

Management Options to Prevent Anchoring, Grounding, and Accidental Impacts to Coral Reef and Hardbottom Resources in Southeast Florida - Phase 1



Southeast Florida Coral Reef Initiative
Maritime Industry and Coastal Construction Impacts Focus Team
Local Action Strategy Project 9 & 25 - Phase 1



Southeast
Florida
Coral Reef
Initiative

Acting above to protect what's below.

Management Options to Prevent Anchoring, Grounding, and Accidental Impacts to Coral Reef and Hardbottom Resources in Southeast Florida - Phase 1

Final Report

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Coral Reef Conservation Program

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and

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1. Introduction:

Commercial and recreational anchor damage and groundings on southeast Florida coral reefs and hardbottoms cause negative impacts to the State's natural resource. Since 1979, there have been 68 documented cases in southeast Florida where vessels have impacted coral reefs, and since March 2006 the Florida Department of Environmental Protection (FDEP) Coral Reef Conservation Program (CRCP) has managed 55 of these cases. Twenty of the 68 cases were major incidents defined by the destruction of acres of living coral reef and associated benthic habitat. By no means do the above numbers represent the totality of all vessel impacts to southeast Florida coral reefs. Each year there are thousands of recreational boaters that anchor on coral reefs causing unknown cumulative impacts to the coral reef ecosystem. In order to eliminate these impacts, appropriate placement of commercial anchorages and more protective management practices must be initiated. Additionally, ways to improve the enforcement of current commercial anchorages and recreational anchoring must be addressed.

Management Options to Prevent Anchoring, Grounding, and Accidental Impacts to Coral Reefs and Hard Bottoms - Phase 1 final report is the product of Phase 1 of Maritime Industry and Coastal Construction Impacts (MICCI) Project 9 & 25 - *Identification of Management Options to Prevent Coral Reef and Hardbottom Impacts*. The main objective of the project was to identify management options to prevent impacts to coral reefs and hardbottoms from commercial and recreational vessel anchoring and groundings. These options include, but may not be limited to coral reef buffer zones (e.g., no anchor zones), buoying systems, improved nautical charts and enforcement, etc. The project also supported local mooring buoy programs and media events to promote greater awareness, participation, and funding for necessary coral reef protection activities. The final objective was to prioritize and implement the feasible recommendations that came out of MICCI Project 2 - *Rapid Response and Restoration for Coral Reef Injuries in Southeast Florida: Guidelines and Recommendations* (See Section 3).

MICCI Project 9 & 25 - Phase 2 will continue with the implementation of MICCI Project 2 recommendations and potentially continue funding support for local mooring buoy programs. Phase 2 will also evaluate the feasibility of vessel restriction/vessel use areas focusing on the development of criteria to identify and prioritize coral reef communities of particular importance that can be used as the location for possible no anchor zones (See section 2.2). Once MICCI Project 9 & 25 - Phase 2 is complete, the Phase 1 report will be amended to include any addition findings and updates on all projects that are either ongoing from Phase 1 or newly initiated in Phase 2. In order to complete both phases of MICCI Project 9 & 25 and to deal with coral reef injury events, FDEP CRCP established the Reef Injury Prevention and Response (RIPR) Program.

1.1. Establishment of the Reef Injury Prevention and Response Program:

Prior to 2006 large ship groundings and other incidents that caused damages to coral reefs were managed by Florida Fish and Wildlife Conservation Commission's (FWC) Fish and Wildlife Research Institute (FWRI). By 2006, FWRI no longer had the staff capacity to effectively manage these incidents and FDEP's Office of Coastal and Aquatic Managed Areas (CAMA) legal counsel and FDEP CRCP were tasked with managing southeast Florida's coral reef injury events. Unfortunately, that same year two major ship groundings and five ship anchoring incidents occurred on the coral reefs just offshore of Ft. Lauderdale, FL. Due to the short time frame in which all of these incidents occurred, CAMA and FDEP CRCP were pushed to their limits trying to manage the coral reef injury events on top of their normal duties.

The need for a full time staff member who could be dedicated to reef injury prevention and response became clear during 2006 and thereafter. In late 2007 FDEP CRCP began the hiring process to find a Reef Injury Prevention and Response (RIPR) Coordinator and by February 2008 the RIPR was hired. Funds from MICCI Project 9 & 25 were allocated to pay a portion of the RIPR Coordinator's salary for the first 18 months and now the position is contracted through Florida Gulf Coast University and funded by FDEP.

The hiring of the RIPR Coordinator signified the beginning of FDEP CRCP's RIPR program. The RIPR Coordinator monitors a 24-hour coral reef injury cell phone and is the primary contact for any coral reef injury events in southeast Florida. Additional duties for the RIPR Coordinator include:

- Create and maintain a database to track all coral reef injury events including: date, location, the identification of a responsible party (RP), type or cause of event, size of injury, if primary restoration was done, and what enforcement actions were taken.
- Create and maintain a database of local, state, and federal coral reef biologists that are involved when coral reef injuries occur.
- Develop salvage guidelines for vessel removal from a coral reef (See Appendix 1)
- Develop and keep up-to-date the RIPR program website (located online at: <http://www.dep.state.fl.us/coastal/programs/coral/ripr.htm>).
- Create a coral reef injury response form (See Appendix 2).
- Maintain geographic information system (GIS) files related to coral reef injury events.
- Serve as Point of Contact for interagency coordination, response, and damage assessment for vessel groundings, anchor damage, and other non-permitted coral reef injury events in southeast Florida.
- Organize and lead safe, timely, and coordinated response to, and management of, coral reef and other hardbottom injury events.

- Organize and participate in vessel salvage, coral reef injury site assessments, restoration, and monitoring.
- Maintain all files associated with coral reef injury events.
- Coordinate the review and approval process for all pre and post primary restoration plans between the state's trustees (i.e., local, state, federal, and university scientists and resource managers that work with the state on coral reef injury events) and the RP.
- Work with CAMA's legal council to assist them in the recovery of monetary and/or resource damages from the RP.

Since the inception of the RIPR program in February 2008 through December 2009, the program has officially documented and handled 36 vessel anchoring incidents, 6 vessel groundings, 5 beached vessels, 4 sunken vessels, and 2 cable drags (e.g., towing cable or fishing gear dragged across a coral reef). Three of the above 53 incidents had primary restoration work completed and monitoring plans established. During the same February 2008 - December 2009 time frame, the RIPRC worked with stakeholders and MICCI Project 9 & 25 team members on management options that have been and will be undertaken to complete both phases of MICCI Project 9 & 25.

2. Management Options Evaluated:

The MICCI Project 9 & 25 team researched and evaluated several management options to prevent anchoring, groundings, and accidental impacts to coral reefs and hardbottoms. Several options for reducing commercial vessel impacts have been addressed through other Southeast Florida Coral Reef Initiative (SEFCRI) projects as well as through working groups that formed to address commercial anchorage issues. Options to reduce recreational vessel impacts are a bit more complex due to the length and overall area of the southeast Florida coral reef tract and the thousands of recreational vessels that utilize the state's natural marine resource. Any management plan that is developed will have to address the big issue of enforcement. Possibilities are establishing no anchor zones or installing more mooring buoys throughout the region to reduce anchoring impacts, as was done with the Miami-Dade Pilot Mooring Buoy Project. The final option that was researched and evaluated was to depict coral reefs on electronic navigation charts (ENCs) so that mariners would have access to the location of southeast Florida's coral reefs and hopefully would avoid anchoring on, or otherwise impacting, coral reef habitat.

2.1. Reducing Commercial Vessel Impacts

The reduction of commercial vessel impacts to coral reefs is a high priority. Commercial vessel impacts in the southeast Florida region are concentrated around the anchorages of Port Everglades, Port of Miami, and the Port of Palm Beach (See Appendix 3). The majority of recent documented coral reef impacts were associated with ships anchoring or grounding on the nearshore linear reefs that bordered the

Port Everglades anchorage off of Fort Lauderdale, FL. To address these concerns members of the Port Everglades Harbor Safety Committee (PEHSC) formed an Anchorage Working Group (AWG). The AWG utilized bathymetric data, acquired with a laser airborne depth sounder (LADS), to modify the exiting footprint of the Port Everglades anchorage. On March 6, 2008 the United States Coast Guard (USCG) amended the anchorage regulations for Port Everglades. The amendment eliminated Anchorage A, which was the smaller anchorage located in between the second and third coral reef tracts, and modified the footprint of Anchorage B to increase its overall size and provide vessels with more shallow water anchoring options. In addition to the anchorage footprint modification, the amendment set a 72 hour maximum time limit for vessels to remain within Port Everglades anchorage, unless they have prior approval from the Captain of the Port.

The benthic habitat maps that were created in Land Based Sources of Pollution (LBSP) Project 6,7,8,9 - *Benthic Habitat Mapping Project for Broward, Palm Beach, Miami-Dade, and Martin Counties* - were analyzed during MICCI Project 8 - *Port of Miami and Port of Palm Beach Anchorage Study* - and revealed that over 35% of the Port of Miami anchorage directly overlaps coral reef resources. Using this information, an AWG for the Port of Miami Harbor Safety Committee was established to look at modifications and alternative locations for the anchorage. The AWG consists of local, state, and federal agency representatives, as well as local stakeholders (e.g. Port of Miami Pilots, Miami River Association, Fisher Island, etc.) who are working together to ensure all stakeholder concerns are addressed in the process. Currently, the POM AWG is waiting to receive data from bathymetric surveys that were completed in the area of the existing anchorage by the National Oceanic and Atmospheric Administration (NOAA). Once the data from these surveys have been received, the MICCI Project 8 contractor will finish the full analysis of the area and present recommendations for modifications of the anchorage to the AWG. When the POM AWG comes to agreement on the modifications, they will submit a request for the USCG to modify and/or change the location of the Miami anchorage.

The Port of Palm Beach has two separate anchorages; one is to the north of Lake Worth Inlet and the other is south of the inlet. Initial bathymetric surveys and habitat mapping indicate that both anchorage locations do not appear to overlap with coral reef habitat. However, both anchorages may need a few small reconfigurations in order to provide larger buffer zones between the natural and artificial reefs near both anchorages.

2.2. Reducing Recreational Vessel Impacts

The reduction of recreational vessel impacts to coral reefs is a more difficult and time consuming project. Although the damage caused by a single recreational anchor may seem miniscule when compared to the damage caused by a single large ship grounding or anchoring event, the cumulative damage from recreational

anchoring and other impacts (e.g., fishing, diving, etc.) may be equal or even greater. There are thousands, if not tens of thousands of recreational vessels using southeast Florida's coral reefs. A large percentage of those individuals have no idea what kind of natural resource exists below on the sea floor, while others don't understand that anchoring on coral injures a living organism. This lack of awareness causes a multitude of coral reef damage along the entire length of the Florida Reef Tract. The awareness issue must be addressed in combination with educating individuals about laws that protect coral reefs and finding new ways to enforce such laws.

Currently, even though there are laws in place that protect coral reef resources from anchor damage (e.g. the Coral Reef Protection Act (CRPA)-See Section 3.1.1), law enforcement does not yet have the ability to hold a recreational boater responsible for anchoring on coral. While the officer may have location data which strongly suggests that the vessel is anchored on coral they still need to have visible proof of such, which would require them to dive on each anchor suspected of impacting corals. Even if they are able to visually establish that the vessel is anchored on coral, the officer then has to prove intent. Intent is a mental attitude with which an individual acts, and therefore it cannot ordinarily be directly proved but must be inferred from surrounding facts and circumstances, which is difficult to do.

