

CORAL REEF NEWS
Coral Reef Conservation Program
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NOAA Coral Reef News is a monthly e-newsletter established to provide current information on the activities of the National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program (CRCP) and other relevant NOAA programs. The CRCP supports effective management and sound science to preserve, sustain and restore valuable coral reef ecosystems. Back issues are available at <http://www.coralreef.noaa.gov>.

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OF SPECIAL NOTE

Unprecedented Coral Bleaching Event

Expands Across Caribbean. NOAA scientists have confirmed that a major coral bleaching event is underway in the Caribbean, which may result in significant coral death in much of the region. Currently, the bleaching is centered in waters adjacent to the U.S. Virgin Islands and Puerto Rico and expanding southward. Reports of Caribbean bleaching in 2005 have come in from the Florida Keys and Texas's Flower Garden Banks in the north, to Tobago and Barbados in the southern Antilles, to Panama and Costa Rica in the west. Warnings of the onset of this event were first reported by the NOAA Coral Reef Watch Satellite Bleaching Alert monitoring system (<http://coralreefwatch-satops.noaa.gov/SBA.html>), which automatically monitors for the thermal stress that gives rise to coral bleaching. Bleaching was first seen in late August in the Florida Keys and has now spread throughout much of the eastern Caribbean. Since early October, bleaching alerts have been issued for both Puerto Rico and the U.S. Virgin Islands, where thermal stress is at record levels. Thermal stress has reached Degree Heating Week (DHWs) values of over 15 at some locations. Each DHW represents one week of temperatures 1°C above the maximum highest monthly average. Accumulated over three months, DHWs above four are virtually always accompanied by bleaching, whereas levels above eight are believed to present increased coral mortality and inability to recover. Read the full press release at <http://www.publicaffairs.noaa.gov/releases2005/oct05/noaa05-r499-04.html>.

ANNOUNCEMENTS

NOAA CRCP Report to Congress Now

Available. The CRCP's *Implementation of the National Coral Reef Action Strategy: Report to Congress on the U.S. Coral Reef Task Force Agency Activities from 2002-2003* is now available. This document is the first of the biennial reports required by the Coral Reef Conservation Act of 2000 to provide an update on all activities undertaken to implement the U.S. National Coral Reef Action Strategy, including a description of the funds obligated each fiscal year to advance coral reef conservation. As mandated, this report has been provided to Congress. The Report was developed in collaboration with the members of the U.S. Coral Reef Task Force, including extensive input from state, territory and federal agency partners. This document proves valuable in recognizing the many accomplishments and partnerships that NOAA has initiated and participated in from 2002-2003. For quick access to this document and other recent publications, see the "New Publications" section on the home page of NOAA's Coral Reef Information System (CoRIS): <http://www.coris.noaa.gov/>.

NOAA and Palau to host U.S. Coral Reef Task Force Meeting in Koror.

NOAA and the Republic of Palau will host the 14th biannual meeting of the U.S. Coral Reef Task Force November 5-7, in Koror, Palau. The meeting will feature remarks by the Honorable Tommy E. Remengesau, Jr., President of Palau; a keynote speech by Noah Idechong, Delegate of the Palau National Congress; and a series of expert panels and special sessions. The first special session will focus on building financial, human and technical capacity in the Pacific Islands, with panelists from U.S. and international agencies and leading conservation organizations. The second session will highlight challenges and opportunities for building marine protected area networks in reef

ecosystems in the Pacific Ocean. A joint meeting with the International Coral Reef Initiative (ICRI) will be held on Thursday, Nov. 3, focused on improving international cooperation in the Pacific Islands and on sustainable financing for coral reef management and research. More information on the meeting agenda is available at <http://www.coralreef.gov/taskforce/meetings/meet7.html>.

Reefs at Risk in the Caribbean Data Available Through Two Online GIS Services.

Reefs at Risk results from the global (1998), Southeast Asia (2002) and Caribbean (2004) analyses are available from ReefBase's online GIS (<http://reefgis.reefbase.org/mapper.asp>). This site displays *Reefs at Risk* threat analysis results along with a range of other reef-related data sets and satellite images. A "Caribbean Reefs at Risk" website

(<http://coralreefs.nbii.gov/reefsatrisk>) focused on threats to Caribbean coral reefs has also been developed through a partnership of the World Resources Institute (WRI), the University of the West Indies Caribbean Coastal Data Center (UWI-CDC), the International Coral Reef Action Network (ICRAN), the United Nations Environment Programme - Caribbean Environment Programme (UNEP-CEP), and the United States Geological Survey - National Biological Information Infrastructure (NBII). The site provides base data on the Caribbean basin, watersheds, and land-based threats to coral reefs, highlighting the results of the *Reefs at Risk in the Caribbean* analysis. The site provides mapping using online GIS, as well as data for download accompanied by metadata.

FY 2004 CRCP Accomplishments Report Available.

The Fiscal Year 2004 Accomplishments Report for the NOAA Coral Reef Conservation Program is now available at <http://www.coralreef.noaa.gov/> under the "new publications" section.

Association of Marine Laboratories of the Caribbean Adopts Resolution to Establish Long-term Reef Monitoring Program. The Association of Marine Laboratories of the Caribbean's Executive Board adopted a resolution in September urging the immediate establishment of a long-term program (once every 4 years) for assessing representative reefs, their related biological communities, and relevant physical environmental parameters. The full resolution is available through the Coral-List archive at

<http://coral.aoml.noaa.gov/pipermail/coral-list/2005-October/002256.html>.

