

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



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



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 II**

Final Report

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## **List of Acronyms**

AAUS	American Academy of Underwater Sciences
BCEPGMD	Broward County Environmental Protection and Growth Management Department
CAMA	Office of Coastal and Aquatic Managed Areas
CORAL	Coral Reef Alliance
CRCA	Coral Reef Conservation Act
CRCP	Coral Reef Conservation Program
CRPA	Coral Reef Protection Act
CSI	Crime Scene Investigation
DERM	Miami-Dade County Department of Environmental Resource Management
ECDIS	Electronic Chart Display and Information System
EMRTF	Ecosystem Management and Restoration Trust Fund
ENC	Electronic Navigation Chart
ERA	Ecological Risk Analysis
ERM	Palm Beach County Department of Environment Resource Management
ERP	Environmental Resource Permitting
ESA	Endangered Species Act
ESRI	Environmental Systems Research Institute
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FDOU	Fishing, Diving, and Other Uses
FKNMS	Florida Keys National Marine Sanctuary
FS	Florida Statute
FWC	Florida Fish and Wildlife Conservation Commission
FWRI	Florida Wildlife Research Institute
GIS	Geographic Information System
HEA	Habitat Equivalency Analysis
IHO	International Hydrographic Organization
IMPAC	International Marine Protected Areas Congress
LBR	Legislative Budget Request
LBSP	Land Based Source of Pollution
MICCI	Maritime Industry and Coastal Construction Impacts
MOU	Memorandum of Understanding
MPA	Marine Protected Area

NCRI	National Coral Reef Institute
NMFS	National Marine Fisheries Services
NOAA	National Oceanographic and Atmospheric Administration
NOV	Notice of Violation
OGC	Office of General Council
OSHA	Occupational Safety and Health Administration
POC	Point of Contact
PSA	Public Service Announcement
RIPR	Reef Injury Prevention and Response
RP	Responsible Party
SECREMP	Southeast Florida Coral Reef Evaluation and Monitoring Project
SECRWQMP	Southeast Florida Coral Reef Water Quality Monitoring Project
SED	Southeast District
SEFCRI	Southeast Florida Coral Reef Initiative
SEMERP	Southeast Marine Event Response Program
SNPWG	Standardization for Nautical Publications Working Group
SWP	State Warning Point
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USCRTF	United States Coral Reef Task Force

## 1. Introduction

Commercial and recreational anchor damage and groundings within southeast Florida have historically resulted in severe negative impacts to the Florida Reef Tract. Since 1979, there have been 113 documented cases in the southeast Florida region (Miami-Dade, Broward, Palm Beach, and Martin counties) of vessels damaging coral reefs either as a result of direct vessel impact, or by other means such as cable drags or improper anchoring practices. In reality however, the true number of commercial and recreational vessels impacting reef resources is most likely much higher, as many impacts go un-noticed or un-reported. Since taking over the management and enforcement of coral reef resource impacts in the southeast Florida region in March 2006, the Florida Department of Environmental Protection's (FDEP) Coral Reef Conservation Program (CRCP) has responded to and managed 99 of these documented cases.

A number of these cases involved large commercial vessels that caused the destruction of extensive areas of coral reef and associated benthic habitat. On July 1, 2009 the Coral Reef Protection Act (CRPA) was enacted into Florida Law, increasing FDEP's ability to enforce penalties for damages following a reef injury event. Since the CRPA's inception, 33 warning and educational letters have been sent out to recreational vessel owners, and three notice of violations (NOV) and/or consent orders have been executed in cases involving commercial vessels.

*The Management Options to Prevent Anchoring, Grounding, and Accidental Impacts to Coral Reefs and Hardbottoms – Phase I Report* was finalized in November of 2010, and is the product of Phase I of the 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 this project was to identify and prioritize management options to prevent impacts to coral reefs and hardbottoms from commercial and recreational vessel anchoring and groundings. Phase I initiated the implementation of immediately feasible recommendations from the MICCI Project 2 – *Rapid Response and Restoration for Coral Reef Injuries in Southeast Florida: Guidelines and Recommendations*. Phase II of this project has continued with implementation of both the management options from Phase I and the recommendations from the MICCI Project 2 report, in addition to providing funds for mooring buoy support in Miami-Dade, Broward, and Martin counties.

## 1.1 Establishment and Growth of the Reef Injury Prevention and Response (RIPR) Program

In 2006, the FDEP Office of Coastal and Aquatic Managed Area's (CAMA) Coral Reef Conservation Program (CRCP) was tasked with managing southeast Florida's coral reef injury events. Due to limited staff capacity at the time, the need for a staff member to work full time on grounding related issues became apparent in 2006 when two major commercial ship groundings and five ship anchoring incidents occurred on Broward County reefs. Accordingly, in early 2008 the first RIPR Program Coordinator was hired.

Since June 2010, the CRCP along with members of FDEP's Office of General Council (OGC) and Southeast District (SED), and the National Coral Reef Institute (NCRI) have participated in two mediated meetings with the responsible parties (RP) in two large groundings cases in an effort to avoid proceeding to a full trial. Both meetings were successful, resulting in the signing of consent orders, and the recovery of over one million dollars in damages.

The primary functions of the RIPR Coordinator are to help coordinate the State's response to reef grounding and impact events, monitor a 24-hour coral reef injury cell phone, and act as the primary contact for any coral reef injury event 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 (POC) 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 responses to, and management of, coral reef and other hardbottom injury events.
- Organize and participate in vessel salvage, coral reef injury site assessment, 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 or resource damages from the RP.

## **2. Management Options Evaluated to Reduce Coral Reef Impacts**

The MICCI Combined Projects 9 & 25 team has 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.

### **2.1 Introduction of coral reef layers onto recreational and commercial electronic navigation charts**

In Phase I, the possibility of adding GIS benthic habitat layers, which were a product of the Southeast Florida Coral Reef Initiative (SEFCRI) Land Based Sources of Pollution (LBSP) Projects 6, 7, 8, 9, onto recreational electronic navigation charts (ENCs) was preliminarily investigated. In Phase II, this option was more fully explored. Based on discussions with private equipment manufacturers (e.g., Garmin, etc.), the State could enter into a limited liability and use agreement with the private companies to allow their navigation units to display a reef habitat boundary layer on top of existing ENC's. The layer would not differentiate between different coral reef habitats, rather the reef would be depicted as one generic layer displayed on top of the existing nautical charts. The MICCI 9 & 25 project team had originally expressed concerns that displaying the coral reef layers could result in increased visits to these habitats, and therefore potentially increasing resource impacts. It was decided however, that the benefits of helping to educate recreational boat users on the location of reefs outweighed the potential risk of impacts.

It was determined in Phase I that it is not currently possible to display the coral reef layers on commercial ENCs, as they have to follow standards established by the International Hydrographic Organization (IHO) that do not allow for the incorporation of GIS data formats. Since the completion of Phase I however, the IHO has started to develop the S-100 universal hydrographic data model. S-100 provides the data framework for the development of the next generation of ENCs products, as well as other related digital products required by the hydrographic, maritime, and GIS communities. The S-100 standard extends the scope of the previous S-57

standard, supporting a wider variety of hydrographically related digital data sources.