Solving these enforcement issues became an immediate priority as stakeholders began to ask for answers from multiple agencies. In order to begin addressing these enforcement issues, a discussion was held between individuals representing the FWC, Palm Beach Sheriff's Office (PBSO), NOAA, and FDEP. Participating in the discussion were persons specializing in coral reef ecology, law enforcement, compliance and enforcement, and management.

The following were the key points that came from the interagency discussion:

1. FWC staff (General Counsel's Office, Division of Law Enforcement, and Division of Marine Fisheries Management) have reviewed existing FWC rules and determined that there is nothing in FWC rule that would enable FWC officers to write a citation for anchoring on coral.
2. The only enforcement tool available to FWC officers at this time is in 253.05, F.S., which states that officers and deputies shall report any damage, trespass, depredation or unlawful use of state lands to the Board of Trustees of the Internal Improvement Trust Fund. The Board of Trustees is comprised of the Governor and Cabinet, which delegates authority to FDEP State Lands, so any state lands violations (damage to coral) should be reported to FDEP.
3. It is very difficult for NOAA to prove a "take" pursuant to the Endangered Species Act for anchoring on listed *Acropora* coral species because knowledge and intent has to be established.

4. For an officer, taking enforcement action on damage from anchoring can be time consuming and very difficult to prove. Some of the issues that needed to be addressed were identified as follows:
 - a) The violation must occur in the officer's presence or sufficient information must be gathered and presented to the State Attorney's Office for prosecution.
 - b) Given the environmental conditions, it is not possible for the officers to determine that a specific anchor caused damage to a specific species of coral.
 - c) There is currently no mechanism for the officer to assess the damage.
 - d) The State has the burden of establishing knowledge and intent on the part of the accused.
 - e) A warning may only be issued when the elements for a crime are met.
5. There are also enforcement issues associated with taking action based on citizen reporting, including:
 - a) Vessel registration numbers may not be correct.
 - b) The operator of the vessel may not be positively and/or correctly identified.
 - c) Other persons on board the vessel may not be positively identified.
 - d) The extent of the damage is not known and has not been assessed.
 - e) The burden of proof that the anchor from the vessel in question caused specific damage (and in some cases to specific species) cannot be established.
 - f) Limitations of FDEP access to vessel owner registration database.
6. The only option to provide reef protection through effective (and efficient) regulatory enforcement is to establish "no anchor" zones, so that the need to establish intent and the need to link specific people and their actions to reef damage is eliminated.
7. It was not known by the meeting participants which agency has the authority to establish "no anchor" zones for reef protection purposes.
8. Whichever agency has the authority to establish "no anchor" zones would also have to establish the penalties for violating such regulations. The penalties should take into consideration how to address repeat offenders and should provide all law enforcement officers the ability to enforce such regulations (FWC, FDEP, Local, NOAA, USCG, etc.).
9. Criteria need to be developed as to how to classify and prioritize areas that should be designated as "no anchor" zones. Both the development of the criteria and the process of establishing new zones will need to be consistent

with local (e.g. the Southeast Florida Coral Reef Initiative) and regional (e.g. Florida Reef Tract) objectives.

10. Installation of mooring buoys (where possible) and public education need to be integral parts of the zoning process.
11. All agencies need to ensure consistent communication to the public regarding plans to address these issues, and how cases will be handled until the plans are complete.

Using the information that came out of the interagency discussion, the initial step to establish no anchor zones will be to determine who has the authority to designate specified areas as no anchor zones, which agency will be responsible for the enforcement, and what the penalties will be for anchoring within the designated zones. According to Florida Statute, the Board of Trustees of the Internal Improvement Trust Fund has the authority to create such zones:

F.S. 253.03(7)(b) With respect to administering, controlling, and managing sovereignty submerged lands, the Board of Trustees of the Internal Improvement Trust Fund also may adopt rules governing all uses of sovereignty submerged lands by vessels, floating homes, or any other watercraft, which shall be limited to regulations for anchoring, mooring, or otherwise attaching to the bottom; the establishment of anchorages; and the discharge of sewage, pump out requirements, and facilities associated with anchorages. The regulations must not interfere with commerce or the transitory operation of vessels through navigable water, but shall control the use of sovereignty submerged lands as a place of business or residence.

To determine where these designated no anchor zones should be located; criteria to identify and prioritize coral reef communities of particular importance will need to be established. Some of the key factors in the selection process will be the presence of *Acropora palmata*, *Acropora cervicornis*, and large colonies of *Montastraea sp.* The reason for targeting these species is because the *Acroporids* are listed under the Endangered Species Act (ESA) as federally threatened, *Dendrogyra cylindrus* is listed as endangered by the state of Florida, and large *Montastraea sp.* are rare. A database for documenting the presence of the federally threatened *Acroporids* and associated critical habitats will be created by FWC's FWRI in conjunction with NOAA. There will be an online survey form that can be filled out and submitted to NOAA to identify new *Acroporid* locations. FWRI hopes to have the database and associated online survey up and running by the end of 2009. FDEP-CRCP will maintain a database containing the location of the other coral reef communities of particular importance. Each county should be responsible for determining which areas, within their jurisdiction, should be targeted as no anchor zones using input and assistance from FDEP-CRCP, FWC, NOAA, and local stakeholders.

Once an area has been designated as a no anchor zone, a buoy system will need to be adopted and installed to delineate the restricted area. The system should be recognizable and similar to what has already been established within the Florida Keys National Marine Sanctuary (FKNMS) and associated national parks. Consistency between buoy systems and reef markings throughout the entire Florida Reef Tract is essential. A large scale public education campaign will need to be initiated. Outreach materials should include signage at boat ramps, marinas, and fuel docks and local maps with the no anchor zones clearly labeled. NOAA and other nautical paper and electronic chart providers should be engaged to include the no anchor zones into their database. Additionally, coral reef habitat and no anchor zone layers could be added to the Google Earth/Ocean software as another way of informing the public.

2.2.1. Miami-Dade Pilot Mooring Buoy Project:

Miami is a very popular diving and fishing destination for residents and tourists alike, due to the inviting climate and availability of extensive natural and artificial reef resources within close range of inlets and inshore waterways. Despite a long history of attracting visitors to numerous diving and fishing destinations, a mooring buoy system had not been initiated in Miami-Dade County. The Miami-Dade Pilot Mooring Buoy Project marks the initial implementation of a plan by Miami-Dade County's Department of Environmental Resources Management (DERM) to establish a system of mooring buoys to provide increased boater safety and environmental resource protection. However, DERM did not have the financial resources to purchase, install, and maintain the 37 mooring buoys that they were permitted to install. FDEP-CRCP was contacted by DERM to possibly assist them with the implementation of the project. After meeting with DERM, FDEP-CRCP determined that the project fell within the purview of MICCI Project 9 & 25 as the Pilot Mooring Buoy Project will help protect natural reefs from damage caused by boat anchors.

The Pilot Mooring Buoy Project proposed to install mooring buoys in a variety of aquatic habitats offshore of Miami-Dade County; including natural and artificial reefs, as well as, an archeological preserve. 9 different sites throughout the County were selected for the installation of up to 37 individual mooring buoys. The new moorings will enable mooring buoy access from offshore Key Biscayne in the south, to offshore Sunny Isles beach in the north. The sites were chosen based on frequency of use by divers and recreational fishers, along with recommendations from the Miami Association of Dive Operators. The location of each mooring buoy within the larger site was identified and marked by DERM divers and later inspected by FDEP-CRCP divers prior to installation.

Funds allocated to MICCI Project 9 & 25 via a cooperative agreement from the U.S. Department of Commerce, NOAA Office of Ocean and Coastal Resource Management were used to purchase mooring buoy materials for 20 buoys, including replacement materials for lost or otherwise damaged moorings. The materials were purchased through the lowest bidder, Industrial Divers Corporation (IDC). The 29 buoys will be used on the six natural reef sites and no MICCI Project 9 & 25 funds will be utilized for the installation or maintenance costs (short or long-term) of the buoys.

DERM was able to secure funding through the FWC Florida Boater Improvement Program (Grant Agreement 06074) for the installation and first year's maintenance of the buoys. IDC was also contracted by DERM to install and maintain the buoys. Using both funding sources, 20 mooring buoys were installed near six natural reef sites throughout the county, which will allow boaters, divers, and fishers to tie their vessels to a buoy instead of dropping their anchors onto the fragile coral reefs. The remaining 17 buoys and maintenance beyond the first year will be the responsibility of DERM, and will be funded through donations, additional grants, and volunteer time. As requested by FDEP-CRCP, progress reports were submitted periodically throughout the installation process and will be submitted quarterly throughout the first year of maintenance in order to fulfill the NOAA grant funding requirements.

On September 22, 2009, FDEP-CRCP partnered with DERM to offer local media a first-hand look at a few of the 20 newly installed mooring buoys. Participating media rode on a chartered vessel from RJ Diving Ventures to a site called Emerald Reef, located approximately five nautical miles southeast of Government Cut. The shallow coral reef, which is 20-25 feet deep, provided clear views of a picturesque reef and exemplified the need to support the Miami-Dade Pilot Mooring Buoy Project. In addition to the media day, DERM, with input from FDEP-CRCP, produced an informational mooring buoy brochure to inform boaters of buoys locations and proper use. (See Appendix 4)

3. Improving Nautical Charts

One management option that would increase protection of southeast Florida coral reef resources by reducing both commercial and recreational vessel impacts would be to have coral reefs depicted on ENC's. ENC manufacturers such as NOAA and other private companies could add the geographic information system (GIS) based coral reef shape files (which have already been created through LBSP Project 6,7,8,9), to their existing ENC's as a supplemental layer. The layer would not differentiate between all the coral reef habitats; rather it would depict one generic coral reef layer on top of the existing nautical chart. The user of the software could elect to either have the layer displayed or turned off.

All commercial ENC's have to follow the standards established by the International Hydrographic Organization (IHO). In 1992, the IHO adopted IHO S-57 as the data transfer standard for digital hydrographic data. However, the IHO S-57 format is not widely used in the GIS domain. To address this issue the IHO has been developing a new geospatial standard for digital hydrographic data, known as IHO S-100. IHO S-100 will allow for ease of data transfer through the use of widely accepted GIS file formats. The framework for the new format has been ready for years and is scheduled for release in 2010, but the IHO is still currently testing all aspects of the new format to ensure a smooth transfer.

Currently, NOAA is working with the IHO to include Marine Protected Areas (MPAs) on ENC's. While the IHO is receptive to including the MPAs, they have reservations about including all coral reef layers from the United States to international commercial charts, because the liability would only exist within U.S. waters. Before any MPAs or coral reef layers can be added to commercial ENC's they must be approved by the IHO and IHO S-100 must be activated as the standard format. Until the new commercial geospatial standards are accepted, only the recreational boating industry can be targeted.

Recreational ENC's do not have to adhere to the commercial IHO standards. There are four major software manufactures for recreational ENC's; they are Jeppesen Marine, Navionics, Garmin, and Maptech. While all of their base maps do adhere to IHO S-57, they also include supplemental layers and data that are useful to the recreational boating community. According to Jeppesen Marine, the coral reef layers that were created through LBSP Project 6,7,8,9 could be added to their software relatively quickly. Garmin has also expressed interest in adding the layers to their Bluecharts. A simple agreement between FDEP and the ENC manufacturer is all that is required at no cost to FDEP. They would convert the coral layer files to the format required to work with their software and they would have proprietary rights to the converted file format, but not the original file. By targeting these four ENC manufactures, thousands of southeast Florida recreational boaters, from small everyday center console vessels to large mega-yachts, could use the ENC's to make more informed decisions on where to anchor their vessels.

