

Reef Environmental Education Foundation Annual Report 2001

REEF ENVIRONMENTAL EDUCATION FOUNDATION

Our Mission

To educate, enlist and enable divers and non-divers alike to become active stewards in the conservation of coral reefs and other marine habitats.

Our Vision

The oceans have always inspired a sense of awe and wonder. Of even greater importance, the very health and well-being of our water planet depend on the continued health and well-being of the oceans. And yet, the oceans remain one of the last natural histories to be extensively explored. We do know that marine habitats provide some of the world's most diverse ecosystems. Coral reefs support communities comprising may tens of thousands of species; they are unique, valuable, and irreplaceable places of great aesthetic, environmental and commercial value. They are also under increasing threats from human impacts that permanently destroy habitat and deplete resources.

Recreational divers and snorkelers are in a unique position to observe, record and publicize the effects of these threats. Armed with knowledge and the opportunity to become involved, these divers can make significant and ongoing contributions to the conservation of marine habitats.

Our Goals

- To educate and enlist a growing corps of volunteer divers and snorkelers to conduct surveys of marine life.
- To provide the marine science, resource management, and conservation communities with a reliable, geographically broad, and continuing source of marine biodiversity data for practical application in habitat conservation and resource management.
- To encourage the support and implementation of effective marine conservation strategies developed through government, private or public frameworks.
- To educate divers and the general public about threats confronting the marine environment and to encourage them to become active stewards in ocean conservation.
- To promote the diving community as an active partner in the long-term conservation of coral reefs and other marine habitats.
- To work cooperatively with other like-minded people and organizations to effectively and efficiently achieve these goals.

OVERVIEW

This report is produced each year in preparation for the annual REEF Advisory Board and Sustainer's event. It represents an overview of current REEF status, activities, programs and financial status*. It also serves as the basis for planning upcoming programs and activities as well as a catalyst for direction.

Executive Director's Message

Oh what a year! Expansion, growth, recognition and projects have been the high-lights of a great 2001. Every aspect of REEF's work swelled and bulged at the seams as we took on new survey regions, new staff, new projects and a new headquarters office. The 2001 operating budget grew by more than 70% over the year, due to increased contributions sales and new education and monitoring contracts. Membership grew by more than 10%, member support nearly doubled, and our fish survey database grew by an amazing 10,000 surveys! Through all of the growth, our membership has remained the focus, motivation and grassroots realization of our mission.

2001 saw us purchase and move into our new REEF Marine Conservation Center in Key Largo. Membership response to our capital campaign was extremely generous and coupled with a significant grant form the J. Edward Mahoney Foundation, the doors were opened on October 15th.

New survey regions were added to the REEF program in 2001. The expansion to the Northeast US and Canada, and the new Hawaii program were facilitated by the efforts of motivated volunteers, like Bob Michelson, Liz Foote, Donna Brown and Robin Newbold, and through our cooperative relationships with the National Marine Sanctuary Programs.

Programs and special projects also headlined activities during the year. A blossoming partnership with the Living Oceans Society in Canada has led to the development of a Pacific Northwest Invertebrate Program and Seaturtle.org is now working with REEF to document turtle sightings throughout our regions. Our close ties with the Ocean Conservancy and NOAA's Coastal Zone Management program led to joint education and data gathering ventures with REEF and RECON working side by side in the Caribbean.

The Great American Fish Count event went exponential this year, increasing participation by almost 400% and paving the way for a new international focus. The event now serves as a cornerstone for promoting a marine environmental ethic and introducing volunteers and the general public to the REEF program.

We move out of a great year of expansion and growth having built the foundation and support necessary to carry us forward on our mission. The future is bright, the staff is eager and our volunteers are more motivated than ever to educate, involve and actively engage the world in the preservation of our marine resources.

Best Fishes,

Lad Akins

Executive Director

^{*}The financial information was generated from computer bookkeeping systems and was not compiled by formal review or audit. Complete and professionally prepared financial statements will be available by August 01, 2002.

