

Awareness Training for Compliance and Enforcement of Coral and Hardbottom Resource Permitting

*Permitting and Field Approaches for Efficient Compliance and Enforcement
Corals in Southeast Florida
(Awareness Training - Unit 3 of 3)*

Southeast Florida Coral Reef Initiative (SEFCRI),
Maritime Industry & Coastal Construction Impacts (MICCI) Team
Project 4, 21, 23, 24 - Phase 2
March 2011



Permitting and Field Approaches for Efficient Compliance & Enforcement

Content:

- Introduction, Terms, & Violation Discoveries
 - FDEP Permitting and Enforcement
 - USACE Permitting and Enforcement
 - Roles of NMFS, incl. Consultations
 - County Permitting and Enforcement
 - Field Issues
 - Best Permitting Practices

SEFCRI's Maritime Industry & Coastal Construction Impacts (MICCI) Team

The MICCI focus is on activities such as vessel groundings, infrastructure installation (e.g., cables, pipelines, and outfalls), dredge and fill operations (e.g., beach renourishment) that can adversely affect coral reefs and associated habitats.

MICCI Project 4, 21, 23, 24 Phase 2: Project Objectives

- Identify issues, gaps, and overlaps that reduce permitting compliance and enforcement efficiency for coral resources.
- Work with agencies to identify methods and processes to increase the effectiveness of coral regulatory oversight and monitoring to improve compliance.
- Develop Awareness Training Materials for agency use - the purpose of these Powerpoint units.

Awareness Training Materials

Three Training units are available as Powerpoint files:

- Unit 1: *Overview of Corals and Hardbottom Resources in Southeast Florida*
- Unit 2: *Rules and Regulations Involving Corals in Southeast Florida*
- **Unit 3: *Permitting and Field Approaches for Efficient Compliance and Enforcement (this file)***

In addition to the Awareness Training powerpoint materials, the associated resources are available:

- Waterproof field cards on rules and biology.
- The Final Report on *Optimizing Compliance and Enforcement of Coral Regulations in SE FL.*

Compliance and Enforcement

Getting the Terms Right, 1 of 2

Use of the terms *compliance* and *enforcement* is **not** entirely standardized among agencies.

Federal USACE and NMFS

The SOPs of NMFS are based on USACE policy which functionally considers the following:

- **Compliance violations:** a breach of specific details in a permit or license (e.g., a permittee fills more wetlands than the permit specified, or violates a permit condition involving corals).
- **Enforcement violations:** a breach of rules or laws in the absence of a permit or license (e.g., a non-permittee fills a wetland or damages a coral absent a permit).

Compliance and Enforcement

Getting the Terms Right, 2 of 2

State: ERP (Environmental Resources Program) and FWC

These agencies use less distinctive characterizations. Compliance typically involves simple corrective actions & un-penalized violations, enforcement involves more complicated violations and potential fines.

In FDEP's Southeast District ERP program, there are no formal definitions for the terms, but there are functional differences in compliance actions, which are less formal than enforcement. Compliance options can be used if the corrective actions to bring a violation into compliance are not complicated, the responsible party has no history of non-compliance, and penalties are not appropriate.

To recognize the variability inherent in the use of these terms, these training materials defer to agency-specific usage of compliance and enforcement per the above two slides.

Administrative Acronyms

AA....SEFCRI Awareness & Appreciation Team	LBSP.SEFCRI Land-based Sources of Poll. Team
ATM.....Awareness and Training Materials	MICCI.....SEFCRI Maritime Industry &
BBCS.....FDEP Bureau of Beaches & Coastal Systems	Coastal Construction Impacts Team
BPP.....Best Permitting Practices	NMFS.....National Marine Fisheries Service
BOE...Bureau of Ocean Energy (formerly MMS)	NOV.....Notice of Violation
CCCL.....Coastal Construction Control Line	NTU.....Nephelometric Turbidity Units
CWA.....Clean Water Act	OGC..... FDEP Office of General Counsel
DERM....Miami-Dade Dept. of Envir. Res. Man.	POC.....Point of Contact
DRP... ..Division of Recreation & Parks (FDEP)	PUA.....Possible Unauthorized Activity
EEZ.....Exclusive Economic Zone	RHA.....Rivers and Harbors Act
EFH.....Essential Fish Habita	RP.....Responsible Party
EFH-HAPC...EFH-Hab. Area of Part. Concern	SAFMC...S. Atl. Fisheries Management Council
ELRA.....Environmental Litigation Reform Act	SED-ERP.....SE District Office (FDEP)
EPGMD.....Broward Co. Environ. Protection & Growth Management Dept.	SEFCRI.....SE Florida Coral Reef Initiative
ERP.....Environmental Resource Permit	SFWMD.....S. Fl. Water Management District
ESA.....Endangered Species Act	SOP.....Standard Operating Procedures
FDEP.....Florida Dept. of Environ. Protection	SSL.....Sovereign Submerged Lands
FDOU.SEFCRI Fish., Diving, & Other Uses Team	USACE.....US Army Corps of Engineers
HCP.....Habitat Conservation Plan	USFWS.....US Fish & Wildlife Service
JCP.....Joint Coastal Permit	USCRTF.....US Coral Reef Task Force
	WMD.....Water Management District

Discoveries of Violations

An enforcement action begins with the discovery of a violation. This can occur in at least five ways involving office or field venues:

- It may be discovered by examination of periodic reports submitted by a permit holder in accordance with terms of the permit.
- A permit holder may report their own violation as required by the permit and rules.
- A violation may be discovered after a private citizen complains either informally or by verified (sworn) complaint [for FDEP: filed pursuant to Section 403.412, Florida Statutes (F.S.)].
- Field inspections by agency staff may uncover a violation.
- A violation may be reported by some other local, state, or federal agency personnel.

Examples of Violations of Coral Rules

(Details on county, state, & federal rules are in Training File 2 and the Final Project Report)

- Unauthorized dredging: a) unpermitted, or b) in violation of General or Special Conditions.
- Dropping of anchors on coral by vessels.
- Physical removal of coral by divers.
- Ship grounding on coral resources.
- Dune fill project (dune repair) that places fill material below the mean high water line.



Violations – The Core W's:

Establish Regulatory Basis for the Violation &
Properly Build the Administrative Record

- What exactly is the potential violation?
- Which agency jurisdiction(s) and rule(s) best apply?
 - Who is legally responsible for the violation
[who is the Responsible Party (RP)]?
- Where is the site located (GPS-scale precision)?
 - When did the activity occur?

Collect written & photographic information on all Core W's.

Permitting and Field Approaches for Efficient Compliance & Enforcement

Content:

- Introduction, Terms, & Violation Discoveries
 - **FDEP Permitting and Enforcement**
 - USACE Permitting and Enforcement
 - Roles of NMFS, incl. Consultations
 - County Permitting and Enforcement
 - Field Issues
 - Best Permitting Practices

Construction & Other Activities that May Damage Corals: State Regulations

Coral Impact/Potential Violations Type		
Rule	Involves an Agency Permit	Permit Not Involved
Environmental Resource Permit §373.413 & .414, F.S.	• Pipelines • Telecom cables • Anchor damage in dredging (but not fill-related issues)	N/A
Joint Coastal Permit §161.055, F.S.	• Beach renourishment (incl. dredge anchor & cable drags; & pipeline impacts) • Inlet maintenance or expansion • Jetty/groin repair	N/A
Coral Reef Protection Act §403.93345, F.S.	• Un-anticipated vessel impacts during permitted projects	Commercial or recreational vessel grounding or anchor damage
Marine Life Rule 68B - 42.009, F.A.C. [Spec. Activity Licenses (SAL) - incl. research]	• Violations of terms of SALs	Take prohibited on Hard Corals, Sea Fans (2 spp.) & Fire Coral (<i>Millepora</i> , 1 species)

FDEP Enforcement Guidance

Some Primary Resources:



1. FDEP Submerged Lands and Environmental Resources Program (SLERP) Procedures Manual (right, pdf avail. on the enclosed CD)
2. FDEP Enforcement Manual of the Office of General Counsel (OGC) (below). This is the definitive resource and is available online at: <http://www.dep.state.fl.us/legal/Enforcement/enforcement.htm>

Links

Information

- » [Rules](#)
- » [News](#)
- » [Reports & Publications](#)
- » [Acronyms](#)
- » [Contact](#)

Table of Contents, Introduction and Chapters

Section	Contents	Revised	Version
Table of Contents	Basic list of documents FDEP Enforcement Manual Web Site	August 2010	PDF [50 KB]
Introduction	Overview of manual contents - more detail follows -	November 1997	PDF [7 KB] WORD [11 KB]
Chapter 1	DEP Enforcement Organization Secretary's Office, Division Directors, Division of Law Enforcement, Districts, Duties and Responsibilities of District Staff; Enforcement Section of the Office of General Counsel, Compliance Assurance and Enforcement Committee, Local Programs	December 2004	PDF [86 KB] WORD [37 KB]
Chapter 2	Compliance Options Introduction, First Steps, Specific Non-Compliance, Conclusion	December 2004	PDF [13 KB]

Managing Violations –First Step Options

Source: FLDEP SLERP Procedures Manual (9/10/07 SLER 1710)
(SLERP – Submerged Lands & Environ. Resources Program = ERP)

- Generally, enforcement action should begin with the least severe option appropriate for the violation.
- For example, if the violation is causing minor environmental degradation (examine internal precedents for what constitutes “minor”), a non-compliance or warning letter would be an appropriate first option.
- If the violation is causing a significant threat to human health, an injunction would be an appropriate first option.
- If a RP does not respond to the first option, process more severe options (following slides) until compliance is achieved and the environmental damage is compensated.

- When investigating a violation on a standard form, the C&E Coordinator should be informed by e-mail of the following:
 1. Permit number.
 2. Nature of violation(s).
 3. C & E action(s) under consideration.
 4. Updates on status of the case as it changes.
 5. Copies of any draft documents sent to OGC.
 6. Copies of final documents or information on how and when the case was resolved.
- If there is a **possibility that the violation is criminal**, you should not attempt to resolve it using Civil Actions without also following the criminal referral procedures (see OGC website).
- The fundamental FDEP C & E options for the most common civil actions follow **six administrative alternatives** (outlined in following slides) from least to most severe.