4. MICCI Project 2 Recommendations:

In 2006, FDEP-CRCP held a public workshop for MICCI Project 2. The workshop compiled information on existing emergency response processes, identified deficiencies and developed consensus-based solutions among numerous agencies of state and local governments, marine industry representatives and other stakeholders. The objective was to use the information to improve response to, and restoration of, coral reef injuries in southeast Florida. The outcome of the workshop was a series of 19 recommendations (See Appendix 5) that were incorporated into a final MICCI Project 2 document called, *Rapid Response and Restoration for Coral Reef Injuries in Southeast Florida: Guidelines and*

Recommendations Handbook. The following section is a brief overview of the progress made on the 19 recommendations:

4.1. Recommendations 13, 15, 17, 18, and 19:

The MICCI team gave highest priority to recommendations 13, 15, 17, 18, and 19. These 5 recommendations dealt with supporting and amending Florida Statutes 380.0558, 403.1651, and 253.04 to:

- Facilitate rapid response and flexible spending of the Ecosystem Management and Restoration Trust Fund (EMRTF).
- Authorize the use of habitat equivalency analysis (HEA).
- Provide a penalty assessment schedule, including explicit authority for law enforcement officer to enforce the provisions of the rule.
- Require restoration to maximum extent possible.

All of these recommendations, with the exception of providing explicit authority to any law enforcement officer to enforce the provisions of the statute, were addressed in the recently signed *Florida Coral Reef Protection Act*.

4.1.1. The Florida Coral Reef Protection Act (CRPA):

The *CRPA* is a new Florida state law, effective July 1, 2009, which was created to respond to the stakeholder recommendations from the 2006 public workshop and to improve the health of the Florida Reef Tract. (See Appendix 6 for the *CRPA*)

The *CRPA* recognizes the importance of coral reefs to Florida's ecology, beauty and economy. The act affords protection to the entire Florida Reef Tract, which extends 330 nautical miles from the Dry Tortugas in Monroe County to Stuart in Martin County. The act authorizes the FDEP, as the state's lead trustee for coral reef resources, to protect coral reefs through timely and efficient assessment and recovery of damages, including civil penalties, resulting from vessel impacts to coral reefs.

Initially, the act was developed to address coral reef impacts caused by commercial vessels dragging cables, grounding or anchoring on Florida's coral reefs. The act is not limited to just commercial vessel traffic however, and pertains to all vessels (commercial and recreational) that transit state waters within Martin, Palm Beach, Broward, Miami-Dade and Monroe counties. If any vessel impacts the reef, the responsible party (owner, operator, manager or insurer of the vessel) is required by law to:

- Notify FDEP within 24 hours of damaging or otherwise impacting the coral reef.

- Remove, or cause the removal of, the grounded or anchored vessel within 72 hours of the incident, unless prohibited by the USCG or extenuating circumstances such as weather or marine hazards preclude safe removal.
- Remove, or cause the removal of, the grounded or anchored vessel in a manner that avoids further damage to the coral reef and shall consult with FDEP in accomplishing this task.
- Cooperate with FDEP to undertake damage assessment and primary restoration of the injured coral reef in a timely fashion. Assessment and restoration efforts must be conducted by qualified individuals.

The CRPA authorizes FDEP to collect damages from the RP, including the cost of:

- Injury area assessments and activities undertaken by, or at the request of, the resource trustees to minimize or prevent further coral injury, including staff time.
- Enforcement actions undertaken by the resource trustees, including court costs, attorney's fees and expert witness fees.
- Replacement, restoration or acquisition of the equivalent value of the injured coral reef, including compensation for the value of the lost use and ecological services of the reef, as determined through HEA.
- Monitoring the injured, restored or replaced coral reef for at least 10 years if the injury area is greater than 1 square meter.
The act also established a civil penalty schedule based on the size of the coral injury area.
- For damage to a coral reef totaling less than or equal to 1 square meter - \$150.
 - For the first offense, a warning letter in lieu of a penalty can be issued.
 - With aggravating circumstances - an additional \$150.
 - Within a state park or aquatic preserve - an additional \$150.
- For damage to coral reefs totaling more than 1 square meter, but less than or equal to 10 square meters - \$300 per square meter.
 - With aggravating circumstances - an additional \$300 per square meter.
 - Within a state park or aquatic preserve - an additional \$300 per square meter.
- For damage to coral reefs greater than 10 square meters - \$1,000 per square meter.
 - With aggravating circumstances - an additional \$1,000 per square meter.
 - Within a state park or aquatic preserve - an additional \$1,000 per square meter.
- For a second violation, the total penalty may be doubled.
- For a third violation, the total penalty may be tripled.
- For a fourth violation, the penalty may be quadrupled.

- The total of penalties levied may not exceed \$250,000 per occurrence.

All damages recovered by the state for injury to, or destruction of, coral reefs will be deposited in the EMRTF. Money that is deposited in the EMRTF can be used to:

- Reimburse FDEP for costs incurred in reaching a settlement, or as a reserve for pursuing future settlements in cases where there has been injury to, or destruction of, coral reefs.
- Pay for restoration or rehabilitation of the injured or destroyed coral reefs or other natural resources by a state agency or through a contract to a qualified person.
- Fund alternate projects, approved by FDEP that will benefit the residents of the state that used the now injured or destroyed natural resource.

In lieu of depositing money into the EMRTF, FDEP can enter into a settlement agreement with the RP that requires the responsible party to pay a third party to fund projects. The third party projects must be related to the restoration of coral reefs, accomplish compensatory mitigation for injury to a coral reef, or support the activities of law enforcement agencies related to coral reef injury response, investigation, and assessment.

Under the *CRPA*, FDEP may also enter into delegation agreements with other state agencies and coastal counties (the resource trustees) that have coral reefs within their jurisdiction. The delegee will have all the rights afforded to FDEP by the act, which means the delegee will be able to pursue damages from the RP. The FDEP and other state agencies may also enter into agreements with federal authorities related to the administration of the FKNMS.

4.2. Recommendations 1, 2, and 3

These three recommendations will be completed in, or in coordination with other ongoing MICCI projects. Recommendation 1 states that regulatory agencies should improve permitting, compliance, enforcement, and penalty assessment processes to protect coral reef resources. Some of these issues were addressed in the *CRPA* (See section 3.1.1) and the rest of these issues will be addressed in MICCI Project 4, 21, 23, 24 - *Recommend Modifications to Agency Compliance and Enforcement Protocols and Increase Enforcement Review and Actions Through Education and Outreach*. Recommendation 2 calls for the establishment of a 24-hour coral injury hotline, while recommendation 3 looks to undertake a public education campaign to outline protocols for reporting reef injuries. The two of these recommendations go hand-in-hand and will be completed in coordination with MICCI Project 13 - *Compliance and Enforcement & Standardize Agency Responses to Citizens Reports*.

MICCI Project 13 deals strictly with permitted projects that cause resource injuries, while recommendations 2 and 3 deal with unpermitted activities that cause resource injury. Although the causes of injury will be different, the protocol for reporting either type should be consistent to make the process easier for the public. The State Warning Point (SWP) is willing to serve as the contact point to take basic information and call the designated contact person, but it may make more sense and be more efficient to eliminate them as the middle person and set up a generic call line that can be used for reporting permitted and unpermitted reef injuries, marine debris, and for the Southeast Florida Marine Event Response Program (SEMERP). The final details will be worked out during MICCI Project 9 & 25 - Phase 2. Until that time, a comprehensive contact list for the four county southeast Florida region has been created and disseminated to the appropriate response representatives. In addition, a Coral Reef Injury Response Form was developed to assist FDEP-CRCP in gathering all pertinent information about the responsible party at the time of an incident.

4.3. Recommendations 4 and 14

Both of these recommendations call for an information technology solution that will provide a better overall management system for dealing with coral reef injuries and their subsequent restoration. Recommendation 4 suggests the development of a response website that will facilitate information transfer between trustees and improve management of coral reef injuries. Recommendation 14 calls for the development of a database to track injuries and their restoration status. If minimal or no restoration was undertaken, then these sites could be prioritized for restoration at a later time.

Initial thoughts were to have the SWP host both the 24-hour hotline and the response website, but the SWP is currently only able to assist with the hotline. Development of a single website and database for recommendations 4 and 14 will allow all information pertaining to vessel groundings, anchoring, and other unpermitted coral injury incidents to be electronically stored in one location with backup. Historical injury event reports will be scanned and uploaded to the server, eliminating the need for various agencies to have to search for old files. Newer electronic reports and associated GIS files and maps will also be stored in the database. The website will be password protected and have various levels of secure access for the trustees. There will be varying levels of security, which will allow trustees to upload information while others will only have access to view read-only information. The idea is for everyone involved with the management and restoration of an injury site to have access to and work from the most current information available. The website should be able to be linked to FDEP-CRCP website on the RIPR page. Costs for hosting such a site will be researched during Phase 2, and if practical and feasible the website and database will be created. Until they are created, FDEP-CRCP has gathered all historical files that could be located at

various offices around the state and made electronic copies of them. In addition, FDEP-CRCP has created an excel database to track all reported injuries and the actions taken for enforcement or restoration.

4.4. Recommendation 5

This recommendation states that FDEP should explore the various avenues of potential enforcement authority and develop the one identified as producing the best results. As previously discussed, the *CRPA* affords southeast Florida's reefs protection from injury, but enforcement of the law has been difficult. Until the state of Florida defines clear and concise legal parameters so marine law enforcement officers know exactly which parameters need to be met before they enforce the statute, or specialized management zones (e.g. no anchor zones) are created, the act lacks 'teeth'.

Thus far, most of the reported *CRPA* violations have been instances where a boater drops an anchor over a known area of coral reef habitat. The anchor impact and subsequent injury to the coral is a clear violation of the *CRPA*. To combat the current lack of enforcement, FDEP-CRCP and FDEP Southeast District (SED) Compliance and Enforcement staff have created two different letters that can be sent to individuals who have been reported to violate the act (See Appendix 7).

The first letter is an official warning letter that is sent to the owner of a vessel that has been witnessed and documented anchored in an area known to have coral reef. The documentation consists of the vessels registration numbers, GPS position, and (if available) the name and description of the vessel. The warning letter is the single warning an individual is afforded under the *CRPA*; any subsequent violations by the individual/vessel will result in a fine. The second letter that was developed is an educational letter. This letter is sent to violators that can be identified, but their exact position is uncertain. Since the *CRPA* went into effect there have been 33 reported incidents as of December 2009. The SED has begun sending out warning letters to the violators.

An additional measure that has been taken to make up for the enforcement issue is an educational campaign. A question and answer sheet and a fact sheet pertaining to the *CRPA* have been created by FDEP-CRCP and posted to their website (See Appendix 8). These educational sheets have also been passed out at SEFCRI events, public meetings, and to the local counties and agencies. Both a *CRPA* brochure and a distribution plan for the brochure are currently in development and will be finalized in Phase 2.