REEF BOARD OF TRUSTEES, STAFF AND ADVISORS

REEF Board of Trustees

Paul Humann, President and Co-Founder Marine life author and photographer

Ned DeLoach, Vice President and Co-Founder New World Publications

Jim Dalle Pazze, Esq., Treasurer Herdeg, duPont, and Dalle Pazze, LLP

Dr. Jim Bohnsack Research Fisheries Biologist

Dr. Gina Green The Nature Conservancy

David Taylor Rodale's Scuba Diving

Dr. Carol Lorenz Carol Lorenz and Associates

Mr. Dennis Liberson Capitol One Financial Corporation



REEF Co-Founder Paul Humann teaching Venezuelan school children about fish.

REEF Staff

Laddie Akins

Executive Director

Christy Pattengill Semmens, Ph.D.

Scientific Coordinator

Leslie Whaylen

Field Operations Coordinator

Alex Score

Education/Outreach Coordinator

Leda Cunningham

Office Manager

REEF Advisory Board

The members of the REEF Advisory Board are all distinguished members in their fields and contribute their expertise to the REEF board and staff.

Billy Causey, Florida Keys National Marine Sanctuary

Dr. Ken Deaver, Ethnoscience

Kalli De Meyer, Coral Reefs Park Program, Coral Reef Alliance

Stephen Frink, Rodale's Scuba Diving/Stephen Frink Photography

Professor Robert Ginsburg, Rosenstiel School of Marine & Atmospheric Science

Dr. Steve Gittings, Marine Sanctuaries Division, NOAA

Wolcott Henry, The Henry Foundation and Curtis and Edith Munson Foundation

William Horn, Florida Fish and Wildlife Conservation Commission

Peter Hughes, Peter Hughes Diving

Dr. Tom Isgar, Seluera, Inc.

Jennifer Lash, Living Oceans Society

Ken Marks, Bytes and Pieces Computer Consulting

Chris Ostrom, Marine Sanctuaries Division, NOAA

Dr Emily Schmitt-Lavin, The Nature Conservancy

Dr Edwin Steiner, Chemist, Dow Chemical, retired

Dr Kathleen Sullivan Sealy, The University of Miami

Anne Walton, Channel Islands National Marine Sanctuary

Deena Wells, Florida Department of Environmental Protection

FINANCIAL REVIEW

REEF's annual operating budget for 2001 exceeded \$533,000. Funding is generated primarily through member donations, foundation support, and monitoring and reporting contracts. Despite our no-fee membership, REEF obtains almost 40% of our operational funds from our members. Our low overhead (17%) insures that member contributions are applied directly toward supporting REEF's programs.

Income

Projects & Programs	\$48,308
Grants	\$121,251
Contributions	\$211,180
Merchandise	\$54,510
Contracts	\$137,329
Corporate	\$3,050
Total	\$575,628

Expenses

Total	\$533,283
Other	\$13,969
Membership	\$39,904
Overhead	\$85,560
Inventory	\$37,454
Programs	\$279,764
Fundraising	\$46,563

Foundations

The J. Edward Mahoney Foundation

The Curtis and Edith Munson Foundation

The Henry Foundation

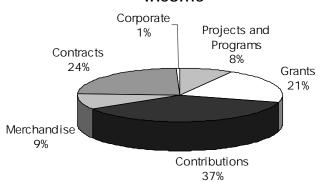
The Elizabeth Ordway Dunn Foundation

The National Fish and Wildlife Foundation

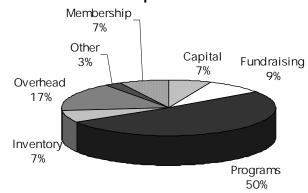
The Hippogriff Charitable Lead Trust

The Meyer Foundation

Income



Expenses



Contracts

Florida Keys National Marine Sanctuary Dry Tortugas National Park NOAA Coastal Zone Management NOAA National Marine Sanctuary Program

Sustainers

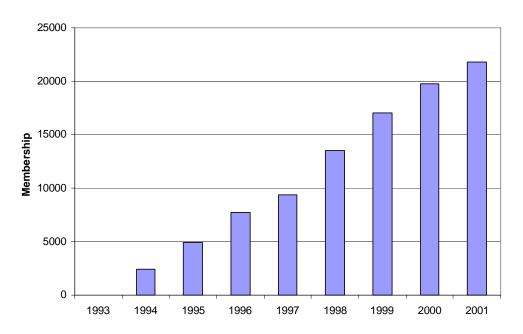
REEF members who contributed \$1,000 or more in 2001.

