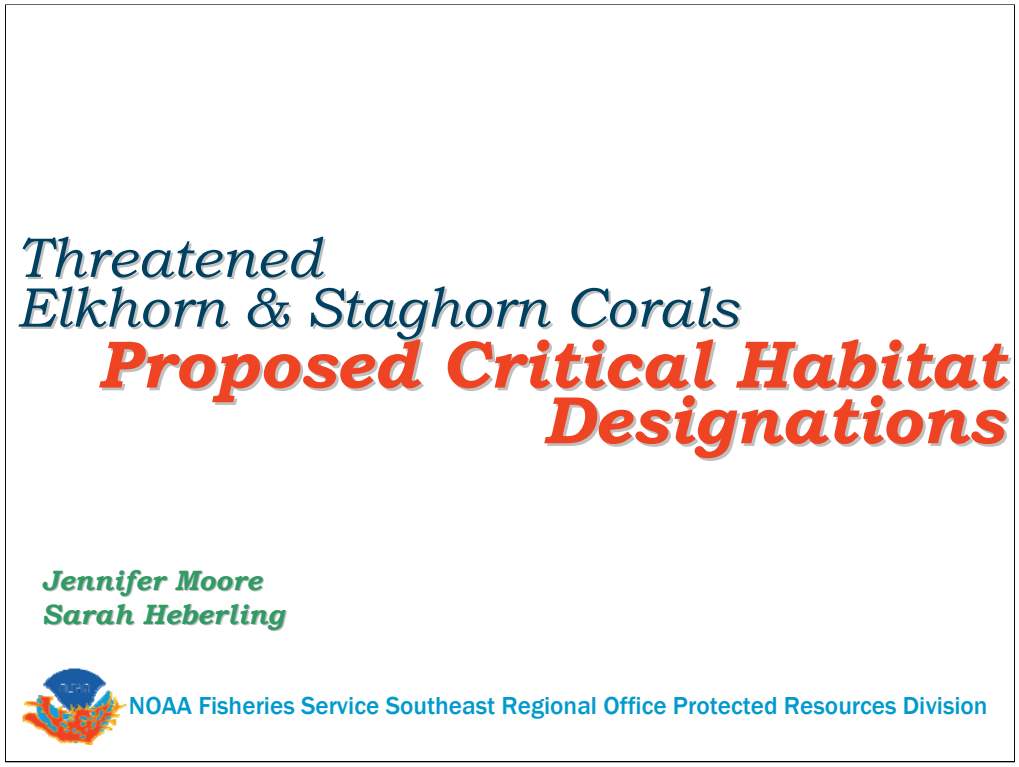
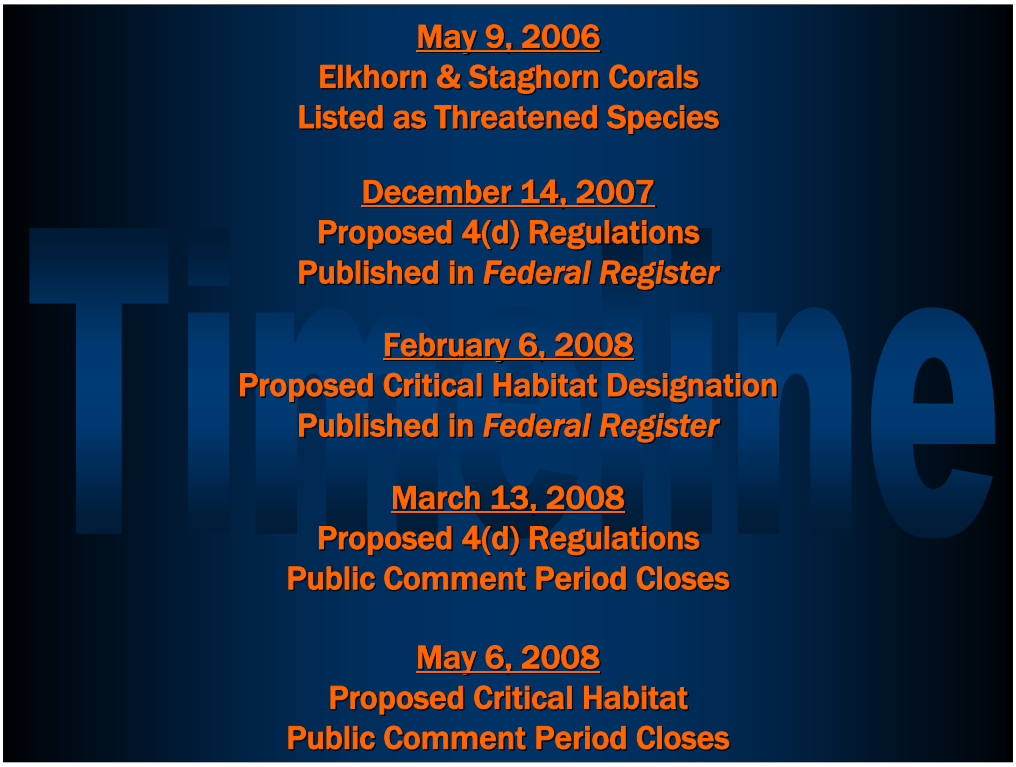


PRESENTATION OVERVIEW

These public comment hearings are a result of the recent listing of elkhorn and staghorn corals as threatened under the Endangered Species Act (ESA) and the need to designate critical habitat for these two coral species. The purpose of this presentation is to assist in understanding what critical habitat is, how it is designated, and what a designation means for these species and for you.

Ultimately, NOAA Fisheries Service seeks comments and additional information, which may point out significant information that we missed in our analyses during the development of the proposed critical habitat designations for threatened elkhorn and staghorn corals. This is your opportunity to make sure that NOAA Fisheries Service has the right information before the finalization of any proposed critical habitat designations for these coral species.



TIMELINE

NOAA Fisheries Service listed both elkhorn and staghorn corals as threatened species under the ESA on May 9, 2006.

At the time of listing, we determined the top threats facing elkhorn and staghorn corals to be: disease, temperature-induced bleaching, and physical damage from hurricanes. Other threats include physical damage from human activities, increased nutrients, sediments and contaminants from land-based sources, and several other natural factors.

Additional information on threatened elkhorn and staghorn corals as well as complete documentation of the listing process (e.g., the full text of the proposed and final listing determinations) is available on the Southeast Regional Office (SERO) Protected Resources Division website (http://sero.nmfs.noaa.gov/pr/protres.htm#acropora).

On December 14th, 2007, the *Federal Register* (FR) published our proposed regulations under 4(d) of the ESA. Less than two months later, on February 6, 2008, the FR published our proposed critical habitat designations for these two coral species. The comment period for each of the proposed regulations closes on March 13th, 2008, and May 6, 2008, respectively.