FDEP Penalty Structure for C & E

Civil (2 categories)

Criminal

Administrative

Judicial

Law
Enforcement

Administrative Actions		Judicial Actions
Non-compliance Letter	↔	Injunction
Warning Letter	↔	Complaint
Notice of Violation	↔	Petition for Enforcement
Consent Order	↔	Final Judgment
- short form		
- model		
- OGC reviewed		
Final Order	↔	Consent Final Judgment
Administrative Hearing	↔	Trial

→ These alternatives - of increasing severity - are summarized in the following slides.

Non-Compliance Letter (NCL)

- For minor violation, with certified letter that specifies corrective actions.
- Time limit to perform corrective actions.
- Signed by C & E Manager, Program Administrator, or a delegated person.
- Fines, fees, or lease modifications are likely not required.

**MODELS OF ALL LETTERS ARE AVAILABLE AT
THE OGC WEBSITE AND IN THE SLERP
PROCEDURES MANUAL**

Warning Letter (WL)

- For more serious violations, but not immediate danger to the environment.
- Alleged violation is described in certified letter.
- Fine may or may not be identified in letter.
- Generally, will be resolved through a Consent Order.
- Signed by Director of District Management.
- Resolution will require major corrective actions, back lease fees, fines, or removal of structures.

Notice of Violation (NOV)

- Administrative complaints issued to a violator or Respondent.
- Should be used when the Respondent will comply with restoration requirements if ordered to do so, or will pay administrative fines.
- The facts and the alleged violations are contained in the Finding of Facts Section.
- The NOV also contains a section containing the Orders for Corrective Action which orders the Respondent to take certain actions within a specified period of time to come into compliance.
- The final section is the Notice of Rights. This Section notifies the Respondent of his rights to contest FDEP allegations.
- **Must be reviewed by OGC before the FDEP issues.**
- NOV forms for an ERP violation are at the OGC website at: http://www.dep.state.fl.us/legal/Enforcement/appendix/Generic_NOV.doc
- NOV forms for state lands/ WRP violations are at: http://www.dep.state.fl.us/legal/ELRA_related/StateLands_DF_NOV.doc

Consent Order (CO)

- This document resolves most enforcement cases.
- An administrative order in which the FDEP and the violator agree to settle the violation on the terms and conditions contained in the consent order. There can be a time limit to perform corrective actions. There are 3 types of consent orders:

Model Consent Orders: Model consent orders are pre-approved by OGC. They contain standard provisions, included by the District as appropriate. No OGC review required.

Short-form Consent Orders: Short-form consent orders are also pre-approved and are used only to collect money, only if all of the corrective actions have been completed.

Regular Consent Orders: Regular consent orders require OGC approval before they are sent to the violator or entered by the FDEP. They should be used in cases in which neither the model or the short-form consent orders are appropriate.

Final Order (FO) (or Default Final Order)

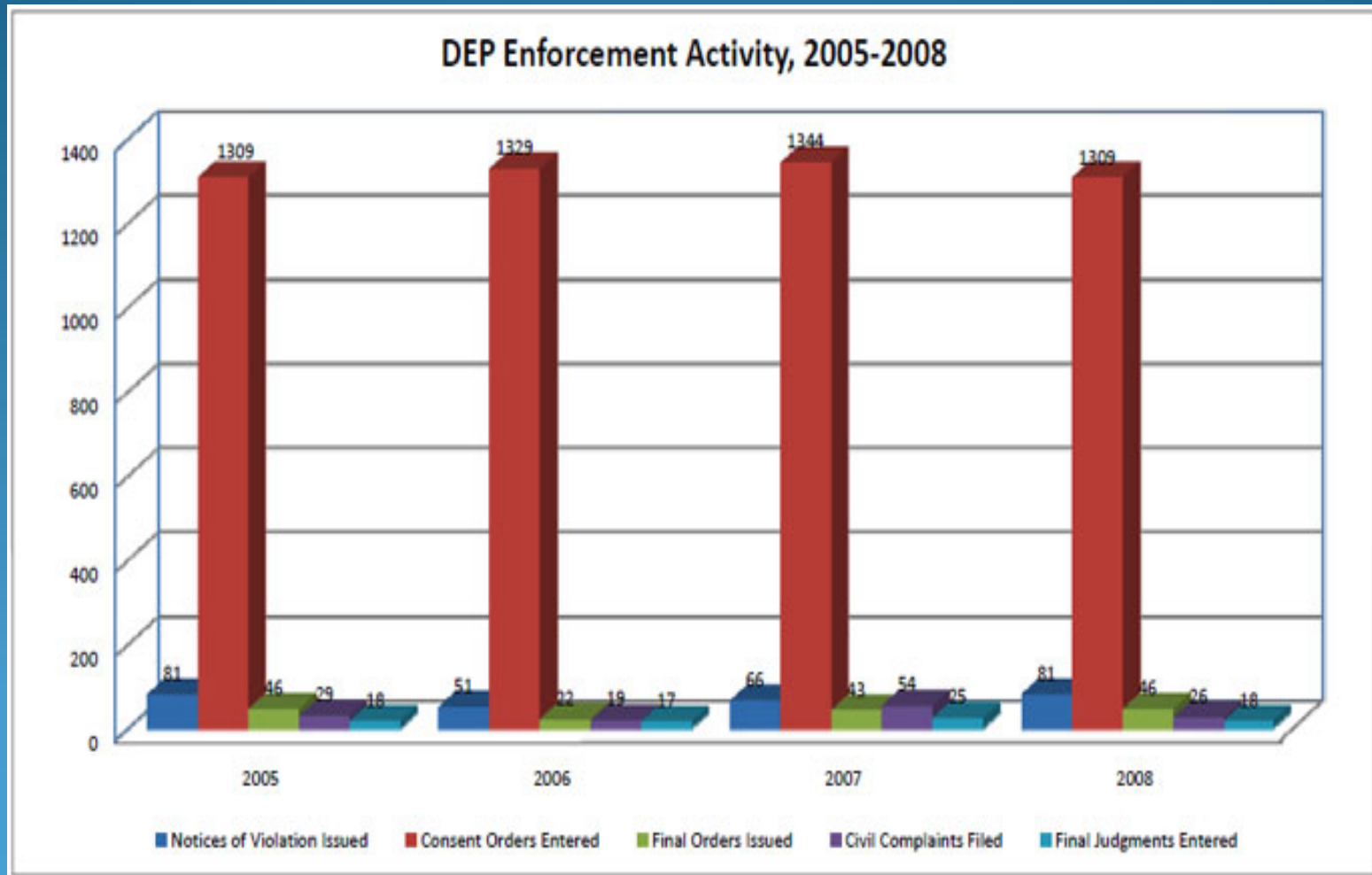
- This occurs when a Respondent does not respond to an NOV.
- Corrective actions are specified as in the NOV.
- MUST be approved by OGC before being sent.
- The Respondent can no longer refute the allegations and the order becomes final.

Administrative Hearing

- Usually requested by the Respondent in response to an NOV.
- Both sides heard by an Administrative Law Judge (ALJ).
- Burden of Proof is on the FDEP.
- Both sides provide “Proposed Recommended Orders” to the ALJ.
- ALJ decision is final.

Relative Frequency of FDEP Enforcement Actions

Consent orders are the most frequent enforcement action.



Case Reports

- A case report is prepared if C&E staff want OGC to pursue a judicial action such as an injunction or a civil lawsuit. OGC will file a formal complaint in circuit court and district employees become staff to the attorneys regarding the case.
- The case report should only be used if the violation is causing a significant, potential health threat or harm to the environment, or if the violator will not comply with admin. orders or will not pay penalties.
- Before deciding to pursue this option, a case report must be approved by the Director of District Management before it is forwarded to OGC.

Injunctive Relief

- In cases where quick action is needed to prevent an ongoing violation, the district has the option of requesting OGC move for a temporary injunction.
- A temporary injunction is an order of the court which usually requires the violator to take actions (or discontinue actions) which threaten human health, welfare or the environment.
- Immediately stops any activity that is harmful to the environment. May be temporary or permanent.
- May take a few days or weeks to get the injunction through the court.

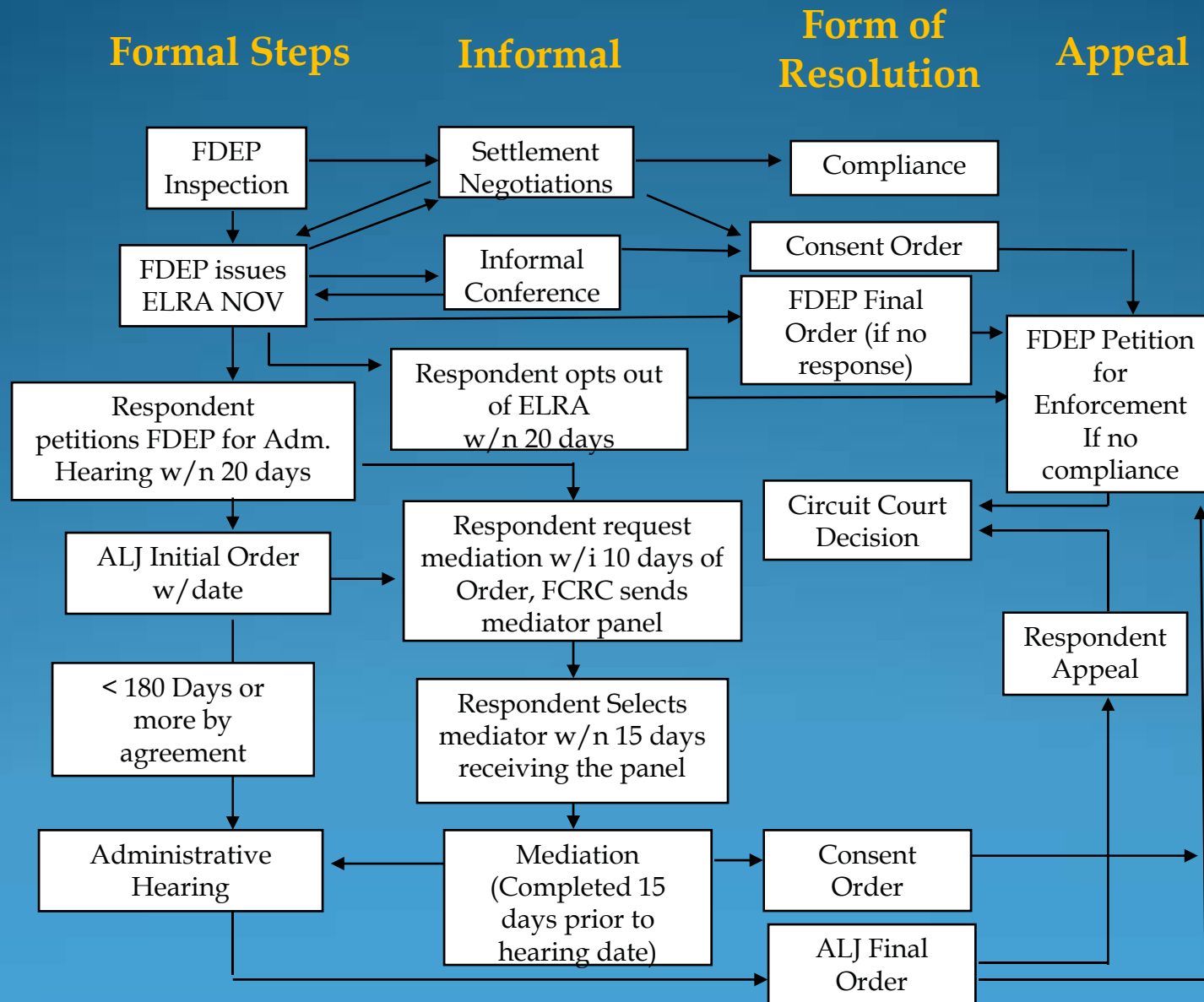
Petition for Enforcement

- Used to force a respondent to comply with an NOV or FO.
- Usually the respondents attorneys argue that the NOV or FO was inappropriate.
- An administrative hearing is held in front of an ALJ.