Ken Deaver Bob Ned & Anna DeLoach Ann Steve Dingledein Fred Neil Ericsson & Karen Florini Jose Muns Farestad Ole	e' and Barbara Kirchner & Jean Kirkpatrick ne Kugel d McConnaughey eph & Linda Meyer IV and Sheila Peloso
Carl Frost San	dra Percell

Feodor U. Pitcairn
John Pitcairn
David Preston & Carol Lorenz
Ken Pugusi
Neal Rakov
William Sheppard
Kenneth Sinibaldi
Hilton C. Smith, Jr.
Edwin and Doris Steiner
Anne Walton
Don & Carol Whaylen

REEF MEMBERSHIP

REEF is a member-driven organization. Our members provide the data, support, and motivation to carry out our mission. Since our inception, REEF has maintained a no-fee member-ship and we are proud to continue that tradition, even as our membership roles continue to climb. In 2001, we added 2,020 members, bringing the total to 21,790.





REEF members having a good time in the field.

INTERNSHIP PROGRAM

REEF's Marine Conservation Internship program is designed to introduce college-age individuals to working in the non-profit sector of marine conservation. With generous support from the Elizabeth Ordway Dunn Foundation, REEF provides housing, a small stipend, and Field Survey opportunities to two interns during each of three semesters: winter, summer, fall. In 2001, REEF supported five interns.



Fall '01 intern Jon Moss selling REEF gear at a dive festival.

SCIENCE

In concert with education, outreach, and providing volunteer opportunities, the application of REEF's Survey Project data to research and management results in a successful citizen science program. REEF's Scientific Coordinator, Dr. Christy Pattengill-Semmens, works as a liaison between the volunteer activities and the science and management applications. In addition to the summary information below, a full publication list and PDF documents are available on REEF's Website.

Papers

- Pattengill-Semmens, C.V. and B.X. Semmens. 2001. Conservation and management applications of the REEF volunteer fish monitoring program. Journal of Environmental Monitoring and Assessment.
- Pattengill-Semmens, C.V. 2001. Diving for data. Wild Earth 11 (3/4): 36-38.
- Pattengill-Semmens, C.V. 2001. Volunteer Monitoring in the Florida Keys National Marine Sanctuary, Year 4 Report. The FKNMS Ecosystem Reportcard.
- Pattengill-Semmens, C.V. 2001. Learning to see underwater. Underwater Naturalist 25 (4): 37-40.

Scientific Symposia

- Puget Sound Research Conference (January), poster 'Volunteer Fish Monitoring in the Pacific Northwest'
- National Marine Sanctuary Program Research Coordinators Meeting (January)
- Environmental Monitoring and Assessment Program Conference (May), presented 'Conservation and management applications of the REEF volunteer fish monitoring program – the success of partnerships'
- Society for Conservation GIS Conference (July), presented 'Utilizing GIS in the REEF Fish Survey Project'
- MPA Power Tools Conference (October), presented 'Using volunteers as a tool'
- Southern California Monitoring Conference (October), presented 'The REEF Fish Survey Project in California'
- Gulf and Caribbean Fisheries Institute Conference (November), attended the Grouper Spawning Aggregation symposium
- The Florida Keys National Marine Sanctuary Symposium: An Ecosystem Report Card (December), presented 'Effects of Fully Protected Zones on Reef Fish Communities'



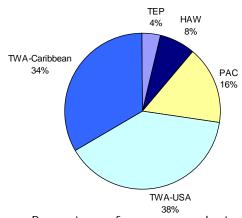
EDUCATION AND OUTREACH

Educational programs are fundamental to REEF's mission. Through public talks and the development of educational materials, we teach others about marine fishes and their habitats. The REEF newsletter and Website serve as our two primary outreach tools. Dive show attendance and REEF Field Stations help us spread our message to the diving community.