Helpful Handouts on SERO's website:

Elkhorn and Staghorn Listing FAQs (http://sero.nmfs.noaa.gov/pr/pdf/060504%20Acropora%20Listing%20FAQs.pdf)

Proposed 4(d) Regulations Federal Register Notice (http://sero.nmfs.noaa.gov/pr/esa/pdf/72FR71102_Proposed_4d_Rule.pdf)

Proposed 4(d) Regulations FAQs (http://sero.nmfs.noaa.gov/pr/esa/pdf/071214_Acropora_4d_FAQs.pdf)

WHAT IS CRITICAL HABITAT?

Critical habitat is defined by section 3 of the ESA as "(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection." This definition provides a step-wise approach to identifying areas that may be designated as critical habitat for listed corals.

First, we must identify the geographical area occupied by the species, then we must identify the physical or biological features essential to the conservation of the species (also known as essential features, or "Primary Constituent Elements" or "PCEs"). Once we identify the PCEs, we must locate the specific areas within the geographical range of the species that contain those PCEs. Last, within these specific areas containing the PCEs, we must determine whether these PCEs require special management considerations or protections.

The next few slides go through each of these steps in detail.

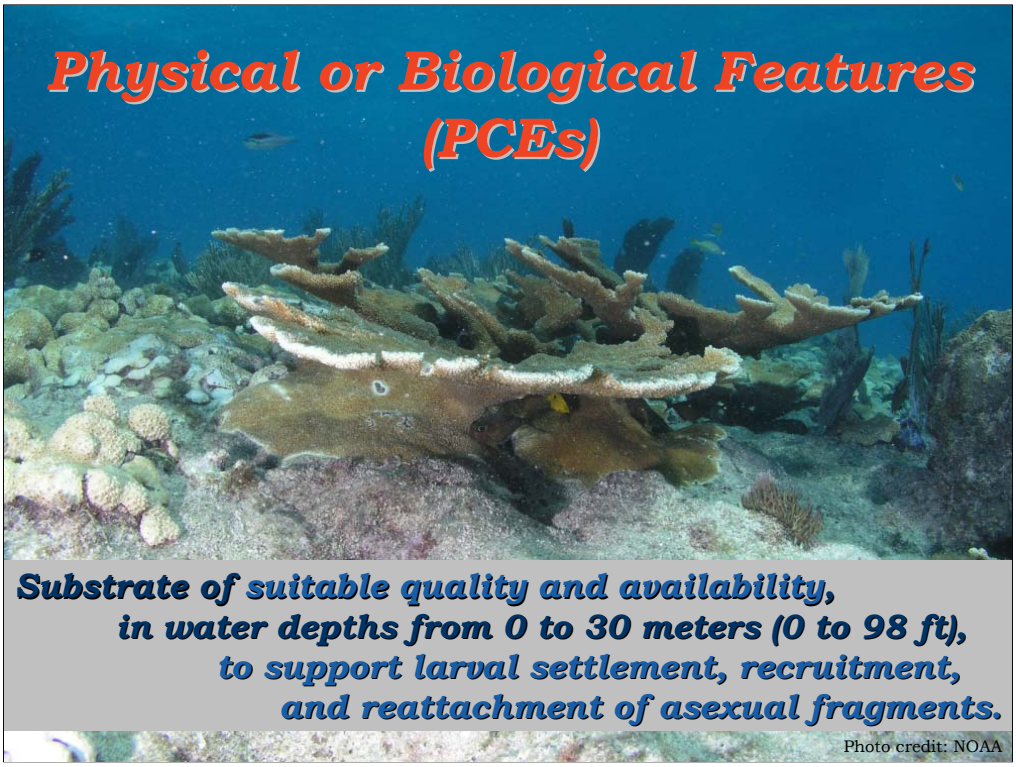
Helpful Handouts on SERO's website:

FAQs: Critical Habitat (http://sero.nmfs.noaa.gov/pr/pdf/060505 Critical Habitat General FAQs.pdf)

Step 1: Identifying the Geographical Area Occupied by the Species

"Geographical areas occupied" in the definition of critical habitat is interpreted to mean the current range of the species and not every discrete location on which individuals of the species physically are located. The best scientific data available show the current geographical area occupied by both elkhorn and staghorn corals has remained unchanged from their historical ranges. In other words, there is no evidence of range constriction for either species. In general, elkhorn and staghorn corals have the same distribution, with few exceptions, and are widely distributed throughout the Caribbean.

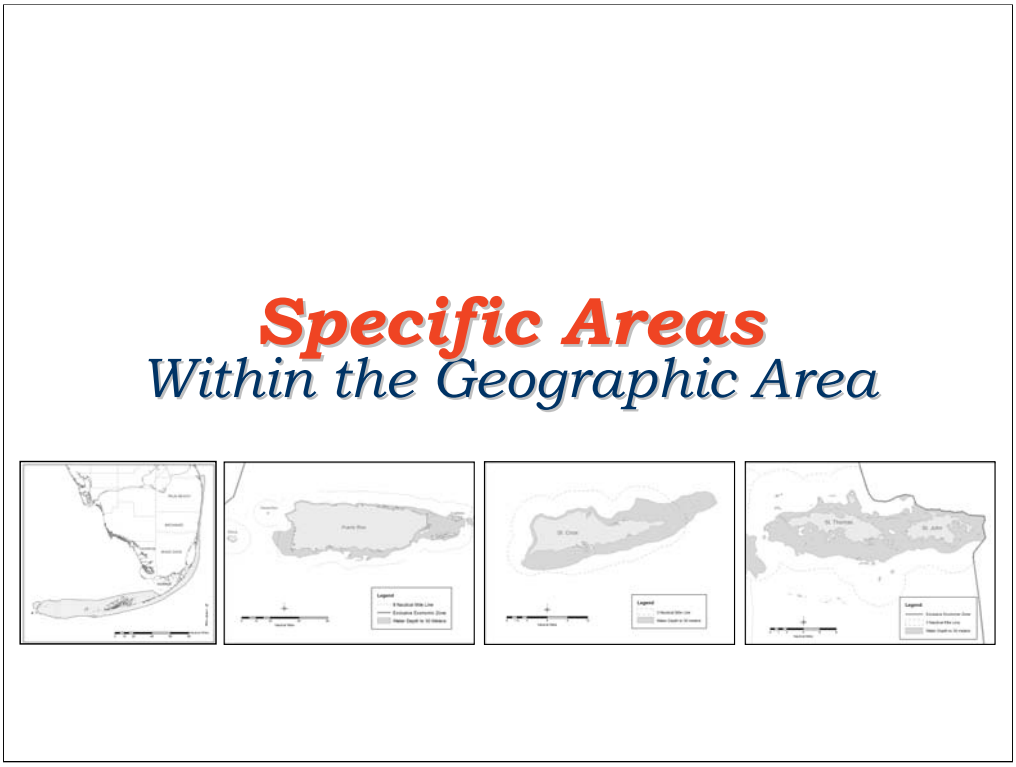
Our regulations at 50 CFR 424.12(h) state: "Critical habitat shall not be designated within foreign countries or in other areas outside of United States jurisdiction." Although the geographical area occupied by elkhorn and staghorn corals includes coastal waters of many Caribbean and Central and South American nations, we are not proposing these areas for designation. The geographical area occupied by listed coral species that is within the jurisdiction of the United States is therefore limited to four counties in the State of Florida (Palm Beach County, Broward County, Miami-Dade County, and Monroe County), Flower Garden Banks National Marine Sanctuary, and the U.S. territories of Puerto Rico, U.S.V.I, and Navassa Island.