4.5. Recommendation 6 and 7

Recommendation 6 calls for the development of criteria for evidence collection associated with coral reef injury incidents, based on anticipated future litigation

needs. Recommendation 7 states all divers collecting evidence, including scientific divers collecting scientific data that may be used in a court of law, should be trained in an accredited evidence collection policy or procedure. To address these issues, FDEP-CRCP has been involved in discussions with FWC, NOAA, and the United States Department of Justice (DOJ) about the possibility of holding a Florida Coral Injury Enforcement Workshop. The discussions began over a year ago, but were put on hold due to budget and travel constraints. Recently, FDEP-CRCP learned of a training program for coral reef managers, enforcement officers, and investigators. The program is called the Coral Reef CSI Field Training Program. The program can be altered to meet the needs of Florida and would provide a common standard for all involved in the management and enforcement of coral reef injuries to adhere to; allowing for stronger cases to take to court. The training program must meet one of the states existing and accredited evidence collection processes as well (e.g., FWC, General Order 16, Collection, Preservation and Documentation of Evidence and Property). The DOJ has expressed a renewed interest in assisting Florida with hosting the Coral Reef CSI Field Training Program. Discussions and potential organization of the training will begin in 2010.

4.6. Recommendation 8

This recommendation is to ensure that divers working on coral reef injuries adhere to appropriate safety standards. The existing standard is set by the Occupational Safety & Health Administration (OSHA) in the Code of Federal Regulations (CFR), 29 CFR 1910. Implementation of Recommendation 8 has been an ongoing process under review by FDEP's Diving Control Board (DCB). The FDEP-DCB is taking the necessary steps to become an American Academy of Underwater Sciences (AAUS) member. AAUS is recognized by OSHA for setting scientific diving standards. Once FDEP has fulfilled AAUS requirements and become a member, all FDEP scientific divers will have reciprocity with other AAUS members including most of the agencies, counties, and universities that work on coral reef injuries. By following the same universal scientific diving standards safety will be increased for all involved. However, being an AAUS scientific diver does not allow the diver to collect evidence, because evidence collection is not considered scientific research and therefore, does not meet OSHA's scientific exemption. In order to collect evidence for a legal cases the diver must be trained to do so as stated in recommendations 6 and 7, and the diver must adhere to the OSHA standard.

4.7. Recommendation 9

Recommendation 9 suggests that a tiered contractor certification or qualification process should be established, based on criteria such as past performance (documented success); the ability to work effectively with local, state, and federal governments; and the possession of necessary skills, certifications, or degrees of ability and equipment capability to conduct specific activities. A certification or

qualification process would ensure that contractors are qualified, in advance, to conduct restoration work and the length of time needed to obtain the necessary authorizations for conducting restoration activities would be shortened. Implementation of this recommendation is currently on hold pending the reauthorization of the Coral Reef Conservation Act (CRCA).

4.8. Recommendation 10

This recommendation is to develop a process requiring trustee approval for the RPs primary restoration, compensatory restoration, and monitoring activities, including legal recourse for non-compliance. Some of these issues have been addressed in the *CRPA*. The Act calls for the RP to cooperate with FDEP to undertake assessment and restoration in a timely fashion, and requires monitoring. To further enforce the requirements of this recommendation, FDEP-SED, in conjunction with FDEP-CRCP, is developing a generic consent order that will outline the basic legal requirements for primary restoration, compensatory restoration, and post restoration monitoring. The consent order will also establish deadlines for when these activities should be completed. Once the evidence collection, training, and safety standards are adopted through implementation of recommendations 6, 7, and 8, they can be referenced in the consent order to ensure consistency.

4.9. Recommendation 11

This recommendation directs FDEP and FWC to develop a Memorandum of Understanding (MOU) which would establish delegation of authority in order to streamline authorization processes necessary for the oversight of primary restoration, compensatory restoration, and monitoring activities associated with reef injuries. An existing MOU between FDEP and FWC is currently being reviewed by FWC's legal counsel and then will be reviewed by FDEP's legal counsel. The existing MOU may just need to be modified to fulfill recommendation 11.

4.10. Recommendation 12

Recommendation 12 suggested that a streamlined process for issuing authorizations for the installation of temporary moorings at reef injury sites should be adopted to facilitate rapid restoration activities for reef injuries. The USCG is the lead agency in this process and they only require notification of where the temporary mooring will be installed so they can issue a notice to mariners. If the mooring is in place for more than 30 days, then it is considered semi-permanent. When a buoy is going to be semi-permanent the USCG can issue a letter of compliance that guarantees the continuous broadcast of the notice to mariners. Further agency requirements and the potential for streamlining will be researched in Phase 2.

4.11. Recommendation 16

This recommendation is to produce a follow-up publication to the MICCI 2 Guidelines and Recommendations. The new publication should establish guidelines for restoration monitoring. The scope of this project will entail research collected from other ongoing MICCI projects and is too vast to be completed under the time line for Phase 2. Recommendation 16 will be completed as a separate MICCI project at a later date.

Appendix 1

Avoiding Coral Reef Injuries during Vessel Salvage

INTRODUCTION:

Historically, marine salvage efforts focused on the protection of private property including the recovery of the damaged vessel and rescue of the cargo or vessel contents. In recent years, however, heightened ecological concerns and increasing financial liabilities regarding marine pollution and damage to marine habitats have shifted the role of the salvor. Protection of the environment is now an equally important goal and a requirement of the salvage operation. The salvors actions may prevent or reduce the size of an oil spill, or protect marine sensitive habitats such as coral reefs, and hopefully reduce the overall environment impacts of an incident. However, there are significant environmental trade-offs, and even when the primary goal of the operation is environmental protection, salvage and wreck removal activities can result in unexpected and sometimes considerable collateral damage. In some cases, a shipwreck may pose an obvious threat (e.g., fuel oil), but the actions taken to reduce that threat should consider the broader impacts of the salvage to mitigate potential collateral impacts and maximize the environmental benefit of the overall operation (Michel and Helton, 2003).

One of the keys to successful wreck removal is addressing environmental considerations in all aspects of the salvage operation, including appropriate planning and execution. Many of the following considerations are integral components of best management practices. During salvage emergencies, however, these good practices can be forgotten. In past occasions, salvors have come on scene during an emergency action, operating independently without consulting with environmental specialists. Environmental considerations do not have to become impediments to a quick and successful operation; rather, they can become part of the overall success of the operation. Good environmental practices during wreck removal begin with involving environmental specialists early in the process (Michel and Helton, 2003).

The Florida Department of Environmental Protection's Coral Reef Conservation Program (FDEP-CRCP) requires that salvage plans be submitted to FDEP-CRCP for review prior to any salvage activities that occur on or adjacent to Southeast Florida's nearshore coral reef and hardbottom habitats (contact information provided on page 3). Additionally, local governments often have resources and knowledge to assist in the assessment, preparation, and development of a salvage plan that minimizes additional impact to marine resources. Many of the following recommendations are common practices during salvaging operations, but are offered here to highlight environmental benefits and encourage avoidance and minimization of coral reef impacts during salvage operations, pursuant to Section 253.04, Florida Statutes.

Salvage Guidelines:

At a minimum, while recognizing that 'time is of the essence' in salvage operations, the following salvage techniques should be employed to reduce any additional environmental harm without sacrificing safety:

1. Contact regional and/or local agencies to request assistance with environmental assessment of the site and to evaluate potential salvage plans (contact information provided on page 3).
2. GPS coordinates should be recorded at the bow and both stern quarter locations on the grounded or wrecked vessel.
3. Portable GPS units should be maintained at the bow and stern of the grounded vessel to record any shift in the vessel's position, as well as, to record an accurate track of the extraction path.
4. Prior to refloating the vessel and if conditions permit, qualified divers should evaluate the benthic resources in the immediate area and determine an extraction path that will have the least impact to the surrounding coral habitat (may or may not be the same as the ingress path). Bathymetric maps can be used to facilitate this process.
5. Temporary buoys should be used to mark the extraction path and GPS plots of the extraction path should be input into the grounded vessel and all towing vessel's navigational systems to assist the salvors in staying on course.
6. If transit of the salvaged vessel is to occur in (or through) waters with minimal navigable depths, the path should be plotted over areas of sand bottom, or bottom clear of benthic resources.
7. Spill containment booms should be onsite, ready, and available for immediate deployment in the event of a fuel/oil or other spill associated with the grounding and salvage operations.
8. During salvage activities, GPS tracking should be operating and recorded on all salvage vessels, barges, and/or tugboats involved with the salvage operation. The tracks associated with all vessels involved in the salvage should be submitted to the USCG as part of any salvage report.
9. If salvage vessels need to anchor or moor, minimize the number of anchors or spuds, control drag, and seek appropriate anchoring locations devoid of sensitive benthic habitats like coral reefs and sea grasses.
10. Fuel and/or cargo may need to be offloaded from the grounded vessel to reduce the vessels draft and prevent other environmental and safety hazards.

11. All vessels, barges, and tugboats involved in salvage operations should take actions to avoid prop scars and prop wash injuries to marine resources. In shallow water, avoid using the propulsion systems and if possible, moor the tugs and use a ground tackle system to provide maneuvering and pull.
12. Only floating lines should be used in salvage operations. Non-floating lines and cables have caused extensive resource damages in past operations.
13. Salvage activities should be conducted at high tide to facilitate re-floating the grounded vessel over reef resources and other sensitive habitats.

Consultation with NOAA, the State, and County is recommended to evaluate reef resources in the area and to determine the extraction route. Contact information for these agencies is provided below.

NOAA, Marine Habitat Resource Specialist: Tom Moore, Tom.Moore@noaa.gov , 727-551-5716

NOAA, Injury Assessment Coordinator: Daniel Hahn, Daniel.Hahn@noaa.gov , 727-551-5715

Florida Dept. of Environmental Protection, Coral Reef Conservation Program: Brett Godfrey, Brett.Godfrey@dep.state.fl.us, 305-795-2167 or 786-385-3054

Broward County Dept. of Environmental Resources and Growth Mgmt: Ken Banks, kbanks@broward.org, 954-519-1207

Martin County: Kathy Fitzpatrick, kfitzpat@martin.fl.us, 772-288-5429

Miami-Dade Dept. of Environmental Resources Management: Steve Blair, BlairS@miamidade.gov, 305-372-6853

Palm Beach County Dept. of Environmental Resources Management: Janet Phipps, JPhipps@pbcgov.org, 561-233-2513

If you have questions, please contact Brett Godfrey at the numbers listed above for further information.

References:

Michel, Jacqueline and Helton, Douglas. 2003. Environmental Considerations During Wreck Removal and Scuttling.

Appendix 2

Your name:	DEP-Coral Reef Injury Response Form	USCG Case #
------------	--	-------------

Caller's Name: _____ Call Time: _____ [am/pm] Date: _____.

Caller's Phone # _____ Caller's Email: _____ Caller's Affiliation: (witness / crew member / law enforcement / government agency) _____.

Cause of Coral Injury: [**grounding / anchoring / sunk vessel / hazmat spill / other:** _____]

Visual Confirmation: [YES / NO] Is the vessel still anchored or aground? [YES / NO]

GPS location of Coral Reef Injury. **Latitude** ° ' " **Longitude** ° ' "
Description: _____.

Is the vessel still at the location of the coral reef injury? [Yes / No] (If safe, advise not to move vessel.)

If NO, The Vessel's Current Location:(GPS) **Latitude** ° ' " **Longitude** ° ' "
Description: _____.

Vessel Name: _____ Vessel Size: _____ Vessel Type: _____.

Vessel Registration / Documentation Number: _____.

Type of Cargo On-board and Quantity: _____.

Vessel's Home Port and/or Country: _____.

Vessel's Last Port of Call: _____ Vessel's Next Port of Call: _____.

Vessel's Local Shipping Agent or Representative: _____.

Mailing address: _____.

Contact phone number: _____ Email address: _____.

Owner of the Vessel and/or Responsible Party: _____.