Environmental Litigation Reform Act (ELRA)

- §403.121, F.S.: The Environmental Litigation Reform Act: Allows swifter, more efficient use of admin. processes for imposing damages and penalties (up to \$10,000 per offense). Outlines administrative penalties for specified violations rules and statutes. Before ELRA, FDEP could pursue corrective actions and civil penalties for violations only by filing in state court.
- If the adjusted penalty is more than \$10,000, ELRA does not apply and FDEP instead considers program-specific guidelines for characterizing violations and assessing penalties. If a settlement cannot be reached consistent with FDEP's Settlement Guidelines for Civil and Administrative Penalties (FDEP Directive 923) then FDEP will file an enforcement action in state court.
- More information on ELRA and penalty assessments are at: <http://www.dep.state.fl.us/mainpage/ce/elra.htm>

ELRA Procedure Diagram



Joint Coastal Permit

§161.055, F.S.

- The JCP Program allows FDEP to concurrently process applications for coastal construction permits, environmental resource permits, and sovereign submerged lands authorizations.
- The consolidation of these programs and the assignment of responsibility to a single bureau (BBCS) has eliminated the potential for conflict between permitting agencies and helped ensure that reviews are conducted in a timely manner.
- JCP permit applications are forwarded to the USACE from FDEP or SFWMD for separate processing and review. (Can also include Section 10 only of RHA activities. Sect 10 of the RHA does not fall under “dredge and fill” activities).

JCP - continued

- A JCP is required for activities that meet *all* of the following criteria:
 - Located on Florida's natural sandy coastline facing the Atlantic Ocean, the Gulf of Mexico, the Straits of Florida or associated inlets;
 - Activities that extend seaward of the MHWL;
 - Activities that extend into sovereign submerged lands; &
 - Activities likely to affect beach sand distribution.
- Activities that require a JCP include beach restoration or nourishment, construction of erosion control structures such as groins and breakwaters, public fishing piers, maintenance of inlets and inlet-related structures, and dredging of navigation channels that include disposal of dredged material onto the beach or in the nearshore area.

Coral Reef Protection Act (CRPA)

§403.93345, F.S.

Civil penalties for the *Coral Reef Protection Act*

For damage to coral reefs totaling less than, or equal to 1 m² - \$150

- First offense: a warning letter in lieu of a penalty may be issued.
- With aggravating circumstances - an additional \$150.
- Within a state park or aquatic preserve - an additional \$150.

For damage to reefs totaling between 1-10 m² - \$300/m²

- With aggravating circumstances - an additional \$300/m².
- Within a state park or aquatic preserve - an additional \$300/m².

For damage to reefs >10 square meters - \$1,000 /m²

- With aggravating circumstances - an additional \$1,000/m².
- Within a state park or aquatic preserve - an additional \$1,000/m².

Vessel Groundings

- Vessels that run aground or drop anchor on reefs can dislodge, overturn, and crush corals.
- The CRPA (2009) provides substantial guidance on management responses and penalties.

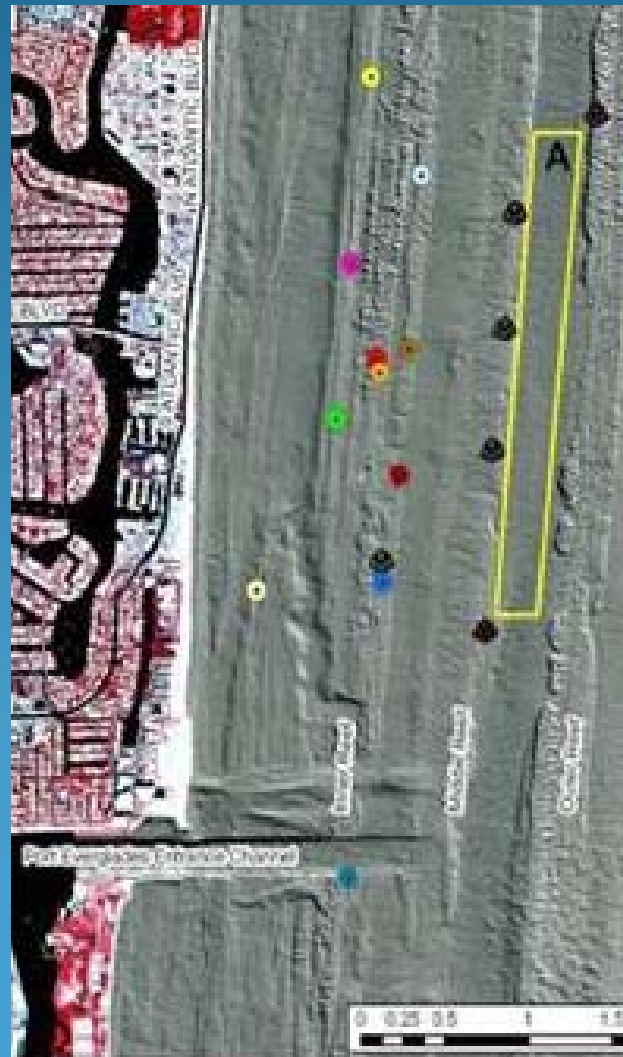


Grounding and anchoring incidents can also happen during permitted activities.

Historical Broward County Commercial Vessel Groundings

Yellow polygon =
old commercial
anchorage
boundary.

The anchorage
was reconfigured
in 2008. As of
January 2011,
there have been no
major new
groundings.



Known Grounding Events	
	Firat (1994)
	Sealand Atlantic (1994)
	Hind (1998)
	Pacific Mako (1998)
	Alam Senang (2003)
	Cosette (2004)
	Eastwind (2004)
	Federales Pescadores (2004)
	Orphan Site (2005)
	Clipper Lasco (2006)
	Spar Orion (2006)
Known Anchor Events	
	Puritan (2004)
	Afra (2006)
	Azov Wind (2006)
	Caribe Legend (2006)
	Miranda Rose (2006)
	Paladin (2006)

Figure: B. Walker

Vessel Groundings - Legal Issues

Trustee:

- Agency or entity with delegated authority to manage, protect, and regulate sovereign submerged lands.
- FDEP is the primary resource Trustee in Florida.
 - FDEP's CRCP serves as the lead Trustee in SE FL – with OGC and Southeast District ERP staff leading the enforcement.
 - In SE Florida, the local county agency may serve as secondary resource Trustee.
- FDEP treats un-permitted reef injuries as proprietary violations, not regulatory violations (Section 253.04, F.S., Chapter 18 14, F.A.C.)

Responsible Party (RP):

- The owner, operator, manager, or insurer of any vessel in violation of the CRPA.

Injury Response Responsibilities

Trustee:

- Coordinating communication among response agencies.
- Determining identity of the RP, notifying the RP of possible violations of law, requesting cooperation of the RP.
- Oversee initial site assessment, salvage operations and biological triage, and development of a primary restoration plan.

RP:

- Selecting and retaining a qualified contractor for assessment and restoration activities (as agreed to by the Trustees).
- Obtaining any necessary permits, conducting a site assessment, mapping reef injuries, and carrying out triage and restoration plan activities (as agreed to by the Trustees).

Post Response Actions

Compensatory Mitigation

- Post Restoration Assessment
- Mitigation Assessment Using Habitat Equivalency Analysis

Monitoring Plan

- Structural Reconstruction
- Biological Recovery
- Reporting

Penalty Assessment



Re-attachment of hard and soft corals using cement can be a part of the restoration process (D. Gilliam photos).

Marine Life Rule - 68B - 42.009, F.A.C.

