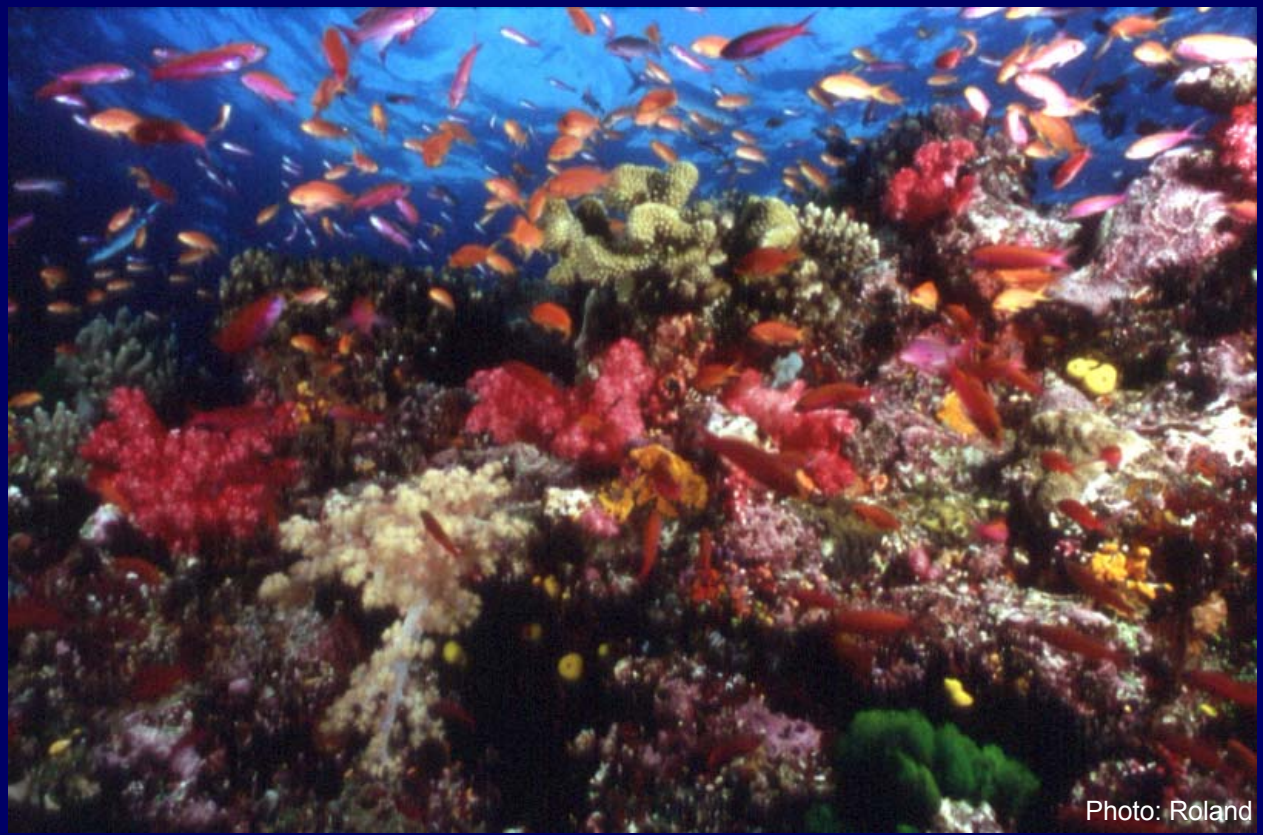
The State of Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2004