Release of Symposium Volume, *Benthic Habitats and Effects of Fishing*. NOAA Fisheries announces the publication of *Benthic Habitats and Effects of Fishing*, edited by Peter W. Barnes (USGS) and James P. Thomas (NOAA). The volume will be released by the American Fisheries Society (AFS) for \$75 per copy (\$53 for AFS members) at their annual conference in Anchorage, AK. The book's contents result from a jointly sponsored NOAA-USGS-AFS-Ecological Society of America international symposium, "Effects of Fishing Activities on Benthic Habitats: Linking Geology, Biology, Socioeconomics, and Management," held November 12-14, 2002, in Tampa, FL. The publication's papers and panel discussion provide a cross-section of research and analysis from physical and geological characterization and mapping of the seabed, its living resources, and effects of fishing, to socioeconomic concerns and management of those effects. Order this volume at <http://www.fisheries.org/html/publications/catalogs/x54041.shtml>.

UPDATES

Atlantic

Post-Hurricane Katrina and Rita Reef Assessment Conducted in the FGBNMS. The Flower Garden Banks National Marine Sanctuary (FGBNMS) research team conducted a post-hurricane cruise to the Sanctuary last week. This was the first opportunity for the team to survey the reef since both Hurricanes Katrina and Rita. Limited surveys revealed significant mechanical impacts at all three sites within the Sanctuary, including large boulders of reef rock and coral (up to 4m x 2m in size) removed and tossed around the reef, and up to 1m of sand removed from sand flats. Large barrel sponges (*Xestospongia muta*) have suffered considerable damage, including partial and full removal, and filling with sand. Coral tissue, sediment, and water samples were collected for contaminant analysis through a collaboration between the FGBNMS, the National Centers for Coastal Ocean Science, and the University of Hawai'i. These collections were made in response to a large body of polluted water that made its way out from the TX/LA coast to the FGBNMS after Hurricane Rita (see <http://coastwatch.noaa.gov/tsm/search.html>). To add insult to injury, the coral is undergoing a bleaching event. Initial observations indicate between 35% and 40% of the colonies are bleached to some extent. The bleaching appears to be affecting 100% of the fire coral (*Millepora alcicornis*) and great star coral (*Montastraea cavernosa*), and affecting at least eleven other species to varying degrees. A follow-up cruise is under way this week on board the Sanctuary vessel, R/V PT. GLASS, to conduct additional bleaching surveys and document hurricane damage within the Sanctuary. Learn more about FGBNMS at <http://flowergarden.noaa.gov/>.

National Coral Reef Institute Work on "Monster Coral" Featured in *South Florida Sun-Sentinel*. The National Coral Reef Institute (NCRI) at Nova Southeastern University, sponsored by NOAA's Center for Sponsored Coastal Ocean Research, was recently featured in an article in the *South Florida Sun-Sentinel*. The article discusses NCRI's work on a large, 300-year-old coral head that was discovered in the waters off of Hollywood, Florida. This unique finding offers NCRI scientists a rare opportunity to look into the past and learn about a multitude of topics including climate change and environmental stressors. Located off of the heavily urbanized southeast region of Broward County, the coral is subject to multiple anthropogenic stressors including stormwater runoff. It is hoped that future genetic analysis will lead to some interesting information on why this particular piece of coral is able to withstand such stressors when others of the same species have failed. Read the full article at <http://www.nova.edu/ncri/news/a14.html>.

National Coral Reef Institute Advances Scientists' Ability to Predict Future Climate Change. As part of a grant through the National Centers for Coastal Ocean Science/Center for Sponsored Coastal Ocean Research, the National Coral Reef Institute (NCRI) is building a valuable store of data that will ultimately enable scientists to identify historical trends between coral growth, climate change, atmospheric carbon dioxide flux, and other environmental events of interest. Corals, such as those surveyed along South Florida, serve as proxies of upper ocean environment over the past several centuries. The application of NCRI's computer program, *CoralXDS+*, facilitates data acquisition of coral growth (extension, density, and calcification) and comparison of isotope, trace element, and other valuable information crucial to the understanding of long-term climate variability. The results of this investigation will enable

resource managers to better evaluate the long-term impacts of management decisions. Learn more about NCRI at <http://www.nova.edu/ocean/ncri/>.

Major Phase of Mapping Completed for Oculina Banks MPA. In June/July 2005, the Panama City, FL laboratory of NOAA's Southeast Fisheries Science Center conducted high-resolution bathymetric multibeam mapping for the CRCP project, "Mapping the Oculina Banks Marine Protected Area: Acoustic mapping, benthic habitat characterization, and integration into GIS." This concluded the effort to map all of the high relief areas known or suspected to contain large coral heads in the Oculina Habitat Area of Particular Concern (OHAPC) as well as in areas to the west of the reserve. The data is in the process of being integrated into an Oculina GIS project. This map, as well as one created in 2002 (consisting of the entire Oculina Experimental Closed Area (OECA) and a percentage of the OHAPC), will prove crucial in guiding an upcoming ROV cruise in October 2005. The ROV dives will be used to ground-truth the mapping effort and to examine changes in habitat and fish populations over time to determine the effectiveness of the OECA. Visit the Oculina GIS project at <http://www.uncw.edu/oculina/>.

Fish Survey of Marine Reserves in Gulf of Mexico Shows Increases for Many Species. Researchers at NOAA's Southeast Fisheries Science Center in Panama City, FL and Pascagoula, MS recently completed their 2005 CRCP-funded survey of habitat and fish assemblages in two marine reserves on the west Florida shelf. The areas examined were the Madison-Swanson Marine Protected Area (MPA) and the Steamboat Lumps MPA, as well as Twin Ridges, an open-to-fishing control area. Due to favorable weather this year, more than double the number of stations (95) were sampled compared to last year (45).

Preliminary results suggest an increase in the number of several reef fish species, particularly gag, scamp, red grouper, Warsaw grouper, speckled hind, and red snapper. Complete analysis of the video data on fish and habitat is now underway. Unfortunately, tapes from 66 of the 95 stations are in question at the present time as they were in the Pascagoula lab, which was submerged in 4 ft. of seawater due to Hurricane Katrina. The lab has been closed, although data recovery operations are scheduled to begin shortly.