REEF staff and volunteers conducted approximately 35 public talks in 2001, reaching over 500 people. Talks were conducted for dive clubs and school groups; venues included nature centers, aquaria, and national dive shows.

Great American Fish Count

The GAFC experienced incredible success in 2001, with over 900 people participating in 93 free fish identification seminars and approximately 1,900 fish surveys conducted during the month-long event in July. This represents an almost 400% increase in the number of seminars and surveys from 2000. The annual event is coordinated with the National Marine Sanctuary Program and features free fish identification seminars and survey dive opportunities. Due to the growth of the program and in celebration of the Count's 10th year, the event is officially being renamed to the Great Annual Fish Count in 2002.



Percentage of surveys conducted during the 2001 GAFC in each of REEF's project regions.

Boy Scout Jamboree

REEF and the National Marine Sanctuary Program teamed up in 2001 to bring the message of fish conservation and the value of the marine environment to this colossal scouting event that is held once every four years. Approximately 36,000 scouts were exposed to the underwater world using Fishes of the Sanctuary posters, fish ID cards, and the experience SCUBA exhibit at the Jamboree. REEF plans to continue this tradition and is currently working with the Girl Scouts of America to develop a fishwatching badge.



A Boy Scout troop visited the Flower Garden Banks NMS for the GAFC.

Dive Shows

REEF attends several dive shows each year, displaying our booth, distributing educational materials, and and conducting seminars. In 2001, REEF attended -

- · DEMA, Las Vegas, NV January
- · Boston Sea Rovers, Boston, MA March
- · OceanFest, Ft. Lauderdale, FL May
- · Seaspace, Houston, TX May
- SCUBA 2001, Long Beach, CA June



The REEF booth at DEMA 2001.

EDUCATION AND OUTREACH

REEFNotes

As the primary vehicle for communicating with the REEF membership, the REEFNotes newsletter is published 3 to 4 times per year. While our first newsletter in 1994 contained 4 pages, current issues are running 16 pages. REEFNotes features stories on recent REEF projects, articles written by members, and fish identification columns. This free publication is made possible through an in-kind donation of printing by the Nielsen Company in Florence, Kentucky.

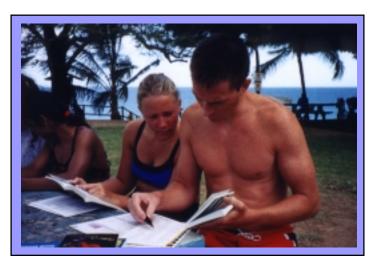


REEF.org

REEF's Website, www.reef.org, is an integral component of our overall program as it provides worldwide public access to our Survey Project database. In addition to providing summaries of sightings data for geographic areas, species distribution reports, and personal life lists for REEF members, the Website contains galleries and quizzes, an expanded Member Forum with articles and mystery fish identification, an online store to purchase survey materials and guidebooks, and a section on the research and monitoring applications of the database. In 2001, the site received an average of 1,773 visits per day and over 198,000 pages with the site were viewed each month.

Field Stations

REEF Field Stations are dive shops, dive clubs, aquaria, and other institutions that regularly promote and teach fish identification courses, organize survey dives, promote REEF membership, and serve as distribution centers for REEF information and survey materials. Each Field Station contributes financially to REEF and is listed in REEF's newsletter and Website as places our members can "Speak Fish." At the end of 2001, there were 56 Field Stations in the program, from eleven US states, Canada, and sixteen Caribbean nations.



Surveyors after a dive organized by Project S.E.A.-Link, a REEF Field Station in Maui.

