

A Publication of the Oceanic Resource Foundation Dedicated to the Protection of the Marine Environment

Acoustic Thermometry of Ocean Climate

The adverse affects of low-frequency sound on whales and other marine mammals remains poorly studied, but it appears that they could be dramatic. Deep diving whales seem to be especially affected by low-frequency sounds at quite low levels. Look for more ATOC-related strandings in 1998.

The Acoustic Thermometry of Ocean Climate (ATOC) project being conducted by Scripps Institution of Oceanography has been a controversial undertaking since it's inception. Many marine conservation groups became concerned with the project when it came to public attention in 1995, because it involves the injection of powerful acoustic signals into the ocean which may adversely affect marine mammals. Since receiving permits for the project from the California Coastal Commission on June 15, 1995 and from the National Oceanic and Atmospheric Administration (NOAA) on July 14, 1995, Scripps has stated that the project should have little effect on marine life.

The intent of the project, as described by Scripps, is to obtain long term information about global warming through "basin-scale" (entire ocean) measurements of ocean temperatures. The concept is simple. Sound travels faster in warm water than in cold water. The travel times of sounds generated by two ATOC sources (California and Hawaii) to various receivers in the North Pacific are related to water temperature. Scripps expects the

ATOC program to demonstrate that it is possible to monitor ocean temperature over the entire North Pacific with the two sound sources and a combination of special ATOC-designed receivers and a network of existing U.S. Navy seabed receivers. The data from the program is to be used to improve computer climate modeling. Virtually all climate models suggest global warming trends over the next several decades with the ocean playing a profound role.

However, since obtaining permits, Scripps has acknowledged that the ATOC was never expected to provide much information on global warming. Dr. Walter Munk, principal investigator at Scripps, was quoted as saying that the program never had anything to do with global warming or the greenhouse effect, but only small scale ocean climate. Oblivious to this statement, on October 6, 1995, the National Marine Fisheries Service approved a permit for the installation of the second ATOC source off the Na Pali coast of Kauai, Hawaii. Sponsorship for the ATOC project has come from the U.S. Department of Defense through the

Advanced Research Project Agency (ARPA), and the connection to the military has given rise to allegations that the project may have little to do with climate change and more to do with the detection of and communication with submarines.

In answer to concerns raised by the Humane Society, American Oceans Campaign, Earth Island Institute, Environmental Defense Fund, League for Coastal Protection, and the Natural Resources Defense Council, the Marine Mammal Research Program (MMRP) was added. In an agreement with the environmental groups, Scripps refocused the California portion of the project as a two-year effort that would study the effects of the sound source on marine mammals.

In early November 1995, three dead humpback whales were found in Northern California. It was subsequently learned that Scripps had turned on the sound source twelve times between October 28 and November 2, 1995 for

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Baja Symposium

“engineering tests” during installation. Probable times of death for the whales includes the times of the engineering tests. These tests were conducted without the control of the MMRP marine biologists who were required to monitor all transmissions. Scripps violated the terms of its permits with the National Marine Fisheries Service and the California Coastal Commission, and the terms of its agreement with the six environmental groups by conducting these tests.

no “results indicating that any species shows any biologically significant adverse response to ATOC or ATOC-like sounds.” However, research results presented at an International Marine Mammal Conference (Monaco) by John Calambokidis indicate that humpback and sperm whales and Pacific white-sided dolphins were seen significantly farther from the sound source during experimental periods.

In addition to the whale deaths in California and Hawaii closely linked to ATOC transmission events, *Nature* magazine (March 5, 1998) has reported a mass stranding of 12 Cuvier’s beaked whales that coincided closely with NATO military tests in the Greek Ionian Sea (Kyparissiakos Gulf) of a Low Frequency Active Sonar (LFAS) system.

The adverse affects of low-frequency sound on whales and other marine mammals remains poorly studied, but it appears that they could be dramatic. Lindy Weilgart, a Canadian marine biologist, has done extensive research on sperm whales and believes them to be very sensitive to

sound. Deep diving whales seem to be especially affected by low-frequency sounds at quite low levels.