As in Phase I, the National Oceanographic and Atmospheric Administration (NOAA) is currently working with the IHO to include Marine Protected Areas (MPAs) on ENC. Currently, the IHO's Standardization for Nautical Publications Working Group (SNPWG) is working on an S-100 based product specification that would standardize the encoding and display of coral reefs and other MPA type features. Once complete, this would be a separate product that would be used in conjunction with ENCs. It must also be noted that the new format and layouts will not be compatible with the many Electronic Chart and Information Display Systems (ECDIS) that are still running on the S-57 format. Only when the units are upgrading will it be possible to see any new layers that are introduced. The current estimation of the timeframe required to develop and adopt the new specifications is currently 1 to 2 years, and does not include the time that would be required to develop a system capable of reading the new data format. Phase III of this project will continue to monitor the development of the new commercial standards.

Recent advances in mobile communication device capabilities have created an additional opportunity to display southeast Florida reef habitat layers through the development of a program application (commonly referred to as an 'app'). The makers of ArcGIS, Environmental Systems Research Institute (ESRI), have created a free app that is available on the Apple iPhone, and is in development for the Android operating system and Windows Phone 7. Rather than create a completely new app, the existing ArcGIS app has the ability to pull layers from the ESRI website, which could be linked to map files hosted on the FDEP ArcGIS server. The app user would be able to view reef habitat locations and type (patch, linear reef, ridge, etc.) for Miami-Dade, Broward, and Palm Beach counties.

The files on the FDEP server will be uploaded to the FDEP Map Direct service, which is a web based mapping application, which can be found at: <http://ca.dep.state.fl.us/mapdirect/gateway.jsp>. This final aggregated reef layer will also be available on the internal FDEP dataminer, an application that allows GIS boundary and image files to be shared amongst all FDEP GIS users. The file will be accompanied by an extensive metadata document, which gives details on the layers creation and accuracy and spatial reference.

#### To Be Completed in Phase III:

- Complete metadata for the compiled coral reef shapefile.
- Upload the finalized shapefile to the FDEP dataminer and Map Direct services.
- Develop a map that can be linked to the ArcGIS mobile app.
- Research other possible methods of displaying reefs on mobile devices.
- Continue to monitor progress of new commercial standards.

## 2.2 Designation of no anchor zones and prioritize coral reef communities of particular importance

The need to establish no anchor zones due to the practical implications of enforcing the Coral Reef Protection Act (CRPA) was highlighted in Phase I. State law enforcement personnel reported that even if a recreational boat user was observed anchoring in an area that contained coral reef habitat, visible proof of the anchor directly impacting reef resources was needed in order to issue a citation. This would require the officer to dive on each suspected anchor incident and visually establish that the vessel is, in fact anchored on coral reef resources. The establishment of no anchor zones would provide definitive evidence of noncompliance and eliminate the need to establish intent or link specific people to actions resulting in reef damage; thereby increasing the ability of enforcement. In order to establish no anchor zones, it needs to be determined which agency has the authority to designate them, which agency will be responsible for the enforcement, and what the penalty schedule will be for violations. Phase I determined that according to Florida Statute (F.S.) (F.S. 253.03(7)(b)), the Board of Trustees of the Internal Improvement Trust Fund has the authority to designate such zones; however, which entity within the Board of Trustees (i.e., FWC, FDEP) should take the lead has yet to be established. Furthermore, research into the ease and practicality of zone creation will have to be completed. This will occur in Phase III.

Once the exact authority to designate and enforce the new areas has been established, criteria will then have to be developed to zone the areas. It will have to be determined whether the selection criteria should be consistent throughout the entire region, or whether criteria should vary from county to county. One criterion that could be used to locate and prioritize no anchor zones is the presence of certain threatened and endangered scleractinian species. *Acropora cervicornis* and *Acropora palmata* are listed under the Endangered Species Act (ESA) as federally threatened, *Dendrogyra cylindrus* is listed as endangered by the State of Florida, and large [greater than 3 meter (m)] *Montastraea sp.* colonies are rare. The FWC's FWRI in conjunction with NOAA have produced an online tool that allows for the open dissemination of *Acropora spp.* presence or absence data for Florida, Puerto Rico and the U.S. Virgin Islands. The tool is linked directly to the FWRI ArcGIS servers and allows users to upload the latitude, longitude, date of sighting and species to an online database, which is then verified and subsequently displayed using an online GIS map. The tool can now be accessed at:

[http://ocean.floridamarine.org/NOAA\\_Acropora/](http://ocean.floridamarine.org/NOAA_Acropora/)

Areas of high anchoring activity were investigated in the SEFCRI Fishing Diving and Other Uses (FDOU) Project 33A – *Determining Vessel Use Patterns in the Southeast Florida Region*. The project used aerial surveys to determine use intensity, anchoring pressure, and predominant boating activities off Miami-Dade, Broward, Palm Beach, and Martin counties. The results showed that small vessels (85%) were the most

dominant type of vessel observed, with most of these (95%) being recreational. Additionally a high proportion of all of the vessels observed (95%) regardless of their class or size were engaged in fishing, diving, or snorkeling. A third (32%) of all vessels were at anchor, with 90% of these vessels being less than 10m in estimated length. The number of recreational vessels at anchor was significantly higher than the number of anchored commercial vessels. These findings can be used to identify areas that are sustaining high levels of use and are close to environmentally sensitive habitats. The full report can be viewed at:

<http://www.dep.state.fl.us/coastal/programs/coral/reports/>

#### To Be Completed in Phase III:

- Establish exact authority to establish and enforce no anchor zones.
- Determine criteria for area selection.

### **2.3 Creation of an outreach campaign to educate the public on the CRPA**

During Phase II, a number of outreach initiatives were completed that aimed to educate the general public on the importance of the Florida Reef Tract and the CRPA. A tri-fold color brochure was designed and printed that outlines the importance of the Florida Reef Tract, and how the CRPA helps protect it. The civil penalties that are allowable under the Act are clearly defined as well as what is required from the RP of any vessel that injures coral reef habitat. The brochure displays a number of images of healthy reef, in addition to images depicting injured corals and barrel sponges (*Xestospongia spp.*) after grounding and anchoring incidents (see Appendix 3). Ten thousand copies of the brochure have been printed, which will be distributed amongst dive operators, marinas, and boatyards throughout the four counties. A large number of businesses have been contacted, with the vast majority agreeing to display copies of the brochure. The brochures will be accompanied by a cardboard stand with a simple CRPA logo on the front.

In addition to producing and distributing hard copies of the brochure, a high resolution PDF file was produced, which could be emailed to persons who have a registered vessel or a saltwater fishing license in Florida. Lists of the contact details of all recreational saltwater fishing license holders and registered vessel owners have been obtained from the Florida Department of Transportation (FDOT). An appropriate distribution strategy to reach the maximum number of users will be investigated in Phase III.