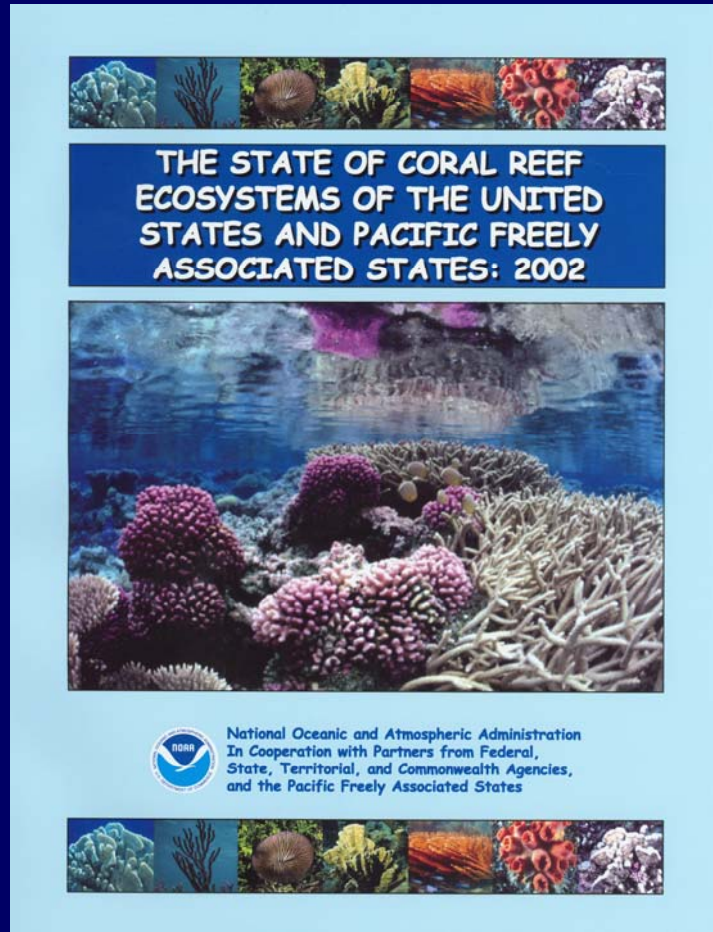
An Update for the USCRTF - March 3, 2005



Jenny Waddell

The State of Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2004

- Second assessment of the condition of coral reef ecosystems across the U.S. and FAS
- Report development led by NOAA and the Coral Reef Conservation Program
- Jurisdiction writing teams developed chapters
- Quantitative baseline for coral reef ecosystems in the U.S. and FAS



Report Development

- Regional coordination meetings in spring 2003 in Saipan, CNMI and San Juan, PR
- Outline development
- Timeline development
- Designated Report Coordinators
- Assembly of writing teams; involvement of folks from USCRTF member agencies at local level


Photo: A. Friedlander

Jurisdiction Report Coordinators:

U.S. Virgin Islands – Chris Jeffrey
Puerto Rico – Reni Garcia, Andy Bruckner
Navassa – Margaret Miller
Florida – Kacky Andrews, Larry Nall, Chris Jeffrey
Flower Garden Banks – Emma Hickerson
Hawaii – Alan Friedlander, Athline Clark
NWHI – Rusty Brainard, Alan Friedlander
American Samoa – Chris Hawkins
PRIAs – Jim Maragos, Rusty Brainard
FSM & Marshall Islands – Shauna Slingsby
CNMI – John Starmer, Erica Cochrane
Guam – Trina Leberer, Val Porter
Palau – Yimnang Golbuu

Report Structure

Introductory Information

Background

Executive Summary

Threats and Stressors

14 Jurisdictional Chapters

- Introduction and Setting
- Threats and Stressors
- Data-gathering Activities and Resource Condition
  - Water Quality and Oceanographic Conditions
  - Benthic Habitats
  - Associated Biological Communities
- Current Conservation Management Activities
- Overall Conclusions and Recommendations

