

*Review of Methods, Process, and Agency Response to Citizen Reports of
Potential Non-Compliance and Natural Resource Impacts*

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Maritime Industry and Coastal Construction Impacts (MICCI)

Local Action Strategy Project 13



Southeast
Florida
Coral Reef
Initiative

Acting above to protect what's below.

Executive Summary

The condition of southeast Florida nearshore coastal habitats have been, and continue to be, impacted by multiple anthropogenic and natural stressors. Coastal development and construction practices including dredging and beach renourishment, and the construction of seawalls, docks, and submerged structures, can directly or indirectly affect reef systems in southeast Florida. Likewise, impacts from non-permitted activities such as natural disasters, marine debris, vessel anchoring and groundings, and construction or operation of unpermitted structures add to the stressors on reef environments. The Southeast Florida Coral Reef Initiative (SEFCRI) Maritime Industry and Coastal Construction Impacts (MICCI) Team developed several Local Action Strategies (LAS) to address these issues. This research was conducted in fulfillment of an originally identified LAS project and in support of recommendations from previously completed MICCI projects to review current regulatory agency responses to citizen reports of resource impacts during permitted activities in Miami-Dade, Broward, Palm Beach and Martin counties.

Programs exist within regulatory agencies that are designed to collect and respond to citizen reports of impacts to reef resources and non-compliance activities affecting reef resources. Improving stakeholder understanding and access to the reporting process and agency response may reduce the amount or extent of damage to natural resources. Increased enforcement actions may also encourage voluntary compliance with regulatory requirements.

The primary goal of this study was to review and suggest improvements to the methods, process, and response to citizens reporting potential non-compliance impacts to reef resources. Often, citizens may not distinguish between impacts that are occurring due to non-compliance of permitted activities, versus impacts due to unpermitted activities, such as illegal activities which should have been permitted, accidental impacts, and natural impacts. Therefore the original scope of this study was expanded to review the current reporting and response processes to all coastal natural resource impacts regardless of the origin of the impact.

In order to understand current reporting systems within various southeast Florida agencies, a review of reporting systems that are in place, interviews of both the agency personnel responsible for responding to citizen reports and citizens that have previously submitted reports, were conducted. In order to gain insight into how the average citizen, that has not submitted a report, determines which agency to contact or how to find information regarding environmental impacts, random interviews were also conducted. Gaps, overlaps, and citizen and agency preference of reporting method (i.e., hotline, website) were identified.

During the course of this study it was found that few complaints received by county departments or enforcement departments of FDEP are related to environmental impacts; even fewer are related to coastal or marine resource impacts. This is most likely due to the citizens lack of knowledge or understanding of which resources are protected, and the types of activities that may be harmful to those resources. Based on interviews, it is also apparent

that there is a lack of awareness of which agency to contact to report potential environmental impacts. Citizens that did report potential environmental violations were generally satisfied when they received follow up from the agency they reported to, but were generally dissatisfied when they believed the agency did not resolve the situation. Many of the agencies believe this frustration is because in some instances the impact is either legal (permitted and in compliance), or the agency doesn't have the authority to take action on the noncompliance issue.

Additionally, it was found from both the citizen and agency perspective, that at times, what constituted a perceived response varied. For instance commonly a citizen will only perceive their being a response if there was tangible evidence such as an onsite visit. Similarly, some agencies would state that they may not respond to a complaint, but to clarify what they meant was that they would not go onsite. In reality, the agency may have taken many steps to research the issue or complaint such as looked up existing permits, the property or location of the incident, checked weather or tide conditions as necessary, contacted partner agencies etc. All of these actions constitute a response and as such agencies need to credit the amount of effort they invest and communicate these response actions to citizens to help the citizen understand that a response has been initiated even if an onsite visit does not take place.

Many agencies have both web based and phone based systems in place for citizens to call or submit an environmental concern. However, many of these systems should be reviewed and made more intuitive to navigate, and operators should be trained on the appropriate department to dispatch calls. With improvements to citizen outreach, and agency and emergency response center websites and operator protocols, there is an opportunity to engage citizens in helping report noncompliance and impacts to reef resources.

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List of Acronyms

BER.....(FDEP) Bureau of Emergency Response
CAMA.....(FDEP) Office of Coastal and Aquatic Managed Areas
CRCP.....(FDEP) Coral Reef Conservation Program
DERM.....(Miami-Dade County) Department of Environmental Resource Management
DRER.....(Miami-Dade County) Division of Environmental Resource Management
EPA.....United States Environmental Protection Agency
FDEP.....Florida Department of Environmental Protection
EPGMD...(Broward County) Environmental Protection and Growth Management Depart.
ERM.....(Palm Beach County) Environmental Resource Management
LAS.....Local Action Strategy
FWC.....Florida Fish and Wildlife Conservation Commission
MICCI.....(SEFCRI) Maritime Industry and Coastal Construction Impact
NMFS.....(NOAA) National Marine Fisheries Service
NOAA.....National Oceanic and Atmospheric Administration
RIPR.....(FDEP CRCP) Reef Injury Prevention and Response Program
SED.....(FDEP) Southeast Regulatory District
SEFCRI.....Southeast Florida Coral Reef Initiative
SIRFS.....Services and Information Request for Service
SOP.....Standard Operating Procedure
SFWMD.....South Florida Water Management District
USACE.....United States Army Corps of Engineers
USCG.....United States Coast Guard
VHF.....Very High Frequency

1. Introduction

In a highly developed area such as southeast Florida, the potential for citizens and resource trustees to witness land-based incidents and impacts to natural resources is very high. This is not the case for many coastal and marine impacts which can be out of sight (beneath the surface), or not observed at the time they occur due to the vast aquatic surface area relative to the number of people monitoring it at any given time. For example, in 2010 Miami-Dade County had 1,315.5 people per square mile, whereas the highest number of recreational vessels reported in-use on one day during a 2009 survey was 6.6 vessels per square mile (U.S. Census Bureau, 2011; Gorzelany, 2009).

Impacts to natural and reef resources can occur from various direct and indirect anthropogenic sources. Regardless of the origin, in all cases response time is critical. A well-coordinated response plan is paramount to the success of restoration; and this begins in the period immediately following notification of the incident (Collier et. al., 2007). With limited law enforcement personnel assigned to environmental enforcement duty, and few permit compliance personnel in any given agency, agencies must encourage citizens to help monitor and report suspicious environmental activities. If agencies are reaching out to the public for assistance with environmental impact reporting, they must provide a user-friendly, intuitive system to facilitate effective communication.

Agencies identified as potentially responsible for responding to or addressing coral reef resource impacts included Miami-Dade, Broward, Palm Beach, and Martin counties, as well as the Florida Department of Environmental Protection (FDEP) Southeast District (SED) and Coral Reef Conservation Program (CRCP), the Florida Fish and Wildlife Conservation Commission (FWC), the National Oceanographic and Atmospheric Administration National Marine Fisheries Service (NOAA NMFS) and the United States Army Corps of Engineers (USACE).

Interviews with citizens revealed that many entities or agencies may receive a report, but lack the authority to address the particular environmental concern. Since directing the informant to the correct agency is the first step in correctly addressing the situation, agencies or entities that were incorrectly contacted by a concerned citizen were also reviewed. The South Florida Water Management District (SFWMD), United States Coast Guard (USCG), Environmental Protection Agency (EPA), FDEP Office of Public Services, and the FDEP Bureau of Emergency Response (BER) were also reviewed.

2. Project Goals & Objectives

The primary goal of this study was to review and suggest improvements to the methods, process, and response to citizens reporting potential non-compliance or unauthorized impacts to reef resources. Often, citizens may not distinguish between impacts that are occurring due to non-compliance of permitted activities, versus impacts due to unauthorized activities, such as illegal activities which should have been permitted, accidental impacts, and natural impacts. Therefore the original scope of this study was expanded to review the current reporting and response processes to all coastal natural resource impacts regardless of the origin of the impact.

Through review of non-compliance reporting methods available to the public, interviews with citizens that have filed environmental reports of non-compliance, interviews with citizens that have never filed a report of non-compliance, and interviews with agency personnel responsible for responding to those reports; the objective of this study is to help provide recommendations to agencies on how they can improve their reporting mechanisms, better inform the public of reporting mechanisms available to them, and understand if any disconnect exists between the public's understanding of what to report, and who to report to.

3. Materials and Methods

3.1 Reporting System Review

The procedures for reporting environmental impacts and permit non-compliance for all agencies mentioned above were reviewed. Information specific to the reporting process for environmental impacts and non-compliance events was collected through direct contact with agency personnel and a review of filed reports, researching agency websites, and calling phone numbers listed by the agency on those websites. The number of webpage hyperlinks, or transfers by phone, necessary to reach the appropriate department was recorded as a part of this study, and a detailed outline of the steps a citizen may take when navigating an agency system is provided.

3.2 Interviews

Detailed interviews were conducted of personnel or departments representing the end of the reporting chain or operating dedicated systems for reporting environmental impacts, since they are more directly responsible for addressing the citizen's complaint. Detailed interviews included personnel within the Miami-Dade County Department of Environmental Resource Management (DERM), Broward County Environmental Planning and Growth Management Department (EPGMD), Palm Beach County Environmental Resource Management (ERM), Martin County Growth Management Department; the FDEP's SED, CRCP, and BER; NOAA NMFS, and USACE.

All persons conducting interviews and gathering data for this report were given interview guidelines (Appendix A). Standardized introductory statements and interview questions were developed for use during the review and interview process by the MICCI Project 13 Team (Appendix B, C, D, E, and F). These guidelines were created to insure that all interviews were conducted in a similar manner to the greatest extent possible.

In order to determine the appropriate department or person that should be contacted in the event a citizen reports impacts to reef resources, project interviewers called the main telephone number of the agencies listed above. Interviewers then read a brief introductory statement to the operator and asked the questions developed by the Project Team to document the agency's process. (Appendix B) This brief call also provided data on how accurate the front end of the agency was on directing citizens that wanted to report reef resource impacts. The person or department identified by the operator was then contacted and the process was repeated until the interviewer determined that they had reached the end person(s) or department responsible for collecting or addressing citizen reports.

Once the appropriate person(s) or department was reached, the interviewer scheduled a formal interview. These interviews were conducted in person when possible, or over the phone. Each agency representative(s) interviewed was informed of the purpose of the interview and project scope to ensure their understanding and willingness to participate. Agency person(s) interviewed were read the questions listed in Appendix D. At the end of the interview each agency representative was asked to provide contact information of five persons that filed reports about environmental impacts and had not requested anonymity. Primary focus was on citizen reports of environmental impacts that were coral reef related; however, because reef related impact reports are limited, the scope of specific reports used for this study was broadened to include any coastal resource or water related impact.

During agency interviews it was determined that in general, citizen reports of environmental impacts are directed and addressed on a local level. These local agencies include DERM, EPGMD, ERM, Martin County Growth Management Department, and FDEP SED. These agencies provided contact information for citizens who had filed reports in the past two years. At times, the USACE may be the sponsor of, or permitting activities that have the potential to impact reef resources. As such a Freedom of Information Act request was made for contact information of citizens that had reported environmental impact concerns in the past five years within Miami-Dade, Broward, Palm Beach, or Martin counties. The citizens were contacted by phone and asked if they were willing to participate in the study. Willing citizens were delivered the introductory statement and questions developed by the MICCI Project 13 Team (Appendix E and F). All interviews were conducted over the phone.

To improve the process of citizens reporting environmental impacts, it is necessary to determine if citizens can recognize an environmental impact, whom citizens believe should be notified, and how citizens locate contact information. This information was obtained through interviews of citizens at random that had never filed an environmental impact report. Random citizen interviews were conducted during various outreach events such as fairs and festivals. Citizens that approached the Southeast Florida Coral Reef Initiative

(SEFCRI) booth at these outreach events were asked if they would be willing to participate in this study. Those citizens willing to participate were given the introductory statement and questions developed by the MICCI Project 13 team (Appendix E and F).

4. Results

There is an organized and coordinated reef impact response protocol between several agencies and departments in southeast Florida for use during ship groundings and large impacts to reef resources (Collier et. al. 2007). There is a verbal agreement between many of the groups interviewed to contact the FDEP CRCP when these events occur. Because the on-the-ground coordination to respond to reef resource impacts is generally on a local level, the following departments were considered the end point or correct department to be reached by a citizen or interviewer for the purposes of this study: DERM, EPGMD, ERM, FDEP CRCP, and FDEP SED. A table of the various reporting mechanisms for these agencies was created (Table 1).

During the course of this study it was found that very few complaints received by county departments or enforcement departments of FDEP are related to environmental impacts; even fewer are related to coastal or marine resource impacts, and permitted project complaints represent the least number of reports. For instance, of the 1,593 environmental reports received between March 2009 and March 2011 by Broward County, 2.3% were surface water related (which could include freshwater canals and ponds), and 2.1% were dredge and fill project related (personal communication with Broward County, 2011) (Figure 1). Since many persons filing complaints wish to remain anonymous, at times it was difficult for researchers conducting this study to contact the required five citizens for interviews.

Table 1. Mechanism for reporting environmental impacts or concerns by agency. (*) All 3 lines rang the same desk.

Mechanism For Reporting Reef Resource Impact Concerns									
Agency	General Information	Concern Hotline	Department Phone Number	Text Message	Division or Department Homepage	Report Webpage	Concern E-mail Address	Concern Web Form	Concern Database
Palm Beach County			ERM 561-233-2400	N/A	http://www.pbcgov.com/erm/	N/A	N/A	N/A	N/A
Broward County	3-1-1 or 954-831-4000	954-519-1499	EPGMD 954-357-6666	N/A	http://www.broward.org/EnvironmentAndGrowth/Pages/Default.aspx	http://www.broward.org/EnvironmentAndGrowth/EnvironmentalProgramsResources/Enforcement/Pages/Reporting.aspx	N/A	http://www.broward.org/PollutionPrevention/Resources/Pages/EnviroComplaint.aspx	http://dpep.broward.org/enviros/
Miami-Dade County	3-1-1 or 305-468-5900	305-372-6955	DERM 786-315-2332	N/A	http://www.miamidade.gov/derm/home.asp	http://www.miamidade.gov/derm/environmental_complaints.asp	EnvtlComplaints@miamidade.gov	N/A	http://derm.miamidade.gov/NetFYI/cgi/NetFYICgi.EXE?METHOD=ViewLogin
Martin County		772-288-5495* 772-288-5501* 772-288-5764*	Growth Management 772-288-5505	N/A	http://www.martin.fl.us/portal/page?_pageid=355,378044&_dad=portal&_schema=PORTAL	http://www.martin.fl.us/portal/page?_pageid=355,378044&_dad=portal&_schema=POR	N/A	N/A	N/A
FDEP	850-245-2118	Florida State Warning Point 850-413-9900	N/A	N/A	http://www.dep.state.fl.us/	N/A	N/A	N/A	N/A

Table 1 cont. Mechanism for reporting environmental impacts or concerns by agency.