2001 SPECIAL ACHIEVEMENTS

New Conservation Center

From modest beginnings in Executive Director, Laddie Akins' apartment living room, then a 400 square foot donated store front, REEF achieved a crowning moment in 2001 with the purchase of our own building. REEF's Marine Conservation Center is located in Key Largo and contains over 2,000 square feet of workspace and visitor area. The Center was funded by a generous grant from the J. Edward Mahoney Foundation, a loan from REEF Sustainers, and significant contributions by REEF members. The historic building, built in 1936, is divided into three separate offices, a retail area, an information center and an upstairs loft used as workspace and storage. An area of the property next to the building contains hardwoods and palms and will be landscaped with native vegetation, signage and picnic tables for use by visitors. The new space and visitor presence will allow REEF to continue our expansion of programs and services to help protect the marine environment.



Awards

In 2001, REEF received significant recognition for our outstanding contributions to marine science and conservation.

- · Chevron Conservation Award for REEF's work in marine conservation
- Gulf Guardian Award, administered through the Gulf of Mexico Program EPA Region 6, for REEF's work at the Flower Garden Banks National Marine Sanctuary
- EPA Region 4 Environmental Steward Award for REEF's Florida Keys National Marine Sanctuary Zone Monitoring



Laddie Akins and REEF member Chatten Hayes checking out a whitemouth moray at Molokini, Maui.

2001 SPECIAL ACHIEVEMENTS

Expansions - Regional

In 2001, REEF developed survey programs for the Hawaiian Islands and the Northeast US and Canada. These new programs expanded the reaches of our Survey Project to now include the entire coastal waters of North and Central America, the Caribbean, Galapagos Islands, and Hawaii. As part of the expansions, new REEF survey materials were developed, including waterproof color ID cards, underwater fish survey paper, and REEF survey scanforms. New training curricula and data processing programs were also developed.



The Wolffish - this Northeast fish has a face that no one can forget.

Expansions - Beyond fish

As REEF's survey effort continues to expand, many additional opportunities have arisen regarding the use of volunteers for underwater data collection. While REEF's main focus is marine fish, two additional components were incorporated into the Fish Survey Project in 2001 through collaborations with other organizations. These include an invertebrate monitoring program for the Pacific Northwest in collaboration with the Living Oceans Society and a sea turtle sighting program in collaboration with Seaturtle.org.

Invertebrates

The new invertebrate monitoring program serves as a companion to the existing fish monitoring program for the Pacific Northwest, and these two programs make up the Living REEF Project. As part of the new program, a training curriculum and survey materials have been created. Invertebrates are monitored using the same Roving Diver Technique survey method used in REEF fish surveys and the data are scanned into the existing REEF database. Specifically, 44 invertebrates are being monitored. To date, 252 invertebrate surveys have been entered in the REEF database.



Candy Stripe Shrimp is one of the species being monitored by Pacific Northwest divers.

Sea Turtles

As part of our expansion to Hawaii, REEF included green sea turtles (healthy and those afflicted by *fibropapilloma* tumors) in the survey protocol. Shortly after the Hawaii program launch, REEF decided to include sea turtle sightings in all of our regions. A total of 318 sea turtles have been reported by REEF surveyors in the six months since the program was implemented.

The inclusion of sea turtles in the Survey Program will enable our surveyors to provide meaningful data on the distribution and status of these threatened animals. Seaturtle.org will provide a means to manage and disseminate the information to the sea turtle research community. Identification and reference materials created for the project are available on the REEF Website.



