

GOAL 7: REDUCE IMPACTS OF COASTAL USES

KEY THREATS ADDRESSED:

Reducing the impacts of vessel groundings, development and other coastal uses is important to reducing threats to coral reef ecosystems. The figure below is a general summary of the relative importance (H = high, M = medium, L = low) of this goal in addressing the impacts from these threats. A higher ranking suggests that activities under this goal are considered more important to addressing the threat. Lower rankings suggest that although activities under this goal may make significant contributions, they may currently be less important to addressing the threat. The rankings are a summary of input shown in Table 2. The actual importance of this goal to addressing threats to reefs will depend on location and other factors (see Tables 3 and 4 for regional comparisons).

THREATS	Global Warming/ Climate Change	Diseases	Hurricanes/ Typhoons	Extreme Biotic Events	Overfishing	Destructive Fishing Practices	Habitat Destruction	Invasive Species	Coastal Development	Coastal Pollution	Sedimentation & Runoff	Marine Debris	Overuse from Tourism	Vessel Groundings	Vessel Discharges
Reduce Impacts of Coastal Uses	M	L	L	L	L	L	H	L	H	H	H	L	H	H	M

RATIONALE FOR ACTION:

Coral reef ecosystems are being continually, and in some cases irreparably, damaged by a number of potentially avoidable human activities. Coastal activities like dredging for navigation or marinas, construction of breakwaters and other hardened shoreline protection measures, beach renourishment, sand mining, pipelines and cable installation, and land-use practices (e.g. road construction, mangrove deforestation, and land reclamation for agricultural and urban development) decrease water quality around reefs. Increased coastal tourism has led to increased pressure on coral reef resources, either through direct impacts on the reefs or indirectly through increased levels of coastal development, sewage discharge, vessel traffic, etc. Other activities

also have the potential to adversely impact coral reef ecosystems (e.g., security training exercises).

As the number of people using and transiting coral reefs increases annually, so too has the frequency of vessel groundings on reefs. In the Florida Keys National Marine Sanctuary alone, an average of 574 small vessel groundings have been reported within the coral reef ecosystem over the last four years, and hundreds more go unreported. Vessels striking shallow coral reefs can cause profound damage to the habitat by dislodging, crushing and fracturing the benthic community, displacing resident fishes, and eliminating critically important topographic complexity and habitat structure that is the result of hundreds of years of growth. In addition, propeller scarring, anchoring and other physical impacts are of growing concern in nearshore habitats. Some impacted habitats cannot recover without direct, and often expensive, human intervention in the form of immediate clean up of debris, emergency triage of injured animals, stabilization of unconsolidated surfaces and reinforcement of the reef framework, and long-term restoration of habitats and benthic communities.

These growing pressures are signs of the rapid growth in coastal populations and tourism over the past few decades, and of current resource limitations in programs responsible for implementation and enforcement of existing conservation authorities. Many of the adverse habitat impacts of coastal development, shoreline modification and vessel groundings can be prevented through consistent and proactive application of existing federal and state authorities and programs. While vessel groundings are unlikely to be completely avoided, prompt and careful removal of the vessel and evaluation of the injuries, followed by a rapid implementation of remedial actions can significantly reduce collateral damage and enhance survivorship of corals and other reef species.

STRATEGY TO REDUCE IMPACTS OF COASTAL USES

The goal of this strategy is to reduce the impact of human coastal activities on coral reef ecosystems. The strategy is outlined in the U.S. National Action Plan to Conserve Coral Reefs and related documents of the Coastal Uses Working Group of the U.S. Coral Reef Task Force. For more detailed information see <http://coralreef.gov/>. The strategy includes six broad objectives to minimize impacts from coastal uses:

- Objective 1: Develop informal guidance, protocols and technical assistance programs to reduce the risks of damage to coral reefs resulting from activities conducted, funded or approved by federal agencies.
- Objective 2: Strengthen, improve, and integrate federal and state permitting and management programs for coastal development activities impacting coral reef habitats by developing technical

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guidance, impact thresholds, and policy directives that minimize or prevent adverse impacts to coral reef ecosystems.

- Objective 3: Initiate actions at the national and international levels to prevent vessel groundings and other vessel-related impacts by improving seamanship, strengthening aids to navigation, enhancing vessel traffic management measures; installing and maintaining mooring buoys in areas where anchor damage is likely.
- Objective 4: Develop standard vessel grounding response, enforcement and injury assessment guidance and improve our ability to remove grounded and abandoned vessels and restore damaged habitat by enhancing local and regional emergency response capabilities, strengthening and standardizing enforcement and damage assessment actions, and identifying gaps in existing legal authorities
- Objective 5: Strengthen existing and develop new resource management programs and protected areas to address the broad range of coastal activities. This may include developing new programs, policies, and regulations to address resource protection threats.
- Objective 6: Develop mitigation guidelines for coastal development projects that are deemed essential by federal state and territory agencies.

SUMMARY OF ACCOMPLISHMENTS (2001)

The following is a partial summary of recent accomplishments by members of the U.S. Coral Reef Task Force to achieve this goal and its objectives. For more detailed information see <http://coralreef.gov/>.

