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REEF RELIEF®

P.O. Box 430

Key West, FL 33041-0430

VISIT THE **REEF RELIEF®** ENVIRONMENTAL CENTER

Learn about the living coral reefs, the most biologically diverse ecosystems on earth!

Interactive Exhibits* Theater
631 Greene Street
behind the Conch Republic Seafood Company
At the Historic Seaport in Key West
(305) 294-3100

REEF RELIEF...

- Increases public awareness of the importance and value of living coral reef ecosystems.
- Increases scientific understanding and knowledge of living coral reef ecosystems.
- Strengthens grassroots, community-based efforts to protect living coral reef ecosystems.
- Designs, develops, and helps implement strategies for marine protected areas associated with coral reef ecosystems.
- Encourages and supports ecotourism as part of sustainable community development that protects and preserves coral reef ecosystems.
- Works to strengthen its organizational ability to carry out this mission.



CORAL REEFS ARE DAMAGED BY...

Physical impacts

- Anchors dropped on corals and seagrasses
- Accidental boat groundings and prop dredging
- Diver/snorkeler impacts from fins, hands or equipment
- Trash from land and marine debris that smothers corals and harms marinelife that ingests it or becomes entangled

Overharvesting and habitat loss

- Coral and live rock is used for construction and the aquarium/curio trade
- Destructive fishing techniques
- Over-harvesting of fish and tropical marinelife

Water quality decline from pollution reduces water clarity and dissolved oxygen while increasing bacteria and pathogens causing coral diseases and harmful algal blooms. Common sources of pollution include:

- Agricultural runoff – pesticides & fertilizers
- Inadequate sewage and stormwater treatment
- Siltation from coastal development
- Beach renourishment projects
- Sewage, oil, or toxic discharges from boats



Global climate change

• Rising sea surface temperatures increases the probability of bleaching; a condition where the coral polyps actually expel the endosymbiotic algae from their tissues. As a result, the coral turns a ghostly white without their colorful partners. The algae also provide their coral host with food in the form of carbohydrates which are by-products of photosynthesis. Without this primary source of nutrition, the corals become weakened and are thus more vulnerable to disease and other pathogens.



SPECIAL THANKS TO:

REEF RELIEF®

**Preserving and Protecting
Living Coral Reef Ecosystems**

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CORAL REEFS



LEARN EXPLORE ACT NOW

REEF RELIEF®

PRESERVING AND PROTECTING
LIVING CORAL REEF
ECOSYSTEMS

www.reefrelief.org

BEAUTIFUL & ALIVE



Coral reefs are delicately-balanced underwater environments home to fish, hard and soft corals, sponges, sea jellies, snails, crabs, lobsters, rays, sea turtles and other sea life. They are the oldest ecosystem on earth, yet they cover less than 1% of the total ocean. Corals have existed for over 400 million years and reached their current level of diversity 50 million years ago.

Corals are made of millions of tiny slow growing animals called *coral polyps*. It takes years for some corals to grow an inch. They grow on the limestone remains of former colonies to create the massive reef formations. An algae called zooxanthellae gives the coral its color and lives within the host polyp.

Corals are divided into two kinds. *Hard corals* such as brain, star, staghorn, elkhorn and pillar corals have rigid exoskeletons, or corallites, that protect them.

Gorgonians, or *soft corals*, such as sea fans, sea whips and sea rods, are filter feeders that sway with the currents and lack an exoskeleton. The Coral Reef Ecosystem includes coral reefs, mangroves and seagrasses and each depends upon the other.

North America's only coral barrier reef lies approximately 6 to 8 miles offshore and parallels the Florida Keys, a 158-mile string of islands.

Coral reefs deserve protection for their intrinsic natural value. In addition, they provide food, economic and tourism benefits to mankind, protect our shorelines from storms, support indigenous communities, provide habitat for endangered species, and improve our quality of life.

FRAGILE & ENDANGERED

Corals are fragile and vulnerable. Reefs can only survive in clean, clear, nutrient-free tropical oceans, usually between 25 degrees north and south of the equator.

They depend on sunlight for photosynthesis. Any condition that reduces the clarity of the water, such as sediment or pollution, prevents healthy coral growth making the coral more susceptible to disease.

Coral reefs around the world are experiencing severe decline due to multiple impacts.