Step 2: Identifying the PCEs for Listed Corals

Based on the key conservation objective of facilitating increased incidence of successful sexual and asexual reproduction, the natural history of elkhorn and staghorn corals, and their habitat needs, the physical or biological feature of elkhorn and staghorn corals habitat essential to their conservation is: substrate of suitable quality and availability, in water depths from 0 to 30 meters (0 to 98 feet), to support successful larval settlement, recruitment, and reattachment of asexual fragments. "Substrate of suitable quality and availability" is defined as consolidated hardbottom and dead coral skeleton that is free from fleshy macroalgae cover and sediment cover. This feature is essential to the conservation of these two species due to the extremely limited recruitment currently being observed.

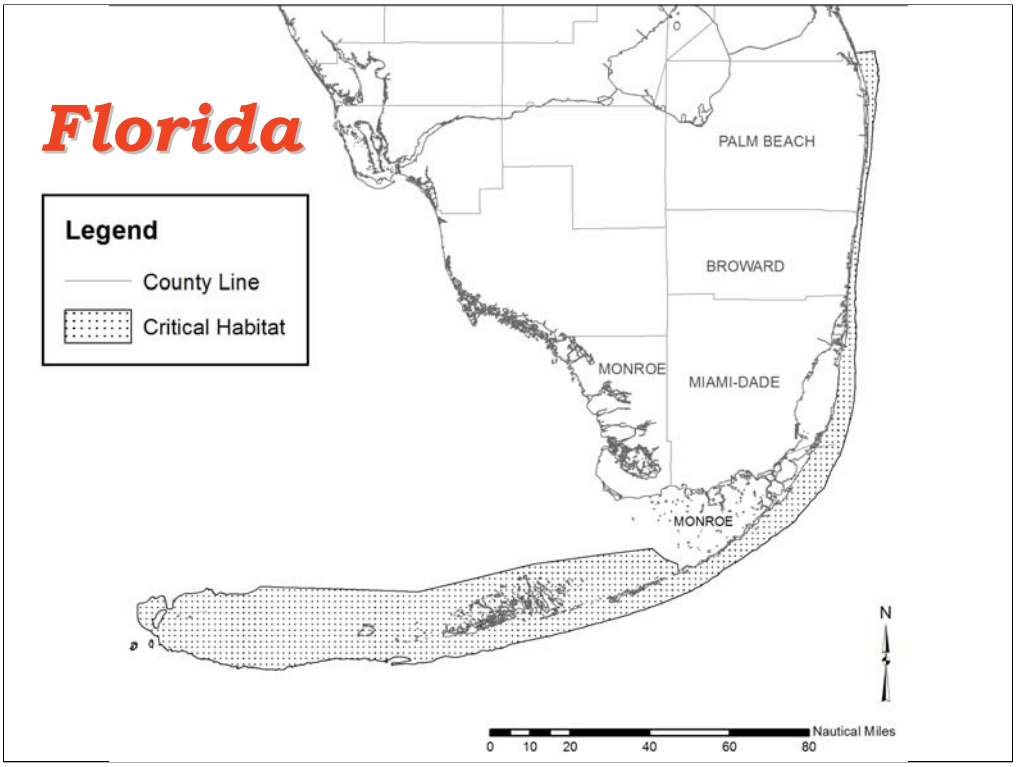
We determined that no other environmental features are appropriate or necessary for defining critical habitat for the two corals. Other than the substrate PCE, we cannot conclude that any other sufficiently definable feature of the environment is essential to the corals' conservation. Other features of the corals' environment, such as water temperature, are more appropriately viewed as sources of impacts or stressors that can harm the corals, rather than habitat features that provide a conservation function. Some environmental features are also subsumed within the definition of the substrate PCE; for instance, substrate free from macroalgal cover would encompass water quality sufficiently free of nutrients.



Step 3: Identifying Specific Areas Within the Geographical Area Which Contain the PCEs

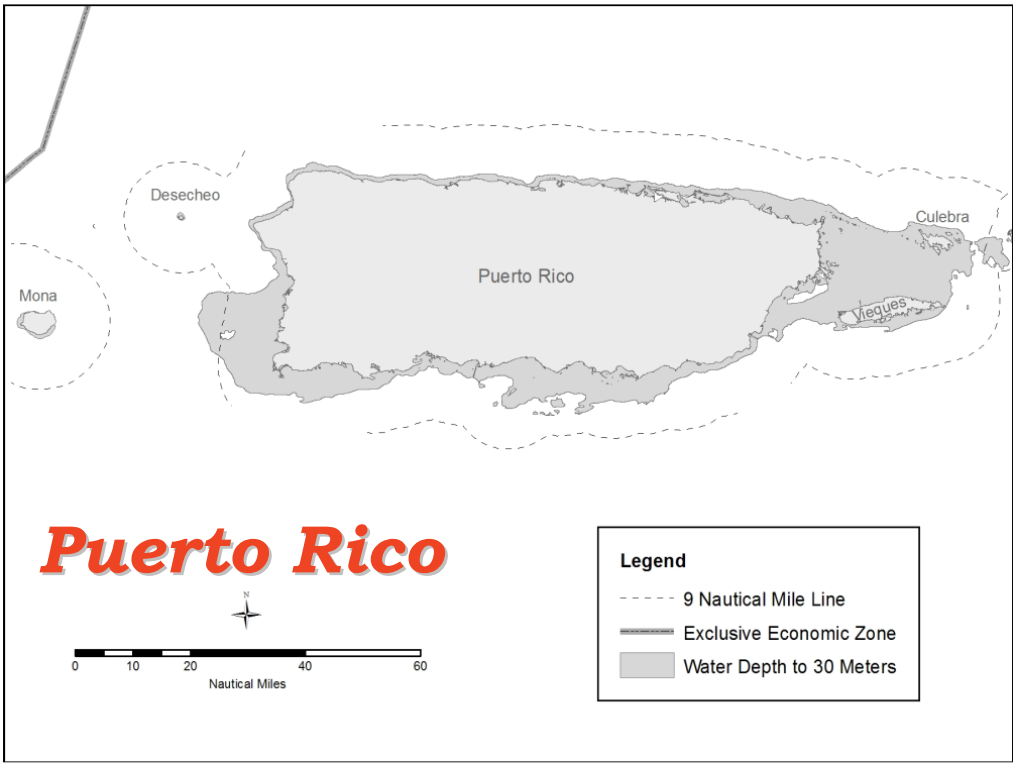
The definition of critical habitat instructs us to identify specific areas within the geographical area occupied by the species on which are found the PCEs. In addition to information obtained from the public, we partnered with SEFSC, NOAA Biogeography Team, and U.S. Geological Survey to obtain GIS and remote sensing data (e.g., benthic habitat data, water depth) to compile existing data to identify and map areas that may contain the identified PCE.