Mechanism For Reporting Reef Resource Impact Concerns									
Agency	General Information	Concern Hotline	Department Phone Number	Text Message	Division Or Department Homepage	Concern Webpage	Concern E-mail Address	Concern Web Form	Concern Database
FDEP SED	561-681-6600	Florida State Warning Point 850-413-9900	N/A	N/A	http://www.dep.state.fl.us/southeast/	N/A	N/A	N/A	N/A
FDEP CRCP		866-770-SEFL	N/A		http://www.dep.state.fl.us/coastal/programs/coral/	http://www.dep.state.fl.us/coastal/programs/coral/rip_r.htm		N/A	N/A
FWC	N/A	888-404-FWCC	N/A	Tip@MyFWC.com	N/A	http://myfwc.com/contact/report/	Tip@MyFWC.com	http://legacy.myfwc.com/wildlifealert/MailMap.asp?region=CTY	N/A
NOAA						N/A	N/A	N/A	N/A
USACE						N/A	N/A	N/A	N/A

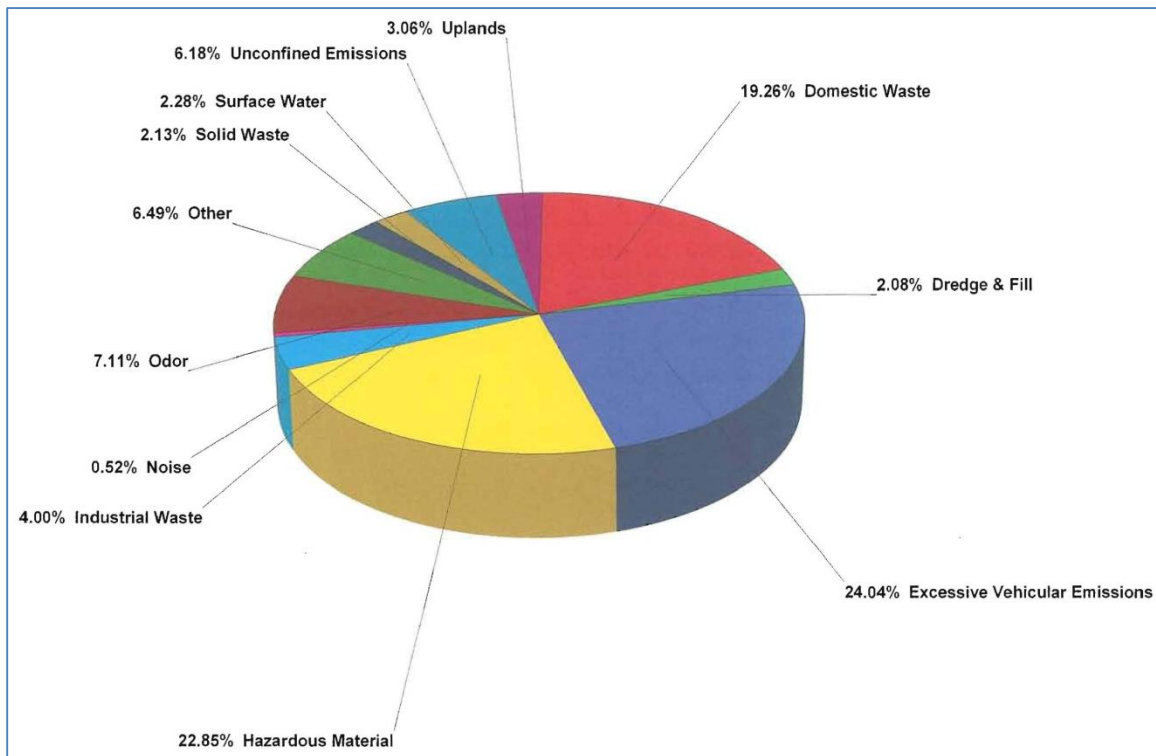


Figure 1. Percentage of complaints by category, received by the Broward County environmental response line from March 2009 through March 2011 (produced from the *Enviros Database*).

4.1 Review of Agency Reporting Systems

4.1.1 Miami-Dade County

Miami-Dade County has a general information phone number (3-1-1 if within the County, or 305-468-5900 if calling from outside the County), an environmental complaint hotline managed by the Department of Environmental Resource Management (DERM), a webpage with information about reporting environmental concerns, and a dedicated e-mail address for complainants are available to file reports. There is also a webpage for DERM, a page for the environmental section that contains a hyperlink for the Environmental Complaints webpage, and an online database of complaint reports (Table 1).

The 3-1-1 number is staffed Monday through Friday from 7am to 8pm and Saturdays 8am to 5pm. Calls to the 3-1-1 were transferred to the environmental complaints hotline which collects the information from the citizen and then informs the appropriate DERM department of the complaint. The DERM environmental complaint hotline is staffed 24 hours a day, 7 days a week. Calls to the DERM main telephone number were directed to the Permitting and Environmental Planning group within DERM, and then to the environmental hotline resulting in three steps, i.e., Miami-Dade County DERM→ Permitting and Environmental Planning group→ environmental hotline. The Permitting and Environmental Planning group was the name of the group given to the researcher, but was in actuality the Pollution, Regulation, and Enforcement Division main line.

Using the Miami-Dade County homepage search function returned results for webpages that are currently down or nonexistent due to Miami-Dade County restructuring. Locating DERM from the homepage can be accomplished within three steps, i.e., Miami-Dade County homepage→ Departments → DERM homepage. However, navigation to the environmental portion of this department and the Environmental Complaint page is complicated. Once on the DERM homepage, selecting the hyperlink for “environmental protection”, navigates to a page with the following categories available: Air Quality, Climate Change, Biscayne Bay, Endangered Lands, Reefs, Manatees, Water Supply, Wetlands, and Trees. Complicating the navigation to the appropriate site is that on this page a new tab titled “Home” appears that was not present on the DERM homepage. Clicking on this tab takes users to the old DERM homepage, which has a hyperlink titled “Report Pollution” which then takes users to the Environmental Complaint page. Eight steps are required to navigate to the environmental portion of DERM and the complaint webpage, i.e., Miami-Dade County homepage→ Departments → DERM homepage→ environmental protection→ home→ DERM homepage→ report pollution→ Environmental Complaints. If a user clicks on the “Report a Problem” hyperlink located on the Miami-Dade County homepage, there are many options but none of them direct a user to the environmental complaint webpage or provide an e-mail address.

The "Environmental Complaints" webpage gives the phone number for the environmental hotline and a hyperlink to the e-mail address available to send a report. There is information about various environmental impacts; however, reef resource impacts are not listed.

All reports are filed into the Miami-Dade County Permit and Enforcement Reporting System and then forwarded to the appropriate department or personnel. This database can be accessed online at:

<http://derm.miamidade.gov/NetFYI/cgi/NetFYIIsapi.DLL?METHOD=ViewLogin>

However, it is not standard practice to inform complainants of the database, nor do County personnel expect that this is a tool designed for the general public. Review of the database revealed that it is more geared to inspectors who can interpret the forms rather than the average citizen reporting an incident. If the concern is related to permitted construction activities, a member of the Coastal Resources Group will follow-up with the claim. There are six complaint inspectors within DERM dedicated to investigating environmental concerns. In addition, DERM has one inspector operating on Saturdays, Sundays, and Holidays from 10:00am to 5:00pm. Typically complaints are investigated within 24-48 hours, but this response is sometimes weather and personnel safety dependent. If there are impacts to reef resources, DERM will coordinate with FDEP SED, FWC, and FDEP CRCP.

DERM personnel outside of the complaint inspectors that may have an issue forwarded to them, do not generally follow-up with the citizen. Non-inspection personnel update the complaint inspectors on the action taken, and that information is entered into the Permit and Enforcement Reporting System. Non complaint inspector personnel may follow-up directly with the citizen, if the citizen contacted that individual within the department directly, rather than through the environmental complaint hotline. The complaint inspectors do follow-up with the citizen by phone if the citizen requests.

4.1.2 Broward County

Broward County has a general information phone number (3-1-1 if calling from within the County, or 954-831-4000 if calling from outside the County), a dedicated Environmental Response hotline, webpage for information about reporting environmental concerns, web-based reporting form, and an online database of environmental complaints. There is also a webpage for the Environmental Protection and Growth Management Department (EPGMD).

The 3-1-1 number is staffed Monday through Friday 8:30am to 5:00pm. The hotline is staffed 8:00am to 4:30pm Monday through Friday. Complaints or violations reported outside of these hours are forwarded to an on-call staff member. When asked about a permitted project impacting reef resources, calls to the 3-1-1 number transferred the researcher to the Development and Environmental Regulation Division (which is within EPGMD). This began a series of five transfers, i.e., 3-1-1→ Environmental Regulation Division→ personnel within Environmental Regulation Division→ personnel within Aquatic and Wetland Resources→ Environmental Response hotline. Calls to the Broward County EPGMD main telephone line were directed to the Broward County Environmental Response hotline. The personnel answering the environmental hotline was aware of which people within the department oversaw issues regarding reef resources, and was able to

connect the researcher to the appropriate section. The correct department was reached in three steps, i.e., Broward County EPGMD→ Environmental Response hotline→ Beaches and Marine Resources group (within Natural Resources Planning and Management Division). If a citizen complaint is determined to be reef related, the standard operating procedure (SOP) for hotline staff is to notify the Beaches and Marine Resources section and then the caller is referred to the FDEP Bureau of Emergency Response (BER). Personnel within the Beaches and Marine Resources group will then contact FDEP CRCP.

Through the Broward County website locating the EPGMD was successful using the terms “environment” or “environmental complaint” in the search function on the homepage. Navigating to contact information for EPGMD can be completed in four steps, i.e., County homepage→ Find an Agency → EPGMD homepage→ Report Environmental Complaints.

The “Reporting Environmental Violation” webpage has the hotline listed, a hyperlink to the web based reporting form, guidance for the citizen regarding the information they should try to provide when filing a report, and information about various environmental impacts. From this webpage navigating to “Impacts to Reef Communities” lists the following activities: “Illegal collection or possession of octo-corals [sic] (sea fans etc.) or stony corals; damage to the reef by physical contact such as: Small boat anchors, Large anchors of ships waiting for Port Everglades berth assignments anchored outside of the designated anchorage, and large ships grounding on the reef”. Also listed are directions to contact FWC and the USCG Station Ft. Lauderdale regarding these issues. The web based form allows a complainant to remain anonymous by not filing in contact information. If a complainant provides their e-mail address, they will receive a confirmation e-mail with the details of their report; however, the case number is not provided.

All reports to Broward County are assigned a complaint number and filed into a database called *Enviros*, which is accessible online at: <http://dpep.broward.org/ENVIROS/>. Here citizens can review the basic information of their report and the enforcement action taken. Complaints in the database are assigned to a department and an investigator responds within 24-48 hours. It was found that if a citizen called the Natural Resource Planning and Management group directly, that the citizen would be redirected to the complaint line so that the concern could be properly recorded into the system. However, if the report is large-scale or concerns significant damage to reef resources, personnel will most likely take the information directly rather than refer the individual to the hotline. If reef resources are being impacted the situation is typically investigated within a couple of hours. In the event that Broward County is not the appropriate agency to respond to the complaint, the citizen would be directed to the correct agency.

If the potential violation is associated with a permitted activity, then the Natural Resource Planning and Management Group will inform and coordinate with the respective permitting agency. If it is not a permitted activity then a response by Broward County personnel will be initiated. In specific cases of reef resource impacts the FWC, FDEP CRCP, and USCG would be informed and a coordinated investigation would be developed. Personnel within

EPGMD reported that the complaint hotline personnel follow-up with the citizens that filed the complaint; however, complaint hotline personnel reported that they believed the department they refer the issue to follows up with the citizen.

4.1.3 Palm Beach County

Palm Beach County has several hotline and violation reporting systems listed on the County homepage; however, it does not have a hotline, webpage, web based form or e-mail address dedicated to reporting environmental impacts. There is a webpage for the Environmental Resource Management Department (ERM).

Calls to the Palm Beach County ERM were directed by the receptionist to a person within the agency whom then directed the call to the appropriate department. The correct department was reached within three steps, i.e., Palm Beach County ERM→intermediary→ Natural Resources Planning and Management.

Through the Palm Beach County website, the search function on the County homepage was able to direct a user to the ERM homepage using the term "environment" and "environmental". Contact information for ERM was not located on the home page of ERM. There was a link to the contact information resulting in four steps, i.e., County homepage→ Departments→ ERM homepage→ contact information. From the County homepage, PDFs of department and personnel phone numbers were easily located. The County has a webpage for the artificial reef program but no information is provided regarding the natural reef system or how to report impacts to reef resources.

The Resource Protection Division within ERM maintains an internal complaint log, but in general ERM does not. The policy of Palm Beach County ERM is to respond to complaints within 7 days, but typically a return phone call to the complainant occurs within 24 hours and a response is initiated within 24-72 hours. A reef resource impact would be investigated within a few hours.

Palm Beach County ERM is not a permitting agency for coastal construction projects, and would therefore forward concerns about permitted project impacts to the appropriate permitting agency. In these cases, Palm Beach County would most likely gather the information from the citizen and submit the report to the appropriate agency, asking the permitting agency to contact the citizen. If the potential impact is not permitted, the County will complete initial inquiries to assess the validity and magnitude of the report. A primary response would be to inform FDEP SED of any issues below the waterline. In cases of reef resource impacts, they are able to coordinate investigative dives, and would inform and coordinate with FDEP CRCP, and FWC.

4.1.4 Martin County

Martin County has a general "Services and Information" link on the County main homepage, but does not have a hotline or e-mail address dedicated to reporting environmental impacts. There is a webpage for the Environmental Division with information about reporting an environmental violation.

Calls to the Martin County Growth Management Department were directed by the receptionist to the Code Enforcement Department whom then directed them to the appropriate department. Martin County does not handle environmental resource impact issues unless it is a county code infraction. Almost all environmental impact reports are directed to the FDEP SED office in Port St. Lucie. Therefore, reaching the correct department to address the report is completed within four steps, i.e., Martin County Growth Management Department→ Code Enforcement→ Environmental Department→ FDEP SED Port St. Lucie office.

Through the Martin County website, locating the environmental division is not immediately intuitive. The search function located on the County homepage did not suggest the Environmental Division homepage if the words "environment", "environment department", "environmental department", "environmental division", "environment division" or "environmental complaint" were used. The user must be aware that the environmental division is within the Growth Management Department. It takes three steps to navigate to the Environmental Division homepage, i.e., County homepage→ Departments→ Growth Management→ Environment. Once a user has reached the Environmental Division homepage, locating information about reporting a violation is within several paragraphs near the bottom, where three different phone numbers are given. All three numbers are routed to the phone of the receptionist of the Growth Management Department. In order to reach the Artificial Reef program homepage a user must navigate five steps, i.e., County homepage→ Departments→ Engineering→ Coastal Engineering→ Artificial Reefs. There is no information on the artificial reefs program page regarding reporting impacts to reef resources. Agency personnel told researchers that a complaint form is available on the County webpage through the "Services and Information" hyperlink. Researchers navigated to the "Building/Environment" section and were unable to locate a direct link to a form searching the terms "environment", "violation", "complaint", or "environmental complaint". By selecting a subcategory on the "Building/Environment" page, a user may be taken to a screen with a link to "Request for Service". Agency personnel informed researchers that this was the correct form to submit a complaint.