National Summary

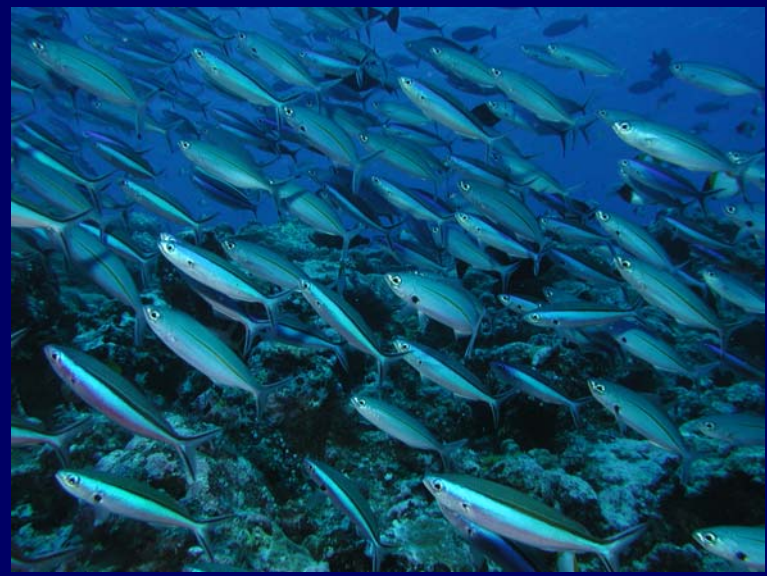


Photo: A. Friedlander

Jurisdiction Chapters

Water Quality and Oceanographic Conditions – Example Results

- Water quality improved significantly when tuna factories in Pago Pago harbor moved discharges offshore
- Ocean temperatures on the rise in the Northwestern Hawaiian Islands
- Water body characteristics are very different north and south of the Florida Keys

Photo: PBS&J

Jurisdiction Chapters

Benthic Habitats –Example Results

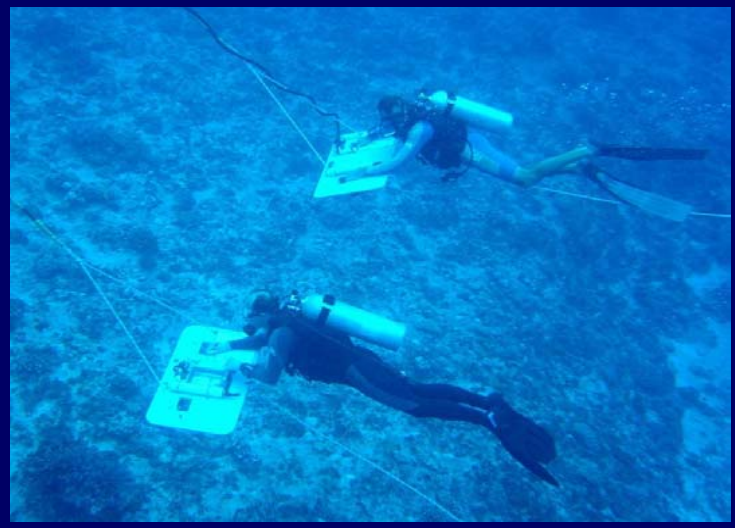
- Quantifying coral cover is the most frequent monitoring activity, with all U.S. jurisdictions now estimating this parameter
- Benthic communities in SW Puerto Rico shifting from coral-dominated to algal-dominated as a result of runoff and sedimentation

Photo: C. Jeffrey

- Some corals in areas of the PRIAs that are frequently subjected to elevated sea surface temperatures may have developed a resistance to bleaching
- Some coral species at the Flower Garden Banks grew at a rate of nearly 1 cm per year