Objective 1 Accomplishments:

- Implemented prohibitions of vessels, including jet skis, in sensitive areas in Puerto Rico to help protect reefs (part of revised Coastal Zone Management Program (CZMP) Federal Consistency Guidelines). (PR)

Objective 2 Accomplishments:

- Minimized impacts to corals of Clean Water Act (CWA) Section 404 permitted projects, U.S. Army Corps of Engineer planning projects, and proposed activities under other federal resource management programs. Prohibited or restricted the use of CWA Section 404 Nationwide Permits for activities directly impacting coral reefs. (EPA, COE)

Objective 3 Accomplishments:

- Developed a prototype recreational nautical chart to educate recreational boaters and reduce recreational boating damage. (NOAA)
- Installed permanent moorings for recreational boats near coral reefs at Johnston Atoll to help prevent anchor damage. (DOD)
- Installed buoy markers to establish a boat-free zone over a popular coral reef dive site at Guantanamo Bay, Cuba. (DOD)
- Worked with the International Maritime Organization (IMO) to create a provision for international no-anchoring areas. (NOAA, USCG, DOS and partners)
- Based on U.S. proposals, the (IMO) designated the Flower Garden Banks National Marine Sanctuary (FGBNMS) No-Anchoring Area, initially approval of 5 No-Anchoring Areas in the Florida Keys National Marine Sanctuary (FKNMS), and designated the FKNMS a Particularly Sensitive Seas Area (PSSA). (NOAA, USCG, DOS and partners)
- Submitted a proposal for establishing universal coral and Particularly Sensitive Sea Areas (PSSA) symbols to the International Hydrographic Organization to more easily identify these areas on navigational charts. (NOAA and partners)

Objective 4 Accomplishments:

- Obtained cooperative settlements and restorations in several coral cases including the M/T Igloo Moon case in Biscayne National Park for \$1 million, a Puerto Rico Barge grounding for \$83.5 million, and a Puerto Rico Beach resort was sentenced for violation of the (CWA). Over 20 cases under the National Marine Sanctuary Act are currently in negotiation and litigation. (DOJ, DOI, NOAA).
- Initiated the Restoration and Assessment of Coral Reef Ecosystems (RACE) program to enhance recovery of natural resource damages for smaller seagrass and coral injuries to FKNMS sanctuary resources caused by vessel groundings. (NOAA)
- Initiated development of Programmatic Environmental Impact Statements for Coral and Seagrass Restoration in the Florida Keys National Marine Sanctuary (FKNMS), to improve the analysis and decision process required under the National Environmental Protection Act (NEPA) and expedite the restoration of injured coral and seagrass sanctuary resources. (NOAA)
- Created an abandoned vessel inventory GIS database and developed a draft abandoned vessel white paper evaluating legal authorities, prioritization of threats posed by the vessels, and a response/removal plan for “high risk” vessels. (NOAA)
- Developed workshops to provide technical assistance and develop national goals for managing impacts from grounded and abandoned vessels. (NOAA)

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- Maintained 3 regional U.S. Coast Guard Strike Teams, ready to respond to all groundings, oil spill and hazardous material incidents that could impact coral habitats. (USCG)

Objective 5 Accomplishments:

- Installed radar reflecting buoys in the Flower Garden Bank National Marine Sanctuary (FGBNMS) and acquired mooring buoys, channel markers, light facility and other aids to navigation and signage for physical delimitation of protected areas. (NOAA)

IMPLEMENTATION PLAN 2002-2003

Successful implementation of the strategy is contingent on funding and other factors, including effort by a variety of federal and non-federal organizations. The Coastal Uses working group of the U.S. Coral Reef Task Force, working with many partners, provided the following partial summary of key actions needed from government and non-governmental entities in 2002-2003 to help fulfill the goal and objectives. For more information contact the working group or member organizations of the U.S. Coral Reef Task Force (<http://coralreef.gov/>).

To Address Objective 1:

- Increase capacity of states and territorial partners to address coral reef conservation and coastal management issues, including enforcement, assessment and mitigation.
- Install mooring buoys, navigational aids and signage for physical delimitation of coral reef protected areas including Canal Luis Peña Natural Reserve, Culebra, Desecheo Marine Reserve, Mona Natural Reserve and Caja De Muertos Natural Reserve.
- Assess and plan for the removal of abandoned vessels from coral reefs in the Hawaiian Archipelago and Puerto Rico.

To Address Objective 2:

- Identify key areas for action to reduce impacts to coral reef ecosystems.

To Address Objective 3:

- Seek IMO approval for additional no-anchoring areas in the FKNMS, and designate FKNMS as an internationally recognized Particularly Sensitive Sea Area (PSSA).
- Implement additional no-anchoring areas in the FKNMS.

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To Address Objective 4:

- Recover natural resource damages through Rapid Assessment of Coral Ecosystems (RACE) program and use funds to restore FKNMS resources injured by vessel groundings.
- Develop innovative assessment and restoration techniques.
- Inventory abandoned vessels, finish abandoned vessel white paper, and develop preliminary removal plan, develop legislative initiatives as appropriate.
- Continue to maintain 3 regional U.S. Coast Guard Strike Teams, ready to respond to all groundings, oil spill and hazardous material incidents that could impact coral habitats.

To Address Objective 5:

- Develop protected area management effectiveness protocols and performance indicators as well as initiate pilot projects in states and territories.

To Address Objective 6:

- Develop best management practices and associated guides for use in coastal construction projects to reduce impacts to coral reef ecosystems.