The Loggerhead Sea Turtle

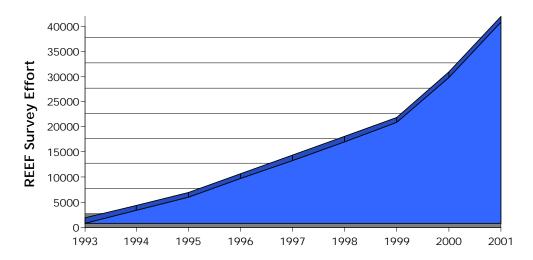
REEF DATA

Numbers

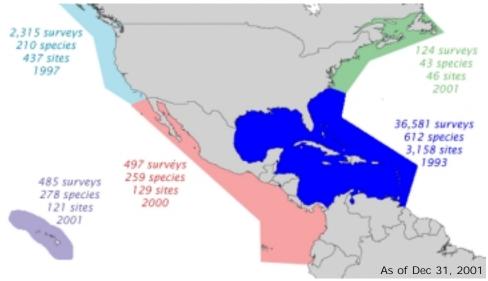
By the end of 2001, REEF's database had grown by leaps and bounds – a total of 10,766 surveys were added, boosting the total number of surveys conducted by REEF volunteers over the 40,000 mark! Data have now been collected from over 3,800 sites throughout REEF's project regions, documenting almost 1,400 species. Since 1993, approximately 5,000 REEF members have conducted surveys.

Incoming data are generated by three primary activities – individual member surveys, REEF Field Surveys, and special projects with partner organizations. In 2001, approximately 50% of the surveys submitted were conducted by individuals not in on REEF Field Survey. This is up from 30% in the early years of the program.

2001 Survey Effort
Western Atlantic - 9,131 surveys
West Coast US and Canada - 783 surveys
Tropical Eastern Pacific - 375 surveys
Hawaii - 465 surveys



In 2001, the REEF Survey Project region expanded to include Hawaii and the Northeast US and Canada. Survey effort in these new regions got off to a great start, with the inaugural year effort at 465 surveys for Hawaii and 124 surveys for the Northeast.



REEF's Project Region - Map lists total surveys to date, number of species that have been documented, number of sites that have been surveyed, and the year that data collection began.

REEF DATA

Field Surveys

REEF Field Surveys are week-long programs conducted at various locations throughout the Survey Project regions. Each Field Survey includes daily identification review and survey dives and is led by REEF staff. Participants in the Field Surveys range from the beginning fishwatcher to the most experienced, but all enjoy the experience and being able to learn and dive with divers who share similar interests.

Beginning in 2000, REEF began to plan many of our Field Surveys and other special projects in areas where the REEF database is lacking information and in areas such as marine protected areas (MPAs) where baseline data and continual monitoring is needed by local and regional managers and scientists. In 2001, gaps in our survey effort map were filled in for several areas, including Cuba, Puerto Rico, Utila, Curacao, St. Thomas, and Bermuda. The first Field Survey outside the Caribbean was also conducted in the Gulf of California.

In 2001, 100 REEF members participated in ten Field Surveys, conducting a total of 1,415 surveys.

2001 Field Survey Locations
Bermuda
Bonaire
Curacao
Exuma Islands, Bahamas
Flower Garden Banks NMS
Glover's Atoll, Belize
Gulf of California
Little Cayman
St. Vincent
Utila, Honduras



REEF Field Survey at Glover's Reef in Belize.



Learning underwater on a Field Survey.

Advanced Assessment Team

Members that achieve Expert survey status are extended an invitation to join REEF's Advanced Assessment Team (AAT). Members of the AAT are invited to participate in special opportunities such as monitoring projects and research expeditions. In 2001, members of the AAT participated in 4 special projects. These include Zone Performance Monitoring in the Florida Keys National Marine Sanctuary and the Dry Tortugas National Park and training workshops in Puerto Rico and St. Thomas. To date, there are 94 members of the AAT.

SPECIAL PROJECTS

Each year, REEF participates in several special projects. These projects blend the educational, training, and data collection aspects of the REEF mission and are often in collaboration with one or more of our partners.

Sustainable Seas Expeditions

The Sustainable Seas Expeditions (SSE) are a path breaking partnership between the National Geographic Society and NOAA to explore Earth's last frontier: the deep ocean. With the help of a revolutionary one-person DeepWorker submersible capable of diving to depths of 2,000 feet, the expedition's scientists have been documenting the plants and animals that inhabit the uncharted regions of marine sanctuaries and beyond. REEF's involvement in the SSE missions began in 1999 and has continued each year with fish surveys and assessments taking place in numerous sanctuary sites.