A public service announcement has also been developed that will be broadcast during Phase III on local radio stations during high listening periods in an effort to reach large numbers of reef users. The script was designed to be concise yet still convey the main purpose of the CRPA:

*“The FDEP reminds listeners that with the passage of the Coral Reef Protection Act in 2009, it is now illegal for any vessel to anchor on, or damage, Florida’s fragile and valuable coral reefs. When boating use current*

*nautical charts and fish finders to locate reefs. Avoid harming the reefs by using mooring buoys or anchoring in the sand! This important message is brought to you by the FDEP. More information about how you can protect the Florida Reef Tract is available online at [southeastfloridareefs.net](http://southeastfloridareefs.net)."*

The RIPR program, in conjunction with FDEP's Southeast Marine Event Response Program (SEMERP) is in the process of developing a number of promotional items that will advertise a 'marine event' hotline. A graphic will be finalized and produced in Phase III that informs the public how to report a sighting of marine debris, marine related disturbance events such as coral disease, fish kills, or algal blooms, vessel groundings, or anchor damage. The graphic will be incorporated into a sticker that will be distributed to local dive shops and marinas, and printed onto a dive mask strap to distribute at public outreach events. Details of the hotline are described in more detail in section 4.2 below.

To Be Completed in Phase III:

- Purchase radio spots for broadcast of CRPA PSA.
- Develop distribution strategy for hard and electronic copies of the CRPA brochure.
- Develop and distribute a Spanish language version of the CRPA brochure.

## **2.4 Continuation of support for mooring buoy supplies**

In continuation of the support that was provided for Miami-Dade County's Department of Environmental Resource Management (DERM) in Phase I, Phase II MICCI 9 & 25 funds were allocated to Broward County's Environmental Protection and Growth Management Department (EPGMD), FDEP's District 5 Division of Recreation and Parks in Martin County, and again to Miami-Dade County's DERM. Phase III funds will be used to purchase supplies for Palm Beach County's Environmental Resources Management Department (ERM). The agreement with the recipients is similar to that in Phase I, with the funds only being used to purchase mooring buoy supplies, with no assistance provided for any installation or maintenance. A letter of agreement stipulating this arrangement was signed by each county.

The supplies provided to Broward County will be used to support the 122 mooring buoy installations located at popular diving and fishing sites. Each mooring is inspected bi-monthly, and all supplies will be used to perform any repairs that are necessary. The supplies for the Division of Recreation and Parks will be used by the St. Lucie Inlet Preserve State Park to assist in the setup of six new mooring buoy installations. Miami-Dade County DERM will use the supplies to perform any necessary repairs to the 20 mooring buoys that were installed with the assistance of Phase I funds.

To Be Completed in Phase III:

- Continue support of local mooring buoy programs, as necessary.

### **3. MICCI Project 2 Recommendations.**

In 2006, FDEP's CRCP held a public workshop for MICCI Project 2. The objective was to gather information to improve response to, and restoration of, coral reef injuries in southeast Florida. 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 outcome of the workshop was a series of 19 recommendations (See Appendix 4) that were incorporated into a final MICCI Project 2 document titled, *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 in Phase II.

#### **3.1 Recommendation 1**

Recommendation 1 calls for agencies that are issuing permits that may affect coral reef resources to ensure that permit conditions provide the maximum protection for reef resources. The adoption of the CRPA in 2009 provided a legal framework that could be included, since it provides a schedule of damages, and authorizes FDEP to collect from the responsible party the costs related to natural resource damage assessments, enforcement actions, the replacement or restoration of the injured coral reef, and the cost of monitoring the restored, injured, or replaced reef for at least 10 years. The full text of the provision contained within the CRPA can be found in Appendix 5.

MICCI Combined Project 4, 21, 23 and 24 - *Policy Recommendations and Training to Improve Agency Permitting, Compliance and Enforcement for Coral Resource Conservation in Southeast Florida* examined issues relating to coastal construction permits for projects impacting coral reef and hardbottom resources. The project aimed to improve permitting, compliance, enforcement, and penalty assessment processes to protect coral reef resources, another provision of Recommendation 1. The project was split into two phases; Phase I included data mining of permit special conditions of local coastal construction project permits and interviews with field level enforcement staff to determine the perceived enforceability of those conditions. Phase II conducted an in depth analysis of the legal and regulatory issues that were discovered in Phase I. Some of the key report findings that relate specifically to maximizing the permitting mechanisms designed to increase coral reef protection include:

- The increased agency coordination that was recommended in Phase I could be accomplished through small modifications to the informal networks already in place between agencies.
- Permit compliance at all levels can be increased by making permit language clear, concise, and consistent amongst agencies.

- Agencies directly involved in permitting activities that are directly related to corals and coral reef habitat [FDEP and the U.S. Army Corps of Engineers (USACE)] should develop template special conditions for coral resource protection (this is covered in more detail in recommendations 10 and 11).
- Develop interagency standards for acceptable methods, monitoring standards, and reporting requirements for activities such as benthic resource and water column sediment monitoring, and artificial reef construction.

MICCI Combined Projects 4, 21, 23 and 24 also developed a modular training package, aimed at improving the coral reef knowledge of current regulatory personnel. The training has three subject units that are designed to be administered on an individual or group basis. The units include: *Overview of Corals and Hardbottom Resources in Southeast Florida*, *Rules and Regulations Involving Corals in Southeast Florida*, and *Permitting and Field Approaches for Efficient Compliance and Enforcement*. For a full copy of the report see:

[http://www.dep.state.fl.us/coastal/programs/coral/reports/MICCI/MICCI\\_04\\_2\\_1\\_23\\_24\\_Phase\\_2\\_Report.pdf](http://www.dep.state.fl.us/coastal/programs/coral/reports/MICCI/MICCI_04_2_1_23_24_Phase_2_Report.pdf)

#### To Be Completed in Phase III:

- Continue to work with regulatory staff to ensure permit conditions are integrated.

### **3.2 Recommendation 2**

The establishment of a 24 hour coral reef hotline to receive reports of coral reef injuries has been completed through the day to day operation of the RIPR program, as described above in Section 2.3 of the management options. Florida Division of Emergency Management's State Warning Point (SWP) were unwilling to host the hotline due to the potential high call volume, so it has now been organized in conjunction with FDEP's other marine event projects, the Southeast Florida Marine Debris Reporting and Removal Program and SEMERP. The hotline has been created, and will allow the caller to leave a message in one of three voicemail boxes (marine debris, disturbance events, groundings and anchoring). Each mailbox will contain detailed instructions and will be checked daily by the FDOU, LBSP, and RIPR coordinators, respectively. The groundings and anchoring mailbox message is as follows:

*"Hello. You have reached the mailbox for the Reef Injury Prevention and Response Program. To report a commercial or recreational vessel grounding, anchoring incident, or any other reef injury, please leave a message providing your name, contact information and a brief description of the incident including the location of the injury (with GPS coordinates, if available), the type of resources that have been impacted, and if applicable, the name and registration numbers of the vessel involved. If you provide your contact information, your call will be returned as soon as possible. If this is an emergency and you need immediate assistance please contact John Evered, the Reef Injury Prevention and Response Coordinator at 786-385-3054. Thank you for contacting the Reef Injury Prevention and Response Program."*

The hotline will be used to receive calls from members of the general public. The RIPR Coordinator will also continue to monitor the cell phone dedicated to grounding calls from other state Trustees.

To Be Completed in Phase III:

- Continue to monitor groundings voicemail box.

### **3.3 Recommendation 3**

The public outreach campaign that has been developed to educate stakeholders on the CRPA and the importance of reporting reef injuries is outlined in Section 2.3 above. The need for local, state, and federal, employees to be aware of their responsibilities to report reef injuries to the RIPR Program also forms part of Recommendation 3. During Phase II, several coral reef grounding cases were either settled or brought to conclusion through enforcement, naturally facilitating increased inter-agency co-ordination. The relationships that have been developed will help ensure that any impact events are quickly and accurately reported through the appropriate channels.