A “call for action.”

Turtle researchers are filled with enthusiasm following the recent Sea Turtle Symposium held in Mazatlan, México. This enthusiasm has prompted Wallace J. Nichols with the University of Arizona to send out a “call for action” to conservation groups in Baja California.

A Mini-Symposium is being planned for the Fall of 1998 to be held in the town of San Carlos near Bahia Magdalena. This meeting is expected to bring together non-government organizations such as the Asociación Sudcaliforniana de Protección al Medio Ambiente y la Tortuga Marina (ASUPMATOMA), community based groups, fishermen, marine researchers, and other individuals with a vested interest in the protection of Baja’s marine resources.

Sponsors are expected to include ASUPMATOMA, Baja Life magazine, Aero Calafia, and Hotel Bahia Los Frailes. Organizations interested in providing funding or individuals who wish to participate in the meeting are urged to contact “J” Nichols via email at jnichols@ag.arizona.edu or Greg Carter at gcarter@orf.org. Sr. Rene Pinal with ASUPMATOMA may be contacted in Cabo San Lucas via FAX at 011-52-114-3-01-34



The Scripps “boom-box” that rests on the seabed.

On May 14, 1997, Adam Frankel and Chris Clark with the MMRP stated that there are

Did you know...

Hatchling turtles driven by their inborn swimming frenzy have been clocked at speeds up to 2.7 kilometers per hour, and may travel more than 20 km in the open ocean in their first 8 hours of life.

Giving for the Future

It is through the generosity and dedication of supporters that allows the Oceanic Resource Foundation to continue our programs to help protect the marine environment. We are especially grateful to those individuals whose assets and family situations allow planned giving.

Charitable remainder trusts benefit the donor by allowing use of the trust income and providing freedom from asset management. Significant tax advantages are also realized through capital gain exemptions.

The only wealth necessary to make a bequest to ORF by will is generosity of the heart. For information on charitable trusts, consult your personal tax advisor or ORF at 888-835-9478.

International Year of the Ocean

This is probably not the first time you have seen that phrase, and if we do our job as stewards of the event, it won't be the last. This is about raising awareness. For those of us who spend our recreation time involved in an ocean sport or have made the ocean our life's work, we are painfully aware of the condition of this water wonderland.

We have recorded thousands of beach closures in a single year due to pollution. We have collected millions of pounds of trash from our coasts on one annual cleanup day. The incidence of disease in coral reefs has quadrupled. Viral tumors in sea turtles are spreading worldwide. We seem helpless to stop poaching of turtle eggs. Industrial chemicals, pesticides and fertilizers pollute our most productive coastal zones. Technetium-99 radioactive waste is being discharged into the Irish Sea at levels exceeding 180 terabecquerels. Vital coastal mangrove areas are being stripped for firewood and to provide space for shrimp farms. Wetlands, which exceed rain forests in

terms of bioproductivity, continue to be destroyed in the US at a rate of more than 300,000 acres per year.

We know the impact on the ocean ecosystem to feed the world's population. We have witnessed the collapse of commercial fisheries around the world. Atlantic swordfish are being caught before they are old enough to breed and swordfish in the Mediterranean are being wiped out. Miles of driftnets continue to cut paths of death through the ocean. Shrimp trawlers continue to wreck untold damage to the ocean bottom and needlessly kill thousands of turtles. Shark populations are being decimated for their dorsal fins. North and South Atlantic bluefin tuna may be headed for the endangered species list. Slow-moving grouper are being caught near the Philippines, where they gather in thousands to spawn, and are being wiped out in a single generation. The orange roughy fishery off New Zealand has been devastated in twenty years because the species is long-lived and takes 25 years to

reach sexual maturity. Atlantic cod, haddock and flounder fisheries off Newfoundland and the Georges Banks have collapsed. Beluga sturgeon are extinct in the Adriatic and endangered in the Caspian Sea. Pacific salmon are overfished and the fishery is being impacted by dams, logging and pollution in the rivers where they spawn. Patagonian toothfish are being wiped out in Antarctica. And the list goes on. The worldwide harvest of ocean fisheries was more than 90,000,000 tons in 1995, not including the hundreds of millions of fish killed and tossed overboard as bycatch. Gulf of Mexico shrimp trawlers caught and threw away approximately 34 million red snapper in 1995, while the snapper fishery averages only 3 million fish.