New Oceanographic Monitoring Station Installed in Puerto Rico. A new Integrated Coral Observing Network (ICON – formerly Coral Reef Early Warning System, or CREWS) station was installed on October 18th at La Parguera Marine Reserve, Puerto Rico. The local U.S. Coast Guard has been apprised of the station location and the presence of the navigational light, and is pleased with the installation. The electronics component of the station will be installed in December. The station will be monitored in partnership with the University of Puerto Rico, and the data collected will be integrated with the Caribbean Regional Association of the Integrated Ocean Observing System (IOOS). Learn more about CREWS at <http://www.coral.noaa.gov/crews/index.shtml>.

Documenting Abundance, Distribution, and Productivity of Commercially Important Deepwater Seagrass Meadows along the Florida Shelf. Scientists with the National Centers for Coastal Ocean Science are studying one of the largest contiguous seagrass ecosystems in the world, approximately 4 million acres of seagrass growing at water depths of 10 to 35 meters on the eastern edge of the West Florida Shelf. Seagrass in this ecosystem produces an estimated 456 million grams of organic carbon per day during the growing season of May through October and supports valuable commercial and recreational

fisheries on the shelf. Results of a series of research cruises aboard the NOAA Ship Ferrel in the southeastern region of the west Florida Shelf have extended our knowledge of the distribution, abundance and productivity of these relatively deepwater seagrasses dominated in the region by *Halophila decipiens*, a small, seasonally ephemeral species which produces seeds to persist from year to year. A publication documenting this study will appear in the Journal of Aquatic Botany.

Outreach and Education Activities Associated with the Oculina Banks Deep Water Coral Research and Monitoring Cruise. On September 17, 2005, at Dixie Crossroads Seafood Restaurant in Titusville, Florida, twenty-one secondary school educators from three counties along the central eastern coast of Florida participated in a one-day workshop entitled “Treasures of the Deep – Deep Water Corals of the South Atlantic and Oculina Bank: A Local Resource Workshop for Teachers.” NOAA, along with the South Atlantic Fisheries Management Council and Harbor Branch Oceanographic Institute, presented information about deep water coral ecosystems, the Oculina Bank Habitat Area of Particular Concern (OHAPC), research and monitoring efforts, and educational materials for classroom use. A second deep water coral outreach event was held on October 12th, prior to the Oculina Banks research and monitoring cruise. Media, invited guests, teachers and students participated in a special “Port Day” event. Ninety students from three Brevard County schools joined scientists and crew for Port Day activities. Student groups rotated among six stations to learn about *Oculina varicosa*, deep water reefs biology and ecology, the Oculina Habitat Area of Particular Concern, research, enforcement, and management. Third, during the cruise, a NOAA Teacher-at-Sea provided daily web logs for use in classrooms (<http://www.at-sea.org>). These logs provided

daily information on the research conducted at sea and provided datasets for students to download and use in classroom exercises. Lastly, two shuttles aboard the Florida Fish and Wildlife Conservation Commission Law Enforcement vessel, the *C.T. Randall*, were scheduled for media and teacher excursions on October 14th and 15th, but unsafe sea conditions confounded these efforts. Nonetheless, the Harbor Branch Oceanographic Institute provided media support for the mission, including a news release distributed to all major media outlets. The release was picked up by several news services, including science daily, newswise.com, biologynews.net, divenews.com, innovations report, etc. A number of these articles can be viewed in the “Coral Reefs in the News” section below.

National Marine Sanctuaries Program Contributes to Coral Reef Restoration Science and Outreach. Several National Marine Sanctuaries Program (NMSP) staff gave presentations at a coral restoration conference in Miami on October 18-19. The conference agenda focused on the topics covered in a new book on reef restoration, *Coral Reef Restoration: Scientific Frameworks for Rehabilitation*, compiled and edited by Dr. William Precht. Many of the book’s contributing authors are NOAA personnel. Also, on October 11th, NMSP Biologist Harold Hudson and Coral Restoration Monitoring Team member Jeff Anderson assisted a South Korean television delegation in obtaining documentary footage from the M/V *WELLWOOD* restoration site at Molasses Reef in the Florida Keys NMS. The South Korean delegation is producing a series of documentaries highlighting the importance of reef restoration and protection in support of creating a marine park/sanctuary near their island of Jeju. The delegation interviewed Mr. Hudson regarding the importance of coral reefs overall, techniques and methods for reef restoration projects, and the relationship

between healthy reefs and fish populations. Learn more about the coral reef restoration conference at http://www.tfilearning.com/tfi/c/portal_public/layout?p_1_id=27.26.

Pacific

***HĪĀLAKAI* Returns from Revised Research Expedition to NWHI.** On August 27, 2005, the NOAA research vessel *HĪĀLAKAI* sailed for what would have been the Northwestern Hawaiian Islands (NWHI) Coral Reef Ecosystem Reserve's 35-day research and monitoring cruise to the NWHI. Unfortunately, on August 29th, an explosion and fire occurred in the ship's port propulsion motor main breaker. No one was injured, and the ship's crew did an outstanding job in quickly bringing the fire under control and ventilating the ship. The ship safely made its way back to Honolulu on one engine and arrived on September 3rd. After completing repairs and conducting sea trials, the *HĪĀLAKAI* departed on September 15th to complete the NWHI Reef Assessment and Monitoring Program (RAMP) cruise with researchers from the Reserve, the Hawai'i Dept. of Land and Natural Resources, and the Hawai'i Institute of Marine Biology (HIMB). The cruise was modified to three weeks and focused on French Frigate Shoals and the northern three atolls. These locations represent the most biologically significant and sensitive areas, and allowed surveys in all major habitat types (forereef, backreef, lagoonal/patch reefs). Divers revisited long-term monitoring sites in these areas and conducted quantitative surveys of fish, coral, algae, and invertebrates. HIMB scientists working in partnership with the Reserve collected tissue biopsies from coral reef fishes and invertebrates for genetic analyses, and tagged apex predators such as sharks and jacks with acoustic tags to learn more about the behavior and habitats of these animals.