To Be Completed in Phase III:

- Continue to develop methods to inform the public of methods to report coral reef injuries.

### **3.4 Recommendations 4 and 14**

Recommendations 4 and 14 call for long-term coordination amongst all parties and agencies involved in responding to coral reef injuries through the development and maintenance of a password protected website and a database designed to track injured areas. The website should be set up to contain data that relates to the information provided during the initial incident report, the contact information of the responsible party including legal and technical contacts, the contact information for each agency involved in any aspect of the response, and all contractor and subcontractor information. The 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.

The practicalities of developing a password protected website were investigated in Phase II. The hiring of a private contractor to develop and host a website that had the capability for users to upload and download documents proved to be cost prohibitive. Preliminary discussions have been held with FWC's FWRI to develop and host a groundings website that will perform all of the functions outlined in the recommendation. A scope of work will be developed and presented to FWC in Phase III, and once operational, all 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 shared online. The groundings database will be developed internally in Phase III, using skills that developed as a result of the Incident and Report Tracking (Access 2007) consultation that was held for CRCP staff in June 2011.

To Be Completed in Phase III:

- Re-engage FWRI to develop a scope of work for a password protected website for trustee use.
- Develop an Access-based groundings database to efficiently track cases.

### **3.5 Recommendation 5**

Phase II has continued to explore the various avenues of potential enforcement authority that were identified in Phase I. As was previously discussed, the CRPA offers statutory protection to the Florida Reef Tract, but practical enforcement has proved difficult. A potential solution is the designation of no anchor zones, described in the management options above, which will provide law enforcement personnel with precise legal parameters to assess penalties.

As in Phase I, the majority of the CRPA violations reported in Phase II were either recreational or smaller commercial vessels (e.g., recreational dive charters) anchoring over reef habitat. CRCP and SED staff have continued to send out formal warning letters to persons reported to have violated the CRPA, which now contain the information contained within the old educational letters. See Appendix 6 for an example of a current warning letter, 10 of which were issued in Phase II. A consent order for smaller commercial incidents and repeat recreational offenders has also been developed which outlines the amount of damages assessed, and acts as a final resolution once signed (see Appendix 7). Three consent orders were issued and subsequently executed during Phase II.

To Be Completed in Phase III:

- Continue to provide assistance preparing warning and educational letters.

### **3.6 Recommendations 6 and 7**

Both Recommendations 6 and 7 were initially addressed during Phase II. Recommendation 6 states that the trustees should develop criteria for evidence collection based upon anticipated litigation needs. Recommendation 7 requires that all divers collecting evidence, including divers collecting scientific data, should be trained in accredited evidence collection policies and procedures. As part of the RIPR Program, the CRCP is partnering with the Coral Reef Alliance (CORAL) to fund and host a Coral Reef Crime Scene Investigation (CSI) field training program in south Florida. As of June 2011, the week long course is tentatively scheduled for April 2012, so as to avoid scheduling conflicts with the upcoming US Coral Reef Task Force (USCRTF) meeting that is being organized by the CRCP.

Coral Reef CSI courses have been held throughout the world over the last four years, with the concept arising out of an enforcement workshop at the 2005 International Marine Protected Areas Congress (IMPAC) in Geelong, Australia. To date, workshops have been held in Cozumel, Dominican Republic, Barbados, Jamaica, the Maldives, Southeast Asia, Tahiti, Belize, East Africa, Trinidad & Tobago, Indonesia, Guam and Honduras. The course's main objective will be to train coral reef resource managers, environmental assessment specialists, marine enforcement officers, forensic investigators and litigators on conducting coral reef enforcement and natural resource field investigations. This will result in the training of key individuals within the south Florida region in the standards and protocols being developed for conducting legally defensible investigations of marine natural resource impacts on coral reefs to determine responsible parties, mitigation strategies, and gather evidence for decision making.

The main instructor and principal investigator is Dave Gulko, a marine natural resource manager, natural resource damage assessment specialist, and coral reef ecologist with the State of Hawai'i. He will lead the design of the training program, training aids, and produce all grant reports for the project. Additional instructors will be selected from recognized experts that are recommended by the International Coral Reef Initiative (ICRI) Committee on Coral Reef Enforcement and Natural Resource Investigation. The RIPR Coordinator will act as the regional instructor and workshop logistics coordinator, handling the local planning and helping to facilitate the implementation of the training workshop and the activities of the regional participants.

The training workshop itself will feature a number of in-water, marine based "crime scenes" that the participants will assess using the skills and tools that are taught in the course. The "crime scene" scenarios will be designed to be as realistic as possible. The specific curriculum of the course will be tailored to be as relevant as possible to the problems and situations found in the southeast Florida region. A potential course outline may include modules on:

- 1. Investigating damage to coral reefs**
  - a. Types of impact events
  - b. Types of marine investigators
  - c. The need for in water investigative teams
  - d. The need for training
  - e. Enhancing notification of an impact event
  - f. Conducting an underwater field investigation
  - g. The general coral reef CSI process
  - h. Mitigation vs. restoration vs. penalty
- 2. Basic marine investigative tools**
  - a. Use of ecological risk analysis (ERA)
  - b. Pre assessments and setting an event perimeter

- c. Impact assessments
- d. Conducting rapid ecological assessments
- e. The role of the coral reef on scene coordinator
- f. Minimizing investigator damage to the impact scene
- g. Initial search for evidence at risk
- h. Documentation of the scene
- i. Collection of evidence
- j. Preservation and packaging of evidence, chain of custody
- k. Analysis of evidence

### 3. Advanced marine investigative tools

- a. Biological organisms at the scene
- b. Describing damaged marine life
- c. Documenting effects to ecological function
- d. Marine sediments
- e. Paint chips, reef fragments, and torn paper
- f. Chemicals and pollutants
- g. Digital data
- h. Vessel impact events – vessel groundings and other impacts
- i. Extraction impact events – destructive fishing and gear impacts
- j. Pollution impact events

The FWC Division of Law Enforcement’s Marine Forensics Research Laboratory will also be closely involved in the planning and preparation of the workshop. During Phase II, the RIPR Program has partnered with FWC’s Marine Forensic Program in an effort to improve the response to orphan injuries. In April 2011, an orphan injury site offshore of Pompano Beach in Broward County was visited by FDEP, the FWC Marine Forensic Program, and Broward County’s EPGMD after the RIPR program had received reports from local dive operators that a number of barrel sponges (*Xestospongia spp.*) had been impacted. Findings from FWC’s forensic biologist helped determine the cause of the injury and the likely direction of travel of the offending vessel.

#### To Be Completed in Phase III:

- Continue to provide logistical and technical support during the planning phase.
- Execute contract with CORAL.
- Coordinate and participate in CSI course.