TIPS FOR DIVERS AND SNORKELERS

- Snorkel aware, dive with care! Before booking a reef trip, check out weather conditions. It's best not to go out in rough seas. Poor visibility, strong winds and waves reduce safe interaction at the reef.
- Remember that even the lightest touch with hands or equipment can damage sensitive coral polyps.
- Snorkelers should wear BCs—inflatable snorkel vests—to allow gear adjustment without standing on the coral. Never stand up on a coral reef!
- To avoid contact with the ocean bottom, divers should only use the weight needed and practice proper buoyancy control. Areas that appear empty may support new growth if left undisturbed.
- Avoid wearing gloves and touching or collecting marine life. Most tropical fish captured die within a year. In Florida, Queen conch and coral are protected species, and cannot be taken. Buying them at local shops only depletes reefs elsewhere in the world.
- Resist the temptation to feed fish; it changes the natural behavior and diet of the fish and is illegal in Florida waters.



TIPS FOR BOATERS & FISHERMEN



- Before heading out, check weather conditions. It's best not to go out in rough seas.
- Dumping trash at sea is illegal; plastic bags and other debris can injure or kill marine animals. Try to retrieve fishing gear and equipment, especially monofilament line.
- Use sewage pumpout facilities and biodegradable bilge cleaner and never discharge bilgewater at the reef. Florida Keys state waters are a No Discharge Zone for boater sewage.
- Use reef mooring buoys or anchor in sandy areas away from coral and seagrasses so that anchor, chain, and line do not contact or damage coral or seagrasses.
- Practice good seamanship and safe boating. Accidental boat groundings damage the reef. Consult tide and navigational charts and steer clear of shallow areas. Boat propellers can cause seagrass scars, damage coral and result in fines. Avoid reefs and seagrasses that appear brown; stay in white sandy areas.
- If you run aground: turn the engine off, and tilt it up if possible. Do not try to motor off. Wait until high tide to remove the vessel. Call for assistance when necessary.
- When in a dive area, slow down to an idle speed. Fishermen, do not troll over or near divers. Stay at least 100 feet from a red and white diver down flag and watch for bubbles. Boaters, maintain safe distances from fishermen.
- Florida law requires a fishing license. Applicable size, bag limits, and seasons must be observed when harvesting seafood. Release all the fish you cannot eat and consult state and federal authorities for current regulations.
- Avoid wildlife disturbance; stay 100 yards or more offshore; keep speed, noise and wakes to a minimum near mangroves. Camping, campfires and collecting of any kind are prohibited on all National Wildlife Refuges. Personal watercraft and airboats are illegal in all National Parks and Wildlife Refuges in the Florida Keys.

- The Florida Keys National Marine Sanctuary is a marine protected area for Florida Keys coral reefs. A zoned management system is established with certain rules for special areas and regulations.

For more information, contact the FKNMS at www.fknms.nos.noaa.gov, call (305) 809-4700, or visit the Nancy Foster Eco-Discovery Center, 33 East Quay Wall in Key West.

JOIN REEF RELIEF®

Reef Relief relies on memberships, contributions and volunteer efforts. Join our grassroots efforts to save coral reefs.

- BE A SEA FAN! \$15-\$99**
Join Reef Relief for a minimum of \$15.
- BE A SEA TURTLE! \$100-\$249**
A powerful and beautiful partner on the reef!
- BE A DOLPHIN! \$250-\$499**
Graceful and carefree, these are certainly one of the smartest partners of the coral reef.
- BE AN EAGLE RAY! \$500-\$999**
Majestic, magnificent, silent and strong, a memorable partner of the coral reef.
- BE A CORAL HEAD! \$1000 +**
The very foundation of life on this planet.

ADDRESS INFORMATION New Member Renewing Member

Name _____

Address _____

City/State/Zip _____

Telephone _____

Email _____

BILLING INFORMATION

Check enclosed, payable to Reef Relief

Please charge my credit card \$ _____.

VISA MasterCard American Express Discover

Card # _____ Expires _____

Signature _____

By signing above, I authorize Reef Relief to charge the card I have listed the amount specified above.

Get involved! Join Reef Relief's free online community at www.reefrelief.org.
Become a volunteer; we can always use help.
Encourage others to get involved.