What can one person do to halt this destruction of the marine ecosystem? Make your voice heard through a letter to a government representative or by joining an organization. Write a letter and become an active member today.

IYO - Global Events

IYO - PHILIPPINES

The National Committee on Marine Sciences (NCMS) has initiated a nationwide Adopt-A-Reef program. This program encourages government agencies and institutions to protect coral reefs in Philippine waters. The NCMS has encouraged the government to highlight the Tubbataha Reef at the EXPO '98 in Lisbon. The Philippines will also be sponsoring the 3rd International Seagrass Biology Workshop to be held April 19-25, 1998. A National Symposium on Sustainable Tourism for the 21st Century will be focusing on Palawan, the country's last frontier. An Integrated Management Plan has been approved in principal for Ulugan Bay in Palawan to meet the long term needs of the people and the coastal marine environment.

IYO - MALAYSIA

The Malaysian government is launching a campaign aimed at increasing public awareness and protection of endangered sea turtles. As part of the campaign, the government plans to create a Marine Turtle's Fund and designate two turtle sanctuaries.
Kuala Lumpur Star

IYO - MOZAMBIQUE

Swiss watchmaker Swatch plans to donate the proceeds of a new watch design to help fund efforts to protect whales, dolphins and other wildlife along Mozambique's Bazaruto Archipelago. The waters surrounding the five-island chain are reported to be home to more than 80% of all marine fish of the Indo-Pacific region.
World Wildlife Fund release

IYO - PERU

Peru will be sponsoring scientific conferences on coastal zone management and the El Niño phenomenon, and a Symposium on the Importance of the Pacific Ocean. Government authorities and university students will be offered ocean cruises to the Central Zone Islands, the Lobos de Afuera Islands, and the North and South Littoral. A Maritime Atlas of Peru, a Catalog of Historical Tsunamis, and an Investigation on Marine Pollution will be published.

IYO - THAILAND

The Thai government is emphasizing the importance of reef conservation for sustainable development by advertising some of the world's best diving, including the World Heritage Site, the Similan and Surin Islands.

Baja's Saltworks and the Gray Whales

Is the Baja California Peninsula a "wastelands with little biodiversity and no known productive use" as Mitsubishi Corporation would have us believe?

IGNACIO
SAN
LAGUNA
PRESERVE

The Mexican salt company Exportadora de Sal (ESSA) and Mitsubishi Corporation are planning to expand their salt mining operations in the Vizcaino Desert Reserve, a Mexican Biosphere Reserve and a United Nations World Heritage site. ESSA and Mitsubishi claim, in their initial environmental impact assessment (EIA), that no damage to Laguna San Ignacio and the surrounding biosphere would occur because they believe the site to be "wastelands with little biodiversity and no known productive use."

The San Ignacio Lagoon now remains the only unspoiled of three bays on the Pacific coast of the Baja California peninsula where migrating gray whales winter to breed and bear their young. This 2,546,790 hectare Biosphere, formed by Presidential decree in 1988, is also home to marine turtles, dolphins, pronghorn antelope, mountain lions, coyotes, peregrine falcons, golden eagles, black brant geese, osprey, and blue-wing teals.