### 3.7 Recommendation 8

Since the completion of Phase I, the FDEP dive program has undergone a transition, due to internal staff changes, and is no longer pursuing American Academy of Underwater Sciences (AAUS) diving safety standards. As per the new FDEP diving directives, any activities which can be described as ‘diving operations’ are to follow

the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) regulation set forth in 29 CFR, Part 1910, Subpart T, Commercial Diving Operations, as stated in Recommendation 8. Although state agencies are not required to follow these regulations, FDEP may use the OSHA requirements as its safety standard when the requirements do not conflict with applicable Florida law or prevent FDEP from carrying out its mission. This change in direction means that Recommendation 8 is more closely met, in that only divers operating under OSHA standards will collect evidence or scientific data that will be used as evidence in subsequent litigation.

One major concern during this transition was the issue of reciprocity with other trustee agencies, as most adhere to AAUS diving standards. FDEP divers must now adhere to commercial diving standards. Many of the new general requirements that all FDEP divers must meet such as; medical evaluations, written examinations, SCUBA skills and swim evaluations and open water check out dives are all at the same standard or level as the AAUS requirements. In many cases, the safety standards in the new FDEP diving directives exceed AAUS standards. For example, whilst performing diving operations FDEP diving procedures now require a standby diver to be topside on the dive platform at all times, in addition to a designated diving supervisor and a designated person in charge.

#### To Be Completed in Phase III:

- Recommendation 8 has been completed.

### **3.8 Recommendation 9**

The development of a tiered contractor certification process has been on hold during both Phases I and II. The recommendation calls for the qualification to be based upon criteria such as past performance, the ability to work with federal, state, and local governments; and the possession of necessary skills, certificates, or degrees verifying ability and equipment capability to conduct specific activities. This process is on hold pending the reauthorization of the Coral Reef Conservation Act (CRCA), which if approved, will provide NOAA with the capability to provide assistance to state and local government agencies during groundings and other impact events. The proposed bill states:

*"The Secretary of the Interior may provide technical assistance and subject to the availability of appropriations, financial assistance for the conservation of coral reefs."*

As such, if guidelines were developed before the passing of the bill, it would have to be ensured that they would allow NOAA, and other federal or state resource trustees to provide assistance during an impact event, if requested.

Two bills have been introduced to the 112<sup>th</sup> Congress in an effort to reauthorize the CRCA. On January 25, 2011 S.46, the Coral Reef Conservation Amendments Act of

2011 was introduced by Senator Inouye (D-Hi), and was cosponsored by Senator Nelson (D-Fl). On May 5, 2011 the Committee on Commerce, Science, and Transportation ordered that the bill be reported favorably to the House of Representatives for vote without amendment. Additionally on February 16, 2011 Representative Madeleine Bordallo (Gu) along with 15 other co-sponsors introduced HR:738, the Coral Reef Conservation Reauthorization and Enhancement Amendments of 2011. On February 18, the bill was referred to the House Subcommittee on Fisheries, Wildlife, Oceans, and Insular Affairs where it will be reviewed and potentially presented to the House for vote in the same manner of S.46.

The progress of the reauthorization bills will be closely monitored during Phase III. If it becomes evident that Legislative progress is not being made, FDEP should start to internally develop guidelines for a contractor certification process. Any internal guidelines that are developed will include provisions that ensure federal, state, and local government partners are not excluded from being able to provide assistance during impact response, if requested.

To Be Completed in Phase III:

- Continue to monitor progress of the CRCA Reauthorization.
- Pending CRCA Reauthorization progress, initiate development of guidelines for contractor certification.

### **3.9 Recommendations 10 and 11**

Recommendations 10 and 11 call for the streamlining of the permitting and regulatory authorization process following coral reef injuries. Recommendation 10 states that FDEP should employ a process, such as the existing Environmental Resource Permitting (ERP) process, that incorporates the conditions requiring trustee approval for the authorization and regulation of primary restoration, compensatory restoration, and monitoring activities associated with reef impacts. As stated in Phase I, some of these issues have been addressed through the adoption of the CRPA, such as the requirement for the RP to cooperate with FDEP to undertake assessment and restoration in a timely fashion. In addition to CRPA requirements, the CRCP has met with members of the FDEP SED Environmental Resource Program in an attempt to develop a permit template for use following impact events. The template will contain general conditions that are pre-agreed upon by the SED, such as trustee approved methods for primary restoration and post disturbance biological monitoring. Details unique to each case, such as the name of the vessel involved, and the location of the injury will be filled in shortly after the grounding. This will allow for rapid approval and prevent any delays to the start of restoration activities.

Initial discussions have also been held with FWC and USACE, with formal meetings planned for early in Phase III. The meetings with USACE will focus on determining whether restoration activities need their approval, and if so why it does not fall under a General or Standard Permit. Many of the activities associated with reef injuries such as scarring and cable drags are not USACE regulated activities, and as such any impacts associated with these types of injuries would not trigger a USACE enforcement action. Any subsequent restoration activities however may be regulated, and therefore fall under the provisions of a Nationwide 27 (NW27) permit. NW27 permits are prohibited in some special aquatic sites, meaning that applications are reviewed at the higher Standard Permit level. These facts show the need for prior discussions and agreements to ensure that any reviews necessary are timely.

In order to update the Memorandum of Understanding (MOU) between FDEP and FWC, as per Recommendation 11, discussions with the legal staff from both agencies will have to occur. This is will be addressed during Phase III.

To Be Completed in Phase III:

- Meet with permitting agencies to develop permit templates.
- Update MOU between FDEP and FWC

### **3.10 Recommendation 12**

Recommendation 12 calls for development of a streamlined process for issuing authorizations for the installation of temporary moorings at reef injury sites, which should be adopted by FWC, FDEP, the United States Coast Guard (USCG), and NOAA's National Marine Fisheries Service (NMFS). In Phase I, it was established that the USCG is the lead agency during this process, and following impact events a notification of intended buoy locations is required so that a Notice to Mariners can be issued. If the buoy is in place for more than 30 days, it is considered semi-permanent and requires a USCG letter of compliance that guarantees the continuous broadcast of the Notice to Mariners. Currently, meetings are scheduled with the USCG Sector Miami Captain of the Port, which will determine the exact authority process for temporary mooring authorizations. This issue will also be highlighted during permitting discussions, as part of Recommendations 10 and 11, to determine what (if any) other authorizations are needed for temporary mooring installation and whether other agency permits can defer exemption decisions to the USCG Captain of the Port.

To Be Completed in Phase III:

- Establish a definitive authority process to authorize the installation of temporary moorings.

### 3.11 Recommendation 13

The need for providing a flexible legislative spending authority of funds contained within the Ecosystem Management and Restoration Trust Fund (EMRTF) has become even more important during Phase II. As previously stated, the RIPR Program along with the SED, OGC, and NCRI recovered over \$1 million in damages in Phase II, all of which was deposited into the EMRTF. As of the end of Phase II, the total balance reserved in the EMRTF for prevention of, response to, and activities to support restoration following coral reef injuries is over \$1.3 million. However, at present FDEP's annual statutory spending authority for EMRTF funds is limited to \$57,834.

The CRCP has developed an internal Legislative Budget Request (LBR) that proposes increasing the program's spending authority. This was submitted in Phase II for agency consideration, with the hope that it will be submitted for consideration during the 2012 Legislative Session. The request contains a number of project proposals that could potentially be funded by EMRTF funds, and would benefit southeast Florida reef ecosystems. Examples of potential projects include:

- The purchase, operation, and maintenance of multiparameter data sondes.
- The installation and monitoring of groundwater monitoring sites.
- Providing support for the Southeast Florida Coral Reef Evaluation and Monitoring Program (SECREMP).
- Providing support for the Southeast Florida Coral Reef Water Quality Monitoring Project (SECRWQMP), including the installation of new sites.
- Continuing to provide support for the purchase of RIPR Program supplies.