Underwater receivers deployed on this and previous cruises log "hits" whenever a tagged fish passes by, revealing patterns of space use and frequency of inter-reef migrations by these predators over time. Read more about the NWHI RAMP cruise at http://www.hawaiianatolls.org/research/NWHI_RAMP2005/index.php.

NWHI Mapping Cruise Departs on *HĪĀLAKAI*. The NOAA Ship *HĪĀLAKAI* departed Honolulu on October 11th to begin a 21-day benthic habitat mapping mission at Maro Reef in the Northwestern Hawaiian Islands (NWHI). The scientific party is composed of seven NOAA Fisheries/Pacific Islands Fisheries Science Center (PIFSC) and University of Hawai'i staff members. The mapping will be performed in depths between 20 and 250 meters using multibeam sonar aboard the *HĪĀLAKAI* and the survey launch R/V *AHI*. One of the primary goals of the mission is to complete the mapping required to define the 50-fathom isobath, which is needed to define the boundaries of the NWHI Coral Reef Ecosystem Reserve. In addition, bathymetry and acoustic backscatter imagery will be collected over large portions of the bank top. Maro Reef is home to one of the largest populations of lobsters in the NWHI and the data collected on this cruise will help PIFSC scientists improve their understanding of the life history of these creatures. Learn more about NWHI mapping at <http://www.pifsc.noaa.gov/cred/hmapping/nwhi.php>.

Reef Assessment and Monitoring Cruise Completed in CNMI and Guam. The Pacific Islands Fisheries Science Center Marianas Archipelago Reef Assessment and Monitoring Program (MARAMP) has completed the Commonwealth of the Northern Mariana Islands and Guam components of the 2005 field season. Scientific staff members aboard the NOAA Ship *OSCAR ELTON SETTE* are now

conducting the first ever baseline assessment of Wake Island. The *OSCAR ELTON SETTE* is expected to return to Honolulu at the end of October. Learn more about the MARAMP cruise at

<http://www.crm.gov.mp/maramp/default.asp>.

Marine Debris Removal Continues in the NWHI. The Pacific Islands Fisheries Science Center/Coral Reef Ecosystem Division (CRED) has completed the first month of its marine debris removal efforts at French Frigate Shoals in the Northwestern Hawaiian Islands (NWHI). To date, the marine debris divers have recovered 14,507 kg of debris and covered 10.91 km². Subject to weather conditions, they will be returning to Honolulu in mid-November having completed the five-year CRCP large-scale marine debris removal effort in the NWHI. Subject to funding, maintenance mode operations will commence in FY06. Learn more about the CRED marine debris removal efforts at

<http://www.pifsc.noaa.gov/cred/mdr.php>.

U.S. Coral Reef Task Force Members Meet to Develop Framework for Implementing its Resolution on Coral Spawning in the Pacific. On October 13th, 2005, Pacific-based members of the U.S. Coral Reef Task Force met via conference call to develop a framework for implementing its resolution to reduce impacts to coral spawning. The implementation of this resolution (downloadable at

<http://www.coralreef.gov/taskforce/resolutions/index.html>) was split between the

Atlantic/Caribbean and the Pacific regions because of differences in periodicity of spawning and the logistical challenge of differences in time zones, though it is hoped that overlap in the federal participation will help both efforts to benefit from one another. In preparation for the meeting, a webpage (<http://swr.nmfs.noaa.gov/pir/hcd/activities.htm>) was created with a short list of references known to capture the available scientific information relevant to coral spawning within

the respective jurisdictions. In reviewing this information, it became clear that strategies for minimizing impacts to spawning events would be different between jurisdictions. It was thus decided that each state/territorial-mandated fishery agency will take the lead in coordinating a local advisory committee to include the appropriate federal regulatory agencies in developing a strategy for its jurisdiction. Additionally, a draft template of best management practices to consider in managing coral spawning was also provided for review and input. The efforts and proposed actions resulting from this meeting will be summarized and submitted as an update to the U.S. Coral Reef Task Force.

Reward Offered for Information on Blast Fishers in American Samoa. A \$5,000 reward has been posted for information leading to the conviction of those responsible for the blast fishing at the Fagatele Bay National Marine Sanctuary. NOAA's Office of Law Enforcement posted the reward, with funding from both offices. A swarm of local media attention followed this announcement.

CORRECTION to September Coral Reef News. Under the "NOAA Co-Hosts Pacific Islands Marine Protected Areas Community Workshop" item in the September Coral Reef News, it should be added that the Marine Resources Pacific Consortium (MAREPAC) also provided support for the workshop that was held in Guam, August 28-31.

National/Headquarters

NOAA CRCP Hosts Two Regional Outreach and Education Workshops. NOAA's CRCP recently hosted two regional workshops to provide capacity-building training for coral reef outreach, education and management staff. A workshop for the Pacific Islands of American Samoa, Commonwealth of the Northern Mariana Islands, Guam, and Hawai'i was held in Honolulu in August, followed by a workshop

for the Caribbean/Atlantic region in September in Ft. Lauderdale including Florida, Gray's Reef, Puerto Rico, the U.S. Virgin Islands and the Bahamas. Over 63 participants representing 45 agency divisions and organizations participated in the two workshops, including five National Marine Sanctuaries and representatives from nine jurisdictions in organizations focused on public education, coral reef management, coastal zone management, waste management, and other resource concerns. Through a combination of panel discussions, training modules, and small group practice, the workshops built participants' skills in strategic planning, assessment, design, implementation, monitoring and evaluation necessary for promoting and sustaining environmental behavior change and designing effective education and communications programs. To build on the foundation of the workshops, dedicated funds have been set aside through the NOAA State and Territory Management Grants program in FY2006. The funds will be used for continued outreach and education capacity building at the jurisdictional level through more in-depth and intensive follow-up training and implementation assistance. Summary evaluations, a one-pager, and CDs with workshop materials are available for anyone interested. For more information on NOAA's coral reef outreach and education resources, visit

<http://www.coralreef.noaa.gov/outreach/welcome.html>.