ESSA has operated a similar salt mining operation at Guerrero Negro for thirty years and in that time has destroyed an ecosystem once as pristine as Laguna San Ignacio. Whales no longer visit Guerrero Negro and have moved to Scammon's Lagoon to the south. Ocean-going ship traffic, pollution, changes to the lagoon's salinity and temperature due to continuous saltworks pumping, and landside infrastructure construction are the causes. The

proposed construction at Laguna San Ignacio is expected to permanently impact the entire reserve. The construction of a mile-long pier at the mouth of the lagoon and other facilities would devastate the marine ecosystem including estuaries and mangrove forests.

In 1995, the National Ecology Institute of Mexico rejected the EIA submitted by ESSA, citing the project's incompatibility with the reserve's designation as a UN World Heritage site and the proximity to the lagoon. Pressure from the Mexican environmental organization Grupo de los Cien (Group of 100) and the international environmental community is credited with stopping the project. ESSA has filed an appeal with the Mexican government. Mitsubishi and ESSA are preparing a new EIA and hope to form a "blue ribbon panel of world renowned scientists" to help gain approval. The new EIA is to be submitted before the National Ecology Institute in early 1999.

In 1996 a new scientific committee issued scientific terms of reference for the new EIA. Additionally, social and economic terms of reference must be addressed. The scientific terms of reference (TOR) include:

- Maps of the project, impact areas and existing ecosystems.
- A study of the construction that identifies potential harm, and plans for protection of the environment during and after construction. Special focus is required for the pier.
- A study on toxic by-products and water

quality.

- A study on pumping from the lagoon, including the effects of noise on whales and birds.
- A study on the evaporation ponds and dikes.
- A study on the affected areas and the utilization of fresh water resources.
- Several studies are required on the land-based and marine flora and fauna with a separate study to be done on the whales. These studies should include inventories



Up close and personal with San Ignacio's gentle gray whales.

NRDC / Richard Sobol / IFAW

of commercial, endangered and indigenous species. Comparisons must be made to the existing Guerrero Negro project.

Laguna San Ignacio is critical to the survival of the gray whale. The loss of this biosphere has the potential of reversing five decades of cooperation between the US, Mexico and Canada in returning the gray whale from the brink of extinction. Additionally, it is expected that the Mitsubishi / ESSA project will have a negative impact on the local community. Many residents earn their livelihoods from small-scale fishing and whale

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Shark Finning in Palau

Palau is an island republic of which diving legends are made. Crystal blue waters teeming with a myriad of exotic tropical species draw scuba divers from around the world. Now Palau is selling off these irreplaceable natural resources to Asian fish markets through the issuance of fishing licenses for an annual fee of \$1,500-\$3,000 depending upon the tonnage of the boat. For this minimal fee, Asian fishermen are in turn stripping a resource which supports a multi-million dollar diving and tourist industry. A single bluefin tuna of 700 pounds can bring more than \$68,000 on the Tokyo fish market and Palau receives little for this exploitation of its fisheries.



Dive Travel Magazine / Ron Leidich photo

Longline fishermen are licensed by Palau to catch only tuna and tuna-like fish, but are also allowed to take species caught incidentally to tuna. This does not include sharks, but it has been observed that many longliners are using steel cable leaders rather than monofilament which sharks can sever. Dried shark fins sell for \$350-\$400 per kilo in most Asian markets and this does not motivate many fishermen to release the sharks. The use of the cable leader also seems to indicate specific intent to illegally catch sharks. Fishing vessels flaunt their catch while tied up in Malakal Harbor by drying their illegal harvest of shark fins in the ship's

rigging. The intense fishing pressure is noticeably depleting all of Palau's normally abundant pelagic species. Besides the overfishing of Palau's waters, fishing vessels further impact the fragile marine environment by dumping offal and raw sewage in Malakal Harbor. Coral growth is beginning to die and people no longer fish or swim in the harbor. ORF is requesting individuals to register their concern about the depletion of Palau's fragile waters. Please direct a written protest to the President of Palau or contact Ron Leidich.

Honorable Kuniwo Nakamura, President, Republic of Palau.