We identified four "specific areas" that contain the PCE. These areas comprise all waters in the depths of 30 m and shallower to the MHW or COLREG line off: (1) Palm Beach, Broward, Miami-Dade, and Monroe Counties, including the Marquesas Keys and the Dry Tortugas, Florida; (2) Puerto Rico and associated Islands; (3) St. John/St. Thomas, U.S.V.I.; and (4) St. Croix, U.S.V.I.) (see maps). Within these specific areas, the PCE consists of consolidated hardbottom or dead coral skeleton that are free from fleshy macroalgae cover and sediment cover.



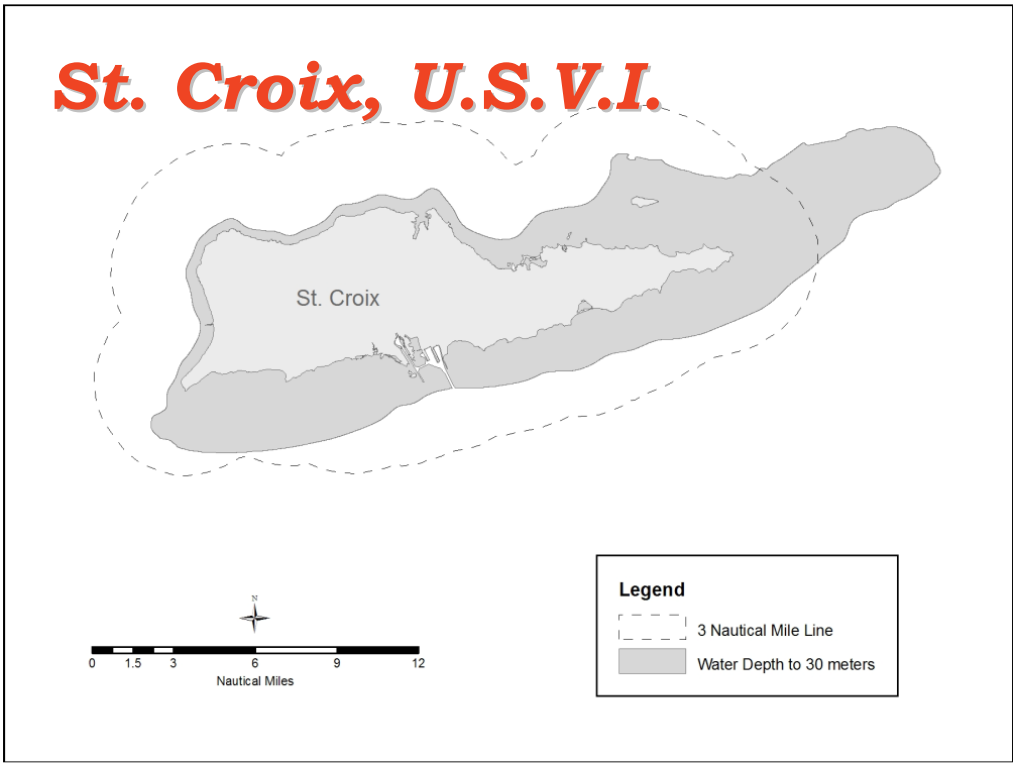
(1) FLORIDA AREA

In Southeast Florida, staghorn coral has been documented along the east coast as far north as Palm Beach in deeper (16 to 30 meters; 53 to 98 feet) water (Goldberg 1973) and is distributed further south and west throughout the coral and hardbottom habitats of the Florida Keys (Jaap 1984). Elkhorn coral has been reported as far north as Palm Beach and Broward Counties with significant reef development and framework construction beginning further south at Carysfort Reef, extending discontinuously southward to the Dry Tortugas.