Martin County field inspectors use handheld devices, such as smartphones, and the Services and Information Request for Service (SIRFS) database to log investigations of complaints. The standard operating procedure is for complaints to be investigated within five days, but most are investigated within 24 hours. There was some discrepancy within the agency as to whether or not all complaints are investigated. Some personnel stated that all were investigated while others suggested that a heavy work load and severity of the claim may lead to a report not being investigated. Since Martin County does not have

authority to address many citizen reports of environmental impacts (outside of county code enforcement), the reports are forwarded to the appropriate agencies. The County does not have a standard form for gathering information, or formal record of these complaints. As such, no interviews were conducted of citizens that contacted Martin County regarding coastal environmental impacts. This study found that Martin County personnel may not respond to reports or inquiries that are believed to be outside of the County's jurisdiction if those reports or inquiries were received by e-mail or voicemail.

4.1.5 FDEP and State Warning Point

The FDEP, at the statewide level, does not have a dedicated webpage, e-mail address, or web based form for citizens to report environmental concerns. The FDEP uses the Florida State Warning Point, operated by the Florida Division of Emergency Management, as their environmental complaint hotline.

The Florida State Warning Point (SWP) is operated 24 hours a day 7 days a week. Operators of the hotline collect citizen information and then forward the information to the appropriate district FDEP BER, or County, responders dependent upon where the impact was occurring. In the case of reef resources being impacted in southeast Florida, the information would be forwarded to FDEP BER. Therefore, if a citizen calls the State Warning Point, the appropriate department for addressing impacts to reefs may be contacted on their behalf within three steps, i.e., Florida State Warning Point→ county or FDEP BER→ FDEP CRCP. Calls to the only phone number listed on the FDEP homepage were answered by personnel in the Tallahassee office who have a list of issues that they reference in order to direct a caller to the appropriate department. In the case of any impacts to coral reefs their protocol is to call the USCG and the district office, in this case FDEP SED.

Using the FDEP homepage search function with the terms "environmental complaint", "report pollution", "report environmental complaint" did not result in a return of information specific to the State Warning Point, or information relative to assisting a user in determining whom to contact with their concern. These terms often returned hyperlinks specific to the FDEP SED, which may not be the location in which the impact is occurring. There is information on the FDEP SED contact page regarding the state warning point, however it is not the focus of the page and a user would likely overlook it. The terms "reef impact", "report reef impact", "boat grounding", and "report boat grounding" did not return any hyperlinks relative to reporting a reef resource impact.

4.1.6 FDEP Southeast District

The FDEP SED does not have an e-mail address, or web based form dedicated for citizen environmental complaints. However, the FDEP SED has a webpage with a list of Complaint Coordinators, a general information phone number, and uses the Florida State Warning Point system as their environmental complaint hotline.

Calls to the FDEP SED general information number were directed to the appropriate department and person to respond to the environmental concern.

As mentioned previously, using the search function located on the FDEP homepage with terms such as "environmental complaint" will return hyperlinks to the FDEP SED webpage for complaint coordinators and information relative to reporting permitted activities impacting environmental resources within Miami-Dade, Broward, Palm Beach, and Martin counties. There is information specific to reporting hazardous spills and fish kills, but no information regarding reef resource impacts. If a user searches for "southeast district" from the FDEP homepage a hyperlink for the FDEP SED homepage will be returned. Navigating to the ERP webpage with the environmental complaint information from the FDEP SED requires three steps, i.e., FDEP SED homepage→ Environmental Resources Permitting→ Compliance and Enforcement. The Complaint Coordinator webpage lists contact information for personnel within various departments as well as information about the State Warning Point System. This is reached within two steps, i.e., FDEP SED homepage→ Complaint Coordinators. There are quick links for such environmental topics as the Everglades and State Parks, but there is no information regarding reef resources.

FDEP SED does not have standard complaint information forms, but does have an internal database system for tracking environmental complaints. A citizen could submit a formal complaint through the state Ombudsman Office or their state representative, which would then be forwarded to the FDEP SED office. If the report is regarding a non-permitted construction activity or environmental impact, and it was determined from the complainants' description to be a significant enough impact, then it would be entered into the database and a site inspection would be conducted. If the project is permitted, the caller would be informed that the project is permitted and FDEP SED personnel would not investigate unless the complainant described activities that were outside the scope of the permit. Because the FDEP SED jurisdiction includes seven counties, every attempt is made to use time and resources efficiently when responding to complaints. Therefore, complaints may not be investigated in the field for several days, until several calls from one area are received and one field trip can cover several sites. Larger scale complaints, as determined by the agency representative themselves, would be responded to within 24-48 hours. FDEP SED personnel try to be selective in the cases they respond to depending upon the severity of the potential impact. If a citizen provides a phone number or e-mail, then FDEP SED personnel will contact them directly. Reef resource impacts are immediately directed to the FDEP CRCP for response.

4.1.7 FDEP Coral Reef Conservation Program

The FDEP Coral Reef Conservation Program (CRCP) has a department website, a marine event hotline, a webpage with information about reporting environmental concerns, and a dedicated e-mail address for complainants to send reports.

Calls to the general Reef Injury Prevention and Response (RIPR) Program Coordinator's phone are answered by an automated message asking the caller to leave a detailed message with name and call back number. These messages are monitored 24 hours a day, and are

checked within 1 hour of a call. Calls to the Marine Event Response hotline are routed to one of three voicemails, depending on the type of information being reported. The hotline requires the caller to select between reporting impacts and injuries to reef resources, marine debris, and other reef related concerns such as algal bloom, fish kills, or water quality. After selecting the desired voicemail the caller is prompted to leave their name and call back number, location, type of impact, type of resource impacted, and the name of the responsible party or vessel. These messages are checked once a week.

Navigating to the FDEP CRCP website from the FDEP homepage is not intuitive. If a user clicks the programs tab, they have to know that CRCP is within the Office of Coastal & Aquatic Managed Areas (CAMA). After selecting CAMA, there is a hyperlink on the next page for the CRCP. Using the search function at the top of the FDEP homepage, a user can navigate to the CRCP by typing in "coral" or "CRCP". From the CRCP homepage there are hyperlinks to the RIPR homepage and the Marine Event Response homepage. The RIPR homepage has the phone number listed at the bottom of the page, whereas the Marine Event Response homepage has the number for the hotline and an e-mail address listed towards the top. The e-mail address listed is for a staff member. Navigating to information about reporting a marine event takes five steps, i.e., FDEP homepage→ Program→ CAMA homepage→ CRCP homepage → Marine Event Response or RIPR homepage. No guidance is given to users about the information to include when reporting.

The RIPR Coordinator is the one full-time staff member within the FDEP CRCP dedicated to reef impact response. All reports are filed into a spreadsheet for tracking purposes. The FDEP CRCP is currently creating a database system to better track reports. The investigation into the report is begun within 24 hours of receiving notice. If there are impacts to reef resources FDEP CRCP will coordinate with FDEP SED, FWC, and the county within which the incident occurred. If the responsible party for the impact is known, a field inspection of the injury is coordinated as soon as possible and the responsible party is informed of the situation. If the responsible party is unknown, the RIPR Coordinator begins to try to identify the responsible party before a site visit is coordinated. An in-water site visit will most likely take place within one month dependent on other ongoing investigations, weather, and the severity of the impact. This delay and prioritization is necessary because without a responsible party there is ultimately no one to cite for a violation. Therefore, time and resources must be directed to those cases that can be legally pursued.

The RIPR Coordinator will follow-up with the reporting citizen if more information is needed, generally via e-mail. However there is no set standard or policy for informing the citizen of the outcome or resolution of the situation.

4.1.8 Florida Fish and Wildlife Conservation Commission

The Florida Fish and Wildlife Conservation Commission (FWC) has a dedicated hotline, webpage, web-based form, e-mail, and texting address for citizens to report environmental violations.

The hotline is considered an emergency system and calls FWC Division of Law Enforcement, where calls are dispatched to FWC Law Enforcement officers. There are six call centers in Florida. Reports are directed to call centers based on the area code of the phone placing the call. Therefore calls from area codes 239, 305, 786, will reach the Miami call center which services Miami-Dade County, while area codes 561, 754, 772, 954, will reach the Lake Worth Call Center which services Broward, Palm Beach, and Martin counties. Calls to the hotline in Miami-Dade were answered by an automated system that allows a user to be connected to an operator, whereas calls to the Lake Worth center were answered by a live operator. When a citizen places a call, the operator takes the information and then informs or dispatches an FWC officer. The officer may ask for additional agencies to be notified. Some situations may trigger the operator to call other agencies from the onset; however, an impact to reef resources was not one of them.

The homepage of the FWC website has a rotating banner with information about reporting a violation to the hotline or texting a report to TIP@MyFWC.com. By clicking on the banner a user is directed to the "Report Violations" webpage which has information about the various ways a citizen can file a report, and a hyperlink to the web-based reporting system. Therefore it require two steps to locate the reporting page, i.e., FWC homepage→ Report Violations homepage. The Report Violations homepage has four examples of violations. While there is no information or guidelines for citizens on what information they should report on this page there is a hyperlink to a PDF that outlines the information a citizen should record. There is also a hyperlink on this page to the "Report Violators, Fish Kills, Nuisance Wildlife" webpage which has additional links and information for reporting specific environmental impacts. The FDEP CRCP is listed on this page as a resource for reporting marine debris, with a hyperlink to the CRCP "Southeast Florida's Marine Debris Reporting and Removal Program Overview" webpage. Typing the terms "environmental complaint" or "environmental violation" into the search function on the homepage does not return any of the reporting webpages.

4.1.9 FDEP Office of the Ombudsman and Public Services

Calls to the Office of the Ombudsman and Public Services are answered 8am to 4pm Monday through Friday. Calls were answered by an operator who would determine if it was a FDEP issue, and if so then direct the caller to the FDEP district office responsible for the area the complainant was calling in regards to. Complaints regarding reef resources in southeast Florida would be directed to the FDEP SED.

4.1.10 FDEP Bureau of Emergency Response

The FDEP BER has a webpage with a list of the seven FDEP regulatory district offices. Hyperlinks direct users to information about when to report a spill or incident and also provides contact information for FDEP BER responders.

Calls to the Boca Raton office, which services Miami-Dade, Broward, Palm Beach, and Martin counties, were directed to the State Warning Point regardless of the nature of the environmental complaint. Attempts were made to interview the four BER personnel; however, only one responded to researchers requests.

In general, unless the reef related impact involves a chemical or petroleum spill, the FDEP BER does not consider itself an appropriate agency to contact. If they are contacted and an incident is east of US 1 in Miami-Dade or Broward counties, the USCG is notified, if it is west of US 1 the FWC is notified because they have the ability to respond on the water. Dependent on the county and location of a permitted project impacting natural resources, the FDEP BER may direct the citizen to contact FDEP SED or the county. Impacts to reef resources due to a grounding would be directed to NOAA and USCG. Impacts to reef resources due to illegal dumping would be investigated to determine which county or agency to contact. FDEP BER may not arrive on scene to investigate complaints that they determine, with reasonable assurance, are nominal impacts or have a reduced chance of identifying a responsible party. The average time that a FDEP BER employee responds to an incident is 24 hours. They are required to respond to any incident that concerns over 25 gallons of petroleum.

4.1.11 South Florida Water Management District

The South Florida Water Management District (SFWMD) does not have a dedicated hotline, webpage, web based form, or e-mail for reporting environmental complaints.

Calls received by the SFWMD regarding environmental resource impacts occurring in areas other than their canals are directed to the State Warning Point.

4.1.12 United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) was reviewed for this report based on the citizen interviewed for this study that stated they believed they had contacted, or would contact, the EPA if they saw an environmental impact occurring. A search engine query for "Environmental Protection Agency Florida" returns a hyperlink for the FDEP homepage first, and EPA second. The EPA has a webpage, web based form, and hotline for reporting environmental concerns.

Calls to the EPA's Region Four office were answered by an automated system with a brief message before being sent to an operator. There was no answer during several attempts made by the researchers.

Using the search function on the homepage researchers were able to get hyperlinks to web-based forms for reporting environmental concerns; however, none of the links were functional. The homepage had links and phone numbers listed for the individual states that comprise Region Four. The Florida hyperlink took users to the FDEP homepage. The phone number listed was for the Florida Office of the Ombudsman and Public Services in Tallahassee.

4.1.13 NOAA National Marine Fisheries Service

The NOAA does not have a dedicated website for reporting impacts to critical habitat or listed species. There are hotlines and hyperlinks scattered throughout various NOAA webpages for some listed species, but none for coral. The public may happen upon NOAA departmental pages such as the NMFS or the Coral Reef Conservation Program (CRCP) and locate information about the southeast regional office or field offices located throughout Florida.

Calls to the field offices go directly to a representative that can direct the call to the appropriate department within NOAA or at the local level. Generally the complaint will then be addressed or forwarded to the appropriate department within three days, but typically a return phone call to the complainant occurs within 24 hours.

Personnel do have a standard site investigation form and standard operating procedures for evaluating permit compliance. If the project involves NOAA trust resources NOAA personnel would gather details about the incident. If the information is relevant to a NOAA consultation requirement (e.g., under the Essential Fish Habitat provisions of the Magnuson-Stevens Act), NOAA staff will inform the caller of this and then follow-up with the agency responsible for consulting with NOAA. If it is determined that the activities being described are outside the purview of NOAA, staff would not investigate unless the complainant described activities that were outside the scope of the permit and affecting a NOAA trust resource. If the project did not require NOAA consultation, the citizen would be directed to the most reasonably appropriate agency that would have authority over the project in question. A primary response would be to ensure the potential violation is being directed to a relevant agency with enforcement capabilities, such as FDEP or USACE.

4.1.14 United States Army Corps of Engineers

The United States Army Corps of Engineers (USACE) does not have a dedicated website, online form, or hotline to report unpermitted impacts to natural resources. Search terms such as "environmental violation", "report violation", "report environmental impact", were used to attempt to find a reporting mechanism.

Using phone numbers listed under the "Contact Us" section of the USACE homepage, attempts were made to call the "Regulatory (Permits)" number and the "General Questions" number. There was no answer using the "Regulatory (Permits)" number. The "General Questions" line is an automated system, which listed and transferred the caller to the "Regulatory (Permits)" line, with again no answer. Calls to the Jacksonville District Office were directed to the Corporate Communications Officer who then directed questions or concerns to the Enforcement Section.