Mailing address: _____.

Contact phone number: _____ Email address: _____.

Name of the Vessel's Captain: _____.

Mailing address: _____.

Contact phone number: _____ Email address: _____.

Vessel's Hull Insurer: _____.

Mailing address: _____.

Contact phone number: _____ Email address: _____.

Vessel's Protection & Indemnity Insurer: _____.

Mailing address: _____.

Contact phone number: _____ Email address: _____.

Marine Surveyor: _____.

Mailing address: _____.

Contact phone number: _____ Email address: _____.

Salvage Company: _____.

Mailing address: _____.

Contact phone number: _____ Email address: _____.

Brief description of incident: _____.

_____.

_____.

_____.

Appendix 3

Commercial anchorage locations for Port Everglades, Port of Miami, and the Port of Palm Beach

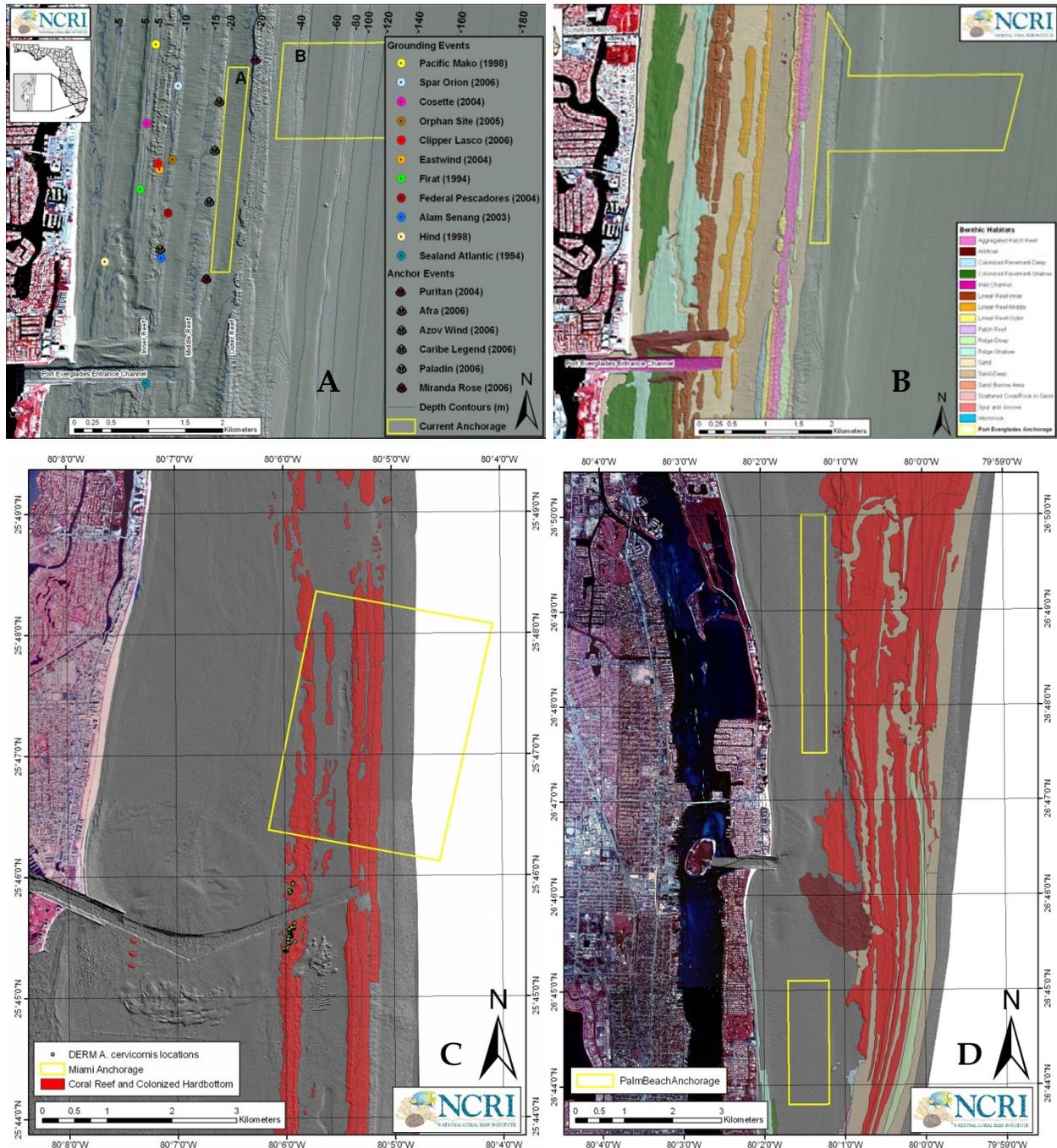


Figure A3-1: A) Historical Port Everglades anchorage configuration, B) Current Port Everglades modified anchorage position, C) Current Port of Miami anchorage location, D) Current Port of Palm Beach anchorage locations.

Appendix 4

Miami-Dade Mooring Buoy Brochure

PROPER MOORING BUOY USE

- Ⓢ Operate at idle speed/no wake in the vicinity of the mooring buoys. Watch for swimmers, snorkelers, divers, and diver bubbles.
- Ⓢ Slowly approach the mooring buoy head-on against the wind or current (whichever is stronger and will have the greatest effect on the boat's course). The mooring buoy pick-up line will be pointed toward you in the direction of the current/wind.
- Ⓢ NEVER tie the pick-up line directly to your boat as this puts too much stress on the buoy anchor system and may cause the system to fail.
- Ⓢ ALWAYS connect to the pick-up line with a line from your boat. To secure your boat to the mooring buoy, follow these steps:
 - 1- Cleat off one end of the bow line to the bow.
 - 2- Use a hook to lift up the pick-up line.
 - 3- Run the free end of the bow line through the eye of the pick-up line.
 - 4- Put out extra bow line (scope) and cleat the free end of the bow line to the bow.
- Ⓢ With the proper amount of scope, the buoy should not be pulled under the water by the motion of the boat. During rough weather, add extra scope to the bow line to improve the ride of your boat and reduce wear on the buoy system. A buoy consistently being pulled underwater can indicate that the vessel is too large or conditions are too severe to utilize mooring buoys.
- Ⓢ USE BUOYS AT YOUR OWN RISK. Always inspect the buoy system your boat is moored to. Check that the lines and buoy are in good condition and the mooring system is holding as intended. Buoys are for short-term use only. No overnight mooring. Report any problems to: 305-372-6864 or reefa@miamidade.gov.

Vessel captains are responsible for the safety of their vessels and passengers. Miami-Dade County assumes no liability from the use of any mooring buoy.

PROGRAM FUNDING

Funding for the installation and maintenance of the initial 20 mooring buoys was provided by Miami-Dade County's DERM in partnership with:



DEP
FLORIDA



NOAA CORAL REEF
CONSERVATION PROGRAM



FWC
FLORIDA FISH AND WILDLIFE
CONSERVATION COMMISSION

The Florida Department of Environmental Protection's (DEP) Coral Reef Conservation Program with a grant from the U.S. Department of Commerce-National Oceanic and Atmospheric Administration (NOAA) Office of Ocean and Coastal Resource Management (Award No. NA06N054190100)

Visit DEP at: www.dep.state.fl.us/coastal/programs/coral/
www.southeastfloridareef.net or
 Visit NOAA at: www.coralreef.noaa.gov

The Florida Fish and Wildlife Conservation Commission's (FWC) Florida Boater Improvement Program (Grant Agreement 06074)
 Visit FWC at: www.fwc.com/RECREATION/boat_index.htm

Support the program
ADOPT-A-BUOY

Funding is needed for the installation of the remaining buoys and on-going maintenance. You can help by donating to the Miami-Dade Mooring Buoy Program Fund or "ADOPT-A-BUOY." Please contact the program manager at 305-372-6864, e-mail reefa@miamidade.gov or visit www.miamidade.gov/derm/buoy.asp


Miami-Dade County
Environmental Resources Management
Restoration and Enhancement Section
701 NW 1st Court, Suite 400
Miami, Florida 33136



Carlos Alvarez
Mayor



Board of County Commissioners

Dennis C. Moss
Chairman

José "Pope" Diaz
Vice-Chairman

Barbara J. Jordan District 1	Darryl D. Beke District 2	Audrey M. Edmonson District 3	Sally A. Hayman District 4	Bruno A. Barreiro District 5	Rebecca Som District 6	Carlos A. Girones District 7	Katy Seranese District 8	Dennis C. Moss District 9	Senator Javier D. Souto District 10	Joe A. Martinez District 11	José "Pope" Diaz District 12	Netscha Seljas District 13
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Hermy Ruvie
Clerk of Courts

George M. Burgess
County Manager

Robert A. Cuevas Jr.
County Attorney

MIAMI-DADE COUNTY
MOORING BUOY
PROGRAM



Miami-Dade County provides equal access and equal opportunity in employment and services and does not discriminate on the basis of disability.
It is the policy of Miami-Dade County to comply with all of the requirements of the Americans with Disabilities Act.

Miami-Dade Mooring Buoy Brochure

MOORING BUOY LOCATIONS

Miami-Dade County's Department of Environmental Resources Management (DERM) is implementing the Miami-Dade Pilot Mooring Buoy Program. The program will establish a system of mooring buoys for recreational vessels to protect natural and artificial reefs from damage caused by boat anchors.

Mooring buoys are being installed at various locations offshore of Miami-Dade County from Sunny Isles south to Key Biscayne. Thirty-seven (37) individual mooring buoys will be located at nine (9) different sites throughout the county. These sites include popular natural and artificial reef locations, as well as an archaeological preserve.



Graceland	25 56.128 N / 80 06.643 W
	5 of 6 buoys installed
	Depth 17'
North Canyon	25 55.805 N / 80 06.353 W
	2 of 3 buoys installed
	Depth 30'
Middle Canyon	0 of 3 buoys installed
	Waiting for Sponsorship
South Canyon	25 51.627 N / 80 06.505
	2 of 3 buoys installed
	Depth 30'
Pillars	25 51.620 N / 80 05.978
	4 of 7 buoys installed
	Depth 30'
Jose Cuervo	0 of 2 buoys installed
	Waiting for Sponsorship
Port of Miami Mitigation	0 of 4 buoys installed
	Waiting for Sponsorship
Half Moon	0 of 2 buoys installed
	Waiting for Sponsorship
Emerald Reef	25 40.486 N / 80 05.865 W
	7 of 7 buoys installed
	Depth 25'

For site descriptions and pictures, please visit our website:
www.miamidade.gov/derm/buoy.asp



Appendix 5

MICCI Project 2 Recommendations

1. Regulatory agencies issuing permits for activities that may affect reef resources should re-examine and improve permitting, compliance, enforcement, and penalty assessment processes to ensure that permit conditions provide the maximum protection for, and the least impact to, reef resources. Permit conditions should also ensure that compensatory mitigation adequately compensates the Trustees for the loss of biological services, the monitoring of restoration actions, permit condition compliance and enforcement, and the assessment of penalties for permit violations. *Responsible Agencies: Florida Department of Environmental Protection (FDEP), Water Management Districts, U.S. Army Corps of Engineers (ACOE), Local Governments*
2. A single 24-hour coral reef injury hotline should be established, or coordinated with other available hotlines, to receive reports of coral reef injuries and to facilitate a timely and effective agency response to such reports. The 24-hour coral reef injury hotline should be modeled after, and if possible integrated with, FDEP's Bureau of Emergency Response (BER) State Warning Point (SWP) hotline, which accepts calls statewide on a 24-hour basis regarding reports of environmental incidents.