Ron Leidich c/o Sam's Dive Tours, P.O. Box 428, Koror, Republic of Palau 96940 FAX 011-680-488-5003

Baja Saltworks *continued from page 4*

watching. The possible collapse of subsistence fisheries and disappearance of the gray whales will irreparably end their ability to earn a living through fishing and eco-tourism. Environmental groups including the Grupo de los Cien, the Natural Resources Defense Council, Earth Island Institute, and the Oceanic Resource Foundation oppose this project and seek the support of the global community. It is expected this issue will be strongly influenced by international public opinion and individuals are encouraged to write to the individuals listed below to protest the planned saltworks at Laguna San Ignacio.

Stop-Don't Buy Mitsubishi

Express your concerns about the planned saltworks at Laguna San Ignacio in Baja California. Write a letter today!

Tohei Takeuchi, President
Mitsubishi Corporation
6400 Katella Avenue
Cypress, CA 90630

Minoru Makihara
Mitsubishi International
520 Madison Avenue
New York, NY 10022

Dick Recchia
Mitsubishi Motor Sales
6400 Katella Avenue
Cypress, CA 90630

Ernesto Zedillo
President of Mexico
Mexican Consulate
2401 W. 6th Street
Los Angeles, CA 90057

Jesus Silva Herzog
Ambassador of Mexico
Mexican Embassy
1911 Pennsylvania Ave. N.W.
Washington, DC 20006

Julia Carabias
Ministerio de Ecologia
Periferco sur 4209, Sexto Piso
Fracc. Jardines de La Montana
México City, México 14210

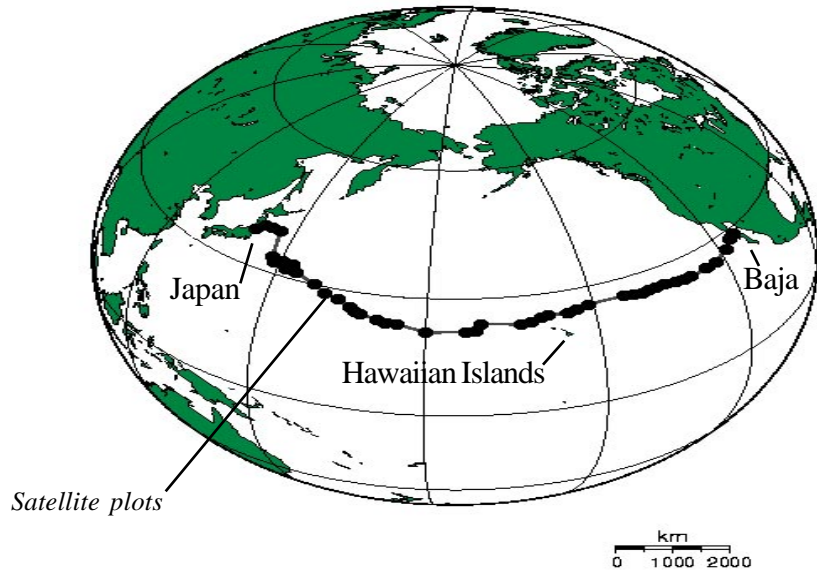
Did you know...

46.3 million pounds of lobster were caught in 1997 off the coast of Maine. A collapse of the lobster fishery is predicted as more than 90% of the catch were minimum sized and too young to reproduce.

Adelita Travels the Globe

Did anyone check her passport?