Jurisdiction Chapters

Associated Biological Communities

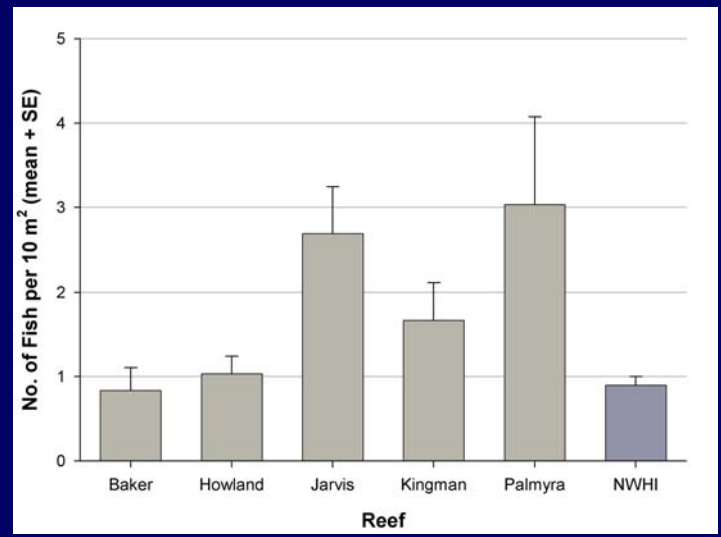


Jurisdiction Chapters

Associated Biological Communities – Example Results

- Turtle populations in the CNMI dominated by juveniles
- Fish biomass in the PRIAs higher than any other Pacific territory
- Exploitable phase groupers in serious decline in the FSM
- Fish biomass within MPAs exhibit measurable increases

Photo: J. Watt



Source: PIFSC-CRED

National Summary

- Provides national-scale perspective
- Structured to address overall coral program goals
- Provides information on parameters measured, general trends

	WATER QUALITY					BENTHOS					ASSOCIATED BIOTA					
	Turbidity	DO	Chlorophyll	Nutrients	Bacteria	Live coral % cover	Coral recruitment	Algal % cover	Coral disease	Coral bleaching	Fish abundance	Commercially important fish	Ecologically important macroinvertebrates	Commercially important macroinvertebrates	Protected species	
USVI	●	●		●	●	●	●	●	●	●	●	●	●	●	●	0.93
Puerto Rico	●	●		●	●	●		●	●	●	●	●	●	●		0.80
Navassa				●		●	●	●	●	●	●	●	●	●	●	0.73
Florida	●	●	●	●		●	●	●	●	●	●	●	●	●	●	0.93
Flower Gardens NMS	●	●	●	●		●		●	●	●	●	●	●	●	●	0.87
Main Hawaiian Islands	●	●	●	●	●	●		●	●	●	●	●	●	●	●	0.93
Northwestern Hawaiian Islands	●	●	●			●	●	●	●	●	●	●	●	●	●	0.87
American Samoa	●	●	●	●	●	●		●	●	●	●	●	●	●	●	0.93
Pacific Remote Island Areas	●	●	●			●	●	●	●	●	●	●	●		●	0.80
Marshall Islands						●		●	●	●	●	●	●	●	●	0.60
Federated States of Micronesia	●	●			●	●		●			●	●	●	●		0.60
Northern Mariana Islands	●	●	●	●	●	●		●	●	●	●	●	●	●	●	0.93
Guam	●	●		●	●	●	●	●		●	●	●	●	●	●	0.87
Palau	●	●			●	●	●	●	●	●	●	●				0.67
	0.86	0.86	0.5	0.64	0.57	1.00	0.50	1.00	0	0.86	1.00	1.00	0.93	0.86	0.79	0