In addition to purchasing materials and supporting new projects, increasing EMRTF spending authority is key in maintain the CRCP's capacity to respond to new reef injuries, specifically where the RP is unable or unwilling to fund primary restoration and triage activities. For example, the unresponsiveness of the RP in the *Anzhela Explorer* grounding necessitated use of \$40,000 of EMRTF funds for rubble stabilization alone. However, costs for triage and primary restoration of coral reef injury incidents can exceed \$250,000, such as in large events like the *Spar Orion* and *Clipper Lasco* cases.

#### To Be Completed in Phase III:

- Continue to provide support to the LBR.
- Update the EMRTF spending proposal with new purchases or as potential projects are identified to receive funding support.

### 3.12 Recommendation 15

Implementing the use of Habitat Equivalency Analysis (HEA) for determining compensatory mitigation for reef resource injuries, Recommendation 15, was authorized through the adoption of the CRPA in 2009 which states:

*“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.”*

Since 2009, HEA has been used by the RIPR Program to determine compensatory areas in the *Clipper Lasco*, *Spar Orion*, and *Anzhela Explorer* groundings cases. During the *Clipper Lasco* and *Spar Orion* mediations, the HEA values were used to start negotiations between the RP and State resource trustees.

FDEP has also strived to develop key relationships with acknowledged NCRI, Broward County’s EPGMD and NOAA HEA experts to better understand the applicability of the tool, as well as determining scientifically accurate, and legally defensible, input parameters. Meetings were held in Phase II with NOAA economists to better understand the concept of discounting as it relates to natural resource damages. Additionally, discussions were held with NOAA marine habitat resource specialists to try to understand the methods and theory used to determine accurate recovery rates and trajectories, both key inputs in the HEA process. Research into the understanding and development of these HEA inputs will continue in Phase III.

#### To Be Completed in Phase III:

- Continue to research values to be used in all HEA inputs.

### 3.13 Recommendation 16

Recommendation 16 calls for the development of a publication on guidelines to restoration monitoring. The size and scope of this recommendation is too large to be addressed as part of MICCI Project 9 & 25, and will be considered as a separate project at a later date. A potential project that could satisfy this recommendation is the Conservation Wildlife Tag grant funded project, *“Developing a Strategy for Coral Reef Restoration for Florida”*. Funds have been applied for by members of FWC’s FWRI, the CRCP, and NOAA’s Southeast Fisheries Science Center and Florida Keys National Marine Sanctuary (FKNMS). The goal of the project is to produce a precise document that will outline the essential strategies necessary to affect a well-coordinated, comprehensive coral reef restoration effort in Florida. This will be achieved by assembling the project partners onto a steering committee, who will lead the effort. During the spring or winter of 2012, a workshop will be held where a broad range of resource managers and scientists will be presented with the draft strategies and tasked to develop targeted research and conservation actions. FWC



staff will then develop a draft document based upon the content of the workshop, which will be reviewed by the project steering committee to ensure that the themes and outcomes of the workshop are represented.

To Be Completed in Phase III:

- Assist FWC in developing a strategy for coral reef restoration in Florida.

### 3.14 Recommendations 17 and 18

As was reported in the Phase I report, both Recommendation 17 and portions of Recommendation 18, which call for the development of a penalty schedule, have been met by the passing of the CRPA. The penalty schedule, as per Recommendation 17, is as follows:

*“(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.”*

Similarly, the requirement to reimburse all Trustee costs, as per Recommendation 18, is met in the CRPA as follows:

*“The responsible party must cooperate with the department to undertake damage assessment and primary restoration of the coral reef in a timely fashion.*

*(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.”*

The need to require restoration to the maximum extent has not yet been met, and is discussed further in Section 3.15 below.

To Be Completed in Phase III:

- Continue to work at requiring restoration to the maximum extent.

### **3.15 Recommendation 19**

Phase I reported that Recommendation 19 had been met by the passing of the CRPA; however, after further discussions with the project team it became clear that there is currently a lack of ratified Congressional support to allow for collection of damages greater than the value of the vessel and cargo, which forms the basis of recommendation 19. The House and Senate bills (HR:738 and S.46 respectively, described in section 4.8) submitted early in 2011, in an effort to reauthorize the CRCA, would provide this support. HR:738, in a similar manner to HR:860 submitted in 2009 and HR:1205 submitted in 2007, contains no applicable language on the removal of limitations of liability. S.46, in the same manner as S.2859 (which never reached a House vote) contains supporting language as follows:

*“SEC.213. DESTRUCTION, LOSS, OR TAKING OF, OR INJURY TO, CORAL REEFS.*

*(a) Liability –*

*(4) NO LIMIT TO LIABILITY – Nothing in sections 30501 through 30512 or section 30706 of title 26, United States Code, shall limit liability to any person under this title.*

The progress of these bills will be closely monitored during Phase III, as the lifting of the limitation of liability will allow for monetary penalties to be collected regardless of the value of the vessel and the cargo, and require restoration to the maximum extent as detailed in Recommendation 18.

To Be Completed in Phase III:

- Continue to monitor the progress of the CRCA reauthorization, and provide any support when necessary.

## **Appendix 1 - FDEP Salvage Guidelines**

### **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:
- 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).
- GPS coordinates should be recorded at the bow and both stern quarter locations on the grounded or wrecked vessel.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

- 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.
- 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.
- 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.
- Only floating lines should be used in salvage operations. Non-floating lines and cables have caused extensive resource damages in past operations.
- 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](mailto:Tom.Moore@noaa.gov) , 727-551-5716
- NOAA, Injury Assessment Coordinator: Daniel Hahn, [Daniel.Hahn@noaa.gov](mailto:Daniel.Hahn@noaa.gov) , 727-551-5715
- Florida Dept. of Environmental Protection, Coral Reef Conservation Program: John Evered, [john.evered@dep.state.fl.us](mailto:john.evered@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](mailto:kbanks@broward.org), 954-519-1207
- Martin County: Kathy Fitzpatrick, [kfitzpat@martin.fl.us](mailto:kfitzpat@martin.fl.us), 772-288-5429
- Miami-Dade Dept. of Environmental Resources Management: Steve Blair, [BlairS@miamidade.gov](mailto:BlairS@miamidade.gov), 305-372-6853
- Palm Beach County Dept. of Environmental Resources Management: Janet Phipps, [JPhipps@pbcgov.org](mailto:JPhipps@pbcgov.org), 561-233-2513
- If you have questions, please contact John Evered at the numbers listed above for further information.

#### References:

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

**Appendix 2 - Injury Intake Form**

**DEP-Coral Reef Injury Response Form**

Your name: \_\_\_\_\_

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 – CRPA Brochure**

## FLORIDA'S CORAL REEF PROTECTION ACT

LEARN ABOUT THIS LAW AND HOW IT MAY AFFECT YOU.