- **No Harvest of any Hard Coral (Scleractinia)**
- No harvest of these two sea fan species:

*Gorgonia
ventalina*



Common Sea Fan



Venus Sea Fan

*Gorgonia
flabellum*

- No harvest of fire coral (*Millepora* species)



**Harvest of any of the above species allowable only
with Special Activity License (SAL) from FWC**

FDEP C & E References

- SLER Procedures Manual 1710: Compliance and Enforcement Section

http://depnet/wrm/sler/erp/docs/SLERP_Online/CompleteTOC.pdf

- FDEP Enforcement Manual Online

<http://www.dep.state.fl.us/legal/Enforcement/enforcement.htm>

- MICCI Project 2 – Groundings and Responses (e.g., see four **Response Flowcharts** in Appendix 1)

http://www.dep.state.fl.us/coastal/programs/coral/reports/MICCI/MICCI_Project2_Guidelines.pdf

- FDEP OGC Homepage

<http://www.dep.state.fl.us/legal/default.htm>

Permitting and Field Approaches for Efficient Compliance & Enforcement

Content:

- Introduction, Terms & Violation Discoveries
 - FDEP Permitting and Enforcement
 - **USACE Permitting and Enforcement (apply only to Regulatory, not Civil Works, issues)**
 - Roles of NMFS, incl. Consultations
 - County Permitting and Enforcement
 - Field Issues
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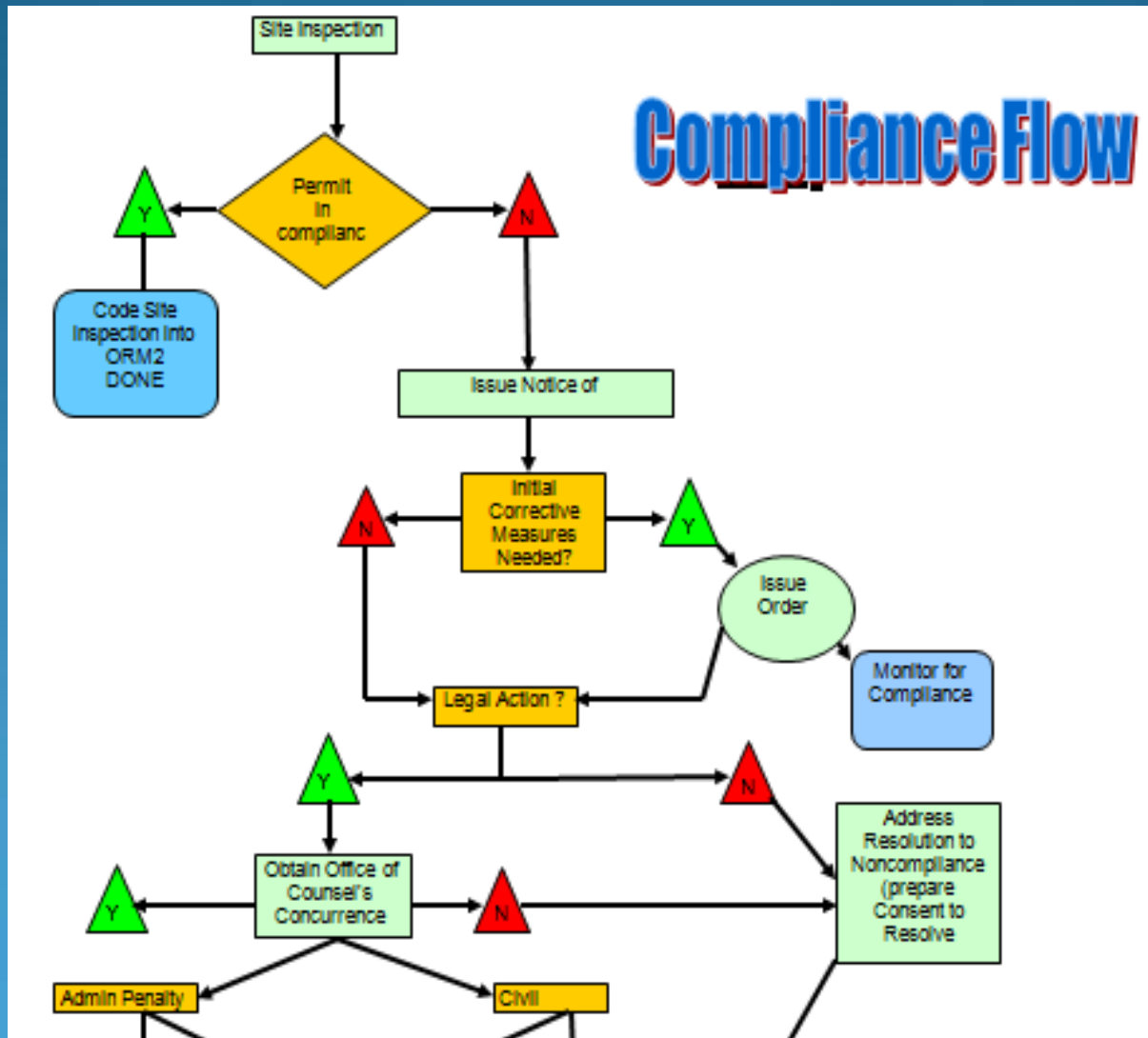
Construction & Other Activities that May Damage Corals: Federal Regulations

Rule	Coral Impact /Potential Violations Type	
	Involves an Agency Permit	Permit Not Involved
Clean Water Act Section 404	Beach renourishment (incl. dredge anchor & cable drags; & pipeline impacts)	N/A
Rivers & Harbors Act Section 10	- Port expansion - Beach renourishment (incl. dredge anchor & cable drags; & pipeline impacts) - Telecom cables & Gas lines	N/A
Endangered Species Act (<i>Acropora</i> spp. only)	Any violation of an <i>Incidental Take Permit</i> incl. above project types	Any impact that “takes” an Acroporid coral. For example: anchor or vessel damage; or curio collecting

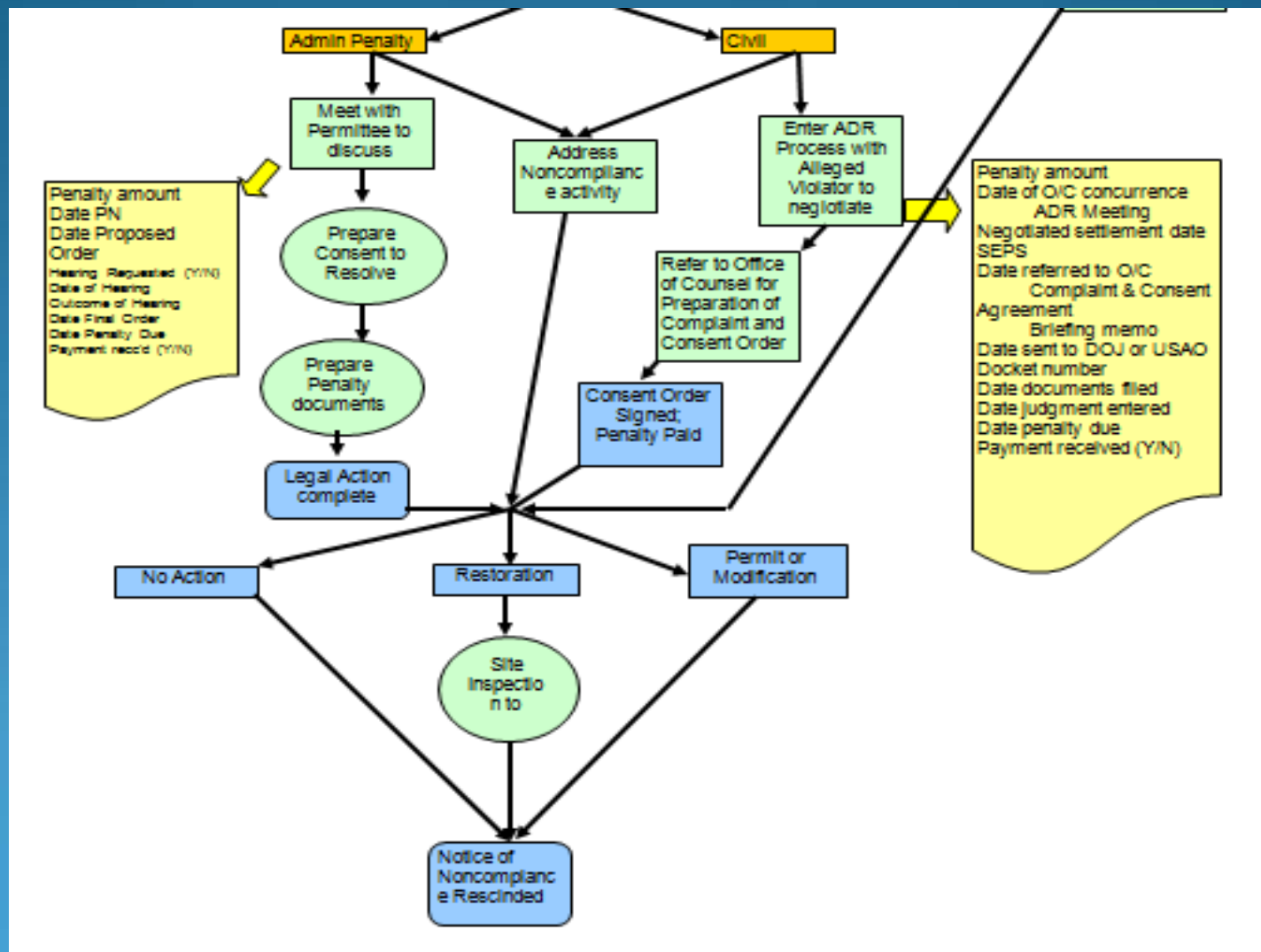
USACE Compliance Violations

- USACE policy functionally considers *compliance* violations to involve a breach of specific details in a permit or license.
- The widespread and consistent application of compliance protocols with the monitoring of project construction is essential to ensure the proper implementation of **special conditions to protect corals** (Final Project 4, 21, 23, 24 Phase 2 report) by permittees.
- The next figure provides a schematic overview of compliance flow protocols for the USACE in SE Florida.