Report Completion

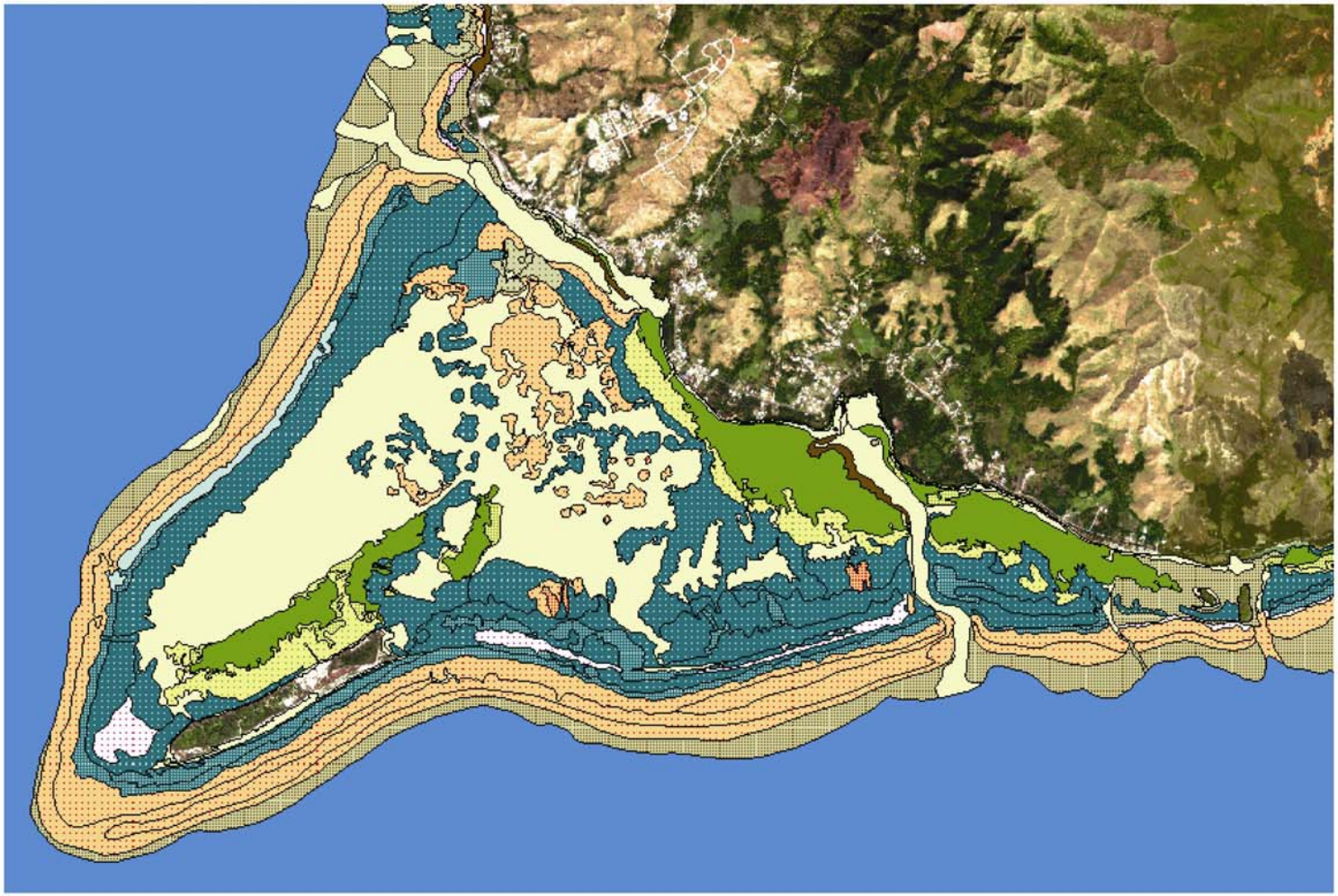
- Finalized in the next few weeks
- Entire document posted for writing team review
- Publication process
- Printed copies expected in May-June time period
- Distribution anticipated throughout the summer and fall

Photo: J. Maragos

To request a copy, please email a request to:

CoralReport2004@noaa.gov

Benthic Habitat Map of Guam



Status of Shallow Water Coral Reef Ecosystem Maps Using Aircraft and Satellite Platforms

	Area mapped (km^2)*	Percentage of total estimated area mapped	Potential coral reef ecosystem <10 fm (km^2)#	Potential coral reef ecosystem <100 fm (km^2)#
Puerto Rico	2,297 (465)	83	2,302	5,501
U.S. Virgin Islands	488 (26)	95	344	2,126
Southern Florida	0	0	30,801	113,092
Hawaii (main islands)	812 (551)	60	1,231	6,666
Northwestern Hawaiian Islands	2,363 (2,197)	52	1,595	13,771
American Samoa	71 (13)	85	55	464
Guam	105 (7)	94	108	276
Northern Marianas	204 (12)	94	124	476
U.S. Flag Islands (e.g., Palmyra, Navassa)	0	0	255	450
Rep. of Palau%	0	0	2,528	-
Fed. States of Micronesia%	0	0	14,517	-
Rep. of the Marshall Islands%	0	0	13,456	-
Total	**6,340 (3,271)**		**36,816**	**143,058**

About 66% of shallow-water (~0-30 m) habitats mapped

*-number in parentheses is unmapped area inside 10 fm depth curve
#-Rohmann et al., Coral Reefs (in press)
%-area estimates derived from Landsat imagery