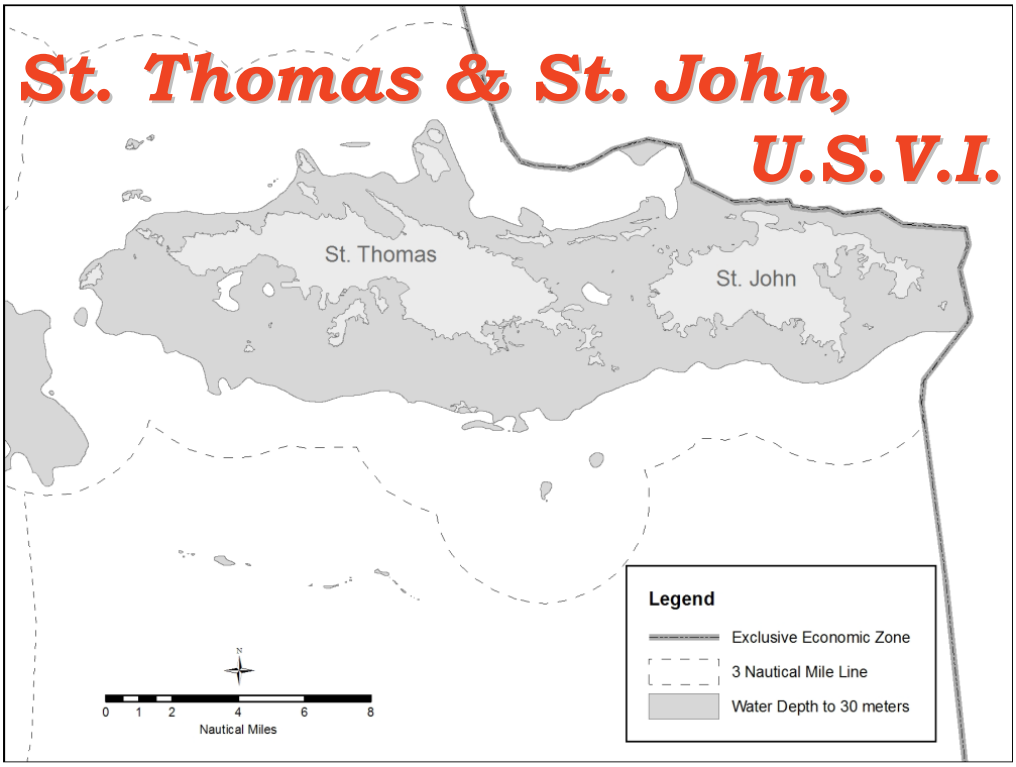
(2) PUERTO RICO AREA

In Puerto Rico, elkhorn and staghorn corals have been reported in patchy abundance around the main island and isolated offshore locations. Dense, high profile, monospecific thickets of elkhorn and staghorn corals have been documented in only a few reefs along the southwest shore of the main island and isolated offshore locations (Weil et al., unpublished data) though recent monitoring data for the presence of coral are incomplete in coverage around the islands. Further, the species have been recently documented along the west (e.g., Rincon) and northeast coasts (e.g., La Cordillera). Additionally, large stands of dead elkhorn currently exist on the fringing coral reefs along the south shoreline (e.g., Punta Picúa, Punta Miquillo, Río Grande, Guánica, La Parguera, Mayaguez). It appears that elkhorn and staghorn are rare on the north shore of Puerto Rico; however, there is a thin strip of hard bottom substrate on that shore, which may be supporting additional unrecorded colonies of elkhorn or staghorn.



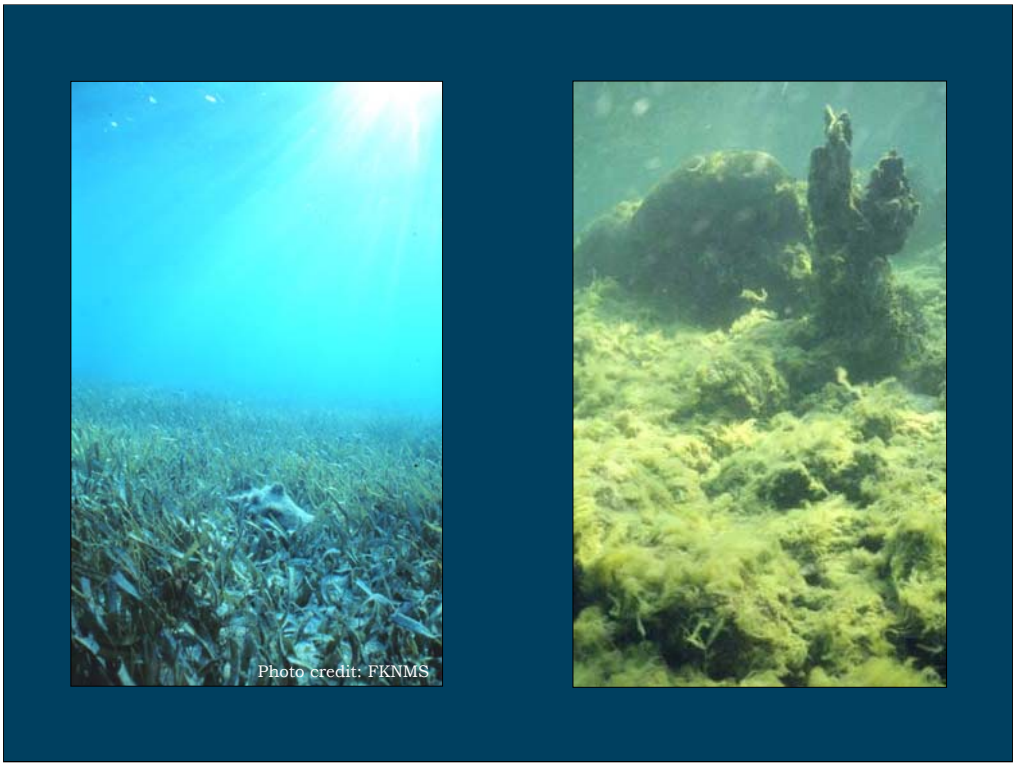
(3) ST. CROIX AREA

The U.S.V.I. also supports populations of elkhorn and staghorn corals, particularly at Buck Island Reef National Monument. St. Croix has coral reef and colonized hard bottom surrounding the entire island. Data from the 1980's indicate that the species were present along the north, eastern, and western shores at that time. The GIS data we compiled indicate the presence of elkhorn and staghorn currently along the north, northeastern, south, and southeastern shores of St. Croix. Monitoring data are incomplete, and it is possible that unrecorded colonies are present along the western, northwestern, or southwestern shores.



(4) ST. THOMAS/ST. JOHN AREA

Grober-Dunsmore et al. (2006) show that from 2001-2003, elkhorn colonies were distributed in many locations around the island of St. John. Additionally, the data we have indicate coral reef and coral-colonized hard bottom surrounding each of these islands as well as the smaller offshore islands. Again, it is possible that unrecorded colonies are present in these areas.



AREAS THAT DO NOT PROVIDE THE PCE FOR LISTED CORALS

Given these species' reduced abundances, the four specific areas were identified to include all available potential settling substrate in water depths of 30 meters or shallower to maximize the potential for successful recruitment and population growth. Critical habitat is only areas containing consolidated hardbottom and dead coral skeleton that is free from fleshy macroalgae cover and sediment cover.

The PCE is not likely to be present in natural sites covered with loose sediment, fleshy macroalgal covered hardbottom, or seagrasses. These areas do not provide the PCE that is essential to the species' conservation.

AREAS THAT DO NOT PROVIDE THE PCE FOR LISTED CORALS

Additionally, existing man-made structures such as boat ramps, docks, pilings, maintained channels or marinas do not provide the PCE that is essential the species' conservation.