From the USACE homepage, clicking on "Contact Us" provides an e-mail form with a dropdown list of various departments. None of the options mention compliance and enforcement or reporting of environmental impacts. Under "Contact Us" is a the "Office Locator" link which takes users to a map that allows you to see contact information for the

nearest district office, in this case Jacksonville. However, it does not link to the Jacksonville District homepage. By navigating to the "Locations" page from the USACE homepage you can click on office locations as well, and these do take the user to the District homepage. Ultimately a citizen needs to know that the local Enforcement Section, within the Regulatory Department, within the district, is the department to report a potential environmental impact. In order to navigate to contact information for the Enforcement Section takes five steps, i.e., USACE homepage → Locations → Jacksonville → Regulatory → Regulatory Office Locations. From the USACE homepage, It seems reasonable that a user may navigate to the "Environment" link under "Missions" in search of a reporting mechanism. There is no information about reporting potential impacts from projects or compliance and enforcement on the Environmental mission page. If a user has some industry knowledge they may intuitively click on the "Regulatory Programs (Permits)" hyperlink. There is no information about reporting environmental impact or project compliance and enforcement, but there is a "Find a Regulatory Office" hyperlink which can assist a user in reaching the Jacksonville Regulatory Department homepage. If a user starts exploring for information under "Missions", it will take six steps to reach the Enforcement Section, i.e., USACE homepage → Missions → Environmental → Regulatory Programs (Permits) → Find a Regulatory Office" → Regulatory Office Locations. At the bottom of the Regulatory Office Locations is the information for the Enforcement Section for the District, as well as direct phone numbers to the Enforcement Officer for each of the field offices.

Depending on the location of the reported impact, calls to the Jacksonville District office may be directed to the appropriate local Enforcement Section., but because each case varies there are few standardized investigation forms. The Palm Beach Regulatory Office responds to reports north of I-75, while the Miami Regulatory Office responds to those south of I-75. There are eight USACE project managers that address enforcement activities in Florida, which limits the ability to respond to every report. Those that are investigated, are likely responded to within one week, although there may be a response that same day depending upon the situation and staff availability.

It was found that if a citizen contacted the USACE about an impact that the USACE does not have authority to address, the citizen may be directed to the appropriate agency if the citizen is willing and able; otherwise the USACE will take the information and contact the correct agency on the citizens behalf. In general the USACE will first contact their federal partners such as NOAA when a trust resource is being impacted, then may reach out to the state or county.

If the potential violation is associated with a USACE permit, then inspectors will compare the reported activity with the activity outlined in the permit to determine if there are discrepancies, or potential violations of the existing permit. If the activity does not appear to be permitted, and it is an activity that the USACE has authority to permit, then they begin a formal investigation. This will most likely include a site visit, and contacting the responsible party. The USACE has a database that organizes entries by action type; such as compliance, unauthorized activities, pre-application process, etc. If the complaint information is so minimal as to not be useful to advance an investigation, it is not put into

the database; therefore the database is not comprehensive regarding the numbers of complaints that are received during a given period of time.

USACE staff in Florida are not provided the approved USACE training to investigate in-water impacts, and so will reach out to federal, state, and local partners to assist when necessary. Actions may include consultation with the individual or responsible party conducting the work to assist in permitting the activity, removal of a structure (if one exists), or fines. USACE personnel stated that they do follow up with the concerned citizen.

4.1.15 United States Coast Guard

The USCG does not have a dedicated hotline, webpage, web based form, or e-mail for reporting environmental complaints.

Calls to USCG Sector Miami reach an automated system where a user must choose the option designated for an emergency in order to reach a menu of locations, then choose Sector Miami Beach, and choose the emergency option again to reach the Standing Officer. Protocol for reef injury response is that the Standing Officer is to inform the Situation Unit Desk whom then contacts FWC and FDEP CRCP.

4.2 *Interviews of Citizens at Random*

Twenty citizens were interviewed at various outreach events in Miami-Dade, Martin, and Palm Beach counties between February 2011 to May 2012. The results of these interviews are given in Table 2. Sixty-five percent of the citizens interviewed reported that they were cognizant of natural resources that are protected, and that if they were being impacted the event should be reported. When asked to list those resources that they believed are protected, answers varied from generalized "plants", to forty-five percent of responders identifying corals as protected. Twenty-five percent stated that they believed they knew who the appropriate entity was to contact during an impact to a natural resource, while seventy-five percent reported that they did not know who to contact. Of those that reported they believed they knew who to contact, forty percent responded that they would contact FWC. Other responses included contacting 911, various levels of government, and their local neighborhood representatives. Responses varied greatly in how a citizen would determine who to contact, or how they would find contact information to report an impact or non-compliance issue. Seventy-five percent reported that they would turn to a general internet search. Some respondents listed 911, the sheriff department, and a general radio call on VHF channel 16 as means they would use to determine who to contact about reef resource impacts. It was clear that citizens prefer to report incidents via a phone call.

When given various construction related impact scenarios, a majority of citizens reported that they would not recognize the activity as an impact. It was frequently stated that they would assume the activity was allowed or permitted and therefore contact no one, or they would not know who to contact. Citizens identified many various agencies during the interview process, but no citizens reported that they would contact the FDEP, CRCP RIPR or Marine Event Response programs.

Table 2. Results of interviews of 20 random citizens in attendance at various outreach events in Miami-Dade, Broward, and Palm Beach counties regarding reporting impacts to marine resources within the Miami-Dade, Broward, Palm Beach, and Martin county area.

Question 1:											Yes	No	
Are there any natural resources that you know of, that if they were being impacted...would cause you to suspect the activity needed to be reported?											65%	35%	
Question 1a:	Coral	Conch	Eagle	Manatee	Fish	Mangrove	Plants	Water (Pollution)	Seagrass	Sea Turtle	Wetland		
What are those resources? (may provide more than 1)	45%	5%	5%	15%	10%	20%	5%	5%	5%	15%	5%		
Question 2:											Yes	No	
If you saw a questionable event impacting natural resources do you know who you should contact?											25%	75%	
Question 2a:	911	City	County	EPA	FMP	FWC	USACE	USCG	Neighborhood				
If you did contact an agency, who would that be? (may provide more than 1)	10%	5%	5%	10%	5%	40%	5%	5%	5%				
Question 3:	911	County	FWC	FMP	Google	Personal Knowledge	Sherriff	USCG	VHF				
Where or how would you try to determine who to contact to report the suspected violation?	5%	5%	5%	5%	75%	15%	4%	15%	8%				
Question 4:											phone	website	
What method would you prefer to use to report a permitted activity impact to a natural resource?											95%	5%	
Question 5: In the following situations, who would you contact to report a suspected violation:	911	State Agriculture Dept.	City	County	County Commissioner	DOT	EPA	FMP	FWC	NOAA	Sherriff	USCG	Unsure or No Report
A neighbor is building a dock and cut down mangroves during construction?		5%	5%	15%	5%		5%	5%	35%		5%		45%
A channel marker is being installed and you think the barge is impacting seagrass?								5%	25%			35%	45%
A beach nourishment project is underway and you see a lot of runoff or silt in the water?				5%		5%	5%	5%	20%			5%	70%
An impact to reef resources?	10%							10%	15%	5%		20%	40%

4.3 Interviews of Agency personnel, and of Citizens that had filed Complaints

4.3.1 Miami-Dade County

Personnel responsible for overseeing the environmental hotline and those within DERM responsible for responding to reef resource impacts were interviewed for this report.

Information Miami-Dade County gathers in order to understand the complaint includes the location, the nature and extent of the violation, and if the violation is still occurring; with the nature and extent of the incident being most important. Miami-Dade County received 6,253 complaints to their database between January 2010 and December 2011. The most frequently reported concerns are sanitary (anything that is a vector for human disease) and tree impact issues, both at approximately 18%. While the most frequent complaint regarding impacts to natural resources is fish kills at 1% (99 cases over the two year period). These complaints are for permitted and unpermitted activities, and only 0.5% (35 cases over the two year period) needed enforcement actions past a cease and desist notice. Miami-Dade County personnel believe that more enforcement action for impacts to the marine environment from permitted activities come from citizen complaints than from within the agency, primarily because there are many more citizens to witness an impact. DERM personnel believe that dissatisfaction with the Department stems from citizens not understanding what the County has jurisdiction and responsibility for. While Miami-Dade County personnel agreed that the internet was a source of information for many people, they also cited that DERM had a generally positive reputation of being able to address environmental problems and that word of mouth helps many people know who to contact. Also in Miami-Dade County many times citizen complaints come through council members or the mayor's office.

Of the five interviews conducted for Miami-Dade, three respondents have worked or are currently employed with local or County government. These citizens had a working familiarity with whom to call to report an incident. Unique to Miami-Dade County interviews were the number of these persons reporting on the behalf of other citizens that brought the concern forward. All persons recalled seeing information about impacts to natural resources with two people citing presentations they had attended, and two others recalling brochure information. No one interviewed recalled educational information about whom to contact. Most citizens reported that it was relatively easy to contact the correct agency; however, one respondent felt they still hadn't been given a definitive answer as to who the responsible party is for addressing the violation they reported and ranked contacting the correct agency as very difficult. Everyone stated that the reporting process itself was easy and because they reported to a live person who was polite.

Three respondents stated that there was follow-up, but for various reasons the update did not meet their expectations. Positive remarks included when people were called back the same day, and when they were informed that the violator had been cited. Grievances included not receiving a follow-up call, not receiving a resolution call, and not feeling that they were being given definitive information about the situation. Citizens were also dissatisfied because they felt the Department should have been more reactive to

investigating the report. Suggestions for improvement included listing the various environmental responding departments within DERM, and their prevue, in the annual City of Miami directory that is published and distributed to residents.

4.3.2 Broward County

Personnel responsible for directing calls within EPGMD and personnel from the Beaches and Marine Resources section were interviewed.

Information they reported needing in order to understand the complaint includes the location, date and time, the nature and extent of the violation, and if the violation is still occurring; with exact location and photos being the most useful. Broward County was able to query their database, and report that on average the most frequently reported citizen complaint (24.0% of all reports) is air quality, such as a smoking vehicle. While the most frequent complaint regarding impacts to natural resources (2.2% of all reports) is water quality, such as turbidity or storm water canal pollution. Of all the environmental complaints received from citizens about 30.0% result in enforcement action. Broward County personnel believe that more enforcement action for impacts to the marine environment come from citizen complaints than from agency inspections or site visits by permitting staff. ERM personnel believe that reporter dissatisfaction with the Agency stems from citizens not understanding what the County has jurisdiction and responsibility for, as opposed to the municipality or Home Owners Association. It is also believed that citizens are unhappy when no enforcement action is taken after an inspection has determined there to be no violation. It is believed that citizens use the internet to determine who to contact and that a suggested improvement to the Broward County website would be to make the complaint form easier to locate.

Interviews with four citizens that filed environmental complaints with Broward County revealed that three had not filed previous complaints and were therefore not as familiar with how to contact the appropriate agency. One citizen reported using the internet, while three citizens reported using a phonebook or asking a neighbor for information on who to contact. None of those interviewed recalled seeing educational information about impacts to natural resources or who to contact if they witness impacts to natural resources. Four citizens reported that it was relatively easy to contact the appropriate agency. Citizens most common complaint was being directed to several persons. While having live operators was the most common praise of the system, one citizen reported that it was very difficult to be connected correctly because in order to report about a specific permitted project, you have to be connected with the individual responsible for the oversight of that project. The citizen stated that their report never made it to the compliance person responsible for oversight of the permitted project. While most citizens stated that filing a report was easy, again one citizen stated that the difficulty lay in needing the person responsible for the permitted project to be the one taking the report. Suggested improvements included having a list of personnel, and the permitted projects that each is responsible for available online.

Three citizens reported having follow-up at least once from County staff. However half were not satisfied with the follow-up itself. Some citizens considered a return phone call

to be sufficient. Citizens were not satisfied with the follow-up if no inspectors came on scene, when inspectors came on scene but were unprepared or unable to actually collect the necessary data to determine a violation, or when they felt the onus was on them to convince inspectors that a problem should be investigated. Additionally citizens were dissatisfied if during the initial follow-up they requested communication about the resolution of the situation, and never received it. Citizens were most satisfied when calls were returned the same day and action was taken within a reasonable amount of time to be able to confirm the violation was occurring.

4.3.3 Palm Beach County

Personnel in Palm Beach County Resource Protection, which receives and forwards environmental complaints to the various departments within ERM, and the Environmental Enhancement and Restoration Division. Both groups are within ERM.

Information they need in order to understand the complaint includes the location, date and time, the nature and extent of the violation, and photos; with photos and very specific location information being the most useful. The most common complaints include pollution discharge in fresh water canals and turbidity during shoreline projects. Reef resource related complaints are most frequently anchor impacts from fishing and boating vessels. If the citizen provides data such as water samples or photos, that data would provide guidance as to the potential severity of the problem. These samples must be collected and analyzed by an accredited lab, or they cannot be used by the County during their investigation. Most responses are not immediate unless it is a construction project being managed by PBC and there is ongoing substantial environmental harm occurring. Immediate responses would typically include a site visit, a conversation with the responsible entity, and, if appropriate, sample collection by ERM staff.

Reports of excess turbidity are the most frequent reports that are ultimately found to not be in violation; however it was estimated that about 75% of citizen complaints are valid allegations of situations that are worth investigating, even if ultimately no compliance or enforcement actions are taken. Palm Beach County personnel believe that more compliance and enforcement actions come from citizen reports than from their own agency personnel observing impacts. It is believed that citizen dissatisfaction with the Agency is related to the outcome, or lack of compliance and enforcement action taken when an incident is determined not to be a violation. Dissatisfaction may also stem from being sent to multiple agencies or departments within ERM. Personnel would like to see a more formal log or database system to better track reports. Palm Beach County personnel believe that citizens within their county would most likely use the internet determine who to contact regarding an environmental complaint.

Interviews with five citizens that had filed environmental complaints in the past revealed that many of the complainants to Palm Beach County have filed dozens to hundreds of reports over the course of many years, and as such were more familiar with how to get in touch with the various agencies. Still, they reported most frequently using the phone book first, and internet second to gather contact information. Unique to Palm Beach County,

many of the complainants are part of larger environmental groups, or are reporting on behalf of those environmental groups. All citizens interviewed reported seeing educational information about natural resources, one person recalled information from a local fishing club presentation, and two persons stated that they had seen educational information about whom to contact if those resources were being impacted.

Those citizens that reported it was relatively easy to contact the appropriate agency were familiar with the system and believed it was easier because they spoke with a live operator, and that a phone call was the preferred method of reporting impacts. Two citizens that reported difficulty in filing a complaint suggested having an online list of agencies to contact during various environmental events, having online reporting available through the County and FDEP websites, having local sheriffs' departments educated with which agency to contact, and posting relative information and contact numbers at beach access points or lifeguard stations. Citizen complaints about the reporting process were in cases where calls were made to the local sheriff's department and the phone wasn't answered, or when answered, local law enforcement didn't seem to have standard methods for collecting information about environmental impacts. Overall citizens stated that the reporting process itself was relatively easy when working with Palm Beach County and ERM, but that the County was not as forthcoming with requests for information about projects, and that this could be improved by providing information more promptly.