Of growing concern to marine biologists, environmentalists, governments and fishery managers is how to adequately protect global ocean resources for future generations. Many countries are expanding their coastal management zones to either protect marine ecosystems and fishery populations or to simply isolate the fish stocks for their own economic gain. We are learning through satellite tracking that many marine creatures do not recognize these man-made borders. Pelagic species such as the blue fin tuna, billfish and white sharks range vast areas of the open ocean, crossing the coastal management zones of many countries as they follow ancient migratory patterns. Pacific gray whales migrate from the warm waters off the Baja California peninsula, where they breed and bear their young, to the Arctic waters where they feed. Sea turtles also travel great distances to breed, lay their eggs and forage. A recent satellite tracking project by Wallace J. Nichols and Jeffrey Seminoff with the University of Arizona and Antonio Resendiz with Centro Regional de Investigaciones Pesqueras, Ensenada, Baja California, revealed that Adelita, Loggerhead tag 7667, traveled from the coastal foraging grounds of Baja across the Pacific past the Hawaiian Islands to the nesting sites on the coast of Kyushu Island, Japan. This represents a year-long journey of nearly 15,000 kilometers. From this type of data, we realize that if we are to preserve these endangered species, we must protect not only the coastal zones where they feed and beaches where they nest, but the open ocean that they traverse. It serves little purpose to protect marine species in one small area of their migratory path only to have them hunted to extinction at another location on the globe. Impacts to the turtle populations by shrimp and fish trawlers, driftnets, gillnets, and longlines must be studied and greatly reduced if we are to save endangered sea turtle populations.



*Satellite tracking map courtesy of Wallace J. Nichols
Additional satellite tracking maps at www.turtles.org/adelita.htm*

18th International Symposium on Sea Turtle Biology and Conservation

MAZATLAN, SINALOA, MÉXICO - The 18th International Sea Turtle Symposium held March 3-7, 1998 was attended by more than 700 researchers, marine biologists and sea turtle aficionados from more than 40 countries. This year more than 270 papers were presented on conservation and management, nesting and foraging, habitats and habits, threats and protection, anatomy and physiology, telemetry and migrations, and education.

Resolutions were adopted to further global knowledge of sea turtles. Hopefully the resolutions will increase cooperation for protection between nations on the migratory paths and nations that fish the open ocean. It is clear that fishing with driftnets, longlines and gillnets pose a severe threat to turtle populations.

Resolution 1; To Honor the Special Law for the Galapagos Islands. This resolution

calls for a 40-mile protecting band around the islands.

Resolution 2; To Protect Leatherbacks. This resolution urges governments and fishery organizations of the Pacific to adopt protective measures to prevent further decline of the species.

Resolution 3; Fisheries Bycatch and Regulations. This resolution urges governments to initiate campaigns to mitigate the incidental capture of turtles.

Resolution 4; To Honor the Federal Management Plan for Cancun-Tulum. This resolution calls for the complete protection of critical nesting beaches in Quintana Roo which have been sold for resort development.

Resolution 5; To Define Guidelines for Coastal Development. This resolution calls for sea turtle experts to develop guidelines for government authorities.

Resolution 6; Regarding the Interamerican Convention, requests signing nations to ratify protection resolutions.

Postcards from the Field

Melania Cecilia Lopez Baja Technical Advisor

Melania Cecilia Lopez is a graduate student of marine biology at the Universidad Autónoma de Baja California Sur in La Paz, México. She expects to complete her Ph.D. thesis in 1999. The subject of her thesis is a study of the nesting behavior of the olive ridley's (*Lepidochelys olivacea*), locally called golfinas, in Cabo San Lucas and surrounding areas. Melania became involved with sea turtles during the summer of 1997 while working with Wallace J. Nichols researching the Pacific black turtles (*Chelonia agassizi*) in Baja. This project gave her the confidence to make the study of sea turtles her life's work. Melania hopes to work with ASUPMATOMA at Punta San Cristóbal which should compliment the work of



both parties, and increase public participation and education about the Cabo nesting beaches and turtles in general. Although totally dedicated to studies, Melania finds time for a movie with friends, a scuba dive or martial arts. We look forward to working with Melania during the upcoming nesting season and share her enthusiasm for protecting Baja's golfinas.

Greg L. Carter ORF Founder - Diver

Greg L. Carter, ORF founder and scuba dive enthusiast, became involved in ocean studies in 1986 while living in Kailua-Kona on the Big Island of Hawaii. Greg studied oceanography at the University of Hawaii under Thomas Daniel Ph.D., Scientific Director at the Natural Energy Laboratory of Hawaii Authority (NELHA) and earned PADI Rescue Diver certification from Jack's Diving Locker in Kailua-Kona. Another influence was a chance meeting with underwater photographer Christopher Newbert while diving on the Fairwinds at Keauhou-Kona.