Schematic Overview: USACE Compliance Flow Protocols in SE Florida - Pt 1



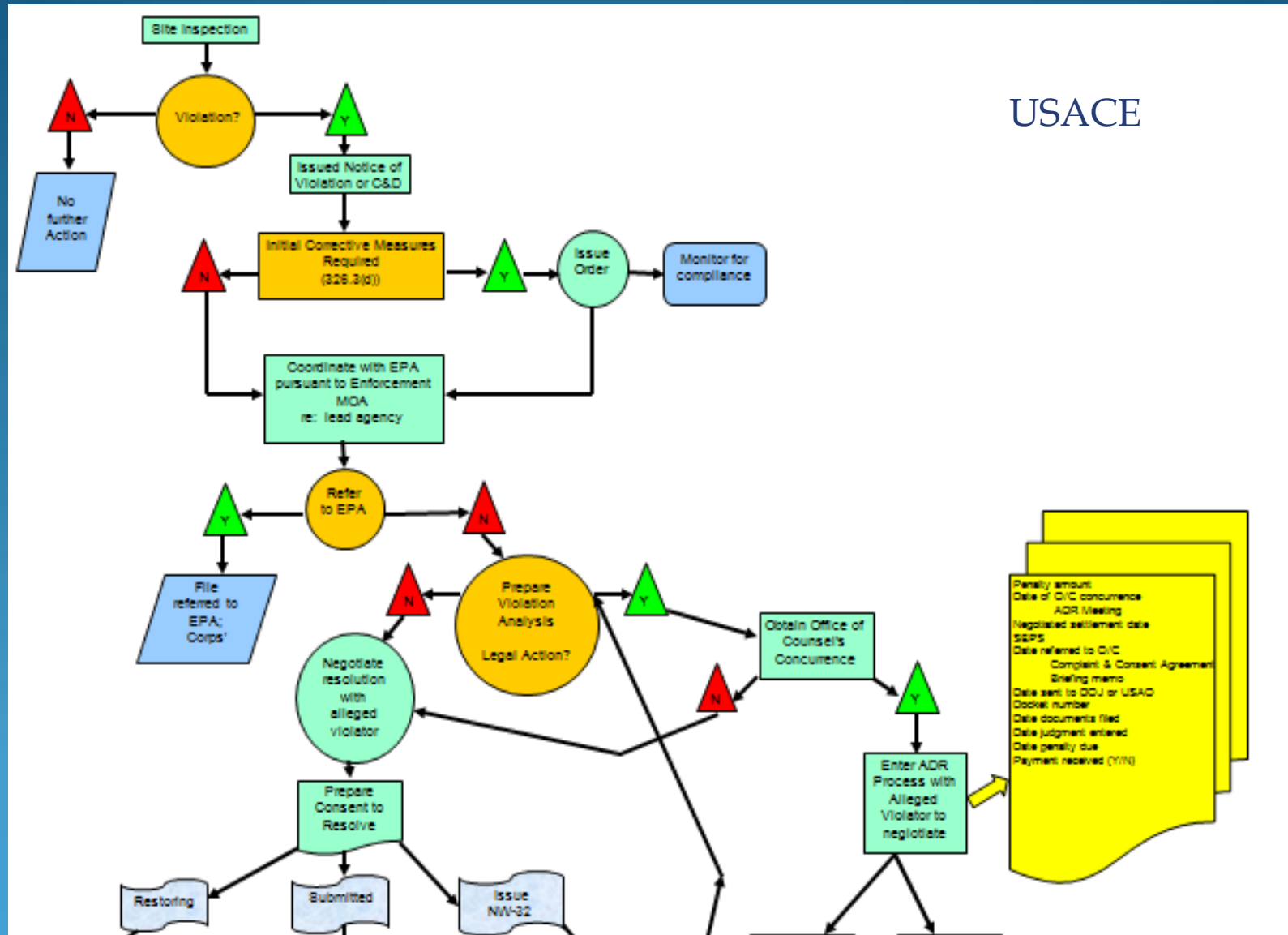
Schematic Overview: USACE Compliance Flow Protocols in SE Florida – Pt 2



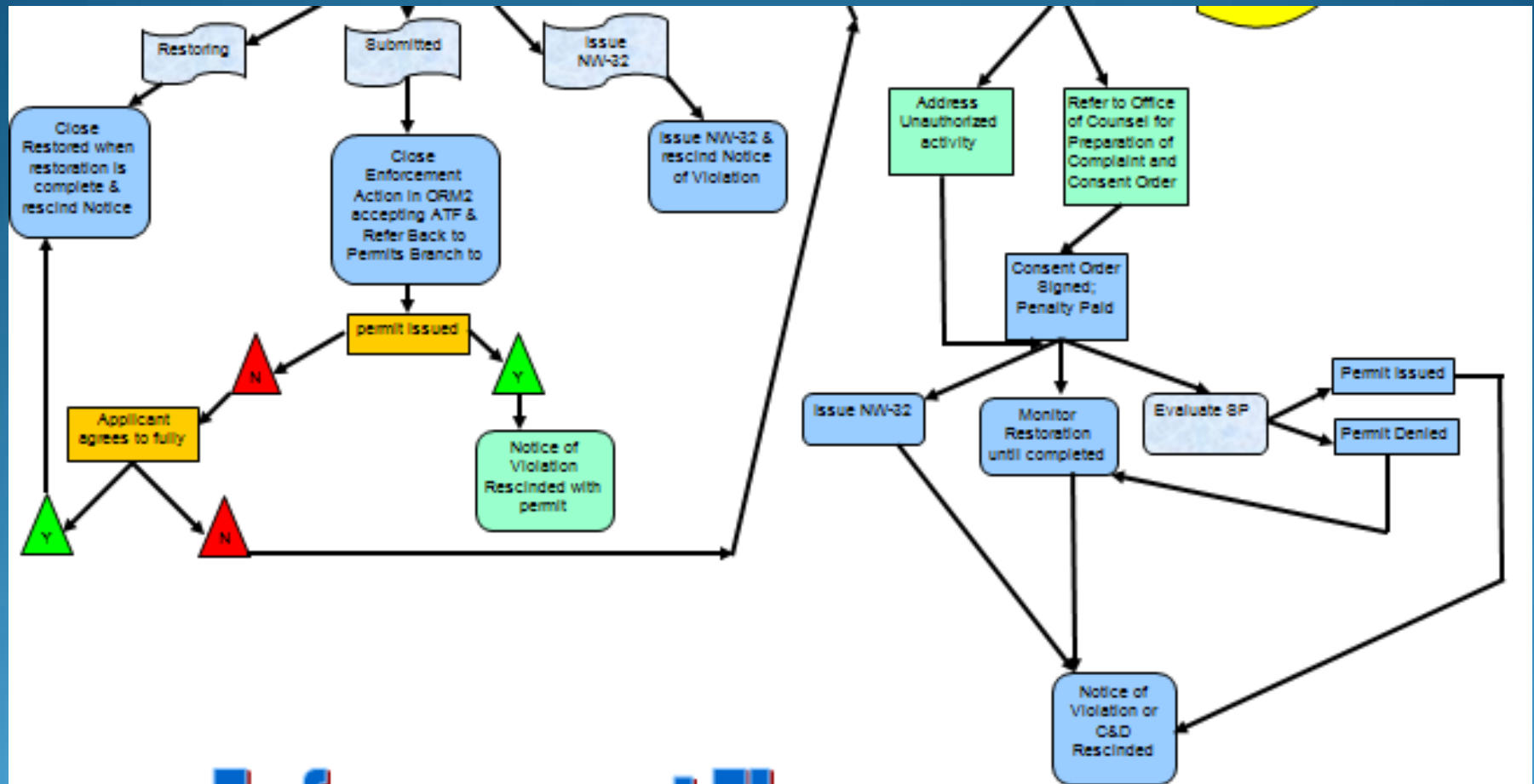
USACE Enforcement Violations

- USACE policy functionally considers *enforcement* violations to involve a breach of rules in the absence of a permit or license.
- Subsequent to determination if a Possible Unauthorized Activity (PUA) is a compliance or enforcement violation, there are substantial similarities early in the flows. However, enforcement actions can be referred to the EPA (next slide).
- Enforcement actions will often involve submission of complaints by third parties (e.g., citizens, other agencies) or field discoveries of PUAs by USACE personnel.
- The next figure provides a schematic overview of enforcement flow protocols for the USACE in SE Florida.

Schematic Overview: USACE Enforcement Flow Protocols in SE Florida – Pt. 1



Enforcement Flow Protocols in SE Florida – Pt. 2



Enforcement Flow

USACE: Assessing Penalty Amounts less than \$27,500

Pg 1 of 2

- In addition to cease and desist letters, Class I civil penalties may not exceed \$11,000 per violation.
- The maximum amount of any Class I civil penalty shall not exceed \$27,500. (Each day that the violation exists has been held to be a day of violation.)
- Following §326.6 Class 1 Administrative Penalties (a)(1)... Section 309(g)(2)(A).

USACE: Assessing Penalty

Amounts less than \$27,500 Pg 2 of 2

Guidance Matrices:

	<u>Compliance Importance</u>	<u>Environmental Importance</u>
<u>Minor</u>	Inadvertent violation unlikely to be repeat offender. Sincere misunderstanding of permit condition.	Permit condition violations which would not have been critical to permit issuance.
<u>Moderate</u>	Condition violation is commonplace in the community and a message needs to be sent	Permit condition violation lying somewhere between the minor and major conditions.
<u>Major</u>	Permit condition is violated to avoid cost of compliance	Violation of conditions which were instrumental in allowing otherwise unlikely permit activities.

Compliance Importance	Environmental Importance			
		Minor	Moderate	Major
	Minor	\$110 - \$1,100	\$1,100 - \$3,300	\$3,300 - \$8,800
	Moderate	\$1,100 - \$3,300	\$3,300 - \$8,800	\$5,500 - 16,500
	Major	\$3,300 - \$8,800	\$5,500 - 16,500	\$16,500 - 27,500

Rivers & Harbors Act Violation Penalties

Section 12 RHA which enforces Section 10 states:

- “Every person and every corporation that shall violate any of the provisions of Section 10 of the Rivers and Harbors Act shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding \$2,500 nor less than \$500, or by imprisonment not exceeding one year, or both punishments, in the discretion of the court.”
- “... the removal of any structures or parts of structures erected in violation of the provisions of this Section may be enforced by the injunction of any circuit court exercising jurisdiction in any district in which such structures may exist, and proper proceedings to this end may be instituted under direction of the Attorney-General of the United States (33 U.S.C. 406).”

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Endangered Species Act (ESA)

50 C.F.R. § 17.3

- Section 4(d) of the ESA extends the Section 9 prohibitions “take” applied to *Acropora* corals via 50 C.F.R. §223.208.
 - “Take” for threatened corals includes “to harass, harm, ...wound, kill, . . . or collect, or to attempt to engage in any such conduct.”
- Protects both species and habitat.
- §9: prohibition on “take” by any entity (absent a permit).
 - Take=harm; harm=significant habitat modification *which actually kills or injures* (critical habitat definition on next slide).
- §7: consultation only for government activities.
 - If a situation “may affect,” a formal consultation is required.

ESA and “Take” - 50 C.F.R. § 17.3 Section 9*

(C.F.R. = Code of Federal Regulations)

- “Take” also includes any “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.” §3(19) 16 U.S.C. §1532(19).
- Section 7 consultation requires a federal nexus. Take by a private party with no federal nexus is prohibited by Congress because protection of threatened/endangered species is a significant impact on interstate commerce (thus giving Congress authority under the Constitution's Commerce Clause).
- Section 10: Allows “take” incidental to an otherwise legal activity with an “incidental take permit” & if the persons engaging in take comply with terms of the permit.

Acropora Critical Habitat Definition:

Natural consolidated hard substrate or dead coral skeleton that is free from fleshy and turf macroalgae cover and sediment cover to maximize the potential for successful recruitment and population growth.

This definition applies in: “All waters in the depths of 98 ft (30 m) and shallower to the 6 ft (1.8 m) contour from Boynton Inlet, Palm Beach County, to Government Cut, Miami-Dade County; and the mean low water line from Government Cut south to 82° W longitude in Monroe Counties.”