Most citizen grievances were about the follow-up or lack thereof. Three citizens reported that there was follow-up, and one felt that Palm Beach County was helpful in providing general information. Follow-up did not meet citizen expectations when they asked for follow-up communication, and were not contacted; when agencies dismissed citizen reports as not being violations, specifically when the citizen would provide data such as samples or photos of the impact; and when citizens were made to feel that the onus was on them to prove to the county that a violation was occurring, rather than the county inspecting the situation. Citizens reported that a phone call or e-mail informing the citizen of the follow-up or resolution that occurred, or investigation conducted by the agency, would be sufficient. Citizens suggested that FWC officers be educated on environmental impacts such as excess turbidity to increase the capacity of reporting these potential violations. Suggestions also included having an afterhours number due to many construction projects occurring 24 hours a day, and therefore there could be impacts 24 hours a day.

4.3.4 Martin County

Personnel in Code Enforcement, which receive and dispatch complaints from citizens, and personnel in the Growth Management Department environmental division were interviewed.

The Martin County Environmental Department received 159 environmental complaints in 2011 with the most common code enforcement complaints include building without a permit and illegal dumping. The most common environmental impact reports are in regards to building in shoreline protection areas and impacts to wetlands, which would be forwarded to FDEP SED. Information they need in order to understand the complaint

includes the location, responsible party, and the nature of the violation; while the most helpful is photos of the activity. Illegal dumping reports are the most frequent reports that do not result in compliance and enforcement action because the responsible party could not be directly linked to the substance, or the material dumped was gone by the time inspectors arrived. Even though not all reports may result in compliance and enforcement action, agency personnel reported that they believed about 80% of citizen complaints are valid. It is believed that more compliance and enforcement action comes from within the agency because the code enforcement inspectors are more aware of what is, and is not, allowed during permitted construction activities. Personnel perceive that most citizen complaints about the agency's performance stem from the complainant not having knowledge about what is and is not a violation, and therefore are dissatisfied when no penalty or corrective measure is enforced. County personnel that were interviewed stated that citizen dissatisfaction with the agency, that they were aware of, was that the response took too long. It was stated that more field inspectors would give the agency the ability to respond quicker and more often to citizen complaints.

Martin County personnel believe that citizens within their county would most likely use the internet or phonebook to determine who to contact regarding an environmental complaint, and that there is also information spread through word of mouth and neighborhood committees.

4.3.5 FDEP and the State Warning Point

Operators of the State Warning Point line were questioned for this report.

Information gathered for the report include location of the incident, nature and extent of the incident, and name and call back number of the complainant. It was noted that the county the incident is occurring in is the most important information so the operators can direct the call to the appropriate district office or BER staff.

No citizens interviewed for this report stated that they called the State Warning Point. No citizens that were interviewed at random for this report stated that they would contact the State Warning Point if natural resources were being impacted.

4.3.6 FDEP Southeast District

Personnel responsible for oversight of site inspectors and responding to reef resource impacts were interviewed for this report.

Information gathered from the complainant includes the location, the nature and extent of the incident, what specific resources are being impacted, and scale of the project if it is construction related. Assuming the project is permitted, FDEP SED staff try to determine the scale of the impact in order to determine if there is a violation. For instance, an individual may have a permit to trim mangroves, and rather than FDEP SED staff making a site visit investigation, they will investigate by asking the complainant about the degree of mangrove trimming to determine if there is a violation, and if a site visit is warranted.

The most important information is location to determine if the reported activity is permitted, and the extent to help determine if the impact is outside the scope of the permit. If the citizen provides data such as water samples or photos, those data become part of the case file. However, FDEP SED staff must take their own samples following regimented protocols and photos of the scene. If samples do not show a violation at the time FDEP SED collects them, they cannot pursue a violation.

Personnel of the FDEP SED believe that about 60% of citizen complaints are valid, with the most common reported impact being mangrove alterations. Mangrove alterations are also the most frequently reported impact that is ultimately determined not to be a violation. FDEP SED believe this is due to a public misunderstanding that mangroves can't be trimmed. About half of the enforcement action for impacts to the marine environment come from citizen complaints and half from within the agency regular project inspections. The database tracking citizen reports was not able to be queried for these figures, these numbers are a best guess from agency personnel. FDEP SED personnel were unaware of any complaints citizens had about their response and felt that the system in place works well, with no suggested improvements. It is believed that most citizens look in the phone book for contact information for FDEP, and those that use a computer would use a search engine such as Google.

Of the five citizen interviews conducted for FDEP SED, only two had contacted the department in the past. Two citizens looked for contact information in the phonebook, one person searched through Google, one contacted their city, and one had personal knowledge of who to contact. Two citizens had seen educational materials about natural resources, one being about reefs and the other about mangroves. Only one person recalled seeing information about who to contact when a natural resource is impacted, but they distribute those brochures, hence the familiarity. All respondents found it relatively easy to contact the correct agency, and that specifically having a live person was a benefit. One citizen specifically mentioned that the City of Stuart was unable to direct him towards FDEP for his issue. Suggestions to make it easier included listing FDEP in the phone book and creating a hotline. All citizens interviewed stated that the reporting process was very easy, and noted again this was mostly due to speaking with a live person. Three citizens said there was follow-up. One of the citizens that claimed not to have follow-up stated that he did receive an e-mail, but that the e-mail was not a formal notice that the issue was being investigated. Three citizens were not satisfied with the follow-up; those that were had personnel on scene to inspect the situation. The three that were not satisfied cited that they didn't believe a site inspection had occurred, or that they hadn't received written notification of the status or resolution of the situation. Citizens stated that they would prefer to call in reports of environmental impacts. Suggestions for improvement included wanting the city and state to work more closely together to be aware of what is and is not permitted, and a dedicated phone line to verify if an activity is permitted.

4.3.7 FDEP Coral Reef Conservation Program

Personnel responsible for responding to the RIPR hotline were interviewed for this report.

Information collected from citizens includes location, the nature and extent of the impact, when the impact occurred, the responsible party or vessel, and the name and phone number of the complainant. The most important information is the location, with an actual latitude and longitude being preferred.

FDEP CRCP staff receive most reports from other agencies, rather than citizens. This is mainly due to the fact that the hotline had only been operational for about six months at the time this report was written, and neither the hotline nor the e-mail address had been publicized. As such no citizens were able to be interviewed about their experiences at the time of this report.

4.3.8 FWC

Hotline operators stationed in the Miami-Dade and West Palm Beach call centers were questioned for this report.

All information collected from the citizen is dispatched to an FWC officer, which includes location, nature and extent of the issue, if it is ongoing, and call back information of the complainant.

Interviews conducted to review other agencies revealed some citizens that had interactions with FWC as well. These respondents stated that they would like a resolution call on the general outcome of the reported situation. Several agencies felt that at times they were not notified of incidents that FWC officers responded to that involved impacts to natural resources.

4.3.9 FDEP Office of the Ombudsman and Public Services

Personnel operating the main telephone line were questioned for this report. Information collected includes the type of resource being impacted and where the impact is occurring. This information is then used to determine whether or not it is a FDEP issue, and if so, which district office or department the call should be routed. FDEP issues as identified by the operator are outdoor air, contaminated soil and water, protected trees such as mangroves, and wetlands impacts. If it is not an FDEP issue the operator will inform the complainant of which agency is responsible. When prompted, the operator stated that reef impacts would be directed to FDEP district offices.

4.3.10 FDEP Bureau of Emergency Response

Operators of the main phone line at the Boca Raton regional office and field personnel responsible for the region of southeast Florida were interviewed for this report.

If citizens call the regional office they are immediately directed to the State Warning Point System, therefore no information is gathered by BER at that time. Information collected by field personnel includes location of the incident, nature of the activity, the responsible party, if it is an emergency, if it is an accident or intentional, and whether or not the impact has occurred on several occasions. Personnel believe most citizens call 911 and are redirected to the State Warning Point, which then contacts FDEP BER personnel.

Since the FDEP BER is not a regulatory arm, and because they do not frequently respond to natural resource impacts, no citizens were interviewed about their experiences for this report. FDEP BER personnel believe citizen dissatisfaction stems from citizens not understanding that FDEP BER is not regulatory and cannot impose citations or fines. They also stated that many times citizens are unaware that a claim was investigated. No citizens interviewed randomly or for other agencies stated that the FDEP BER would be a point of contact if there were impacts to natural resources.

4.3.11 SFWMD

Operators of the main telephone line and personnel within Environmental Resource Regulation were questioned for this report. Information gathered by the main telephone line operator is the location of the impact and whether or not it is related to a permitted project. This is used to direct the caller to the State Warning Point when outside of their jurisdiction, or internally to either the Right of Way Department or Environmental Resource Regulation. Since they do not have a mechanism to handle citizen environmental impact reports for permitted projects, no interviews of citizens were conducted. No citizens interviewed randomly or for other agencies stated that the SFWMD would be a point of contact if there were impacts to natural resources.

4.3.12 EPA

Because there was no response to repeated phone calls, interviews of personnel were not conducted.

4.3.13 NOAA National Marine Fisheries Service

Personnel from the Habitat Conservation Division and the Protected Resources Division within the National Marine Fisheries Service were interviewed. These departments receive about three calls per year from citizens reporting suspected violations.

Information they need in order to understand the complaint includes the location, date and time, and photos with descriptions of what each photo is trying to demonstrate. The most common complaint is turbidity associated with beach nourishment projects.

It is believed that most reports are valid concerns and that more notices of potential impacts come from outside of the agency than from within. It is believed that citizen dissatisfaction may stem from the imbalance in the number of permitting personnel versus compliance and enforcement personnel. At any given time there are more positions dedicated to review and issuance of permits than to the compliance and review of those projects. It was suggested that a more "cradle to grave" approach that dedicated similar levels of effort pre-permit issuance, during construction, and post-construction would likely ensure an effective regulatory program is in place.

No citizens interviewed for this project that had filed environmental complaints in the past identified NOAA, or any associated division of NOAA, as an agency they would contact regarding impacts to reef resources. The Freedom of Information Act, does not allow for the release of contact information for citizens that report potential violations. Therefore no citizens were interviewed in regards to their experiences reporting to the NOAA. Only one citizen that was interviewed at random listed NOAA as an agency they would attempt to contact in the event they witnessed impacts to reef resources.

4.3.14 USACE

Personnel from the USACE Enforcement Section of the Regulatory Division were interviewed for this report.

Information the USACE gathers in order to understand the complaint includes the location, the nature of the violation, those responsible or doing the work or activity, and contact information for those persons responsible for doing the work or activity; with the location of the incident being most important. The USACE then must determine if there is a violation and if it is a violation they have the authority to address. For instance they do not have the authority to pursue take of a protected resource, but they may have authority over the action that did the taking. The two main acts that the USACE has authority under include the Clean Water Act, which has both civil and criminal penalties, and the Rivers and Harbor Act which only has only criminal penalties.

USACE personnel believe that more enforcement action for impacts to the marine environment from permitted activities come from agency review than from citizen reports. This is primarily because of the congressional mandate to perform compliance inspections on 10% of all projects active within the last five year period. For instance the nine current USACE staff overseeing works in Florida, the United States Virgin Islands, and Puerto Rico, had 1962 enforcement actions in 2012. These enforcement actions can range from consultation with the responsible party to removal of unpermitted structures. USACE personnel believe that citizen dissatisfaction with the agency is mostly due to confusion with the laws that the USACE has the ability to enforce or act upon. For instance in order to pursue enforcement under the Rivers and Harbors Act the USACE would have to show criminal intent. Which means demonstrating that the action was on purpose. Violations which are accidents or unintentional could not be pursued.

While USACE personnel agreed that the internet was the most important source of information for many people, they also cited that a citizen will often reach out to an agency or individual they feel the most familiar with, and then they may be informed to contact the USACE.

The Freedom of Information Act, does not allow for the release of contact information for citizens that report potential violations. Therefore no citizens were interviewed in regards to their experiences reporting to the USACE. Only one citizen that was interviewed at random listed USACE as an agency they would attempt to contact in the event they witnessed impacts to reef resources.

4.3.15 USCG

Operators of Sector Miami Beach were questioned for this report. Information collected would include location, the nature and extent of the impact, if this is an emergency, and complainant call back information. Since the USCG is not a regulatory agency for coral reef resources, and because they do not respond to the natural resource impacts of an incident, no citizens were interviewed about their experiences reporting to USCG. During interviews of citizens for other agency reviews, one respondent was dissatisfied that they didn't receive a follow-up call about their report to the USCG.

5. Discussion

5.1 Citizen Satisfaction

The most consistent complaints from citizens were regarding agencies not responding to reported impacts, not responding within a timely manner, not providing satisfactory follow-up, and the citizen feeling the onus was on them to convince the agency that an investigation is warranted. What was discovered is the variability in citizen perception of what constitutes a response and what constitutes a follow-up; and how those perceptions differ when interviewing agency personnel.

It is apparent that many times citizens consider in-person site investigations to be the appropriate and legitimate response to a situation, whereas agency personnel often considered investigating aspects of the complaint without performing a site visit to be an appropriate response. This non-site visit response may include researching if a permit has been issued for the reported activity, and then reviewing a structure the violation report against the existing permit to determine whether or not the complainants description of the impact is within the guidelines of the permit. For example, a citizen may report that mangroves are being trimmed; the inspector would first determine if there is a permit for the work and then try to determine if, from the complainants description, the trimming seems to be inconsistent with the permit. If there is a permit, and if it seems that the responsible party is acting within the guidelines of the permit, the inspector will most likely not make a site visit. This could also include determining, from the complainants description of the impact or activity, that a responsible party is not identifiable, or would

not be present by the time a site inspection could occur; and therefore no citation could be given. Some impacts such as pollution or illegal dumping require agency personnel to observe the perpetrator committing the violation in order to initiate enforcement action.

Based on the results of this study, citizens believe a response should be initiated sooner than an agency may appear to be responding. Response time is critical in environmental impact situations especially when the impact could be minimized, such as ceasing the impacting activity. Indeed if an impact is occurring over a weekend or outside of business hours, and the agency has no emergency system in place, then a response may not be initiated for 24-72 hours. If citizens are calling hotlines or emergency numbers that then contact non-emergency phone lines this is also a concern. For instance, if the State Warning Point contacts the FDEP SED at a non-emergency number, then it may not be addressed for several days. Also if an agency has no means or protocol of investigating reports outside of business hours, there is increased potential for impacts to occur with no ability to identify the responsible party, or the impact may be gone, such as pollution or debris.