Florida's *Coral Reef Protection Act* went into effect on July 1, 2009. The law increases protection of Florida's endangered coral reefs by raising awareness of the damages associated with vessel groundings and anchoring on coral reefs. The law affects all vessels (commercial and recreational) that transit state waters within Monroe, Miami-Dade, Broward, Palm Beach, and Martin counties, and holds those that injure reefs responsible for causing damage to, or destruction of, coral reefs.



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/](http://WWW.DEP.STATE.FL.US/COASTAL/PROGRAMS/CORAL/)  
 AND [HTTP://WWW.DEP.STATE.FL.US/COASTAL/PROGRAMS/CORAL/RIPR.HTM](http://WWW.DEP.STATE.FL.US/COASTAL/PROGRAMS/CORAL/RIPR.HTM)



*Vessel grounding and anchoring impacts (clockwise from top left): broken knobby brain coral (Diploria clivosa), severed giant barrel sponge (Xestospongia muta), an abandoned anchor on the reef, and a healthy southeast Florida coral reef.*

TO REPORT A VESSEL GROUNDING OR OTHER CORAL REEF INJURY IN SOUTHEAST FLORIDA CALL:  
**1-866-770-SEFL(7335)**

The production of this brochure was funded in part by a Coral Reef Conservation Program grant from the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management, and by the Florida Department of Environmental Protection through its Coral Reef Conservation Program.

PHOTOS PROVIDED BY: LAD ATKINS, HARRY BOOTH, JOE MARINO, JENNIFER PODIS, REBECCA ROSS AND FDEP.





Learn about this law and how it may affect you.

## FLORIDA'S CORAL REEF PROTECTION ACT





**WHY IS THE FLORIDA REEF TRACT IMPORTANT AND HOW DOES THE CORAL REEF PROTECTION ACT HELP PROTECT IT?**

- The Florida Reef Tract provides habitat for over 6,000 marine species, protects South Florida's shorelines from tropical storms and hurricanes, and sustains Florida's beaches, tourism and recreation.
- Coral reef development can only happen when certain factors such as water temperature, nutrients and wave action are all present in just the right amounts. South Florida is the only region in the continental United States with the right conditions to support coral reef growth. The Florida Reef Tract is the only barrier reef in the continental United States.
- South Florida's reefs are worth \$6.3 billion dollars to the local economy and support more than 71,000 jobs annually.
- The *Coral Reef Protection Act* allows the Florida Department of Environmental Protection (FDEP) to better protect coral reefs through timely and efficient assessment and recovery of damages to coral reefs and to enter into delegation agreements with other agencies to carry out the intent of the Act.

**WHAT EFFECT DO VESSEL GROUNDINGS AND ANCHORING IMPACTS HAVE ON FLORIDA'S CORAL REEFS?**

- Vessel grounding and anchoring incidents can cause significant damage to reef habitats, potentially changing their biological composition and as a result, the environmental health of coral reefs.
- Although the damage caused to a reef by anchoring a single recreational boat may be small in comparison to the damage caused by a large commercial vessel grounding, the cumulative damages resulting from anchoring and other recreational boating impacts may be greater due to the sheer numbers of recreational boat users in Florida.



Shattered great star coral (*Montastraea cavernosa*), resulting from a vessel impact.

**WHAT CIVIL PENALTIES ARE PRESCRIBED BY THE CORAL REEF PROTECTION ACT?**

FOR DAMAGE TO A CORAL REEF TOTALING LESS THAN, OR EQUAL TO, 1 M<sup>2</sup> - \$150.

- For the first offense, a warning letter in lieu of a penalty may be issued.
- With aggravating circumstances - an additional \$350.
- Within a state park or aquatic preserve - an additional \$150.

FOR DAMAGE TO CORAL REEFS TOTALING MORE THAN 1 M<sup>2</sup>, BUT LESS THAN OR EQUAL TO 10 M<sup>2</sup> - \$300 PER M<sup>2</sup>.

- With aggravating circumstances - an additional \$300 per m<sup>2</sup>.
- Within a state park or aquatic preserve - an additional \$300 per m<sup>2</sup>.

FOR DAMAGE TO CORAL REEFS GREATER THAN 10 M<sup>2</sup> - \$1,000 PER M<sup>2</sup>.

- With aggravating circumstances - an additional \$1,000 per m<sup>2</sup>.
- Within a state park or aquatic preserve - an additional \$1,000 per m<sup>2</sup>.

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.

**FLORIDA'S CORAL REEF PROTECTION ACT**

**WHAT DOES THE CORAL REEF PROTECTION ACT REQUIRE FROM THE RESPONSIBLE PARTY - THE OWNER, OPERATOR, MANAGER OR INSURER OF ANY VESSEL - THAT HAS INJURED A CORAL REEF?**

**THE RESPONSIBLE PARTY MUST:**

- Notify FDEP within 24 hours of damaging or otherwise impacting a coral reef.
- Remove, or cause the removal of, a 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.
- Remove, or cause the removal of, a grounded or anchored vessel in a manner that avoids further damage to the reef and 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, authorized individuals.

**WHAT COMPENSATION DOES THE CORAL REEF PROTECTION ACT AUTHORIZE FDEP TO COLLECT FROM THE RESPONSIBLE PARTY WHO HAS INJURED A CORAL REEF?**

**FDEP IS AUTHORIZED TO COLLECT FROM THE RESPONSIBLE PARTY:**

- The cost of natural resource damage assessments and activities undertaken by, or at the request of, the resource trustees to minimize or prevent further coral reef injuries, including staff time.
- The cost of enforcement actions undertaken by the resource trustees, including court costs, attorney's fees and expert witness fees.
- The cost of replacing, restoring or acquiring the equivalent of the injured coral reef, including ecological services of the reef, as determined through habitat equivalency analysis.
- The 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 (m<sup>2</sup>).

**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. INFORMATION ABOUT CURRENT AND PLANNED MOORING BUOY LOCATIONS AND USE IS AVAILABLE ONLINE AT:

- Broward County: <http://www.broward.org/bio/mooringbuoy.htm>
- Martin County: <http://www.martinreefs.com/index.html> and <http://www.floridastateparks.org/6tucieinlet/ParkSummary.cfm>
- Miami-Dade County: <http://www.miamidade.gov/dem/buoy.asp> and <http://www.nps.gov/bcc/playourvisit/mooring-buoys.htm>
- Monroe County: <http://floridakeys.noaa.gov/mbuoy/welcome.html>
- Palm Beach County: <http://www.pbcgov.com/ern/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](http://www.uscgboating.org/safety/fedreqs/saf_anchor.htm)



THE FLORIDA REEF TRACT PROVIDES HABITAT FOR OVER 6,000 MARINE SPECIES, PROTECTS SOUTH FLORIDA'S SHORELINES FROM TROPICAL STORMS AND HURRICANES, AND SUSTAINS FLORIDA'S BEACHES, TOURISM AND RECREATION.

## **Appendix 4 – 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*

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 5 - The 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 <sup>1</sup>to 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.

<sup>1</sup>Note.--The word "to" was inserted by the editors.

Appendix 6 - SED and CRCP Warning Letter



Florida Department of  
Environmental Protection

Southeast District Office  
400 N. Congress Avenue, Suite 200  
West Palm Beach, FL 33401  
561-681-6600

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard Jr.  
Secretary

**WARNING LETTER**

Name  
Address

**RE: Vessel anchored on a coral reef located at Latitude xxxxxx North, Longitude xxxxxx West, on xxxxx.**

Dear

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 at the above referenced site. The complaint 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 May 21, 2011 in approximate position referenced above.