UNOCCUPIED AREAS

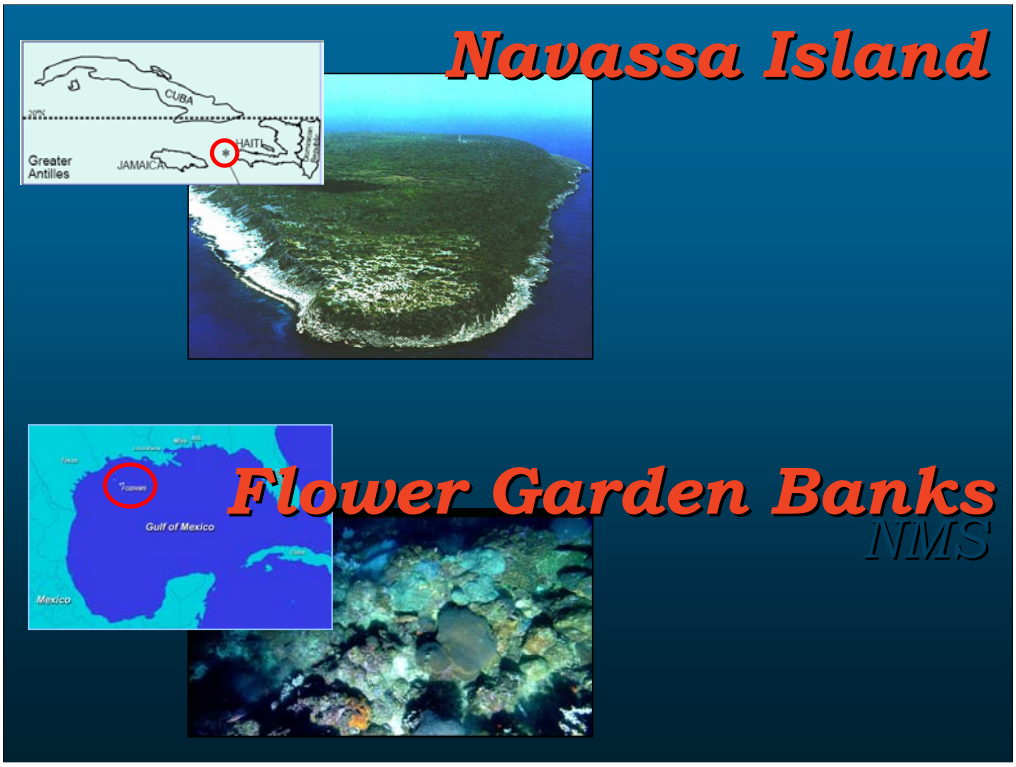
ESA section 3(5)(A)(ii) further defines critical habitat to include specific areas outside the geographical area occupied if the areas are determined by the Secretary to be essential for the conservation of the species. Regulations at 50 CFR 424.12(e) specify that we shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species. At the present time, the range of these species has not been constricted, and we have not identified any areas outside the geographical area occupied by the species that are essential for their conservation. Therefore, we are not proposing to designate any unoccupied areas for elkhorn and staghorn corals.

SPECIAL MANAGEMENT CONSIDERATIONS OR PROTECTION FOR PCEs

Specific areas within the geographical area occupied by a species may be designated as critical habitat only if they contain physical or biological features that "may require special management considerations or protection." NOAA Fisheries Service evaluated whether the PCE for listed corals may require special management considerations or protection using 4 criteria: (1) whether there is presently a need to manage the feature; (2) whether there is a possibility of of need to manage the feature in the future; (3) whether there is presently a negative impact on the feature; or (4) whether there is the possibility of a negative impact on the feature in the future. We were mindful that the feature in its present condition(s) was the basis for the finding that it is essential to the corals' conservation.

We evaluated direct and indirect negative impacts from any source (e.g., human or natural) and considered the criteria met only if impacts affect or have the potential to affect the aspect of the feature that makes it essential to the species conservation. Finally, we evaluated whether the PCE met the "may require" provision separately for each of the "specific areas" containing the PCE, as it was clear that management and protection considerations may vary from area to area.

Suitable habitat available for recruitment population growth of these coral species is particularly susceptible to impacts from human activity because of the shallow water depth range (MHW to 30 m) in which they commonly grow. The proximity of this habitat to coastal areas subject this feature to impacts from multiple activities. We concluded that the PCE is currently and will likely continue to be negatively impacted by some or all of these factors in all four specific areas.



AREAS NOT PROPOSED FOR DESIGNATION

Navassa Island is a small, uninhabited, oceanic island approximately 50 km off the southwest tip of Haiti managed by U.S. Fish and Wildlife Service (FWS) as one component of the Caribbean Islands National Wildlife Refuge (NWR). Both acroporid species are known from Navassa, with elkhorn apparently increasing in abundance and staghorn rare (Miller and Gerstner, 2002).

Additionally, there are two known colonies of elkhorn at the Flower Garden Banks National Marine Sanctuary (FGBNMS), located 100 mi (161 km) off the coast of Texas in the Gulf of Mexico. The FGBNMS is a group of three areas of salt domes that rise to approximately 15 m water depth and are surrounded by depths from 60 to 120 m. The FGBNMS is regularly surveyed, and the two known colonies, which were only recently discovered and are considered to be a potential range expansion, are constantly monitored.

Although they fall within U.S. jurisdiction and may contain the PCE, we are not proposing to include FGBNMS and Navassa National Wildlife Refuge in our critical habitat designation, because we do not believe the PCE in these areas requires special management considerations or protections. Both FGBNMS and Navassa Island are remote marine protected areas and are not currently exposed to the negative impacts and conditions needing management discussed for the other areas above. Additionally, based on available information we do not expect the PCE found within these two protected areas to experience negative impacts from human or natural sources that would diminish the feature's conservation value to the two coral species.

ACTIVITES THAT MAY BE AFFECTED

The major category of habitat-related activities that may affect the PCE for the two listed corals is water quality management. Activities within this category have the potential to negatively affect the PCE for elkhorn and staghorn corals by altering the quality and availability of suitable substrate for larval settlement, recruitment, and fragment reattachment.

Activities that may affect critical habitat for listed corals include, but are not limited to, dredging and disposal, beach renourishment, large vessel anchorages, submarine cable/pipeline installation and repair, oil and gas exploration, pollutant discharge, and oil spill prevention and response. When such activities are carried out, funded, or authorized by a Federal agency, consultation under ESA section 7 will be required. Notably, all the activities identified that may affect the critical habitat may also affect the species themselves, if present within the action area of a proposed Federal action.

IMPACTS OF DESIGNATING CRITICAL HABITAT FOR LISTED CORALS

The primary impacts of a critical habitat designation result from the ESA section 7 requirement that Federal agencies ensure their actions are not likely to result in the destruction or adverse modification of critical habitat. A Draft ESA 4(b)(2) Report describes, in detail, the impacts of the proposed critical habitat designation for threatened corals.

The report describes the projected future Federal activities that would trigger ESA section 7 consultation requirements because they may affect the PCE. Additionally, the report describes the project modifications we identified that may reduce impacts to the PCE, and states whether the modifications are more likely to be solely a result of the critical habitat designation or co-extensive with another regulation, including the ESA listing of the species. This report is available on NMFS' Southeast Region website at http://sero.nmfs.noaa.gov/pr/esa/acropora.htm.