Information Downloaded from CoRIS

Increases 56% in One Year. Due to increasing data and information contributions to NOAA's Coral Reef Information System (CoRIS), the number of visits to <http://www.coris.noaa.gov/> increased 88% from September 2004 to September 2005. This one-month comparison shows that the 58,405 visitors in September 2005 downloaded 9.7 gigabytes of data and information, and that the

31,074 visitors in September 2004 downloaded 6.2 gigabytes of data and information, an increase of 56%.

CORAL REEFS IN THE NEWS

Articles mentioning NOAA

“Expedition to Help Protect Florida's Unique Oculina Deepwater Reefs 30 Years After Their Discovery” – September 28, 2005 (Ascribe Newswire). “On Tuesday, Oct. 3, scientists will begin a nine-day expedition to explore one of Florida's most vital but least familiar marine resources -- the spectacular deepwater coral reefs of the Oculina Bank -- some 30 years after their discovery.”

<http://newswire.ascribe.org/cgi-bin/ behold.pl?ascribeid=20050928.134206&time=14%2019%20PDT&year=2005&public=0>

“Sept. 28 log aboard the Oscar Elton Sette's” – September 30, 2005 (Saipan Tribune, CNMI). “The Marianas Archipelago Reef Assessment and Monitoring Program 2005 cruise recently finished their shallow reef habitat assessment of Aguiguan, also known as Goat Island.”

<http://www.saipantribune.com/newsstory.aspx?cat=1&newsID=50954>

“Lingle signs off on fishing ban” – September 30, 2005 (Honolulu Advertiser).

“New rules for the Northwestern Hawaiian Islands will eliminate all commercial and recreational fishing in state waters along the entire 1,200-mile island chain, but will still allow Native Hawaiians access for cultural practices.”

<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20050930/NEWS14/509300365/1025/NEWS>

“Fishing banned in NW isles: New state rules create the nation's largest conservation area” – September 30, 2005 (*Honolulu Star-Bulletin*). “Fishing will be now banned and public access limited in the state waters surrounding the tiny islands and atolls of the Northwestern Hawaiian Islands, which stretch 1,200 miles across the Pacific Ocean.”
<http://starbulletin.com/2005/09/30/news/story07.html>

“Hawaii Creates State Marine Refuge” – September 30, 2005 (*The Associated Press in The Washington Post* and approx. 10 other outlets). “Hawaii has banned fishing around the tiny islands and atolls of the Northwestern Hawaiian Islands, home to endangered Hawaiian monk seals and sea turtles.”
<http://www.washingtonpost.com/wp-dyn/content/article/2005/09/30/AR2005093001181.html>

“Hawaii Governor Safeguards Northwestern Hawaiian Islands” – September 30, 2005 (*Environmental News Service*). “With the stroke of a pen, Hawaii Governor Linda Lingle Thursday created a marine refuge in all state waters in the Northwestern Hawaiian Islands.”
<http://www.ens-newswire.com/ens/sep2005/2005-09-30-04.asp>

“Rough seas can't shake Harbor Branch's coral expedition” – October 4, 2005 (*Palm Beach Post on MSNBC.com*). “Researchers from Harbor Branch and NOAA will examine *Oculina varicosa*, a rare species on the ocean floor.” <http://msnbc.msn.com/id/9587002/>

“Last log from the Oscar Elton Sette” – October 5, 2005 (*Saipan Tribune, CNMI*). “The Mariana Archipelago Reef Assessment and Monitoring Program 2005 cruise recently finished their shallow reef habitat assessment on Rota.”
<http://www.saipantribune.com/newsstory.aspx?cat=1&newsID=51070>

“Expedition to Help Protect Florida's Oculina Deepwater Reefs” – October 7, 2005 (*Newswise*). “On Wednesday, Oct. 12, 2005, scientists will begin a six-day expedition to explore one of Florida's most vital but least familiar marine resources--the spectacular deepwater coral reefs of the Oculina Bank--some 30 years after their discovery.”
<http://www.newswise.com/articles/view/515177/>

“Marine sciences thrived at lab in Tortugas” – October 11, 2005 (*The Key West Citizen on MSNBC*). “A group of scientists working at a laboratory on Loggerhead Key in the early 1900s demonstrated that necessity truly is the mother of invention.”
<http://msnbc.msn.com/id/9659310/>

“New cleanup efforts fight ocean debris” – October 12, 2005 (*Honolulu Advertiser*). “An estimated 40 tons of marine debris wash up on Hawaiian reefs and beaches each year, and while cleanup efforts are cutting into the accumulated tangles of nets, ropes, plastic bottles, medical waste and other trash, the stuff keeps rolling in with the surf.”
<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20051012/NEWS11/510120334/1001/NEWS>

“Hawaii Removes 125 Tons of Marine Debris” – October 12, 2005 (*The Associated Press in The Washington Post* and approx. 40 other outlets). “Teams led by the National Oceanic and Atmospheric Administration's Fisheries Service collected more than 125 tons of debris in the Northwestern Hawaiian Islands last year, up from the 5 tons they gathered in 1996.” <http://www.washingtonpost.com/wp-dyn/content/article/2005/10/12/AR2005101202008.html>

“Divers say sewage killing coral reef off Boynton Beach” – October 16, 2005 (*The Associated Press in The Bradenton Herald* and approx. 15 other outlets). “State environmental regulators are investigating a pump that's dumping treated sewage into the Atlantic Ocean after recreational scuba divers said it was killing a coral reef.”
<http://www.bradenton.com/mld/bradenton/12918695.htm>

“Reef off Daytona Beach gets checkup” – October 18, 2005 (*Daytona Beach News-Journal, FL*). “Figuring out whether a coral reef is healthy isn't as easy as sticking a thermometer under the ocean. Especially when you're talking about an ecosystem that lies some 300 feet below the surface in the treacherous waters of the Gulf Stream.”
<http://www.news-journalonline.com/NewsJournalOnline/News/Local/03AreaEAST03ENV101805.htm>