The complaint, which occurred in the Atlantic Ocean, Class III Waters of the State, is summarized below:

*"Florida registered vessel FL xxxxx 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 (m<sup>2</sup>), \$150; b) more than 1 m<sup>2</sup>, but less than or equal to 10 m<sup>2</sup>, \$300 per m<sup>2</sup>; and c) more than 10 m<sup>2</sup>, \$1000 per m<sup>2</sup>. 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>.

Page 2 of 2

Chapter 253, 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.

Pursuant to Chapter 403.93345, F.S., a responsible party who anchors a recreational vessel on a coral reef or causes damage to a coral reef less than or equal to one square meter, will be issued at least one warning letter in lieu of financial penalties. Please be advised, future incidents by you or your vessel involving damages to coral reefs, may result in enforcement actions and civil penalties.

Please share this information with your fellow recreational boaters and fishermen. The FDEP will continue its mission of protecting and educating the public about Florida's precious natural resources. We look forward to your cooperation in this matter. Should you have questions, please contact Melissa Gil at (561) 681-6636 or electronically at: [Melissa.Gil@dep.state.fl.us](mailto:Melissa.Gil@dep.state.fl.us).

Si require asistencia en español por favor comuníquese con Melissa Gil al siguiente número de teléfono: (561) 681-6626 o por correo electrónico: [Melissa.Gil@dep.state.fl.us](mailto:Melissa.Gil@dep.state.fl.us).

Sincerely,

\_\_\_\_\_  
Jason Andreotta                      Date  
Environmental Manager  
Environmental Resources Program  
Southeast District

cc:        John Evered, FDEP, via e-mail: [John.Evered@dep.state.fl.us](mailto:John.Evered@dep.state.fl.us)  
            Troy Craig, FDEP, via e-mail: [Troy.C.Craig@dep.state.fl.us](mailto:Troy.C.Craig@dep.state.fl.us)

JRA/MK/mg

**Appendix 7 - SED and CRCP Generic Consent Order**



**Florida Department of  
Environmental Protection**

Southeast District Office  
400 N. Congress Avenue, Suite 200  
West Palm Beach, FL 33401  
561-681-6600

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard Jr.  
Secretary

**ELECTRONICALLY AND BY REGULAR MAIL**

Name  
Address  
Date

SUBJECT: Proposed Settlement of DEP vs. respondent

Dear Respondents:

The purpose of this letter is to complete the resolution of the matter previously identified by the Department in the initial assessment report. The Department finds that you are in violation of Sections 403.161 and 403.93345, Florida Statutes, and Rule 62-343.050, Florida Administrative Code. In order to resolve the matters identified in the Initial Assessment Report, you are assessed \$XXXXX in civil penalties, \$XXXXX to reimburse the Department's Office of Coastal and Aquatic Managed Areas ("CAMA") costs for diving/investigating the site, and \$XXXXX representing the Department's cost to draft this Order, for a total of \$XXXXX.

The civil penalties are apportioned as follows: \$XXXXX for four square meters of coral damage pursuant to Sections 403.93345(8)(b) and 403.93345(8)(d), Florida Statutes. The Department's costs, totaling \$XXXXX, are recoverable pursuant to Sections 403.93345(6)(b) and 403.93345(6)(e), Florida Statutes.

This payment must be made payable to the Florida Department of Environmental Protection by cashier's check or money order and shall include the OGC File Number assigned above and the notation "Ecosystems Management and Restoration Trust Fund – Coral Reef Protection." Payment shall be sent to the Department of Environmental Protection, 400 North Congress Avenue, Suite 200, West Palm Beach, FL 33401, within 30 days of your signing this letter.

Your signing this letter constitutes your acceptance of the Department's offer to resolve this matter on these terms. If you elect to sign this letter, please return it to the Department at the address indicated above. The Department will then countersign the letter and file it with the Clerk of the Department. When the signed letter is filed with the Clerk, the letter shall constitute final agency action of the Department which shall be enforceable pursuant to Sections 120.69 and 403.121, Florida Statutes.

If you do not sign and return this letter to the Department at the District address by May 1, 2011, the Department will assume that you are not interested in settling this matter on the above

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described terms, and will proceed accordingly. None of your rights or substantial interests are determined by this letter unless you sign it and it is filed with the Department Clerk.

Sincerely,

\_\_\_\_\_  
 Kevin Claridge                      Date  
 Assistant District Director  
 Southeast District

**FOR THE RESPONDENT:**

I, name on behalf of organization, **HEREBY ACCEPT THE TERMS OF THE SETTLEMENT OFFER IDENTIFIED ABOVE.**

Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_

**FOR THE RESPONDENT:**

I, name on behalf of organization, **HEREBY ACCEPT THE TERMS OF THE SETTLEMENT OFFER IDENTIFIED ABOVE.**

Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_

**FOR THE RESPONDENT:**

I, name on behalf of organization, **HEREBY ACCEPT THE TERMS OF THE SETTLEMENT OFFER IDENTIFIED ABOVE.**

Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_

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**FOR DEPARTMENT USE ONLY**

DONE AND ENTERED this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

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STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION:

\_\_\_\_\_  
Kevin Claridge                      Date  
Assistant District Director  
Southeast District

FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk,  
receipt of which is hereby acknowledged.

\_\_\_\_\_  
Clerk                                      Date

KC/JS/jra

Enclosed:

Copies furnished to:

Joanna C. Walczak, FDEP, [Joanna.Walczak@dep.state.fl.us](mailto:Joanna.Walczak@dep.state.fl.us)  
John Evered, FDEP, [John.Evered@dep.state.fl.us](mailto:John.Evered@dep.state.fl.us)  
Christopher T. Byrd, FDEP OGC, [Christopher.T.Byrd@dep.state.fl.us](mailto:Christopher.T.Byrd@dep.state.fl.us)  
Lea Crandall, FDEP Agency Clerk, Mail Station 35

### NOTICE OF RIGHTS

Persons who are not parties to this Consent Order but whose substantial interests are affected by this Consent Order have a right, pursuant to Sections 120.569 and 120.57, Florida Statutes, to petition for an administrative hearing on it. The Petition must contain the information set forth below and must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS-35, Tallahassee, Florida 32399-3000, within 21 days of receipt of this notice. A copy of the Petition must also be mailed at the time of filing to the District Office named above at the address indicated. Failure to file a petition within the 21 days constitutes a waiver of any right such person has to an administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes.

The petition shall contain the following information:

(a) The Department's Consent Order identification number and the county in which the subject matter or activity is located; (b) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; (c) An explanation of how the petitioner's substantial interests will be affected by the Consent Order; (d) A statement of when and how the petitioner received notice of the Consent Order; (e) A statement of all material facts disputed by petitioner, if any; (f) A statement of the specific facts the petitioner contends warrant reversal or modification of the Consent Order; (g) A statement of which rules or statutes the petitioner contends require reversal or modification of the Consent Order; and (h) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Consent Order.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the subject Consent Order have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Sections 120.569 and 120.57, Florida Statutes, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-106.205, Florida Administrative Code.

Mediation under Section 120.573, Florida Statutes, is not available in this proceeding.