When the hotline receives calls, basic information regarding the incident should be taken by the individual receiving the call. Federal, state, and/or local responders should be notified of the incident and, if necessary, agency personnel dispatched to the scene. If the RP is reporting the incident, they should be notified of their responsibilities and provided a list of qualified contractors from which to choose. Ideally, the 24-hour coral reef injury hotline would be integrated with the SWP, and its operators would be trained to receive such calls. This would alleviate the need to purchase, develop, and maintain the infrastructure and employees associated with an independent coral reef hotline. SWP employees could be provided a set of appropriate questions to ask the individual reporting the coral reef injury. The employee would then contact agency personnel responsible for responding to coral reef incidents. However, if it is not possible to integrate with the SWP, a separate and independent coral reef hotline should be established. *Responsible Agency: FDEP*

3. A public education campaign should be undertaken to inform the public of the necessity of, and correct protocol for, reporting reef injuries. Federal, state, and local employees should also be made aware of their responsibility to report coral reef incidents through the normal course of business and other standard operating procedures such as interoffice/agency memoranda and email. *Responsible Agencies: Lead – FDEP; Support – Florida Fish and Wildlife Conservation Commission (FWC)*
4. To facilitate the coordination of agencies having established environmental response procedures, protocols, and responsibilities, operators of the proposed 24-hour hotline should notify the following agencies of an incident:

- U.S. Coast Guard (USCG), Marine Safety Office, Miami;
- FWC, Division of Law Enforcement (which would subsequently contact FWC Technical Staff);
- FDEP, BER (which would subsequently contact the Coral Reef Conservation Program and FDEP Office of General Counsel);
- National Marine Fisheries Service (NMFS), Damage Assessment and Restoration Program; and
- County environmental and law enforcement officials.

Long-term coordination among all parties involved in the incident should be facilitated through the development and maintenance of a password-protected website containing the following information:

- Information provided during the initial incident report to the 24-hour coral reef hotline;
- The Responsible Party (RP) contact information, including legal and technical contacts (if known);
- Contact information for each agency involved in any aspect of the response; and
- All contractor and subcontractor contact information.

Each agency should be responsible for entering and maintaining its contact information after 24-hour hotline personnel implement the initial coordination. The website should be operated and maintained by FDEP's Coral Reef Conservation Program. *Responsible Agency: FDEP*

5. FDEP should explore the various avenues of potential enforcement authority and develop the one identified as producing the best results. *Responsible Agency: FDEP*
6. The Trustees should develop criteria for evidence collection associated with reef injury incidents, based on their anticipated future litigation needs. Law enforcement officers and/or scientific divers should then adopt these criteria as standard practice each time that data are collected for use as evidence in future litigation. The National Oceanic and Atmospheric Administration's (NOAA) Damage Assessment, Remediation and Restoration Program (DAARP) provides a model for the development of Trustee criteria. *Responsible Agencies: Lead – FDEP; Support – Local Governments and FWC*
7. All divers collecting evidence, including scientific divers collecting scientific data that may be used in a court of law, should be trained in an accredited evidence collection policy or procedure. *Responsible Agency: FWC*
8. To ensure that adequate safety standards are followed, only divers operating under standards set forth in 29 CFR § 1910 should collect evidence or scientific data that may be used as evidence in subsequent litigation. *Responsible Agencies: FWC, FDEP, and Local Governments*

9. A tiered contractor certification or qualification process should be established, based on criteria such as past performance (documented success); the ability to work effectively with federal, state, and local governments; and the possession of necessary skills, certifications, or degrees verifying ability and equipment capability to conduct specific activities. A certification or qualification process would ensure that contractors are qualified, in advance, to conduct restoration work and would shorten the length of time needed to obtain the necessary authorizations for conducting restoration activities. The recommended tiers and qualifications are as follows:
- A. SCIENTIFIC SUPPORT**—Activities consist of environmental project management, site assessment, surveying, mapping, monitoring, and reporting. Qualifications to conduct these activities should consist of:
 - a.** Demonstrated skill and experience in successful project management and scientific report writing;
 - b.** An understanding of the specific local habitat and the ecological processes governing that habitat; and
 - c.** Demonstrated experience and knowledge of the current technology for surveying, mapping, assessing, restoring, and monitoring coral reef habitats.

 - B. BIOLOGICAL TRIAGE**—Activities consist of righting, marking, and caching biological resources in preparation for restoration. Qualifications to conduct these activities should consist of:
 - a.** An understanding of the specific local habitat and the ecological processes governing that habitat;
 - b.** Specific local knowledge of the function and values of the reef habitat;
 - c.** Specific knowledge of the biological/ecological requirements and limitations of the organisms being cached.

 - C. ORGANISM REATTACHMENT**—Activities consist of reattaching biological resources—including, but not limited to, the use of cements, epoxies, wires, cable ties, nails, and bolts. Qualifications to conduct these activities should consist of:
 - a.** An understanding of the specific local habitat and the ecological processes governing that habitat;
 - b.** Specific knowledge of techniques for handling and attaching the specific types of organisms involved in the triage;
 - c.** Specific knowledge of best management practices (BMPs) to minimize the impact of reattachment on surrounding organisms; and
 - d.** Demonstrated experience and long-term success in organism reattachment.

 - D. DEBRIS AND RUBBLE MANAGEMENT**—Activities consist of debris removal and disposal, paint removal and disposal, rubble stabilization, and rubble

removal and disposal. Qualifications to conduct these activities should consist of:

- a. Specific knowledge of environmentally sound techniques for safely removing and disposing of debris and bottom paint;
- b. Specific knowledge of environmentally sound techniques and a methodology for stabilizing rubble in a coral reef environment;
- c. Specific knowledge of the permitting requirements for rubble and debris disposal; and
- d. Specific knowledge of BMPs for removing and transporting coral rubble and debris to minimize injury to the surrounding environment and organisms.

E. REEF FRAMEWORK REPAIR— Activities consist of structural stabilization and reconstruction. Qualifications to conduct these activities consist of:

- a. An understanding of the specific local habitat and the ecological processes governing that habitat;
- b. Specific local knowledge of currents and water flow patterns that may affect the successful stabilization and reconstruction of the reef framework;
- c. Specific knowledge of BMPs for the use of cements, epoxies, or other suitable stabilizing agents in the marine environment to minimize injury to the surrounding environment and organisms. *Responsible Agency: FWC*

10. FDEP should develop a joint proprietary/regulatory authorization process or employ an existing process (i.e., Environmental Resource Permitting) that incorporates the conditions requiring Trustees' approval for the authorization and regulation of primary restoration, compensatory restoration, and monitoring activities associated with reef injuries. An efficient authorization process is needed to facilitate a rapid response. This approach should provide guidance to an RP on how to properly conduct such activities and provide legal recourse for the Trustees if the RP does not comply with the conditions of the authorization. *Responsible Agency: FDEP*

11. FDEP and FWC should develop a Memorandum of Understanding establishing delegation of authority in order to streamline authorization processes necessary for the oversight of primary restoration, compensatory restoration, and monitoring activities associated with reef injuries. If organisms are not being relocated, FDEP authorization should be sufficient to authorize and regulate these activities. If organisms are being relocated to or from an area other than a reef injury site, the FWC SAL should be used, as it addresses potential genetic and health issues. In turn, the SAL may be used in lieu of FDEP authorization to provide oversight for restoration and mitigation activities when no RP is identified for a reef injury. *Responsible Agencies: FDEP and FWC*

12. A streamlined process for issuing authorizations for the installation of temporary moorings at reef injury sites should be adopted by the FWC, FDEP, USCG, and

NMFS to facilitate rapid restoration activities for reef injuries. *Responsible Agencies: Lead – USCG; Support – FWC, FDEP, ACOE, and NMFS*

13. The Legislature should allow ready access to, and provide flexible spending authority for, Ecosystem Management and Restoration Trust Fund (EMRTF) funds for rapid response to reef injuries; otherwise the potential for the resource to return to its original function and value may be greatly diminished. FDEP should pursue amending Sections 380.0558 or 403.1651, F.S., to include flexible spending authority to facilitate rapid response to reef injuries. *Responsible Agency: FDEP*
14. A database should be developed to track injured areas and their restoration status so that areas where no action is taken due to monetary constraints may be identified and prioritized for restoration efforts at a later time. *Responsible Agency: FWC*
15. The use of HEA is recommended for determining compensation for reef resource injuries. If appropriate scoring assessment parameters are developed, UMAM application to reef resource injuries may also be suitable. *Responsible Agency: FDEP*
16. A publication on Guidelines to Restoration Monitoring should be initiated as a follow-up to this document. *Responsible Agencies: Lead – FDEP; Support – FWC*
17. FDEP should (1) develop a penalty assessment schedule by rule, including explicit authority for law enforcement officers to enforce the provisions in the rule, or (2) request that the legislature amend statutory language in Section 253.04, F.S., to establish a penalty assessment schedule to be used for assessing civil penalties associated with injury to coral reefs in state waters. Amended statutory language should include penalties for repeat offenders and explicit authority for any law enforcement officer to enforce the provisions in the statute. *Responsible Agency: FDEP*
18. FDEP should amend the statutory language in Section 253.04, F.S., to require restoration to the maximum extent possible of sovereign submerged lands and associated biological resources to their original function and value. Oversight for restoration activities would be provided by a regulatory authorization process (as previously recommended), or by reimbursing the Trustees for restoration costs. It should be considered whether or not the restoration of an injury site would serve in lieu of assessing civil penalties as an incentive for the restoration of larger vessel grounding sites. *Responsible Agency: FDEP*
19. Trustees should jointly support congressional legislation to protect the state's right to collect appropriate monetary penalties and require that restoration efforts be completed in total, regardless of vessel and cargo value. The Oil Pollution Act, Exemption from Limitation and Exoneration of Liability, provides an example of applicable existing legislation that protects state rights to collect monetary penalties. *Responsible Agencies: Lead – FDEP; Support – FWC, Local Governments*

Appendix 6

Coral Reef Protection Act

403.93345 Coral reef protection.--

(1) This section may be cited as the "Florida Coral Reef Protection Act."

(2) This act applies to the sovereign submerged lands that contain coral reefs as defined in this act off the coasts of Broward, Martin, Miami-Dade, Monroe, and Palm Beach Counties.

(3) As used in this section, the term:

(a) "Aggravating circumstances" means operating, anchoring, or mooring a vessel in a reckless or wanton manner; under the influence of drugs or alcohol; or otherwise with disregard for boating regulations concerning speed, navigation, or safe operation.

(b) "Coral" means species of the phylum Cnidaria found in state waters including:

1. Class Anthozoa, including the subclass Octocorallia, commonly known as gorgonians, soft corals, and telestaceans; and

2. Orders Scleractinia, commonly known as stony corals; Stolonifera, including, among others, the organisms commonly known as organ-pipe corals; Antipatharia, commonly known as black corals; and Hydrozoa, including the family Millaporidae and family Stylasteridae, commonly known as hydrocoral.

(c) "Coral reefs" mean:

1. Limestone structures composed wholly or partially of living corals, their skeletal remains, or both, and hosting other coral, associated benthic invertebrates, and plants; or

2. Hard-bottom communities, also known as live bottom habitat or colonized pavement, characterized by the presence of coral and associated reef organisms or worm reefs created by the *Phragmatopoma* species.

(d) "Damages" means moneys paid by any person or entity, whether voluntarily or as a result of administrative or judicial action, to the state as compensation, restitution, penalty, civil penalty, or mitigation for causing injury to or destruction of coral reefs.