A critical habitat designation applies only when federal funding, permits, or projects are involved. Under Section 7 of the ESA, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat.

Endangered Species Act (ESA) Consultations

If the action agency determines that a proposed project may affect listed species or *critical habitat* and:

- Is likely to adversely affect listed species, then formal consultation and a biological opinion is required from NMFS.
- Is not likely to adversely affect listed species, then informal consultation and written concurrence from NMFS is required.

Acropora Violations & ESA Enforcement

In 2010 there are few precedents for *Acropora* ESA enforcement actions. Scenarios below are from NMFS staff in FL and Puerto Rico (PR).

- If someone damages an acroporid (not associated with a permit) it is an ESA Sect. 9 violation via the 4d rule extension on take. NOAA Office of Law Enforcement (OLE) in the St. Pete office (phone as of Dec 2010: 1-800-853-1964) would be the enforcement agency.
- If an ESA Sect. 7 consultation was completed and there was an unanticipated impact to an acroporid, the consultation could be re-opened and, potentially, an incidental take could be authorized.
- If an ESA Sect. 7 consultation was *not* conducted, there is a USACE permit, and there is an impact - the USACE permit is no longer valid. USACE could issue a stop work order and consult or NMFS OLE could be the enforcement entity. E.g. in Vega Baja, PR, the USACE issued a stop work order & is consulting with NMFS on impacts.

Researchers – Very Focused on *Acropora* and other Coral Species

- Permits required from NMFS, FWC, and local counties for research. USACE & FDEP need to be consulted, and may also require permits.
- Excellent FAQ form for *Acropora* research at: <http://sero.nmfs.noaa.gov/pr/pdf/ResearchPermitKey.pdf>
(NMFS also known as NOAA Fisheries)



NMFS Research Permit FAQ for Acropora

FAQ form at: <http://sero.nmfs.noaa.gov/pr/pdf/ResearchPermitKey.pdf>

THREATENED ELKHORN (*ACROPORA PALMATA*) & STAGHORN (*A. CERVICORNIS*) CORALS

GUIDE FOR SCIENTIFIC RESEARCHERS

Which Permit Do I Need?

- 1a. You intend to conduct scientific research or enhancement activities on elkhorn (*Acropora palmata*) or staghorn (*A. cervicornis*) corals **within** the United States (including all States and Territories).....Go to 2
- 1b. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals **outside** of the United States.....Go to 3
- 2a. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals in one of the following areas:
 - Florida state waters (including Florida Keys National Marine Sanctuary).....Go to 5
 - U.S. Virgin Islands territorial (state) waters.....Go to 6
 - Puerto Rico territorial (state) waters.....Go to 7
 - Flower Garden Banks National Marine Sanctuary.....Go to 8
 - Navassa National Wildlife Refuge.....Go to 9
- 2b. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals within the United States and in an area not listed in 2a.....Go to 10
- 3a. You intend to **import** larvae, gametes, tissue samples, fragments, colonies, and/or other collected portions of elkhorn or staghorn corals (dead or alive) **into** the United States.....Go to 4a
- 3b. You intend to conduct all scientific research and enhancement activities **outside of the United States** (i.e., you do not intend to bring samples, etc. of elkhorn or staghorn corals into the United States).....Go to 4b
- 4a. Only a Convention on the International Trade of Endangered Species (CITES) export permit, issued by the country in which your scientific research activities are permitted, is required to import samples into the United States.
- 4b. No United States permit requirements for elkhorn and staghorn corals. Check with local authorities about applicable requirements.
- 5a. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals inside the boundaries of the **Florida Keys National Marine Sanctuary** (including the **Tortugas Ecological Reserve**).....Go to 11
- 5b. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals inside the boundaries of **Biscayne National Park** or **Dry Tortugas National Park**.....Go to 12
- 5c. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals **inside Florida state waters**, but outside the boundaries of the Florida Keys National Marine Sanctuary, Biscayne National Park, and Dry Tortugas National Park.....Go to 13
- 6a. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals located inside the boundaries of **Buck Island Reef National Monument** or (U.S.) **Virgin Islands Coral Reef National Monument**, or on submerged lands inside the boundaries of (U.S.) **Virgin Islands National Park**.....Go to 12
- 6b. You intend to conduct scientific research or enhancement activities on elkhorn or staghorn corals located inside the boundaries of **East End Marine Park**, or outside the boundaries of the designated areas identified in 6a.....Go to 14



NOAA FISHERIES SERVICE

(turn over)

This document complies with Section 12 of the Small Entity Compliance Guide of the Small Business Regulatory Enforcement Fairness Act of 1996

7. For all scientific research or enhancement activities conducted on elkhorn or staghorn corals inside Puerto Rico territorial (state) waters (including marine parks and marine protected areas), only a scientific research permit issued by the Department of Natural and Environmental Resources is required. For further information, please contact: Division of Natural Resources, (787) 999-2200, ext. 2615.
8. For all scientific research or enhancement activities conducted on elkhorn or staghorn corals inside Flower Garden Banks National Marine Sanctuary, only a scientific research permit issued by the Sanctuary is required. For further information, please contact: Emma Hickerson, Research & Permits Coordinator, (409) 621-5151, ext. 111.
9. For all scientific research or enhancement activities conducted on elkhorn or staghorn corals inside Navassa Island Wildlife Refuge, only a special use permit for research/monitoring issued by the U.S. Fish & Wildlife Service is required. For further information, please contact: Susan Silander, Caribbean Islands Refuges Complex, (787) 851-7258 or (787) 255-6725.
10. A U.S. Endangered Species Act Section 10(a)(1)(A) scientific research and enhancement permit, issued by NOAA Fisheries Service, is required. For further information contact: Office of Protected Resources, (301) 713-2289.
11. For all scientific research or enhancement activities conducted on elkhorn or staghorn corals inside Florida Keys National Marine Sanctuary, only a scientific research permit issued by the Sanctuary is required. For further information, please contact: Joanne Delaney, Permit Coordinator, Joanne.Delaney@noaa.gov.
12. For all scientific research or enhancement activities conducted on elkhorn or staghorn corals inside Biscayne National Park, Dry Tortugas National Park, Buck Island Reef National Monument or (U.S.) Virgin Islands Coral Reef National Monument, or on submerged lands inside the boundaries of (U.S.) Virgin Islands National Park, only a scientific research permit issued by the U.S. National Park Service is required. For further information on permits for:
 - Biscayne National Park, please contact Richard Curry, (305) 230-1144, ext. 3006.
 - Dry Tortugas National Park, please contact P.J. Walker, (305) 242-7805.
 - Buck Island Reef National Monument, please contact Zandy Hillis-Starr, (340) 773-1460 ext. 235.
 - Virgin Islands Coral Reef National Monument and Virgin Islands National Park, please contact Rafe Boulon, (340) 693-8950, ext. 224.
13. Only a Special Activity License (SAL) for the scientific, educational, and exhibitional collection of marine species, issued by the Florida Fish & Wildlife Conservation Commission is required. For further information, please contact: Special Activity License Program, (850) 487-0554.
14. Only a scientific research permit issued by the (U.S.) Virgin Islands Department of Planning and Natural Resources Division of Fish and Wildlife is required. For further information, please contact: William Coles, 340-772-1955.

NOAA Fisheries Service Southeast Regional Office (SERO) Protected Resources Division is the lead in developing the rules and all subsequent management actions for threatened elkhorn and staghorn corals. For remaining questions and concerns, please contact either Jennifer Moore or Sarah Heberling, (727) 824-5312.



NOAA FISHERIES SERVICE

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Sustainable Fisheries Act, EFH & HAPC

- Essential Fish Habitat (EFH) provisions include all coral habitats within the South Atlantic Fishery Management Council's (SAFMC) jurisdiction, including east Florida.
- EFH-HAPC – Habitat Area of Particular Concern:
 - HAPC is a subset of EFH that is either rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area.
 - **All corals, coral reefs, nearshore hardbottom, and offshore hardbottom in southeast Florida are designated as EFH-HAPC** by the SAFMC following the 1996 Magnuson- Stevens Act Reauthorization (the Sustainable Fisheries Act).

EFH and the SAFMC

- The 8 federal Fishery Management Councils (FMCs) are **required to implement management measures to minimize any adverse impacts to EFH caused by fishing gear.** In our region, the council of record is the South Atlantic FMC (the SAFMC).
- Management measures can include area closures, gear restrictions, seasonal restrictions, and other measures.
- SAFMC has imposed various protective measures for EFH on some of the fisheries under their jurisdiction, e.g., VMS for rock shrimp and allowable fishing areas for golden crab and deepwater shrimps.



EFH Consultations

- Federal action agencies are required to consult with NMFS whenever construction, permitting, funding, or other actions may adversely affect EFH.
- The federal action agency makes a threshold determination and notifies NMFS that EFH may be affected under a new permit application.
- In the case of corals and hardbottom resources the federal action agency is often the USACE.



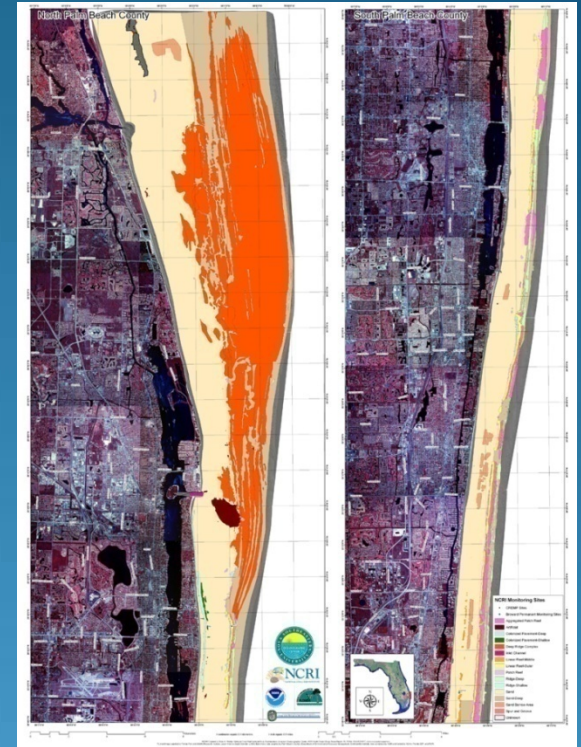
EFH Consultations (cont.)