This study found that many times citizens felt that they did not receive follow-up, or the follow-up was not satisfactory. Citizens play a vital role in alerting agencies of environmental impacts. Palm Beach, Broward, and Miami-Dade counties, as well as the FDEP SED believe or have shown that more or equal enforcement action comes from citizen complaints than agency processes. Therefore citizen action is valuable to all agencies, and citizens reporting environmental impacts should receive positive feedback from the agencies for the time and effort that citizen is expending. Citizens often did not consider a routine update or call back to be a follow-up, but rather many wanted a resolution follow-up informing them of the general outcome. Citizens mentioned that they didn't mind if it was a positive or negative resolution, and that they weren't interested in details, but they would like to know the results of their efforts. Many citizens also mentioned that they would like a more formal response in writing. Because many times complaints are forwarded to agencies or various personnel within the agency it should also be made clear who will be conducting the follow-up. While citizens mentioned wanting follow-up from the USCG or FWC, this is most likely not appropriate dependent upon the situation (in instances where it would be similarly inappropriate to expect 911 to provide follow-up). However, information on which agency would be responsible for the follow-up should be communicated to the citizen at the time of the report. In most cases the responsibility should fall to the enforcement or investigating agency. Within each agency there should be protocol for who is responsible for follow-up. It was clear in Broward County that there was confusion over which group had this responsibility, the hotline personnel or the department that addresses the complaint. Miami-Dade County reported that they followed up if the citizen requested; however, citizens in this study stated that they assumed follow-up would occur.

Because citizens are a valuable resource for witnessing environmental impacts, every attempt should be made to ensure that the citizen does not feel that they need to convince an agency of an impact. This impression from citizens may be due to agencies requiring detailed information before sending an inspector (that the citizen was unable to provide,

such as an exact location) or the agency needing to meet a threshold of impact, or knowing the responsible party which allows them to pursue enforcement action. An agency explanation of the required level of detail for reports, and the procedure for investigation of claims, may help the citizen understand the process. For instance, if a complainant calls regarding mangroves being impacted, agency personnel stating upfront that there are allowances for trimming and that some properties have variances, may prevent an impression that the agency is *deciding* not to pursue enforcement. Also personnel should be mindful of the phrasing of questions and assume the best possible scenario rather than the worst. For example, if an agency needs visual confirmation of an individual polluting a stream and assumes upfront that the perpetrator will be gone by the time a site inspector could arrive; or phrases questions in such a way as to suggest that it is unlikely to be a violation, may result in a citizen feeling that they need to convince the agency. For example instead of stating "An inspector wouldn't be able to make it there in time", inform the citizen that the responsible party needs to be observed by agency staff committing the infraction, the amount of travel time required for an inspector to be on-site, and then *ask* the citizen "How much longer do you think the violator will be at the site?". Personnel should approach each report assuming that a violation is occurring and that the claim is legitimate, until they have enough information to determine otherwise.

5.2 Interviews of Citizens at Random

Interviews of randomly selected citizens were all conducted from the Southeast Florida Coral Reef Initiative booth at various outreach events. While researchers attempted to interact with attendees of the event at large, most interviews were of passersby that approached the booth and this in itself may bias some responses towards those citizens already environmentally aware. Even so, in a state with many protected natural resources, it is apparent that there are still many citizens that are not able to identify any protected species or ecosystems (Table 2). It is encouraging that 45% of persons interviewed identified coral as being protected; however, it could be argued that they were influenced by the circumstances of the outreach booth, and that a more accurate reflection of knowledge would be to conduct a random survey by other means.

It is apparent that there is a large gap both in citizens being aware of resources that are protected, and when and who they should contact to report those impacts. Seventy-five percent of citizens did not know who to contact if they witnessed impacts to natural resources, and when asked specifically about various construction activity scenarios, stated that they would assume it was allowed and therefore not contact anyone.

When asked specifically about impacts to coral reef resources no citizens identified the FDEP or any associated program as a contact point, and 40% responded that the incident would go unreported due to a lack of knowledge.

5.3 Agency and Reporting Mechanism Review

5.3.1 Miami-Dade County

Since Miami-Dade County government was recently restructured twice within three years, it is understandable that there may be issues to overcome in directing citizens to the correct department. This is evident when trying to navigate the website and when calling various phone lines. Many webpages are currently defunct or nonexistent, and reaching the environmental department within DERM is not intuitive. It is also difficult to locate the "Environmental Complaints" page, taking 8 steps. The "Environmental Complaints" page should include reef resource impacts in the list of environmental impacts, and should give citizens guidance on the information to have available when reporting a potential violation.

Personnel operating phone lines for departments that have been merged should be trained on directing calls; specifically it could be argued that researches call to the main phone line for DERM should have been directed to the environmental hotline first rather than the permitting and Environmental Planning Group.

There are several different water bodies, and agencies in charge of those water bodies, within Miami-Dade County. This can be confusing not only for the citizen, but those agencies determining who has jurisdiction. Once jurisdiction is clarified, the agency responsible for the impact should inform the citizen that reported the incident so that they know who to contact in the future. Also, if non-complaint inspectors receive a citizens complaint directly (rather than from the hotline), they should be responsible for following up with the citizen.

5.3.2 Broward County

Navigating the Broward County website was intuitive, and was one of the only sites that gave guidance to citizens on the information they should try to include when reporting environmental impacts. Personnel stated that the complaint form was not easy to locate, however researches found it with relative ease, so this issue should be evaluated. Regardless of the location, staff should be aware, and know how to direct citizens to the various resources for reporting environmental impacts. The online complaint form states that the complainant may remain anonymous in the very last sentence of the information paragraphs. The webpage should highlight that the complainant can remain anonymous by reformatting the beginning of the form to state "Complainant Information (not required if you wish to remain anonymous)". On the "Impacts to Reef Communities" webpage, the FDEP CRCP should be listed as a point of contact for ship and vessel groundings.

The online *Enviros* system should send the complaint number to the complainant when delivering the confirmation e-mail. Also it was found that no citizens could recall being informed of a complaint number, or the ability to check the status of their complaint online. Informing the citizen of the system capabilities may greatly improve their confidence that the report was filed and that it was being acted upon. Also, the department handling the issue should be responsible for following up with the citizen. Hotline operators stated that

for them to follow-up would be inappropriate since they could not fully speak to the actions taken by the investigating department.

The five steps needed for a researcher to be connected to the correct person when starting with the 3-1-1 number should be reviewed by Broward County. This was the largest number of transfers of any phone system and citizens interviewed did mention that they had been "shuffled" around. When researchers were first connected to the Development and Environmental Regulation Division, the phone rang continuously without going to voicemail. Voicemail service should be configured on this phone.

5.3.3 Palm Beach County

Navigating the Palm Beach County homepage to ERM was intuitive, and operators were able to efficiently direct calls. On the phone directory page, listing all phone numbers for individual personnel within the department, without designating where to report environmental impacts, could be confusing for the general public. Contact information for ERM should be listed on ERM's homepage. Citizens did express an interest in having an online web based form for reporting environmental impacts and this could tie in with ERM personnel suggestions of creating a formal log for tracking citizen complaints. Creating a dedicated phone number, e-mail address, or web based form may help local law enforcement operators direct citizen environmental complaints, and may be an efficient way to facilitate coordination and reporting. If a web based form or page is developed guidance should be given to citizens that want to report an environmental impact on the type of information they should try to have available.

5.3.4 Martin County

The four steps it took for a researcher to be connected to the correct department could have been reduced to three had the main telephone line operator directed environmental impact related calls to the Environmental Division first, rather than Code Enforcement. Since the website gives the Growth Management Department phone number as the department to contact with environmental concerns, it could be argued that in general this would be a more appropriate department to transfer concerns to; however, it is recognized that when being asked about a permitted project impacting natural resources the operator must choose between the two topics when forwarding the call.

If a third party search engine is used, it is quite easy to locate the Martin County Environmental Division homepage, but when using the search function on the Martin County homepage it is not. Martin County should improve the returns on searches for the Environmental Division homepage. The Environmental Division webpage should be redesigned or formatted to make locating information regarding reporting environmental impacts more apparent. Since the two numbers listed call the same desk, only one number should be provided to reduce confusion and redundancy. Guidance should be posted on the website for citizens reporting environmental impacts, including the information they should have ready as part of the complaint. Also the Artificial Reef Program homepage

should consider posting information about Martin County's natural reefs, links about preventing impacts to natural reefs, and reporting impacts to reef resources.

Even though most environmental impacts, especially those related to permitted projects, are not Martin County's jurisdiction, staff should strive to help citizens locate the correct agency to contact. There should also be an effort to do this in a timely manner since response time can be crucial in remedying or preventing further impacts.

5.3.5 FDEP and State Warning Point

The Florida State Warning Point should add the CRCP Marine Event hotline to their SOP for dispatching information about incidents occurring in the marine environment within Martin, Palm Beach, Broward, and Miami-Dade counties. The FDEP should improve their search tool function to return relevant results such as the State Warning Point number when using the terms "environmental complaint", "report pollution", and "report environmental complaint", rather than links to FDEP SED.

5.3.6 FDEP Southeast District

While navigating to the FDEP SED homepage is not difficult, many times this is not the page a citizen is searching for. FDEP SED staff frequently receive calls from citizens in other districts or regions. This is most likely because when typing "environmental complaint" on the FDEP homepage search tool, the results are hyperlinks to FDEP SED, regardless of where the citizen is from. FDEP should revise their website and provide appropriate hyperlinks to the various district offices based on the citizen's zip code or other locational reference. Quick links should be added to the FDEP SED webpage about reef resources.

FDEP SED should consider informing the presiding municipality or county of the permitted construction activities occurring within it. Maintaining a list of permitted projects may help to minimize the number of potential impact reports that are filed for permitted activities such as mangrove trimming or single family docks construction.

5.3.7 FDEP Coral Reef Conservation Program

Navigating to the FDEP CRCP webpage is difficult from the FDEP homepage. FDEP should consider listing the various sub-groups for each program on the "Programs" page. The Marine Event Response homepage and the RIPR homepage phone numbers or information for reporting impacts should be displayed more prominently. Also, a dedicated report form should be listed as the environmental event reporting mechanism rather than a staff member e-mail.

The hotline message should be updated to state that the caller will receive a call back within 24 hours if they leave a name and phone number. Operators of this phone line should contact the citizen to let them know the report was received. There should also be a protocol for following up with citizens that report reef resource impacts. Specifically they should be informed of the resolution of the situation or what action is being pursued.

5.3.8 FWC

The FWC is the most visible law enforcement entity on the water throughout the Martin, Palm Beach, Broward, and Miami-Dade county area. As such, citizens surveyed at random frequently reported that is whom they would contact first in order to report any suspected violation that was water related. Navigating to the "Report Violations" webpage is intuitive from the homepage. However using the search function on the homepage with the terms "environmental complaint" or "environmental violation" does not return the "Report Violations" page. This "Report Violators, Fish Kills, Nuisance Wildlife" webpage should be updated to list the FDEP Marine Event hotline as a resource for reporting marine debris and reef impacts.

Because the FWC hotline is programmed to direct calls based on citizen area codes, caution should be taken when suggesting a citizen calls this number, and inform the citizen that they need to be clear about which county they are in so they can be appropriately directed.

Agencies responsible for oversight of impacts to natural resources need to make every effort to communicate to FWC officers which agency should be notified about which events. Alternatively, agencies could request modifying the FWC hotline operator procedures to include that the operator contact not only FWC officers, but also the agency responsible for particular resource impacts.

In the instances where it may not be appropriate for an FWC officer to follow-up with a citizen or inform them of the resolution, they should inform the citizen of who is responsible for that follow-up. In the case of impacts to reef resources in Martin, Palm Beach, Broward, and Miami-Dade counties, that would be the FDEP CRCP RIPR coordinator.

5.3.9 FDEP Office of the Ombudsman and Public Services

It is unlikely that a citizen would contact this number but if they did, with the intent to file a formal complaint or report with the Ombudsman, then they must specify that they would like to be transferred to the Ombudsman to file a formal complaint or report. Otherwise, environmental reports are directed to the appropriate district office.

5.3.10 FDEP Bureau of Emergency Response

Because most personnel did not respond to research requests for an interview it is difficult to determine how responsive this Bureau is to citizen reports of impacts to natural resources. From the one interview conducted, it is evident that BER personnel should know

more about the FDEP Marine Event hotline, and whom to inform when marine resources are impacted. While some FDEP BER personnel have contacted the FDEP CRCP regarding vessel impacts in the past, not all responders are aware of the FDEP CRCP. Contacting the FDEP CRCP Marine Event hotline should be added to their SOP where appropriate.

5.3.11 SFWMD

The South Florida Water Management District is not an integral part of responses to reef resource impacts, and was reviewed as a comparison. No discussion was generated from the review of their response mechanisms or interview of this agency.

5.3.12 EPA

Based on interview responses, citizens believed they contacted the EPA, when actually contacting FDEP. This was evident in citizen interviews and FDEP SED interviews, where repeatedly a citizen would say they were working with the EPA, and in actuality it was FDEP. This may be because many third party search engines actually provide the state environmental protection entity when citizens type in EPA. This is appropriate since most times the citizen needs to interact with the state not EPA.

5.3.13 NOAA National Marine Fisheries Service

Based on interview responses, no citizens that have filed environmental complaints in the past approach NOAA first regarding the potential impact. Very few citizens, only one, that were randomly interviewed identified NOAA as an agency they would contact in the event they wanted to report a reef resource impact.

Anticipated impacts to trust resources, such as impacts to coral, coral reef, or hardbottom (categories of Essential Fish Habitat), endangered or threatened species, or their designated critical habitat, must be reviewed by NOAA during the permitting processes. However, NOAA does not issue the permit, and are not the agency responsible for enforcement of the permit. The lead federal agency should inform NOAA of any unanticipated impacts in order to determine if additional consultation is necessary. It may not be appropriate to suggest citizens contact NOAA to report potential impacts since NOAA would then have to forward the citizen to the correct agency.

5.3.14 USACE

Based on survey responses of citizens interviewed at random, the USACE was only identified by one individual as an agency they would contact in the event they witnessed impacts to natural resources.

The USCAE lacks a coordinated mechanism to obtain reports from citizens. The website is not intuitive to the public and there are many redundancies that need to be addressed. A citizen may incorrectly navigate to the "Environment" link under "Missions" in search of a reporting mechanism. While it is understood that this is not the correct department,

information or a link that takes the user to the correct department would be helpful. Because the USACE is organized in such a way that may not be intuitive to a citizen, specifically when it comes to reporting potential violations, it would be useful to supplement the website with an information page on compliance and enforcement, and which department is responsible for those actions. Throughout the site there are redundant links to “locate an office”, but yet each link directs you to a different mapping tool. From the USACE homepage there are two different locator maps. One is under "Locations" contact us and does not hyperlink to the location homepage, but to contact information. It would seem more practical to have one map which provides both a hyperlink to the district websites, and the contact information. Phone numbers should be reviewed for relevance and insure that there is not circular references from one automated system to another

It is understood that at this time the USACE is updating many of their webpages and information to be 508 compliant. It would be very beneficial if an online form were created to help citizens report potential violations.