ECONOMIC IMPACTS

As discussed on the previous slide, economic impacts of the critical habitat designation result through implementation of section 7 of the ESA in consultations with Federal agencies to ensure their proposed actions are not likely to destroy or adversely modify critical habitat. These economic impacts may include both administrative and project modification costs; and economic impacts that may be associated with the conservation benefits of the designation.

Project Modification	Cost	Unit	Range	Approx. Per Project Total
Fully Co-Extensive (Cost Attributed to Listing + Critical Habitat)				
Conditions Monitoring	$3,500 – 6,000	Per day	1 to 400 days	$3.5K – 2.4 Million
Diver Education	Admin. Cost	N/A	N/A	N/A
HDD/Tunneling	$1.4 – 2.4 million	Per mile	0.2 to 31.5 miles	$278K – 76.9 million
Pipe Collars or Cable Anchors	$1,200	Per anchor	13 to 2,529 anchors	$15.6K – 3 million
Sediment Controls	$43,000	Per mile	0.05 to 7 miles	$2 – 301K
Water Quality Standard Modification	Undeterminable	N/A	N/A	N/A
Partially Co-Extensive (Cost Attributed to Listing and/or other regulatory authority + Critical Habitat)				
Project Relocation	Undeterminable	N/A	N/A	N/A
Diver-Assisted Anchoring and Mooring Buoy Use	$300 – 1,000	Per day	N/A	N/A
GPS & DPV protocol	Undeterminable	N/A	N/A	N/A
Sand Bypassing or Backpassing	$1.5 – 16K	Per cubic yard	75 – 512 K cubic yards	$113 – 8.1 million
Shoreline Protection Measures	Undeterminable	N/A	N/A	N/A
Upland or Artificial Sources of Sand	Undeterminable	N/A	N/A	N/A

PROJECT MODIFICATION COSTS

We identified several categories of projected future actions that may trigger consultation under ESA section 7. All projected categories of future actions have the potential to adversely affect both the PCE and the listed corals; however, an individual action within these categories may ultimately result in impacts to only the PCE because the species may not be present within the proposed action area.

We identified 13 potential project modifications that we may require to reduce impacts to the PCE through section 7 consultation under the ESA. We also identified whether a project modification would be required due to the listing of the species or another existing regulatory authority to determine if the cost of the project modification was likely to be co-extensive or incremental. We did not identify any project modification that we expected would result in fully incremental costs due to the critical habitat designation.

The table above provides a summary of the estimated costs, where possible, of individual project modifications. The Draft ESA 4(b)(2) Report provides a detailed description of each project modification, methods of determining estimated costs, and actions for which it may be prescribed. The lack of information on specific project designs limits our ability to forecast the exact type and amount of modifications required. Thus, while the costs associated with types of project modifications were characterized, ***no total cost of this proposed rule could be quantified. Additionally, no particular areas within the specific areas identified are expected to incur a disproportionate share of the costs of designation.***

ADMINISTRATIVE COSTS OF DESIGNATION

In addition to project modification costs, administrative costs of consultation will be incurred by Federal agencies and project permittees or grantees as a result of this designation. Estimates of the cost of an individual consultation were developed from a review and analysis of the consultation database, as previously discussed, and from the estimated ESA section 7 consultation costs identified in the Economic Analysis of Critical Habitat Designation for the Gulf Sturgeon (IEc, 2003) inflated to 2006 dollars (the 2007 inflation coefficient was not known at the time of drafting). Cost figures are based on an average level of effort for consultations of low or high complexity (based on NMFS and other Federal agency information), multiplied by the appropriate labor rates for NMFS and other Federal agency staff.

Although the PCE occurs in greater abundance than the corals and thus the probability that a consultation would be required because of the critical habitat designation is higher than for the listing of corals, we were unable to estimate the number of consultations that may be required on the basis of critical habitat alone. Therefore, we present the estimated maximum incremental administrative costs as averaging $827,220 to $1,633,229, annually.

Helpful Handouts :

Economic Analysis of Critical Habitat Designation for the Gulf Sturgeon: (http://www.fws.gov/economics/Critical Habitat/ESA Reports as of August 2005/Gul sturgeon/Final Report/sturgeon.ea.final.1.27.03.pdf)

OTHER RELEVANT IMPACTS

Conservation benefits to the corals in each of the four specific areas are expected to result from the proposed designation. As we have determined, recovery of elkhorn and staghorn corals cannot succeed without protection of the PCE from destruction or adverse modification. No existing laws or regulations protect the PCE from destruction or adverse modification with a specific focus on increasing coral abundance and eventual recovery. Given the extremely low current abundance of the corals and characteristics of their sexual reproduction (e.g., limited success over long ranges), protecting the PCE throughout the corals' range and throughout each of the four specific areas is extremely important for conservation of these species.

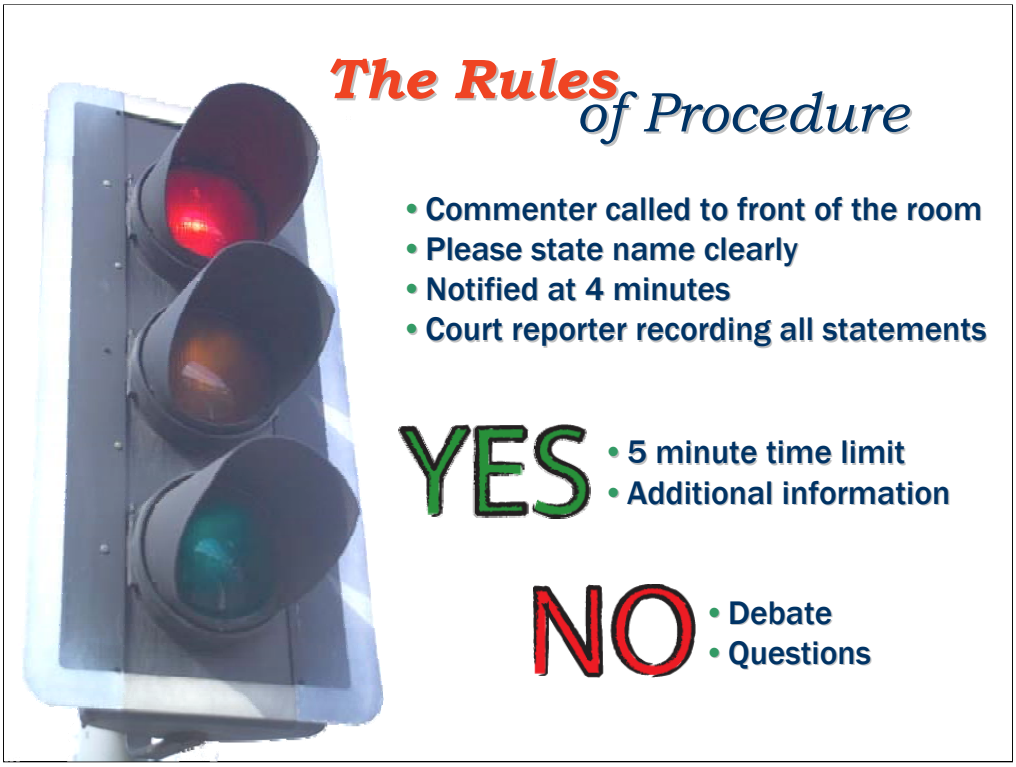
The natural reefs formed and inhabited by elkhorn and staghorn corals provide over millions of dollars in average annual use value and billions of dollars in capitalized value. Available information also demonstrates the direct link between healthy coral reef ecosystems and the value of scuba-diving related tourism throughout the Caribbean, including Florida, with estimated losses in the hundreds of millions of dollars region-wide per year if reef degradation continues. Coral reefs provide a significant percentage of average annual commercial fish and invertebrate landings in Florida, Puerto Rico, and USVI and are valued at hundreds of thousands to millions of dollars. These economic benefits as well the potential educational and awareness benefits to the corals that may result from the critical habitat designation are described more thoroughly in our Draft 4(b)(2) Report.