- NMFS provides EFH conservation recommendations based on a Memorandum of Agreement with the Jacksonville District USACE.
- USACE responds with a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH.
- In the case of a response that is inconsistent with NMFS conservation recommendations, the agency must explain its reasons for not following the recommendations, including the scientific rationale for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to offset such effects.

Types and Locations of EFH-HAPC

Habitats designated as EFH-HAPCs in southeast FL are:

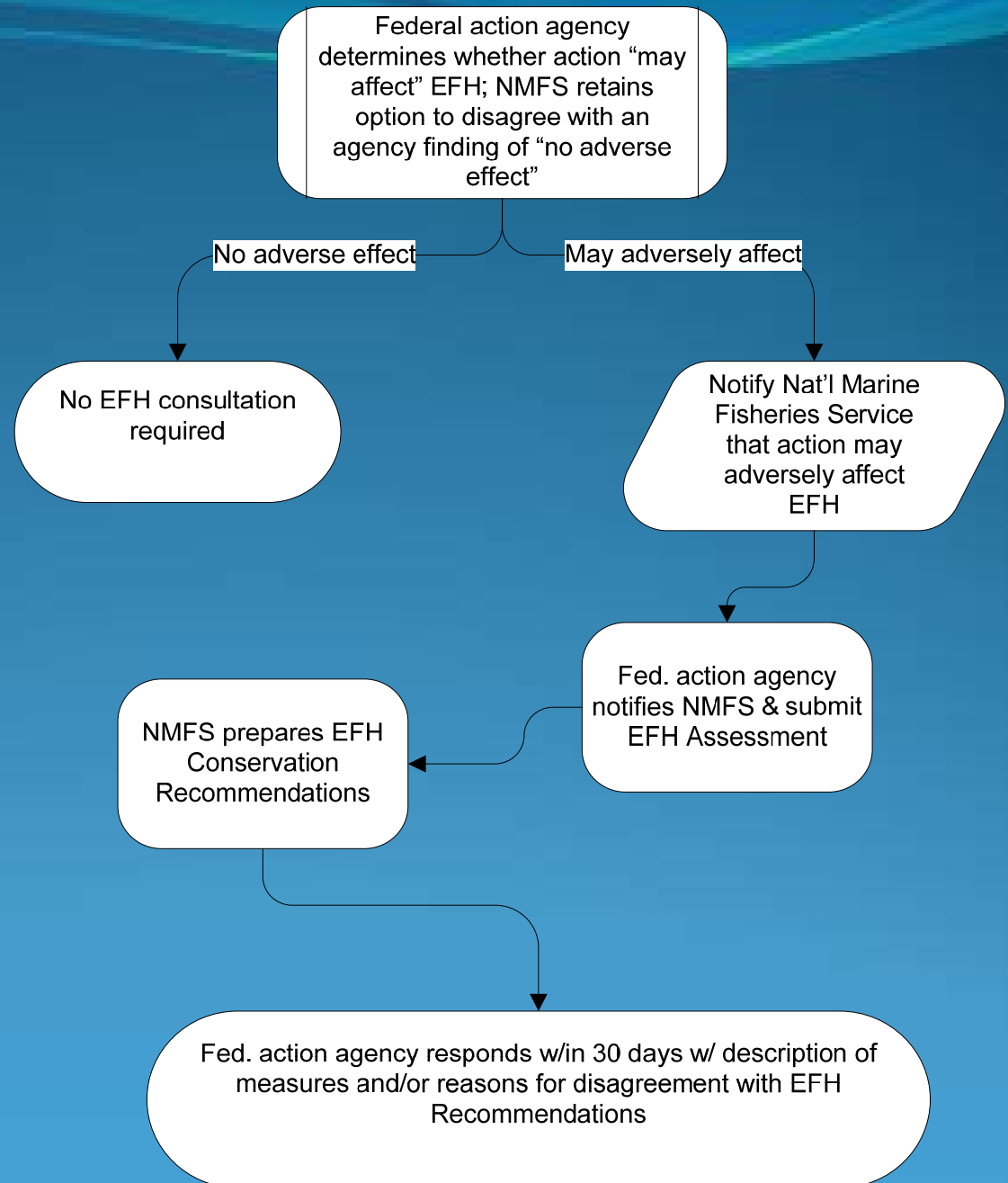
- **All hard corals (Scleractinia)**
- **Nearshore hardbottom** (0-4 meters) off the east coast of Florida from Cape Canaveral to Broward County);
- **Offshore hardbottom** of the east coast from Palm Beach Co. to Fowey Rocks;
- **Biscayne Bay, Biscayne Nat. Park & the Florida Keys Nat. Marine Sanctuary.**



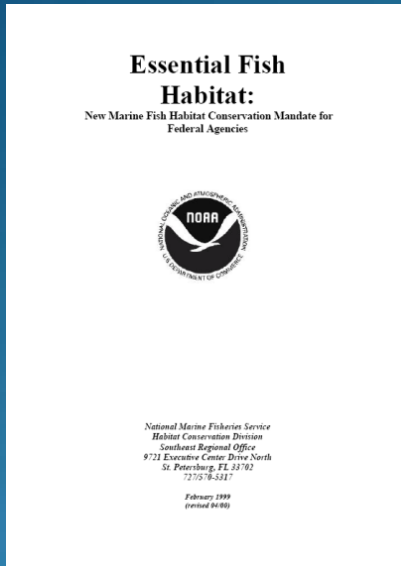
There are currently no maps of the EFH-HAPCs in SE FL, but areas can be found using the text and existing habitat maps (e.g., above) at:

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

Schematic of NMFS EFH- HAPC Consultation under the Magnuson- Stevens Act.



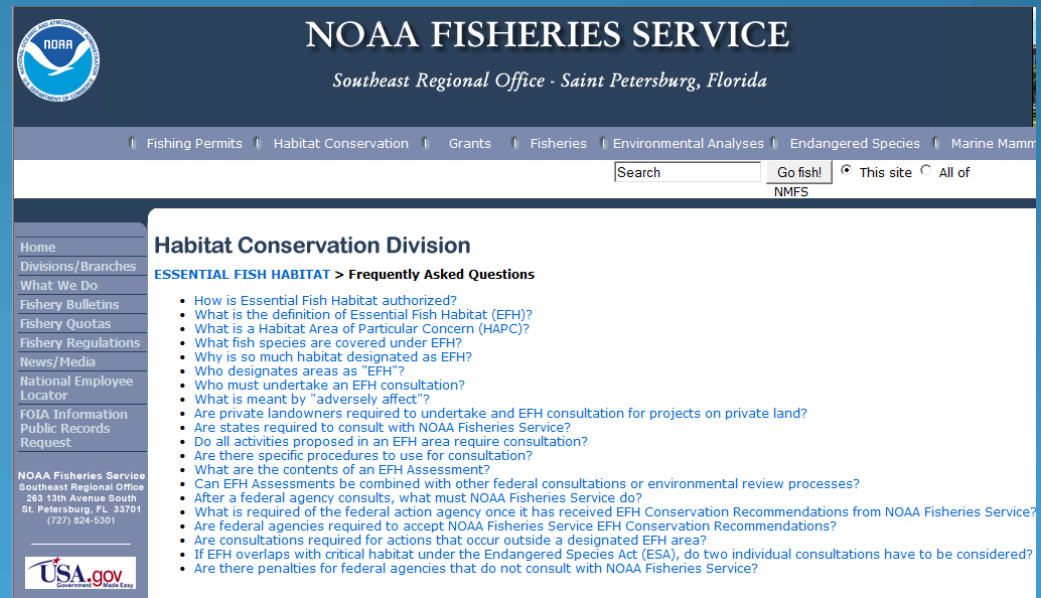
NMFS EFH Guidance Documents



The document to the left (available at the link below) provides fundamental guidance on the NMFS (= NOAA Fisheries Service) policies for EFH issues in the Southeast US region, including SE Florida.

<http://www.safmc.net/Portals/0/EFH/EFHMandate.pdf>

The website to the right (available at the NMFS Habitat Conservation Division link below) provides much info. in a FAQ format.



http://sero.nmfs.noaa.gov/hcd/efh_faq.htm

Permitting and Field Approaches for Efficient Compliance & Enforcement

Content:

- Introduction, Terms & Violation Discoveries
 - FDEP Permitting and Enforcement
 - USACE Permitting and Enforcement
 - Roles of NMFS, incl. Consultations
 - County Permitting and Enforcement
 - Field Issues
 - Best Permitting Practices

Miami-Dade County Coral Permitting

Dept. of Environ. Resource Management (DERM)

- DERM has Class 1 permits similar to the ERP based on memoranda with the FDEP.
- Coastal Construction (Class I) Permitting Program: This local program issues permits required for work in, over, or upon tidal waters and coastal wetlands throughout all of Miami-Dade County.
- This includes authorizations required for several coastal construction activities, including renourishment activities, that can affect corals. Managed by DERM Coastal Resources Section.

Broward County Coral Permitting:

Environ. Protection & Growth Manag. Dept. (EPGMD)

- EPGMD issues and enforces licenses that can involve impacts to corals under the Broward County Pollution Control Code. Corals, along with seagrasses, mangroves, and some other habitats, are treated as regulated aquatic or wetland resources under Section 27-333(a)(1).
- Environmental Resource Licenses with general and specific license conditions are required if projects will potentially impact corals within county jurisdiction.
- Applicants for Environmental Resource Licenses are subject to general and specific conditions determined under EPGMD review that can involve consultation with FDEP for large projects that may affect corals.
- These licenses are most commonly associated with pipeline or cable construction, dredging, ship anchoring, or scientific research that occurs within 3 nautical miles of shore.

Broward Co. Compliance & Enforcement

- Compliance and enforcement for Broward environmental resource licenses is done entirely in-county. Licensees can be out of compliance in terms of two general categories:
 - a. Doing harm to resources or by exceeding or not complying with license conditions (e.g., dredging deeper than authorized). In this case, a warning notice or notice of violation is issued;
 - b. Violating paperwork or other administrative requirements (timing of as-built submissions, etc.). In this case, a citation warning or citation may be issued.
- If a warning notice or citation warning does not rectify the issue, the county can issue a NOV prepared by the Aquatic and Wetland Resources Program and then forwarded to Enforcement Administration. If warranted, the case is taken to a Hearing Examiner who ultimately adjudicates administrative penalties, costs and corrective actions. Penalties can include fines of up to \$15,000.00 per day per violation (based on the number of days the violation actually occurred). Additionally, the EPGMD may refer a case to the County Sheriff's office as a criminal complaint (i.e., for the dumping of oil).