“Scientists scour rare reef” – October 18, 2005 (*Florida Today*). “Lance Horn carefully steered the remote-controlled robot to a bizarre realm of jagged, ivory-like pinnacles, adorned with alien creatures of brilliant color.”
<http://www.floridatoday.com/apps/pbcs.dll/article?AID=/20051018/NEWS01/510180328/1006>

“Council approves resolution to protect Northwestern Hawaiian Islands” – October 18, 2005 (*The Garden Island, Kauai*). “Keiko Cecilia Bonk, a former chairman of the Hawai'i County Council, joined forces with Kaua'i County Councilwoman JoAnn Yukimura in pushing through a council resolution to protect the North-western Hawaiian Islands.”
<http://www.kauaiworld.com/articles/2005/10/18/news/news02.txt>

“Protection of reefs, beaches aired at submerged lands conference” – October 20, 2005 (*The Virgin Islands Daily News*). “ST. JOHN - Planning and conservation officials came together on the fourth day of the 24th International Submerged Lands Management Conference to discuss ways to protect the territory's marine resources.”
<http://www.virginislandsdailynews.com/index.pl/article?id=9534667>

“Creation of ‘Ocean Yellowstone’ off Hawaii Urged” – October 23, 2005 (*OneWorld US*). “Environmental organizations seeking to protect aquamarine waters surrounding Hawaii's northwestern islands, reefs, and atolls won a big battle last month, but are now pushing to extend their victory into federal waters.”
<http://us.oneworld.net/article/view/120985/1/>

“Warm Oceans Threaten Caribbean Coral Reefs” – October 25, 2005 (*The Los Angeles Times*). “The extremely warm ocean waters fueling this season's record hurricane season are stressing coral reefs throughout the Caribbean and may kill 80% to 90% of the structures in some areas, scientists reported Monday.”
<http://www.latimes.com/news/nationworld/nation/la-na-coral25oct25,0,1904338.story?coll=la-home-nation>

“Unusually Warm Caribbean Sets Off Bleaching of Coral” – October 25, 2005 (*The Washington Post*). “Unusually warm temperatures in the Caribbean have caused severe coral bleaching in recent weeks that could permanently damage many reefs, according to the National Oceanic and Atmospheric Administration.”
<http://www.washingtonpost.com/wp-dyn/content/article/2005/10/24/AR2005102401647.html>

“Fishing ban in reserve sought” – October 25, 2005 (*Honolulu Star-Bulletin*).

“Commercial fishing that is responsible for about a third of Hawaii's bottom-fish catch is threatening the Northwestern Hawaiian Islands, two national conservation organizations said yesterday.”

<http://starbulletin.com/2005/10/25/news/story04.html>

“Fishing ban in NW isles sought” – October 25, 2005 (*Honolulu Advertiser*).

“A Washington, D.C., ocean conservation group is calling for a complete ban on fishing in the Northwestern Hawaiian Islands, contending that the supply of such choice varieties of bottomfish as 'opakapaka and ha-pu'upu'u are steadily declining and could hit the "overfished" level within four years.”

<http://the.honoluluadvertiser.com/article/2005/Oct/25/ln/FP510250315.html>

“Study: Northwestern Hawaiian Islands fish in danger” – October 25, 2005 (*The Associated Press in the San Diego Union-Tribune* and approx. 5 other outlets).

“Commercial fishing has sharply depleted numbers of several species in the Northwestern Hawaiian Islands and threatens the health of the pristine island chain's ecosystem, according to a private study released Monday.”

<http://www.signonsandiego.com/news/science/20051025-0835-wst-overfishing-hawaii.html>

“NOAA Rejects Fishing in Northwestern Hawaiian Islands” – October 26, 2005

(*Environmental News Service*). “In the midst of a public process to designate the Northwestern Hawaiian Islands as the nation's 14th marine sanctuary, NOAA has rejected a fisheries proposal for the 1,200 mile long island chain from the Western Pacific Fisheries Management Council (WESPAC).”

<http://www.ens-newswire.com/ens/oct2005/2005-10-26-09.asp#anchor1>

“NW Isles fish catch at issue” – October 27, 2005 (*Honolulu Star-Bulletin*).

“A regional council's proposed fishing rules for the Northwestern Hawaiian Islands are not in agreement with the goals of a national marine sanctuary there, the federal agency that oversees both fishing and sanctuary programs said yesterday.”

<http://starbulletin.com/2005/10/27/news/story11.html>

Other articles

“Sea shells’ beauty and peril” – September 28, 2005 (*USA Today*).

“...The scientists note that [depletion of carbonate in oceans] could also affect coral reefs. They warn, ‘Our findings indicate that conditions detrimental to high-latitude ecosystems could develop within decades, not centuries, as suggested previously.’”

http://www.usatoday.com/tech/science/discoveries/2005-09-28-sea-shells-threat_x.htm

“Marine Organisms Threatened By Increasingly Acidic Ocean: Corals and Plankton May Have Difficulty Making Shells” – September 29, 2005 (*YubaNet*).

“A new study by an international team of oceanographers published in the September 29, 2005 issue of *Nature* reports that ocean acidification could result in corrosive chemical conditions much sooner than previously thought.”

http://www.yubanet.com/artman/publish/article_25750.shtml

“Ancient oceans were acidic too” –

September 29, 2005 (*ABC Science Online, Australia*).

“Increasing acidity in the Coral Sea east of Australia has so far been due to natural weather cycles and has not harmed corals, say scientists. But they warn further research is needed, as ocean acidity from increasing carbon dioxide (CO₂) emissions is likely to threaten marine life in the future, and may

already be a problem in other oceans.”