(e) "Department" means the Department of Environmental Protection.

(f) "Fund" means the Ecosystem Management and Restoration Trust Fund.

(g) "Person" means any and all persons, natural or artificial, foreign or domestic, including any individual, firm, partnership, business, corporation, and company and

the United States and all political subdivisions, regions, districts, municipalities, and public agencies thereof.

(h) "Responsible party" means the owner, operator, manager, or insurer of any vessel.

(4) The Legislature finds that coral reefs are valuable natural resources that contribute ecologically, aesthetically, and economically to the state. Therefore, the Legislature declares it is in the best interest of the state to clarify the department's powers and authority to protect coral reefs through timely and efficient recovery of monetary damages resulting from vessel groundings and anchoring-related injuries. It is the intent of the Legislature that the department be recognized as the state's lead trustee for coral reef resources located within waters of the state or on sovereignty submerged lands unless preempted by federal law. This section does not divest other state agencies and political subdivisions of the state of their interests in protecting coral reefs.

(5) The responsible party who knows or should know that their vessel has run aground, struck, or otherwise damaged coral reefs must notify the department of such an event within 24 hours after its occurrence. Unless otherwise prohibited or restricted by the United States Coast Guard, the responsible party must remove or cause the removal of the grounded or anchored vessel within 72 hours after the initial grounding or anchoring absent extenuating circumstances such as weather, or marine hazards that would prevent safe removal of the vessel. The responsible party must remove or cause the removal of the vessel or its anchor in a manner that avoids further damage to coral reefs and shall consult with the department in accomplishing this task. The responsible party must cooperate with the department to undertake damage assessment and primary restoration of the coral reef in a timely fashion.

(6) In any action or suit initiated pursuant to chapter 253 on the behalf of the Board of Trustees of the Internal Improvement Trust Fund, or under chapter 373 or this chapter for damage to coral reefs, the department may recover all damages from the responsible party, including, but not limited to:

(a) Compensation for the cost of replacing, restoring, or acquiring the equivalent of the coral reef injured and the value of the lost use and services of the coral reef pending its restoration, replacement, or acquisition of the equivalent coral reef, or the value of the coral reef if the coral reef cannot be restored or replaced or if the equivalent cannot be acquired.

(b) The cost of damage assessments, including staff time.

(c) The cost of activities undertaken by or at the request of the department to minimize or prevent further injury to coral or coral reefs pending restoration, replacement, or acquisition of an equivalent.

(d) The reasonable cost of monitoring the injured, restored, or replaced coral reef for at least 10 years. Such monitoring is not required for a single occurrence of damage to a coral reef damage totaling less than or equal to 1 square meter.

(e) The cost of enforcement actions undertaken in response to the destruction or loss of or injury to a coral reef, including court costs, attorney's fees, and expert witness fees.

(7) The department may use habitat equivalency analysis as the method by which the compensation described in subsection (5) is calculated. The parameters for calculation by this method may be prescribed by rule adopted by the department.

(8) In addition to the compensation described in subsection (5), the department may assess, per occurrence, civil penalties according ¹to the following schedule:

(a) For any anchoring of a vessel on a coral reef or for any other damage to a coral reef totaling less than or equal to an area of 1 square meter, \$150, provided that a responsible party who has anchored a recreational vessel as defined in s. 327.02 which is lawfully registered or exempt from registration pursuant to chapter 328 is issued, at least once, a warning letter in lieu of penalty; with aggravating circumstances, an additional \$150; occurring within a state park or aquatic preserve, an additional \$150.

(b) For damage totaling more than an area of 1 square meter but less than or equal to an area of 10 square meters, \$300 per square meter; with aggravating circumstances, an additional \$300 per square meter; occurring within a state park or aquatic preserve, an additional \$300 per square meter.

(c) For damage exceeding an area of 10 square meters, \$1,000 per square meter; with aggravating circumstances, an additional \$1,000 per square meter; occurring within a state park or aquatic preserve, an additional \$1,000 per square meter.

(d) For a second violation, the total penalty may be doubled.

(e) For a third violation, the total penalty may be tripled.

(f) For any violation after a third violation, the total penalty may be quadrupled.

(g) The total of penalties levied may not exceed \$250,000 per occurrence.

(9) To carry out the intent of this section, the department may enter into delegation agreements with another state agency or any coastal county with coral reefs within its jurisdiction. In deciding to execute such agreements, the department must consider the ability of the potential delegee to adequately and competently perform the duties required to fulfill the intent of this section. When such agreements are executed by the parties and incorporated in department rule, the delegee shall have all rights accorded the department by this section. Nothing herein shall be construed to require the department, another state agency, or a coastal county to enter into such an agreement.

(10) Nothing in this section shall be construed to prevent the department or other state agencies from entering into agreements with federal authorities related to the administration of the Florida Keys National Marine Sanctuary.

(11) All damages recovered by or on behalf of this state for injury to, or destruction of, the coral reefs of the state that would otherwise be deposited in the general revenue accounts of the State Treasury or in the Internal Improvement Trust Fund shall be deposited in the Ecosystem Management and Restoration Trust Fund in the department and shall remain in such account until expended by the department for the purposes of this section. Moneys in the fund received from damages recovered for injury to, or destruction of, coral reefs must be expended only for the following purposes:

(a) To provide funds to the department for reasonable costs incurred in obtaining payment of the damages for injury to, or destruction of, coral reefs, including administrative costs and costs of experts and consultants. Such funds may be provided in advance of recovery of damages.

(b) To pay for restoration or rehabilitation of the injured or destroyed coral reefs or other natural resources by a state agency or through a contract to any qualified person.

(c) To pay for alternative projects selected by the department. Any such project shall be selected on the basis of its anticipated benefits to the residents of this state who used the injured or destroyed coral reefs or other natural resources or will benefit from the alternative project.

(d) All claims for trust fund reimbursements under paragraph (a) must be made within 90 days after payment of damages is made to the state.

(e) Each private recipient of fund disbursements shall be required to agree in advance that its accounts and records of expenditures of such moneys are subject to audit at any time by appropriate state officials and to submit a final written report describing such expenditures within 90 days after the funds have been expended.

(f) When payments are made to a state agency from the fund for expenses compensable under this subsection, such expenditures shall be considered as being for extraordinary expenses, and no agency appropriation shall be reduced by any amount as a result of such reimbursement.

(12) The department may adopt rules pursuant to ss. [120.536](#) and [120.54](#) to administer this section.

History.--s. 57, ch. 2009-86.

¹Note.--The word "to" was inserted by the editors.

Appendix 7

Warning Letter

CERTIFIED MAIL # _____
RETURN RECEIPT REQUESTED

[INSERT NAME AND
ADDRESS OF RP]

Warning Letter

[Use only for properly registered recreational vessels causing impacts totaling less than or equal to one square meter]

RE: Vessel anchored on a coral reef located at [INSERT INCIDENT LOCATION, DATE, LATITUDE, LONGITUDE, etc.]

Dear [INSERT NAME OF RP]:

The purpose of this letter is to advise you of alleged violations of law for which you may be responsible, and to seek your cooperation in preventing future violations. The Florida Department of Environmental Protection (FDEP) received a report of violations of law on [INSERT REPORT DATE] from [INSERT INCIDENT DETAILS W/O SPECIFICALLY NAMING COMPLAINANT (e.g. divers who observed and documented an anchor dragging across a coral reef, etc.)] on [INSERT INCIDENT DATE (if different from Report Date)] at the above referenced site. The [INSERT DOCUMENTATION TYPE (e.g. video, photos, etc.)] provided to the FDEP indicates that the alleged violations of Chapters 253, 373 and/or 403, Florida Statutes (F.S.), and the rules promulgated thereunder, occurred on [INSERT INCIDENT DATE] in approximate position referenced above.

The [INSERT DOCUMENTATION TYPE], which occurred in the Atlantic Ocean, Class III Waters of the State, is summarized below:

[INSERT INCIDENT DETAILS. EX: *“While recreationally fishing, Florida registered vessel FL 8250 FR was observed dragging anchor and chain across the coral reef, effectively dredging the sea floor. Divers video-taped the anchor as it dragged and impacted the benthic environment at a depth of approximately 55 feet below surface. Gorgonians, sponges and stony corals were observed to be damaged by the anchor and chain. Horizontal visibility during the inspection was 80 to 100 feet and the sea floor was clearly visible from the surface.”* **OR, if no details** *“Florida registered vessel FL 8250 FR was observed with an anchor overboard in an area known to inhabit coral.”*]

In recognition of Florida’s unique coral reef systems and their importance to the economy, the Florida Legislature enacted Section 403.9335, F.S. entitled the *Florida Coral Reef Protection Act* (CRPA), effective July 1, 2009, to increase protection of coral reef resources on sovereign submerged lands off the coasts of Martin, Palm Beach, Broward, Miami-Dade, and Monroe counties. Under this law, the FDEP may assess civil penalties for anchoring a vessel on a coral reef or any other damage to a coral reef totaling: a) less than or equal to 1 square meter (m²), \$150; b) more than 1 m², but less than or equal to 10 m², \$300 per m²; and c) more than 10 m²,

Educational Letter

CERTIFIED MAIL # _____
RETURN RECEIPT REQUESTED

[INSERT NAME AND
ADDRESS OF RP]

Educational Letter

[Use only for when a complaint is received without specific incident location]

RE: Vessel allegedly anchored on a coral reef located at [INSERT INCIDENT LOCATION,
DATE, etc.]

Dear [INSERT NAME OF RP]:

On [INSERT REPORT DATE] the Florida Department of Environmental Protection (FDEP) received a report that a motor vessel with registration numbers [INSERT NUMBERS], registered in your name, was allegedly anchored on a coral reef at the above referenced location. The following information regarding pertinent Florida Statutes governing sovereign submerged lands and the products thereof, including coral reefs is being provided to you to prevent violations of Florida law.

Chapter 253, Florida Statutes (F.S.) provides that state lands shall be managed to serve the public interest by protecting and conserving land, air, water, and the state's natural resources, which contribute to the public health, welfare, and economy of the state. These lands shall be managed to provide for areas of natural resource based recreation, and to ensure the survival of plant and animal species and the conservation of finite and renewable natural resources. Damages to these lands are violations of Chapters 253, 373 and/or 403, F.S., and the rules promulgated thereunder and may result in the judicial imposition of civil penalties up to \$10,000.00 per violation per day in addition to damages and restoration.

In recognition of Florida's unique coral reef systems and their importance to the economy, the Florida Legislature enacted Section 403.9335, F.S. entitled the *Florida Coral Reef Protection Act* (CRPA), effective July 1, 2009, to increase protection of coral reef resources on sovereign submerged lands off the coasts of Martin, Palm Beach, Broward, Miami-Dade, and Monroe counties. Under this law, the FDEP may assess civil penalties for anchoring a vessel on a coral reef or any other damage to a coral reef totaling: a) less than or equal to 1 square meter (m²), \$150; b) more than 1 m², but less than or equal to 10 m², \$300 per m²; and c) more than 10 m², \$1000 per m². These penalties may be increased with aggravating circumstances, for incidents occurring within a state park or aquatic preserve, and/or for repeat violations up to \$250,000 per occurrence. For more information on the CRPA, please see the enclosed fact sheets and visit: <http://www.dep.state.fl.us/coastal/programs/coral/ripr.htm>.