Palm Beach County and Martin County Coral Permitting

- Although both counties have environmental protection programs, neither Palm Beach or Martin County has an environmental permitting section.
- Both counties request that any permits being issued within their respective counties be reviewed by local staff.

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Compliance Inspections

Office Planning for Field Site Visits

Review the permit:



Project Location Map

Permit Drawings

General Conditions

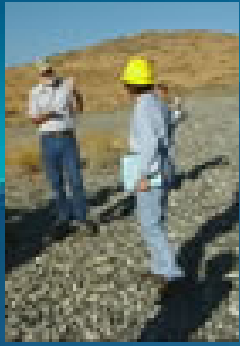
Specific Conditions

Time-dependent Correspondence

Review the resource locations:

Consult Current Benthic Habitat Maps &
GIS Layers

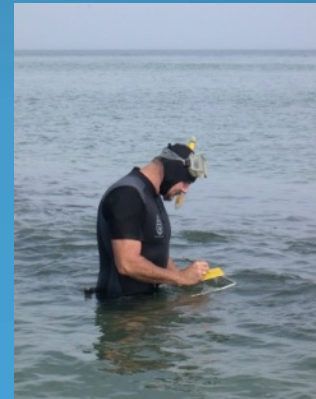




Compliance Inspections:

What to take in the field

- Copy of the permit/lease
- Map/directions to the site, aerial site images, and benthic resource locations
- Tape Measure
- Digital Camera
- Waterproof Notebook
- Reef Resource Reference Cards (MICCI Proj. 4,21,23,24)
- Handheld GPS
- Cell phone
- Sunscreen/insect repellent
- Site/activity-specific gear (wet gear)



Compliance Inspections

Interacting with the Public in the Field

Some agencies do not have the authority to even ask these questions (e.g., NMFS) – ensure you are within your bounds.

- “Do you have an USACE - or FDEP - permit?” (Not all permits have to be on-site.)
- Be prepared when asking for a Corps permit to be shown a State permit - and vice versa.
- If proper permit on site: Examine to ensure permittee is in compliance in terms of footprint size, allowed activities, special conditions, etc.
- Also, examine activities within project area that may have detrimental impacts in addition to permit details.

Field Information Collection

Minimum information to record will vary according to agency and project type. The following form was developed by B. Howard, NMFS, and provides a useful template for capturing essential data.

Applicant and action agency identifier (e.g., PN number), if FDOT include FDOT District and ETDM Phase									
Latitude and Longitude: Decimal Degrees (to 4 places) OR Degrees and Minutes (to 2 places)									
Latitude:						Longitude:			
Verified Using:		Google Earth				(Identify Other)			
Date of Inspection:						Time of Inspection:			
Tidal Stage:		Low	High	Rising	Falling	Neap	Spring		
Weather Conditions:									
Sunny		Mostly Sunny		Mostly Cloudy		Warmer Than Usual			
Rainy		Cloudy		Normal Temp.		Cooler Than Usual			
Water Clarity:		Sea Bottom Visible		Sea Bottom Barely Visible		Sea Bottom Not Visible			
NMFS Biologist(s):									
Others Included in the Inspection:		Federal	State	Applicant/Consultant	Other				
List of attendees and organization represented:									
Method of Inspection:									
Visual		Desktop		Other (explain)					

Field Information Collection (cont.)

In addition to a tabular template, narrative information forms can also be used per below (B. Howard, NMFS, specific for EFH impacts).

Project description (describe area impacted or mitigation site; incl construction methods; BMPs used):

Construction status:

Species observed during site inspection (mark with an asterisk if federally managed):

Vegetation:

Fish:

Invertebrates:

|

Evaluation

In hindsight, were the EFH conservation recommendations sent to action agency appropriate (explain)?

Were the EFH conservation recommendations properly translated into permit conditions?

Is the activity in compliance with permit specifications and conditions? If not in compliance, describe:

Did the EFH CRs sufficiently protect EFH? If so, how did the ecosystem and fishery resources respond to the project?

If EFH CRs were not adopted or effective and considering coordination with the COE and other partners, what could be done in the future to ensure protection of EFH?

List photographs taken (dots should be placed on an aerial with an arrow point in direction of camera):

Customized versions of these information templates, tabular or narrative, can be developed according to agency, rule, and project type.

Compliance Inspections

Interacting with Permittee in the Field

- If project appears to not be in compliance (Potential Unauthorized Activity) record specific evidence.
- Get responsible party's (RP) contact information.
- Get permit if on-site, if not, determine any permit details that the person may know. Inform the RP that you need to investigate the activity further. Communicate that you will be in touch. Go back to desk and determine if there is a violation.
- Issue cease and desist letter if the violation is ongoing.
- Issue NOV if it already has occurred.

Media Relations in Regards to C & E Activities

Each agency has their own media relations policy - **make sure you are familiar with your agency policy and Public Information Officer (PIO) before interacting with the media.**

Typical protocol may include:

- Politely introduce yourself (name, title, agency) and provide your contact information (email address, office address, phone number).
- Refer media to your PIO. For example: “At this time, I am just collecting information, however I can schedule a meeting with our PIO once this investigation is complete”.
- Do not say “no comment”, just refer media to the PIO.
- Brief the PIO on the issue details ASAP.

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C & E Intervention Planning - Best Permitting Practices

- The more efficient the permitting at the front end of a project - the fewer compliance and enforcement needs on the back end.
- Codified, measurable Best Management Practices (BMPs) are routine in many government and industry protocols.
- Therefore, informal or formal usage of Best Permitting Practices (BPPs) is logical.
- Examples of BPPs follow [see the Final Project 4, 21, 23, 24 Phase 2 report (enclosed CD) for more details].

Permitting and C & E: Positive Trends

- Improved *special condition* applications by agencies.
- Extensive information consultation networks.
- Solid USACE & FDEP coordination on mitigation during permitting.
- FDEP and NMFS have developed permit tracking systems over many years:

- FDEP: <http://www.dep.state.fl.us/gis>
- NMFS: <http://sero.nmfs.noaa.gov/pr/PCTS.htm>
- USACE has a publically accessible system since 2009:

<http://www.saj.usace.army.mil/Divisions/Regulatory/pendPermit/index.htm>

BPPs for Permit Conditions:

- **Simplified writing:** fewer complex paragraphs and more bulleted lists to present things in digestible pieces.
- **Better organization:** includes optimally structured: headers and subheaders, numbering of paragraphs, contact info.
- **Date certain.**
- **Detailed reporting requirements:** including detailed methodologies.
- **Simplify for permittee through standardization,** as possible.
- **Require statistically adequate monitoring,** as feasible.

Many additional and important BPP recommendations, most from agencies themselves, are in the Project 4, 21, 23, 24:

- Phase 1 Final Report
- Phase 2 Final Report

Both documents are available on the same CD as these files.

Challenges for BPP Implementation

Challenges = Opportunities

- Absence of statistically useful impact analyses: obvious sampling challenges (no spatial replication, no temporal replication, confounded objectives) should be avoided or at least acknowledged [see Bishop and Peterson (2005, BioScience) for examples].
- Absence of follow-up to assess effectiveness of mitigation.
- “Incorporation by reference” of mitigation plans/BOs.
- Sediment criteria are needed for projects involving trucked-in sand for dune building – but rulemaking is underway.
- Absence of independent monitoring by JCP program.
- See recommendations from MICCI Project 7-11 regarding permitting.

Challenges for BPP Implementation (con't)

Challenges = Opportunities

- Constraints on USACE in-water work highly limit field monitoring and C & E by a lead federal agency.
- Limited jurisdiction for turbidity or sedimentation impacts to corals – despite long term chronic turbidity trends.
- NMFS compliance inspections may be incorporated more into USACE and FDEP compliance and enforcement.
- Need for administrative penalties under RHA §10? Under Outer Continental Shelf Lands Act.
- Compliance depends almost entirely on self-reporting, with no permit tracking system for self reporting.
- If ESA biological opinion issued, USACE permit incorporates by reference.

Other MICCI Projects Involving Coral Permitting, Compliance, and Enforcement

- MICCI Proj 1 Florida State Statutes and Rules Involving Corals
- MICCI Proj 3 Emerging Innovative Coastal Construction Technologies.
- MICCI Proj 5, 10, 12 Public meeting to share technology, practices and regulations that minimize or eliminate impacts to coral reefs.
- MICCI Proj 6 BMPs for Construction, Dredge and Fill and Other Activities.
- MICCI Proj 7, 11 Permit Database and Summary of Construction Impacts.
- MICCI Proj 18, 19 Guidelines for Artificial Reef Siting & Construction.
- MICCI Proj 26 Methodology for Preparing Cumulative Impact Reviews.
- MICCI Proj 27, 47, 48 Coastal Construction Project Monitoring & Eval.

Many of these project reports have useful information. Find them at:

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

These Training Units were developed as a component of MICCI Combined Project 4, 2, 23, 24 Phase 2 by Dr. Ken Lindeman, Florida Institute of Technology, and Thomas Ruppert, Esq., Florida Sea Grant. Haiyun Yu, F.I.T., provided support services.

The MICCI 4, 21, 23, 24 Phase 2 Project Supervisors, Joanna Walczak and Lauren Waters, provided outstanding support at all stages.

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A portion of Unit 3 of these materials was adapted in part from a FDEP SLERP Powerpoint presentation entitled: FDEP Enforcement Overview SLER 1710 and from the FDEP OGC website at:
<http://www.dep.state.fl.us/legal/Enforcement/enforcement.htm#new>

Related Project Information

SEFCRI's MICCI Project 4, 21, 23, 24 Phase 1 and 2:

The Final Reports, Field Cards, and many pdfs on coral and hardbottom resources are on the CD that contains these Training Unit files. They are also available at:

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

For more information on the Southeast Florida
Coral Reef Initiative:

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

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- www.inl.gov
- Monterey Bay Aquarium
- Flower Garden Bank National Marine Sanctuary
- D. Gilliam
- V. Kosmynin
- K. Lindeman

Assessment of Training File Effectiveness

Coral training materials will reside in agency offices by spring 2011.

Agencies are encouraged to refine these slides to optimize effectiveness in agency-specific staff training. These assessment questions can assist that process:

- What aspects of this PowerPoint file were of greatest utility?
- What materials are necessary but lacking from this training file?
- What other edits or adds can be made to improve effectiveness?

Please return your input on these questions to your specific agency Point of Contact regarding coral awareness training materials.