EXCLUSIONS BASED ON NATIONAL SECURITY IMPACTS

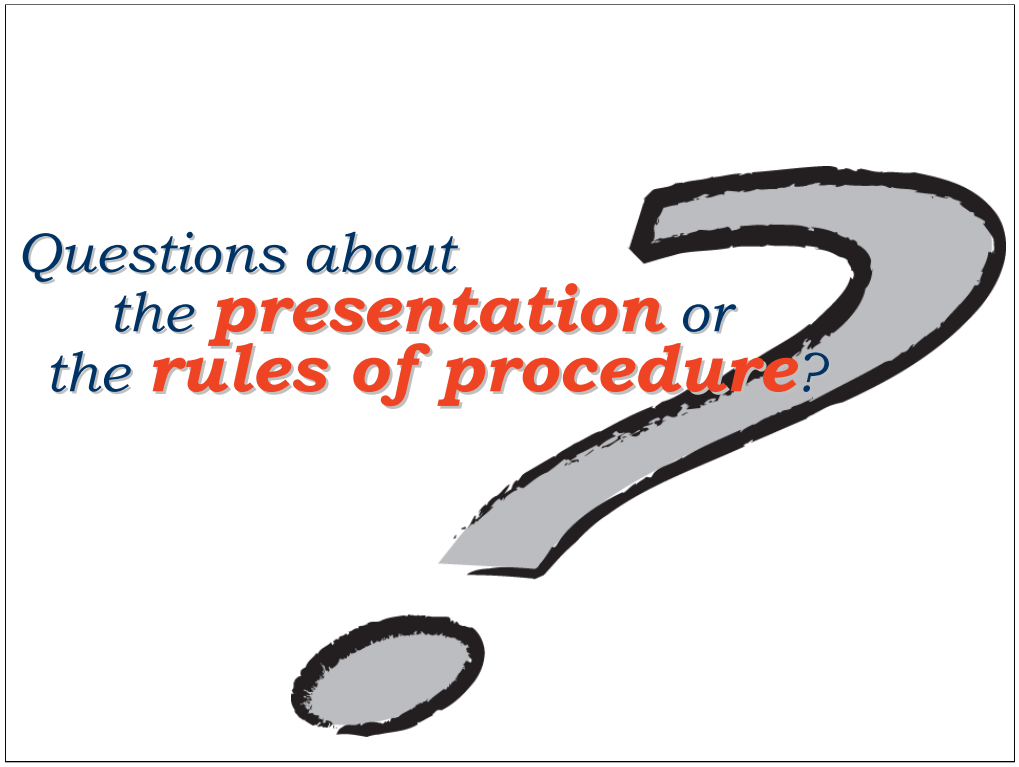
One military site, comprising approximately 47 square miles (123 sq km), is proposed for exclusion because of national security impacts. The Department of the Navy identified several specific activities within Naval Air Station Key West and associated annexes that would be adversely impacted by a critical habitat designation. These activities include: military training and readiness; access to, management of, and maintenance of piers, harbors, and waterfront instrumentation; and support for refueling or docking of Federal vessels. Based on these considerations, we propose exclusion of the particular areas identified by the Navy from the critical habitat designation.

The benefit of excluding the NASKW particular areas is that the Navy would only be required to comply with the jeopardy prohibition of ESA section 7(a)(2) and not the adverse modification prohibition. The Navy maintains that the additional commitment of resources in completing an adverse modification analysis, and any change in its activities to avoid adverse modification of critical habitat, would likely reduce its readiness capability.

The Southeast Regional Office (SERO) Protected Resources Division is the lead in developing the rules and all subsequent management actions for these species. Visit SERO's website for the helpful handouts listed in the presentation. For remaining questions and concerns, please contact either Jennifer Moore or Sarah Heberling.



The rules of procedure presented here are an attempt to facilitate the receipt of the greatest number of comments and the largest amount of additional information on this proposal by conducting the process in an orderly and efficient manner.



Before providing comments and additional information on the proposed critical habitat designations for threatened elkhorn and staghorn corals, are there:

- Questions about the information just presented?
- Points in need of clarification or additional explanation?
- Questions about the rules of procedure for making a comment or providing additional information?

Public Comment Period
for Proposed Critical Habitat Rule
Ends May 6, 2008.

MAIL:	National Marine Fisheries Service Southeast Regional Office Protected Resources Division 263 13th Avenue South St. Petersburg, FL 33704
FAX:	(727) 824-5309
FEDERAL eRULEMAKING PORTAL	http://www.regulations.gov Follow instructions for submitting comments.

IMPORTANT

Persons wishing to provide NOAA Fisheries Service with comments and additional information on the proposed critical habitat designations for threatened elkhorn and staghorn corals may do so until May 6. 2008. Comments and information submitted after this date will not be viewed. All submissions received must include the agency name and docket number or Regulatory Information Number (RIN) for this rulemaking. The RIN number for this action is 0648–AV35.

Following the comment period for the proposed critical habitat designations, NOAA Fisheries Service will make any necessary changes, based on the information received, and publish a final rule designating critical habitat for elkhorn and staghorn corals. Following the release of the final critical habitat designations, NOAA Fisheries Service plans on implementing a recovery plan for the two coral species.

Helpful Handouts on SERO's website:

Proposed Critical Habitat Rule Federal Register Notice (http://sero.nmfs.noaa.gov/pr/pdf/Web%20Postings/73FR6895_Acropora_Proposed_CH.pdf)