Living in Hawaii, surrounded by the Pacific, Greg could not help but become involved with the ocean. In Hawaii, like many island nations, the ocean is not just a place for recreation; the entire economy is dependent upon the ocean. The commercial and sportfishing industries, and tourist and resort businesses are



vitaly dependent upon a healthy marine environment. Participation in beach and underwater cleanup programs, education and public awareness campaigns, and government regulated issues such as wastewater discharge and shark culling programs became a part of life for Greg.

Baja California has held a similar importance since Greg's first four-wheel drive adventure to Cabo San Lucas in 1969. ORF now provides the means to combine the love of the ocean, "the Baja" and sea turtles into one.

Expeditions!

Join us on a once-in-a-lifetime adventure.

SEA TURTLE RESTORATION PROJECTS are located on the Pacific coast at the tip of the Baja California peninsula, near Cabo San Lucas. The early start of the sea turtle nesting season is mid-July with peak nesting occurring in September and October. Late nesting occurs into January. Approximately 10 kilometers of beach are patrolled and eggs from nests are recovered and taken to a protected nursery area. Individuals join in beach cleanups, data collection and educational programs. One week trips, departing San Diego, CA, are approximately \$700.

CORAL REEF SURVEY PROJECTS take place at the Cabo Pulmo Reef National Marine Park located approximately 2 hours north of the town of Cabo San Lucas. Underwater work includes surveys done using 50-meter point-intercept line transects, photography and video of data points, fish species and population counts, and data recording. All work at Cabo Pulmo is done in association with Patronato, the local park management association. Current scuba certification is required.

WETLANDS STUDIES are being planned for Laguna San Ignacio and Guerrero Negro. The Guerrero Negro wetland areas have been impacted for 30 years by the operation of an existing saltworks. Laguna San Ignacio is the location of a much larger proposed saltworks facility. This area is surrounded by pristine and sensitive wetlands which would be severely impacted by the proposed construction and long term operation. Comparative data from Guerrero Negro is expected to assist the Mexican government in the analysis of the planned Laguna San Ignacio facility.

For further information, contact ORF at 888-835-9478, via mail at P.O. Box 280216, San Francisco, CA 94128-0216, or email participate@orf.org.

ORF needs your support. Become a member today!

The Oceanic Resource Foundation is restoring sea turtles and conducting coral reef research in the ocean waters off the Baja California peninsula. Patrolling remote beaches, collecting turtle eggs and releasing hatchlings, tagging and monitoring adult turtles, and conducting underwater coral reef surveys and fish population counts require the participation of volunteers and sustaining contributions from environmentally concerned supporters.

Join a once-in-a-lifetime expedition or become an ORF member. Help us protect Baja's Vizcaino Biosphere Reserve (a UN World Heritage Site), Scammon's Lagoon, Laguna San Ignacio and Bahia Magdalena (Pacific calving grounds for whales), Cabo Pulmo Reef Marine Park, Loreto National Marine Park, and over 100 kilometers of turtle nesting beaches at Los Cabos.

ORF is a 501(c)(3) tax-exempt organization.



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ORF gratefully acknowledges contributions to this and upcoming issues of *Currents* by Wallace J. Nichols, University of Arizona; Lindy Weilgart, Dalhousie University; Jeanne A. Mortimer, Ph.D., University of Florida; Randall Arauz, Sea Turtle Restoration Project; Ron Liedich, Sam's Dive Tours Palau; Melania C. Lopez, Universidad Autonoma de Baja California Sur; Alberto Abreu-Grobois, Instituto de Ciencias del Mar y Limnologia; Gary Weisler, Graphic Design; Dan Neel, BPS-San Francisco, and other too numerous to list. Thanks from the editor!

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