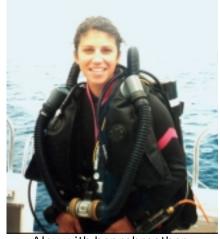


Laddie before a DeepWorker dive.

In 2001, the mission dubbed "Islands in the Stream" explored protected and non-protected coral reef and hard bottom communities — the "islands" — of Belize, Mexico and the United States, as well as the currents — the "stream" — that connect the different habitats. REEF Executive Director, Laddie Akins, piloted the DeepWorker on dives in Cozumel, Chinchorro Bank in Mexico and in the Dry Tortugas. He spent over 12 hours in the sub and documented 107 fish species.

Aquarius

In September 2001, REEF's Education/Outreach Coordinator, Alex Score, and Executive Director, Laddie Akins, participated in an incredible project that involved living underwater and diving with rebreathers. The project was conducted in collaboration with the National Marine Sanctuary Program and the National Undersea Research Center and aimed to evaluate how different dive technologies affect fish survey results. Laddie saturated in the Aquarius habitat for eight days, spending 11,000 minutes at 60 feet on Conch reef in the Florida Keys. Alex used rebreather technology from day boats. Both conducted daily visual fish surveys, compiling information on 147 species Numerous public awareness campaigns also surrounded the mission, including live web broadcasts to Universities.



Alex with her rebreather.



The aquanauts inside the Aquarius habitat.

SPECIAL PROJECTS

Fish and Benthic Monitoring Workshops

In collaboration with The Ocean Conservancy and with funding support from NOAA's Coastal Zone Management Program, REEF coordinated two fish and benthic monitoring workshops in US Caribbean Territories in 2001. These week-long programs were held in La Parguera, Puerto Rico and St. Thomas, USVI. The workshops were targeted at local stakeholders and participation was free of charge. A total of 78 participants took part in the program, including dive industry professionals, educators, college/graduate students, and pro-active sport divers. The workshops featured classroom and field training in taxonomic identification of local fishes, corals, algae, and key invertebrates and in the survey methodologies of REEF's Fish Survey Project and The Ocean Conservancy's Reef Ecosystem Monitoring Program (RECON). As part of the program, six members of REEF's Advanced Assessment Team were enlisted to assist in the training and collect survey data. These workshops provide REEF an exciting opportunity to involve local divers to contribute meaningful information on the reef ecosystems in their own backyards. We are looking forward to continuing this program in 2002 with workshops planned in San Andres,

Columbia and northeast Puerto Rico.



A workshop participant gets some last minute review.



REEF's Advanced Assessment Team at the Puerto Rico Workshop.

Training the Trainers Workshops

At the core of REEF's training programs are the eleven marine life identification curriculum modules, each covering fishes from a different region. While these courses are self-contained and were created to enable anyone to pick up the course and teach it, the "REEF" method of teaching is an important component to a seminar's success. Realizing that REEF staff are limited, in 2001, we began organizing workshops to train volunteers enabling them to teach seminars at their local dive clubs, aquaria, marine parks, and educational institutions. In Cozumel, marine park staff and local dive masters attended two week long training workshops. During a California tour, REEF staff organized three workshops for local trainers at the Monterey Bay Aguarium, the Channel Islands National Marine Sanctuary in Santa Barbara, and the Long Beach Aguarium. As part of REEF expansion to the Northeast, a training workshop was coordinated in conjunction with Stellwagen Bank National Marine Sanctuary in Maine. These workshops enable REEF's partners to help spread enthusiasm for fish surveying.



Long Beach Aquarium of the Pacific staff Margaret Brewer and volunteer diver Steve Guest look up a mystery fish during a Training the Trainers workshop.



Bunny Hall and Pat Buehler enjoying hemsleves on the Little Cayman Field Survey.

After a shore dive at Olowalu, Maui during the debut of REEF in Hawaii.



Bob Grist, Doug Harder, and George Owens in Belize.



Regina Harshman filling in her scanform in between dives in Baja, Mexico.