5.3.15 USCG

Many citizens stated that they would contact the USCG if they witness impacts to reef resources. While it is not the USCG purview to respond to the environmental impact of an on-the-water incident (other than to remove petroleum or other hazardous materials from vessels), citizens may incorrectly contact them. It may be beneficial to develop a USCG webpage dedicated to listing the available resources for directing environmental impact calls or web users.

In the instances where it may not be appropriate for the USCG to follow-up with a citizen or inform them of the resolution, they should inform the citizen of who is responsible for that follow-up. In the case of impacts to reef resources in Martin, Palm Beach, Broward, and Miami-Dade counties, that would be the FDEP CRCP RIPR coordinator.

6. Recommendations

There will always be more citizens able to witness and report environmental impacts than agency personnel available to monitor coastal activities. The agency or emergency response system that is able to efficiently tap into this resource of field observers can supplement current oversight of permitted coastal construction projects and detect unpermitted practices or environmental impacts early on, or in process. The following recommendations are intended to help environmental compliance, enforcement, and response entities improve their current response systems and encourage the public to be an active participant in protecting their natural resources.

6.1 General recommendations

1. *There should be a dedicated 24 hour response hotline for citizen use in reporting environmental impacts. Preferably this would be an existing system such as the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife hotline or the Florida State Warning Point System.*

One of the most apparent remedies to many of the issues brought to light in this study would be one central hotline for citizens to call to report environmental impacts. Many times citizens called the wrong agency or emergency response system (e.g. 911) because they were uninformed or could not readily locate the appropriate number when it was needed. This would help reduce or eliminate calls to the inappropriate emergency response system, and help the citizen to make contact with the correct agency in a more timely manner promoting early response to environmental impacts.

Having an existing system serve as the primary reporting number helps to reduce public confusion about who to call during environmental impact events. Having only one phone number, helps streamline the flow of information and more efficiently use various agencies staff and budget resources. Many of the citizens interviewed at random stated that they believed they would contact FWC in the event of an environmental impact. Interviews of citizens that had filed complaints revealed that they considered FWC the most visible and recognizable environmental regulatory agency on the water. However, many permit related environmental impacts would not be under FWC jurisdiction or authority, and therefore it would be more appropriate for the Florida State Warning Point System to take calls and route them according to the situation. This also fulfills the Florida State Warning Point mission "*to provide the people of the State of Florida and the Division of Emergency Management with efficient and effective communications...and to serve as the contact point in Florida for communications between local Governments and Emergency Agencies, State Government Agencies and the Federal Government.*"

2. There should be an educational campaign dedicated to informing the public about the dedicated hotline.

Dependent upon the system, hotline, or mechanism chosen (see General Recommendation 1), an educational campaign should be developed and implemented to inform citizens about the hotline. The campaign should include information on what types of impacts should be reported and how they can be reported. Additionally, education should include informing the citizen about the details they should report so that agency personnel can respond to the incident.

3. All hotline phone numbers should be answered, at minimum, by a person during normal business hours.

Citizens most common praise of an emergency response system were in regards to those that had live operators. Citizens often stated that their preferred method of reporting (on the phone, in person) was whichever means would put them in contact with a real person, i.e., if they were sent to voicemail they would then go in person to the agency, or call a different agency.

4. All hotline response phone numbers should state upfront that the phone call will be returned within one hour outside of business hours.

It is recognized that there may not be the funding or personnel to have a live operator 24 hours a day. In those cases when it is not feasible to have a live operator, every attempt should be made to provide a call forwarding system that will reach an on-call person that can return the call as soon as possible.

5. Educate coastal law enforcement and emergency response department personnel working within the Miami-Dade, Broward, Palm Beach, and Martin, county area of the appropriate agency or response hotline to contact in the event of environmental impacts.

Many citizens called their local sheriff's office, fire department, or USCG, when observing environmental impacts or violations occurring in, or near water. Therefore there should be an effort to distribute response information to local sheriff and fire departments, as well as all USCG stations, even if the guidance is to direct them to a webpage with all applicable information. Local law enforcement and FWC officers are concerned with emergency situations and criminal activities first and foremost, it is the various agencies responsibility for educating those department of when an environmental incident should be reported. Additionally, agencies could pursue modifying local law enforcement and FWC hotline operator procedures to include contacting the appropriate environmental resource department during specific resource impacts.

6. List environmental department numbers in the phone book blue pages.

Although most people are beginning to turn to the internet for information, many reported looking through the phone book blue pages (those pages reserved for local government and utility phone numbers) for information.

7. *All employees of government agencies and departments responsible for response to resource impacts should be provided training on the environmental impact reporting options within their agency, such as hotline or online form, and when applicable have memorized their hotline phone number.*

Several interviews of agency personnel (those directing calls or within a response department) revealed that they were unaware of their environmental emergency hotline or, if aware, did not know the number or website address.

8. *Every non-anonymous complaint should have a clear follow-up response and resolution response, preferably in writing, to the citizen that reported the environmental issue.*

Citizens were greatly satisfied when they received a phone call or e-mail clearly stating that the issue they reported was being addressed. Citizens were not satisfied if they asked for follow-up and didn't receive it, if the follow-up did not clearly state how the situation was being addressed, or if they were not informed of the resolution of the issue. Citizens recognized they could not know the details of many environmental violations due to potential legal issues and that many times a situation may not be a violation. It is suggested that each agency develop a standard letter, e-mail, or return phone call protocol for informing citizens of the pending action to investigate the issue, and resolution of the environmental complaint. The pending action follow-up may not be necessary in the event the issue is quickly addressed and the citizen can be informed of the resolution of their complaint. The response should contain the following information: date of report, location of issue, brief description of the issue, date investigated, brief description of how it was investigated (e.g., in person, review of permit), and the conclusion (i.e., found in compliance, found not in compliance, or enforcement action underway).

9. *Agencies responsible for oversight or inspection of permitted activities should have at least one member on staff trained and cleared to respond and inspect those permitted activities, or have an independent contractor that is not directly associated with the entity permitted to perform the construction or impactful activity, under contract to respond to the required inspection need in a timely manner.*

Any and all permit conditions should be able to be inspected by the issuing agencies. An agency that issues a permit condition that they cannot inspect, either in house or through a third party, cannot reasonably assure their citizens that if an impact occurs that it can be appropriately responded to or mitigated for.

10. *Personnel responding to, or investigating a potential environmental impact or permit violation, should be prepared with appropriate training to investigate the claim of the citizen.*

It is understood that some agency personnel do not have the training or appropriate liability coverage to inspect every and all environmental complaints. For instance, a report of hazardous materials or submerged debris may require special training such as handling of hazardous materials, or SCUBA certification. If an initial site visit will require special training to confirm the citizens report, then the agency should attempt to send a properly trained responder.

11. *Agencies responsible for permitting projects with potential environmental impacts, should have staff members that are trained and able to investigate any environmental impacts that could occur, within reason, associated with that permit.*

For an agency that is permitting projects or responding to projects lacking the appropriate permits, to not have staff or immediate resources to investigate a citizen claim due to lack of training or inability due to organizational standards, is irresponsible on the part of the permitting agency. Every permitting agency should be able to review the work they are permitting.

12. *Personnel responding to or investigating a potential environmental impact or permit violation should be prepared based on information from the citizen regarding the impact with appropriate equipment to investigate the claim; to the best of the responders ability.* Citizens reported that they did not consider a complaint appropriately responded to when agency personnel arrived on scene without what would be considered reasonable and expected tools or equipment necessary to document the violation. In the event that detecting a potential violation requires specialized collection or testing equipment, response personnel should be properly equipped to conduct their investigation or prepared to explain to the citizen .

13. *Environmental emergency response phone numbers or websites should be advertised to the public in appropriate public locations.*

Many citizens recalled environmental impact contact information being located on brochures in local government offices, or distributed with licenses and registrations. Many citizens stated that being exposed to these forms of advertisement helped them think of which agency to search for, but that they did not actually use the brochures for the contact information on them (usually because they were not in their possession at the time of the impact).

These forms of advertisement only reach a select portion of the population that could witness an environmental impact, and often times these brochures are thrown away or cannot be located at the time a violation is occurring. It is recommended that signs with environmental violation reporting information be posted at boat ramps, beach access point, or life guard stations, with resource specific information appropriate for that location.

14. *Agencies need to be aware of the actions they perform in house which are response actions, and relay these actions to the citizen.*

Because there is confusion over what is or is not considered a response to a situation, agencies should make every attempt to be cognizant of the actions they are taking outside of conducting a site visit. For example, many agencies reported that they "would not respond if they found that the project was within the parameters of the permit"; however, they may have spent several hours investigating the situation, which is in itself a response. Agencies need to recognize their efforts and avoid downplaying a "response" only being a site visit. Most citizens want to know that it was investigated.

15. *Agencies should always ask if the citizen wants follow-up, and do their best to inform the citizen of who the follow-up agency or individual will be.*

Many citizens expect a response, follow-up, or feedback to their efforts, even if they don't specifically state it. Every agency should value the effort citizens are making in taking the time to report environmental impacts by providing feedback to the citizen.

16. *Agencies responsible for oversight of impacts to natural resources should err on the side of caution; assuming that there may be an impact that needs further investigation.*

Personnel should be mindful of the phrasing of questions and assume the best possible scenario for addressing a potential impact rather than the worst. For example if an agency must have visual confirmation of an individual polluting a stream, assuming upfront that the perpetrator would be gone by the time a site inspector arrived, or phrasing questions in such a way that suggests it is unlikely to result in a violation, may result in a citizen feeling that they need to convince the agency. For example instead of stating "An inspector wouldn't be able to make it there in time", inform the citizen that the responsible party needs to be observed committing the infraction by agency staff (if a photo will not suffice), the amount of travel time required for an inspector to be on-site, and then *ask* the citizen "How much longer do you think the violator will be at the site?" Personnel should approach each report assuming that a violation is occurring and that the claim is legitimate, rather than not.

6.2 *Specific recommendations*

6.2.1 Miami-Dade County

1. *Miami-Dade county website should be revised for quicker and easier location of environmental violation reporting information.*

Currently, in order to navigate to the "Environmental Complaints" page within the miamidade.gov website one must go to the "Green & the Environment" page, then click "Get Involved", then click "More listings". Also, many times pages on the website have a hyperlink titled "Report Pollution" which navigates to the "Environmental Complaints" page. It is recommended that these hyperlinks be revised to include the word(s) "environmental impacts". Miami-Dade County is in the process of restructuring and consolidating departments. The final department charged with responding to environmental complaints should have a hyperlink to the "Environmental Complaints" page prominently displayed.

2. *The Miami-Dade county website should review and expand the list of environmental complaint topics.*

It is recommended that the current list of environmental situations located on the "Environmental Complaints" page be reviewed for completeness and that in the event that there is an environmental situation that Miami-Dade County does not address, or refers to another agency, the hyperlink to the appropriate agency be listed. For instance currently there is information listed for fish kills but not for reef related impacts.

3. *Personnel operating phone lines for departments that have been merged should be trained on directing calls.*

Specifically it could be argued that researcher calls to the main phone line for DERM should have been directed to the environmental hotline first rather than the permitting and Environmental Planning Group.

6.2.2 Broward County

1. *The Broward county website should be revised for quicker and easier location of environmental violation reporting information.*

Currently the "Development and Environmental Regulation Division" page within the Broward.org website has the environmental response line prominently listed, while the "Environmental Protection and Growth Management" page does not. Since Agency Personnel within Environmental Protection and Growth Management had difficulty navigating the site and locating this information, it is possible citizens would also have difficulty.

2. *The online complaint form should be edited to highlight the ability to complete the report anonymously.*

The online complaint form states that the complainant may remain anonymous in the very last sentence and nowhere else. The webpage should reformat the beginning of the form to state "Complainant Information (not required if you wish to remain anonymous)".

3. *On the "Impacts to Reef Communities" webpage, the FDEP CRCP should be listed as a point of contact for ship groundings.*

4. *The online Enviro system should send the complaint number to the complainant when delivering the confirmation e-mail.*

5. *Citizens should be given a complaint number and informed of the ability to look up their report on Enviro.*

Informing the citizen of the this system may greatly improve their confidence that the report was filed and that it was being acted upon.

6. *Personnel need to address the confusion in who is responsible for following up with citizens that filed complaints, most likely this should be the investigating department.* Hotline operators stated that for them to follow-up would be difficult since they could not fully speak to the actions taken by the investigating department.

7. *The five steps needed for a researcher to be connected to the correct person when starting with the 3-1-1 number should be reviewed by Broward County.* Broward County personnel should review the process and determine where improvements could be made to reduce the number of transfers.

8. *Voicemail should be set up on the Development and Environmental Regulation Department main phone line.*

When researchers were first connected to the Development and Environmental Regulation Division, the phone rang continuously without going to voicemail. It is apparent that there is not voicemail service configured on this phone or that it does not go to voicemail when the line is busy.

6.2.3 Palm Beach County

1. *Contact information for ERM should be listed on ERM's homepage.*

Needing to navigate one page further could be prevented by placing this information on the homepage, which has ample room to do so.

2. *Create an online web based form for reporting environmental impacts*

Citizens expressed an interest in having an online form. If a web based form or page is developed, guidance should be given to citizens that want to report an environmental impact on the type of information they should try to have available. This resource should be advertised to local law enforcement as a resource for them to direct citizens that are contacting them about environmental impacts. Current forms from Broward County may be of use as a template.

3. *Create a system to track citizen complaints.*

Personnel expressed an interest in having a more formal system in place to track citizen complaints and reports.

6.2.4 Martin County

1. *The Martin County homepage search function should be updated to return results that will direct a citizen to the Environmental Division.*

Within reason a citizen should be able to type "environmental", "environmental department", or "environmental complaint" and be directed to relevant webpages.

2. *Martin County should consider creating an environmental hyperlink separate from the building hyperlink.*

Services are grouped into categories, with one of those categories being "Building/Environment". If a user clicks on "View all Services", the topics listed under the "Building/Environment" hyperlink are "Permits, Plans, Zoning", there is no mention of environment concerns.

3. *The Environmental Department webpage should be redesigned or formatted to make locating information regarding reporting environmental impacts more apparent.*

Locating this information towards the top in bold or different colored font would be advisable. Removing redundant phone numbers is also suggested.

4. *The link to the "Services and Information Request for Service" form should be formatted to also include reporting complaints.*

Currently every link to the Martin County Service request database says "Request for Service". It is not intuitive that this would also be the appropriate place to submit a complaint or concern.

5. *The artificial reef homepage should consider posting information about Martin County's natural reefs.*

No information is available about Martin County's natural reef resources. Hyperlinks about preventing impacts to natural reefs, and reporting impacts to reef resources should be included.

6.2.5 FDEP and State Warning Point

1. *The Florida State Warning Point should add the CRCP Marine Event hotline to their SOP for dispatching information about incidents occurring in the marine environment within Martin, Palm Beach, Broward, and Miami-Dade counties.*

2. *The FDEP should improve their search tool function to return relevant results.*

When searching terms such as "environmental complaint", "report pollution", and "report environmental complaint", information for the State Warning Point should be returned rather than links to FDEP SED. Alternatively, a map that allows users to choose the appropriate region could be displayed.