<http://www.abc.net.au/science/news/stories/s1470355.htm>

“Anthropogenic ocean acidification over the twenty-first century and its impact on calcifying organisms” – September 29, 2005 (*Nature*). “Today's surface ocean is saturated with respect to calcium carbonate, but increasing atmospheric carbon dioxide concentrations are reducing ocean pH and carbonate ion concentrations, and thus the level of calcium carbonate saturation.”

<http://www.nature.com/nature/journal/v437/n7059/full/nature04095.html>

“Preindustrial to Modern Interdecadal Variability in Coral Reef pH” – September 30, 2005 (*Science*). “...Large variations in pH are found over ~50-year cycles that covary with the Interdecadal Pacific Oscillation of ocean-atmosphere anomalies, suggesting that natural pH cycles can modulate the impact of ocean acidification on coral reef ecosystems.”

<http://www.sciencemag.org/cgi/content/full/309/5744/2204?rss=1>

“Bipartisan backing for sea coral” – October 3, 2005 (*The Washington Times*). “A piece of environmental legislation introduced recently in the Senate to protect sea coral and sponges has drawn wide bipartisan support.”

<http://washingtontimes.com/national/20051002-105301-8947r.htm>

“Unsafe Harbor” – October 3, 2005 (*TIME*). “Natural barriers that might have slowed Rita and Katrina were ruined long ago by human development along the fragile Gulf Coast. How Louisianans plan to protect themselves by protecting the environment first.”

<http://www.time.com/time/magazine/article/0,9171,1112829,00.html>

“Health of coral reefs detected from orbit” – October 3, 2005 (*European Space Agency News*). “Australian researchers have found Envisat's MERIS sensor can detect coral bleaching down to ten metres deep. This means Envisat could potentially monitor impacted coral reefs worldwide on a twice-weekly basis.”

http://www.esa.int/esaCP/SEMCA4Y3EE_index_0.html

“Worldwide Coral Health Monitoring From Space Now Possible” – October 4, 2005 (*Environmental News Service*).

“Australian researchers have found that a sensor orbiting aboard a European satellite can detect coral bleaching down to ten meters (39 feet) underwater.”

<http://www.ens-newswire.com/ens/oct2005/2005-10-04-01.asp>

“Call to ban destructive fishing” – October 4, 2005 (*BBC News*). “Conservation groups are calling for a UN moratorium on the fishing practice known as bottom trawling.”

<http://news.bbc.co.uk/1/hi/sci/tech/4308156.stm>

“Mitsubishi Corp. Launches Coral Reef Conservation Project” – October 4, 2005 (*GreenBiz, DC*).

“Mitsubishi Corp. has launched The Global Marine Research Project in Japan, the Americas, and Europe/Africa. The six-year project aims to make a social contribution and protect the environment by working to maintain the health of coral reefs and develop and introduce technology for coral reef restoration.”

http://www.greenbiz.com/news/news_third.cfm?NewsID=28902

“Philippine province files mining company lawsuit in Las Vegas” – October 4, 2005

(*Associated Press in the Las Vegas Sun and approx. 35 other outlets*). “A Philippine provincial government filed a lawsuit Tuesday in Nevada accusing Canadian mining giant Placer Dome Inc. of damaging the environment

and health of residents of an island about 100 miles south of Manila.”

<http://www.lasvegassun.com/sunbin/stories/news/2005/oct/04/100410053.html>

“State to pay \$52M for polluting waters” – October 7, 2005 (*Honolulu Advertiser*). “The state Department of Transportation has agreed to pay \$52 million in one of the nation's largest stormwater violation settlements.”

<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20051007/NEWS11/510070352/1001/NEWS>

“Violations cost state \$52M” – October 7, 2005 (*Honolulu Star-Bulletin*). “Federal and state agencies have reached an agreement with the Hawaii Department of Transportation over storm water violations that will cost the state about \$52 million.”

<http://starbulletin.com/2005/10/07/news/story05.html>

“Hawaii’s tropical fish falling prey to light rules” – October 10, 2005 (*The Associated Press in The Washington Post* and approx. 35 other outlets). “...While the islands are valued the world over for their spectacular coastlines and aquamarine waters, the industry of harvesting fish and other marine creatures for home aquariums is largely unregulated here, raising concerns over damage to the environment, the tourism industry and the aquarium fishery itself.”

<http://www.washingtonpost.com/wp-dyn/content/article/2005/10/10/AR2005101000123.html>

“Vermont deal protects section of world’s oldest coral reef” – October 11, 2005 (*The Boston Globe*). “MONTPELIER, Vt. --A 71-acre site on Lake Champlain that contains sections of what is believed to be the world's oldest reef in which coral has been found will be preserved and opened to the public under an agreement announced Tuesday.”

http://www.boston.com/news/local/vermont/articles/2005/10/11/vermont_deal_protects_section_of_worlds_oldest_coral_reef/

“Treated sewage triggering algae blooms that endanger popular coral reef” – October 16, 2005 (*South Florida Sun-Sentinel*). “A pipe dumping millions of gallons of treated sewage into the Atlantic Ocean daily from a wastewater plant operated by Delray Beach and Boynton Beach is triggering algae blooms that have killed part of a popular coral reef.”

<http://www.sun-sentinel.com/news/local/southflorida/sfpsewerpipe16oct16,0,4870802.story?coll=sfla-news-front>

“Saltwater fish face uncertain future” – October 16, 2005 (*The Miami Herald*). “Here in Florida, the Fishing Capital of the World, the fish are fewer and smaller every year.”

<http://www.miami.com/mld/miamiherald/12912183.htm%5C%22>

“Global warming takes toll on Africa’s coral reefs” – October 18, 2005 (*Reuters*). “Global warming is taking a toll on coral reefs off east Africa, which will likely be killed off in a few decades if sea surface temperatures continue to rise, a leading researcher warned on Tuesday.”

<http://www.alertnet.org/thenews/newsdesk/L18737496.htm>

“Reef studies gauge global warming threats” – October 18, 2005 (*Honolulu Star-Bulletin*).