Appendix 8

QUESTIONS & ANSWERS ABOUT THE CORAL REEF PROTECTION ACT OF 2009

➤ **What is the *Coral Reef Protection Act*?**

The *Coral Reef Protection Act* is a new Florida state law, effective July 1, 2009, which has been created to improve the health of the Florida Reef Tract.

➤ **Why was the *Coral Reef Protection Act* created?**

The *Coral Reef Protection Act* was created to respond to stakeholder recommendations from a 2006 public workshop. The workshop, part of a Southeast Florida Coral Reef Initiative local action strategy, compiled information on existing emergency response processes, identified deficiencies and developed consensus-based solutions among numerous agencies of state and local governments, marine industry representatives and other stakeholders to improve response to, and restoration of, coral reef injuries in southeast Florida.

➤ **What does the *Coral Reef Protection Act* do?**

The *Coral Reef Protection Act* recognizes the importance of coral reefs to Florida's ecology, beauty and economy. The act affords protection to the entire Florida Reef Tract, which extends 330 nautical miles from the Dry Tortugas to Stuart. The act authorizes the Florida Department of Environmental Protection (FDEP), as the state's lead trustee for coral reef resources, to protect coral reefs through timely and efficient assessment and recovery of damages, including civil penalties, resulting from vessel impacts to coral reefs.

➤ **Who is affected by the *Coral Reef Protection Act*?**

The *Coral Reef Protection Act* was initially developed to address coral reef impacts caused by commercial vessels dragging cables, grounding or anchoring on Florida's coral reefs. The act is not limited to just commercial vessel traffic however, and pertains to all vessels (commercial and recreational) that transit state waters within Martin, Palm Beach, Broward, Miami-Dade and Monroe counties.

➤ **Can another coastal county or state agency protect coral reefs under the *Coral Reef Protection Act*?**

Yes. FDEP may enter into delegation agreements with other state agencies and coastal counties that have coral reefs within their jurisdiction (the resource trustees). The delegee will have all the rights afforded to FDEP by the act. The FDEP and other state agencies may also enter into agreements with federal authorities related to the administration of the Florida Keys National Marine Sanctuary.

➤ **What does the *Coral Reef Protection Act* require from the responsible party - the owner, operator, manager or insurer of any vessel - that has impacted a coral reef?**

- The responsible party must notify FDEP within 24 hours of damaging or otherwise impacting the coral reef.
- The responsible party must remove, or cause the removal of, the grounded or anchored vessel within 72 hours of the incident, unless prohibited by the U.S. Coast Guard or extenuating circumstances such as weather or marine hazards.
- The responsible party must remove, or cause the removal of, the grounded or anchored vessel in a manner that avoids further damage to the coral reef and shall consult with FDEP in accomplishing this task.
- The responsible party must cooperate with FDEP to undertake damage assessment and primary restoration of the injured coral reef in a timely fashion. Assessment and restoration efforts must be conducted by qualified individuals.

➤ **What damages does the *Coral Reef Protection Act* authorize FDEP to collect from the responsible party?**

- Cost of damage assessments and activities undertaken by, or at the request of, the resource trustees to minimize or prevent further coral damages, including staff time.
- Cost of enforcement actions undertaken by the resource trustees, including court costs, attorney's fees and expert witness fees.
- Replacement, restoration or acquisition of the equivalent value of the injured coral reef, including compensation for the value of the lost use and ecological services of the reef, as determined through habitat equivalency analysis.
- Cost of monitoring the injured, restored or replaced coral reef for at least 10 years if the injury area is greater than 1 square meter.

➤ **What civil penalties are prescribed by the *Coral Reef Protection Act*?**

- For damage to a coral reef totaling less than or equal to 1 square meter - \$150.
 - For the first offense, a warning letter in lieu of a penalty can be issued.
 - With aggravating circumstances - an additional \$150.
 - Within a state park or aquatic preserve - an additional \$150.
- For damage to coral reefs totaling more than 1 square meter, but less than or equal to 10 square meters - \$300 per square meter.
 - With aggravating circumstances - an additional \$300 per square meter.
 - Within a state park or aquatic preserve - an additional \$300 per square meter.
- For damage to coral reefs greater than 10 square meters - \$1,000 per square meter.
 - With aggravating circumstances - an additional \$1,000 per square meter.
 - Within a state park or aquatic preserve - an additional \$1,000 per square meter.
- For a second violation, the total penalty may be doubled.
- For a third violation, the total penalty may be tripled.
- For a fourth violation, the penalty may be quadrupled.
- The total of penalties levied may not exceed \$250,000 per occurrence.

➤ **What alternatives exist so vessel operators can avoid anchoring on coral reefs?**

- The preferred alternative is to use areas where mooring buoys are provided for vessel use.
 - Broward County has an extensive mooring buoy program with information available online at:
<http://www.broward.org/bio/mooringbuoy.htm>
 - Martin County has mooring buoys associated with the St. Lucie Inlet Preserve State Park and the county has an artificial reef program. More information regarding the state park and the artificial reef program can be found at:
<http://www.floridastateparks.org/stlucieinlet/ParkSummary.cfm>
<http://www.martinreefs.com/index.html>
 - Miami-Dade County will be installing 20 new mooring buoys in the fall of 2009 and more information can be found at:
<http://www.miamidade.gov/derm/buoy.asp>

Additionally, just offshore of Miami-Dade County is Biscayne National Park (BNP) and information regarding BNP's mooring buoys can be found at:

<http://www.nps.gov/bisc/planyourvisit/mooring-buoys.htm>

- Monroe County is home to the Florida Keys National Marine Sanctuary (FKNMS), which has hundreds of mooring buoys from Key Largo to the Dry Tortugas. Information regarding the FKNMS mooring buoy system can be found at:

<http://floridakeys.noaa.gov/mbuoy/welcome.html>

- Palm Beach County will be installing 4 moorings on the shallow Breakers Reef in the summer of 2009. Due to the strong currents on Palm Beach County's deeper, offshore reefs, establishing mooring fields in these areas is not planned. More information regarding Palm Beach County's coastal resources can be found at:

<http://www.pbcgov.com/erm/coastal/>

- Another alternative for vessel operators who wish to anchor near coral reefs is to place their anchor in the sand located beyond the edge of the reef.
 - Local knowledge of the area and holding capabilities of the anchor are critical to ensure a vessel is anchored in, and will remain in, the sand.
 - Nautical charts, GPS navigation programs, dive maps, and local dive shops can all be used to enhance local knowledge, but ultimately the vessel operator/owner is responsible for preventing violations of the law.
- To view the United States Coast Guard's federal requirements and safety tips for recreational boat anchoring, please visit their website at:

http://www.uscgboating.org/safety/fedreqs/saf_anchor.htm.

➤ **Where can I get more information about Florida's coral reefs and the *Coral Reef Protection Act*?**

To learn more, please visit www.dep.state.fl.us/coastal/programs/coral/

CORAL REEF PROTECTION ACT OF 2009 – FACT SHEET

- Spanning more than 330 nautical miles from the Dry Tortugas to the St. Lucie Inlet, the Florida Reef Tract is one of the greatest natural resources in Florida and the United States. Florida’s reefs provide habitat for over 6,000 marine species, protect south Florida’s shorelines from tropical storms and hurricanes, and sustain Florida’s fisheries, famous beaches, tourism, and recreation.
- Florida’s reefs are worth \$6.3 billion dollars to the local economy and support more than 71,000 jobs annually.
- The Florida Reef Tract is suffering from a range of threats, including injuries caused by vessels grounding and anchoring on the coral reefs.
- Coral reef impacts from large vessel groundings and anchor or cable drag events cause immediate and long-term injuries; vessel hulls, anchors, and propellers can fracture and crush coral reef framework, scrape the reef surface and dislodge corals, sponges and other marine animals and plants.
- In addition to injuries caused by large vessels and improper anchoring, chronic impacts to coral reefs caused by anchors from smaller recreational vessels result in widespread cumulative damages.
- In 2009, the Florida Legislature passed the *Coral Reef Protection Act* to increase protection of coral reef resources on sovereign submerged lands off the coasts of Martin, Palm Beach, Broward, Miami-Dade, and Monroe counties.
 - The *Coral Reef Protection Act* authorizes the Florida Department of Environmental Protection (FDEP), as the state’s lead trustee for coral reef resources, to protect coral reefs through timely and efficient assessment and recovery of damages to coral reefs and to enter into delegation agreements with other state or local government agencies with coral reefs in their jurisdiction to carry out the intent of the act.
 - The *Coral Reef Protection Act* provides Florida with the ability to recover monetary damages by establishing a civil penalty schedule to provide additional disincentive for damaging coral reefs and provides an alternative restitution mechanism for smaller damage events (such as unauthorized anchoring) that do not warrant full-scale compensation analysis.

- Effective July 1, 2009, the *Coral Reef Protection Act* provides that:
 - The responsible party who knows, or should know, that their vessel has run aground, struck, or otherwise damaged coral reefs must notify the FDEP of such an event within 24 hours.
 - Unless prohibited or restricted by the U.S. Coast Guard, and absent circumstances that would prevent safe removal of the vessel, the responsible party must remove or cause the removal of the grounded or anchored vessel within 72 hours after the initial incident occurred in a manner that avoids further damage to coral reefs, and in consultation with the FDEP.
 - The responsible party must cooperate with the FDEP to undertake damage assessment and primary restoration of the injured coral reef in a timely fashion.
 - The FDEP may recover all damages from the responsible party including, but not limited to, a) compensation for the cost of replacing, restoring or acquiring the equivalent of the injured coral reef and the value of the lost use and services of the injured coral reef, b) the cost of damage assessments, c) the cost of activities undertaken to minimize or prevent further injury to the injured coral reef, d) the reasonable cost of monitoring, for at least 10 years, of an injured, restored or replaced coral reef greater than 1 square meter, e) the cost of enforcement actions undertaken in response to the destruction, loss of or injury to a coral reef.
 - In addition to compensation for damages, the FDEP may assess civil penalties for anchoring a vessel on a coral reef or any other damage to a coral reef totaling, a) less than or equal to 1 square meter, \$150, b) more than 1 square meter, but less than or equal to 10 square meters, \$300 per square meter, c) more than 10 square meters, \$1000 per square meter. These penalties may be increased with aggravating circumstances, for incidents occurring within a state park or aquatic preserve, and/or for repeat violations.
 - A responsible party who has anchored a recreational vessel which is lawfully registered or exempt from registration will be issued, at least once, a warning letter in lieu of penalty for damages to a coral reef totaling less than 1 square meter.
- Alternatives are available to avoid anchoring on coral reefs. The preferred alternative is to use mooring buoys instead of anchoring. Where mooring buoys are not available, vessel operators should anchor in the sand. Information about current and planned mooring buoy locations and use are available online at:

Broward County: <http://www.broward.org/bio/mooringbuoy.htm>

Martin County:

<http://www.floridastateparks.org/stlucieinlet/ParkSummary.cfm>

and <http://www.martinreefs.com/index.html>

Miami-Dade County: <http://www.miamidade.gov/derm/buoy.asp> and

<http://www.nps.gov/bisc/planyourvisit/mooring-buoys.htm>

Monroe County: <http://floridakeys.noaa.gov/mbuoy/welcome.html>

Palm Beach County: <http://www.pbcgov.com/erm/coastal/>

- The *Coral Reef Protection Act* responds to stakeholder recommendations from a 2006 Southeast Florida Coral Reef Initiative local action strategy public workshop and complements the protection of coral reef resources in designated protected state waters.

For more information about Florida's coral reefs and the state programs that protect them, please visit: www.dep.state.fl.us/coastal/programs/coral/.