3. *FDEP should consider listing the various sub-groups for each program on the "Programs" page.*

Navigating to the FDEP CRCP webpage is difficult from the FDEP homepage because it is not intuitive that it is within CAMA.

4. *The FDEP should consider developing a webpage similar to FWC's listing all of the departments or agency hotlines to address particular impacts.*

Even if the FDEP determines all environmental impact calls should be directed to the State Warning Point, it would be helpful for citizens to see which issues the State Warning Point can direct.

6.2.6 FDEP Southeast District

1. *Quick links should be added to the FDEP SED webpage about reef resources.*

2. *FDEP should revise their website and provide appropriate hyperlinks to the state warning point or various district offices based on the citizen's zip code or other location reference.*

Most environmental searches on the FDEP website return results specific to the FDEP SED office, regardless of the location the citizen may be searching from.

FDEP SED staff stated that at times they would receive calls from persons in other districts, and that this may be the cause of those calls.

6.2.7 FDEP Coral Reef Conservation Program

1. *On both the Marine Event Response homepage and the RIPR homepage phone numbers or information for reporting impacts should be more prominent.*

FDEP CRCP should consider using bold or colored font.

2. *An email or incident response from independent of an individuals e-mail address should be listed as the environmental event reporting mechanism.*

Since this is a mechanism promoted for taking citizen environmental complaints this should be listed rather than a staff member.

3. *The hotline message should be updated to state that the caller will receive a call back within 24 hours if they leave a name and phone number.*

6.2.8 FWC

1. *The FWC should improve their search tool function to return relevant results.*

Searching for terms such as "environmental complaint" or "environmental violation" does not return the "Report Violations" page.

2. *The "Report Violators, Fish Kills, Nuisance Wildlife" webpage should be updated to list the FDEP Marine Event hotline as a resource for reporting marine debris and reef impacts.*

3. *List additional on-the-water violation reporting information on the FWC website at <http://myfwc.com/contact/report/>, and educate phone operators on these additional contacts.*

Currently the website lists direct phone numbers for "Oil, Fuel, or Hazardous Materials Spill", "Fish Kills", and the "Coral Reef Conservation Program" for marine debris. Consider adding phone numbers for "turbidity or construction related" violations, "illegal recreational anchoring", and "vessel grounding".

4. *Revise the current FWC listing for marine debris found at <http://myfwc.com/contact/report/> to say "Debris, Marine Related: [click here](#) to report marine debris".*

Currently the FWC site lists the "**Coral Reef Conservation Program**: Use [this site to report marine debris](#) found when diving, snorkeling or boating." All other possible report topics on the FWC site are listed in alphabetical order by activity or animal, not by the oversight agency.

5. *Florida Coral Reef Protection Act information should be made available on the Florida Fish and Wildlife Conservation Commission website.*

Currently, there is no information about the Florida Coral Reef Protection Act or who to contact in the event of resource impacts other than marine debris. The information could be placed under the Boating-Anchoring & Mooring section, or the Boating-Boating

Regulations-Personal Watercraft Regulation section. The following statement could be included in the sections described above, “The Florida Coral Reef Protection Act makes it illegal for a vessel to anchor on or in any way injury a coral reef within Florida waters. For more information please visit <http://www.dep.state.fl.us/coastal/programs/coral/ripr.htm>.”

6.2.9 FDEP Office of Ombudsmen and Public Services

No specific recommendations.

6.2.10 FDEP Bureau of Emergency Response

1. *Contacting the FDEP Marine Event hotline should be added to their SOP where appropriate.*
2. *All BER responders responsible for responding within the Martin, Palm Beach, Broward and Miami-Dade area should be educated about contacting FDEP CRCP in the event of reef resource impacts.*

6.2.11 SFWMD

1. *Explore the potential to provide information on the SFWMD website regarding reporting environmental resource impacts.*
There is the opportunity to have a webpage that lists information for reporting potential environmental impacts. This could be listed under the Residents & Visitors Tab.

6.2.12 EPA

1. *Explore the potential to provide information on the EPA website regarding reporting environmental resource impacts.*
There is the opportunity to have a webpage that lists information for reporting potential environmental impacts. This could be listed under the Laws and Regulations Tab.

6.2.13 NOAA National Marine Fisheries Service

1. *Increase personnel dedicated to reviewing projects for compliance.*
It is believed that citizen dissatisfaction stems from the imbalance between the numbers of NMFS personnel dedicated to review of coastal development projects and those dedicated to reviewing project compliance. Also it is believed that additional staff at NMFS would allow for a greater level of compliance and enforcement on activities that have the potential to negatively affect NOAA trust resources.

6.2.14 USACE

1. *Provide an option for reporting project or environmental impacts on the "Contact Us" e-mail form.*

The "Contact Us" e-mail form lists many departments; however, a citizen may not realize that "Regulatory" is the department responsible for compliance and enforcement. The word "permits" is in parentheses after "Regulatory", this could be supplemented with "compliance and enforcement". Forms currently exist on the Broward County website that could be of use as a template.

2. *Office locator maps should be similar and link to whichever office a user selects.*

From the USACE homepage there are two different locator maps. One is under "Locations" contact us and does not hyperlink to the location homepage, but includes contact information. It would seem more practical to have one map which provides both a hyperlink to the district websites, and the contact information.

3. *Office locator map should be larger or zoom into the Division level for easier viewing and selecting.*

The office locator map has the various division areas color coded and each district office is a hyperlink to that districts website homepage. However, the font is relatively small. It would be beneficial to have the user click on a division area, which then zooms in, or opens another window focused on the division; thereby allowing an increase in font size.

4. *Phone numbers should be checked for relevance.*

Several phone numbers either had circular references to automated systems, or rang to phone with no answer or automated message.

5. *Consider adding a compliance and enforcement information webpage.*

It may be helpful to have an informational page which discusses which departments handle compliance and enforcement, and potentially include information about the regulations the USACE can enforce.

6.2.15 USCG

1. *The USCG should consider developing a webpage that list information regarding what agencies to contact during which environmental impact situations.*

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Appendices

Appendix A

GUIDELINES FOR CONDUCTING INTERVIEWS

- Read aloud all, introductory statements, interview guidelines, and questions exactly as printed.
 - Any clarification of introductory statements, interview guidelines, or questions will be delivered at the interviewers discretion, as needed, with the least amount of bias possible.
- Items in the questions listed in parentheses (...) should not be read to the interviewee until after they have been allowed time to respond to the question; these should be used as prompts.
 - Record which responses the respondent generated of their own accord, and which they were familiar with only after being prompted.
- Follow up questions are indented under the initial question. An interviewer may not need to ask the follow up question in a case where the interviewee provided an answer during the primary question.
- The interviewer may ask for a interviewee to clarify, restate, or further explain their response.
- Interviewees will not be led by the interviewer asking biased or directed questions.
- Reactions of the interviewer to responses, whether positive or negative, will be controlled and remain as neutral as possible.
 - The interviewer will create go-to neutral statements that can be delivered in a neutral manner (i.e. "I understand", "thank you for clarifying")
- During this process the persons being surveyed will know the interviewer's affiliation. However, every attempt will be made *not* to focus on the affiliation in such a way that will bias the responses given.

Appendix B

*STATEMENT TO BE DELIVERED WHEN CALLING AN
AGENCY'S MAIN TELEPHONE NUMBER*

Introductory Statements

The following statement will be used when calling an agency's main telephone number for information regarding citizen reports of resource impacts during non compliance.

"Hello my name is _____ and I am calling with the Florida Department of Environmental Protection Coral Reef Conservation Program. I am working on a project summarize how different agencies respond to citizen reports of permit activities affecting natural resources. For example, if a citizen suspects a construction project or beach nourishment is impacting mangroves, corals, or seagrasses.

How would a citizen report a permit violation?

Are there any additional methods or specific people to talk to?

**If above questions direct you to a non personal contact such as website or hotline, follow up with the following question*

Who would be the best person to speak with regarding your agency's procedure for citizens reporting a permit violation that is impacting a natural resource?"

Appendix C

INTERVIEW PURPOSE STATEMENT FOR AGENCY PERSONNEL

To be read to agency personnel before beginning interview:

In order to conduct an unbiased survey I am required to read to you the following statement to ensure your understanding of our project. Your responses will be recorded; however, your name or other identifying information will not be linked to your responses unless you choose to.

At this time would you like your name linked to this information?

Yes No

May we contact you if we have any follow up questions?

Name_____ Phone#_____ Email_____

We are conducting a survey that investigates how citizens report impacts or violations they observe happening to natural resources during a permitted project. We want to determine how regulatory agencies in southeast Florida respond when citizens report permitted activities that are impacting natural resources, the efficiency of the reporting process, and the public understanding of the process. By surveying the public **and** agencies regarding their thoughts and experiences, we hope to determine if there are improvements that can be made to the reporting process and efficiency in response to impacts.

Do you understand the purpose of our project? Yes No

During the interview it is o.k. to not answer a question, or respond with an "I don't know"

Please respond as candidly and thoughtfully as possible to the following questions.

Appendix D
QUESTIONS FOR AGENCY

- If you received a report that a natural resource was being impacted during a permitted projects' activities, which resources could your agency address? (i.e. seagrass, mangroves, corals, manatees, other species of concern, runoff or pollution)
 - If you cannot address a particular potential violation, which agency do you think would be responsible for the following: Seagrass, mangroves, corals, manatees, other species of concern, runoff or pollution
- If you were not the correct agency to contact in regards to the citizens' report, would you direct the citizen to the correct agency, or would you collect the information and contact the correct agency?
- Are there different agencies or departments you would direct the report or citizen to depending on *where* the potential violation occurred? (e.g. state park, county park, public property, private property?)
- How can citizens file a concern: For instance if I am a concerned citizen calling about (*Insert example applicable to whom you are speaking*) take me through the information you would give me?
 - Do you have an internet site?
 - Do you have a hotline?
 - Do you have personnel that work in the field?
 - Do field personnel have standard forms with them?¹
- What information would you gather from a citizen calling to report a suspected violation?
- Once you have the information how is the potential violation handled?
- Are you able to investigate every complaint?
 - If not why? (i.e. lack of time, lack of personnel)
 - If not, how do you determine which potential violations to follow up on?
- What would you estimate is the average turnaround time from when the citizen files a complaint, to the time it is investigated?
- Do you let the concerned citizen know you followed up on their report?
 - Do you inform them of the result?
 - If so, how?

- What do you think is the most common violation reported?

¹ If so, obtain copy of form

- In your opinion, does there seem to be a particular activity that is frequently reported, but often not determined to be a violation?
- In your opinion, what percent of reports filed by citizens are valid allegations?
- Do you think more compliance and enforcement actions come from within the agency permitting process (through review, monitoring reports, and site visits); or from citizen reports?
- How do you think most citizens want to report an incident? (In person, phone conversation, voicemail box, internet)
- What would be the most useful information for a citizen to provide to help investigate a potential violation? Location (lat/long), photos, time of day, date, etc?
- How do you think a citizen would go about determining who to contact or how to file a report?
- To your knowledge, have citizens ever expressed dissatisfaction with your agency's system is?
 - If so, what do you think is the major cause of these complaints about the system? (lack of time, personnel?)
- Do you think there is any room for improvement in your own agency?
- Is there anything that I missed or should have asked during this interview?

Appendix E

INTERVIEW PURPOSE STATEMENT FOR CITIZENS

The following statement will be read to both random survey citizens and previously reporting citizens:

In order to conduct an unbiased survey I am required to read to you the following statement to insure your understanding of our project. Your responses will be recorded; however, your name or other identifying information will not be linked to your responses unless you choose to.

At this time would you like your name linked to this information?

Yes No

May we contact you if we have any follow up questions?

Name_____ Phone#_____ Email_____

We are conducting a survey that investigates how citizens report impacts or violations they observe happening to natural resources during a permitted project. We want to determine how regulatory agencies in southeast Florida respond when citizens report permitted activities that are impacting natural resources, the efficiency of the reporting process, and the public understanding of the process. By surveying the public **and** agencies regarding their thoughts and experiences, we hope to determine if there are improvements that can be made to the reporting process and efficiency in response to impacts.

Do you understand the purpose of our project? Yes No

During the interview it is o.k. to not answer a question, or respond with an "I don't know"

Please respond as candidly and thoughtfully as possible to the following questions.

Appendix F

*QUESTIONS FOR CITIZENS THAT HAD PREVIOUSLY FILED AND
CITIZENS THAT HAD NOT PREVIOUSLY FILED*

Have you ever filed a complaint for a permitted project that you thought was impacting a natural resource (like corals, seagrass, manatees, or mangroves)?²
**If response is YES, proceed to questions following "A YES RESPONSE". If response is NO, proceed to questions following "A NO RESPONSE"*

A YES RESPONSE³

- Do you recall what your potential violation or report was regarding?
 - (If not, refresh their memory to the best of your ability)
- Is this the first time you filed a report?
 - If not, how many do you think you have filed total?
- What made you suspect a violation was occurring?
 - Have you ever seen any educational information about impacts to natural resources? (like a brochure about inappropriate dumping, or information about corals being endangered)
 - If so what was the information?
- When you first considered reporting the incident, how did you go about determining who to contact? (Google, yellow pages, neighbor?)
- Did you ever see any educational materials such as fliers, advertisements, or stickers that helped you determine who to contact?
- How easy was it to get a hold of the "correct" agency? On a scale of 1-5 with 1 being very easy and 5 being very difficult
- How could it have been easier? Or why was it easy? After contacting the appropriate agency, what the reporting process easy? On a scale of 1-5 with 1 being very easy and 5 being very difficult
 - How could it have been easier? Or why was it easy?
- Did anyone follow up with you?
 - How did, or did not, the follow up meet your expectations?
- What method would you prefer using to report a permitted activity impact to a natural resource?
- Is there anything I missed or should have asked during this interview?

IF NO RESPONSE

- Are there any natural resources that you know of, that if they were being impacted by construction or another permitted activity they would cause

² To be asked of randomly surveyed citizens only.

³ After determining or confirming that the respondent has filed a non-compliance in the past these questions will be asked.

- you to suspect the activity needed to be reported? (mangroves, seagrass, manatees, coral)
- Have you ever seen any educational information about impacts to natural resources? (like a brochure about inappropriate dumping, or information about corals being endangered) If so what was the information?
 - If you saw a questionable event right now involving permitted activity, that you felt needed to be reported, do you know where or how to report it?
 - How would you try to determine where, or who, to contact to report the suspected violation?
 - What method would you prefer to use to report a permitted activity impact to a natural resource?
 - In the following situations, how or who, would you contact to report the suspected violation:
 - A neighbor is building a dock and cut down mangrove trees during construction?
 - A channel marker is being installed and you think the barge is impacting the seagrass bed?
 - A beach nourishment project is underway and you see a lot of runoff or silt in the water?
 - Is there anything I missed or should have asked during this interview?