“Growth of reef-building corals and other marine organisms could be inhibited as the oceans become more acidic from increased carbon dioxide, University of Hawaii researchers have found.”

<http://starbulletin.com/2005/10/18/news/story13.html>

“Carbon dioxide may hinder coral” – October 19, 2005 (*The Associated Press in the Honolulu Advertiser*). “University of Hawai’i researchers have found that higher levels of carbon dioxide in the ocean could significantly slow the growth of coral.”

<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20051019/NEWS11/510190361/1021/NEWS>

“International marine conservation conference to be held in Melbourne” –

October 23, 2005 (*ABC Online, Australia*).

“A significant proportion of the world's coral reefs could be lost within the next 50 years as a result of climate change, according to the World Conservation Union.”

<http://www.abc.net.au/am/content/2005/s1488956.htm>

“Call for better marine conservation” – October 23, 2005 (*Australian and approx. 10 other outlets*).

“AUSTRALIA could play a leading role in helping protect the world's marine resources under threat from the impact of climate change, the World Conservation Union said.”

http://www.theaustralian.news.com.au/common/story_page/0,5744,17015417%255E29277,00.html

“Scientists draft blueprint to protect world oceans” – October 25, 2005 (*Reuters*).

“International scientists are mapping out a plan for a network of marine parks to save the world's oceans from fish stock depletion and growing pollution.”

<http://today.reuters.com/News/CrisesArticle.aspx?storyId=SYD338241>

“Half of Coral Reef Could Be Destroyed” – October 25, 2005 (*The Associated Press on ABC News and approx. 35 other outlets*).

“Nearly half of the world's coral reefs may be lost in the next 40 years unless urgent measures are taken to protect them against the threat of climate change, according to a new report released Tuesday by the World Conservation Union.”

<http://abcnews.go.com/Technology/wireStory?id=1248275>

“New protected areas for Papua New Guinea” – October 26, 2005 (*WWF International*).

“The government of Papua New Guinea announced today that it will gazette 12 new protected areas covering some of the country’s most biologically diverse forests, wetlands and coral reefs.”

http://www.panda.org/news_facts/newsroom/news.cfm?uNewsID=24257

“Artificial reef off Ma’ili gets bigger, better” – October 27, 2005 (*Honolulu Advertiser*).

“A contractor for the state has dropped about 1,200 Z-shaped concrete fish habitats in the ocean off Ma’ili to enlarge the Wai’anae Artificial Reef.”

<http://www.honoluluadvertiser.com/apps/pbcs.dll/article?AID=/20051027/NEWS01/510270368/1190/NEWS>

“Cozumel's coral reefs severely damaged, tourists still trapped in Cancun” – October 27, 2005 (*Cyber Diver News Network*).

“Tourists camped out in hopes of grabbing a precious seat on flights leaving Mexico's hurricane-ravaged Caribbean coast, and some residents of Cancun's poorer neighborhoods armed themselves with machetes and erected barricades to ward off looters.”

<http://www.cdninfo.com/news/travel/t051027.html>

UPCOMING EVENTS

If you have events you would like listed in future newsletters please contact coralreef@noaa.gov.

October 2005

31 – Nov. 2: **Sustainable Beaches Conference 2005**. St. Petersburg, FL.

<http://www.cleanbeaches.org/events/summit/2005/>

31 – Nov. 2: **International Coral Reef Initiative General Meeting**. Koror, Palau.

<http://www.icriforum.org/secretariat.html>

November 2005

4 – 7: **14th U.S. Coral Reef Task Force Meeting**. Koror, Palau.

<http://www.coralreef.gov/meetings/announcements.html>

7 – 11: **Gulf and Caribbean Fisheries Institute Conference**. Note sessions relating to coral reef ecosystems (e.g. spawning aggregations, marine protected areas, etc.). San Andres Island, Colombia. <http://www.gcfi.org/Conferences/58th/SanAndres58.htm>

28 – 30: **9th Virgin Islands Nonpoint Source Pollution Conference**. St. John, USVI.

<http://usvired.org/NPS/VINPSconf2005.index.html>

28 – Dec. 2: **Third International Symposium on Deep-Sea Corals**. Miami, FL.

<http://www.conference.ifas.ufl.edu/coral>

February 2006

13 – 16: **4th International Conference for the Marine Ornamental Community – Marine Ornamentals 2006**. Las Vegas, NV. Abstracts due Nov. 1, 2005.

<http://www.hawaiiacquaculture.org/marineornamentals06.html>

20 – 24: **13th Ocean Sciences Meeting**. Honolulu, HI. <http://www.agu.org/meetings/os06/>

March 2006

1 – 2: **15th U.S. Coral Reef Task Force Meeting**. Dates tentative.

<http://www.coralreef.gov/meetings/announcements.html>

6 – 10: **World Maritime Technology Conference**. London, England. Note Technical Programme on Reefs of the World. <http://www.wmtc2006.com/technical/rw/>

April 2006

19 – 21: **First International Symposium on Mangroves as Fish Habitat**. Miami, FL.

<http://www.rsmas.miami.edu/conference/mangrove-fish-habitat/>

May 2006

14 – 17: **The Coastal Society 20th Biennial Conference, Charting a New Course: Shaping Solutions for the Coast**. St. Pete Beach, FL. <http://www.thecoastalsociety.org/conference/tcs20/>

June 2006

24 – 28: **Society for Conservation Biology: 20th Annual Meeting – Conservation Without Borders**. Abstracts due Oct. 15, 2005. San Jose, CA. <http://www.conbio.org/2006/>

Questions, comments?

Contact coralreef@noaa.gov, NOAA Coral Reef Conservation Program.

Access to NOAA's coral reef data and information is provided through NOAA's Coral Reef Information System at <http://www.coris.noaa.gov>. Current news on NOAA's coral reef activities can be found on the NOAA Coral Reef Conservation Program Web site, <http://www.coralreef.noaa.gov>.

