Naval Air Station Key West

Overview of Navy Environmental Challenges

Presented to:

Marine Fisheries Advisory Committee

Florida Keys Eco-Discovery Center

Key West

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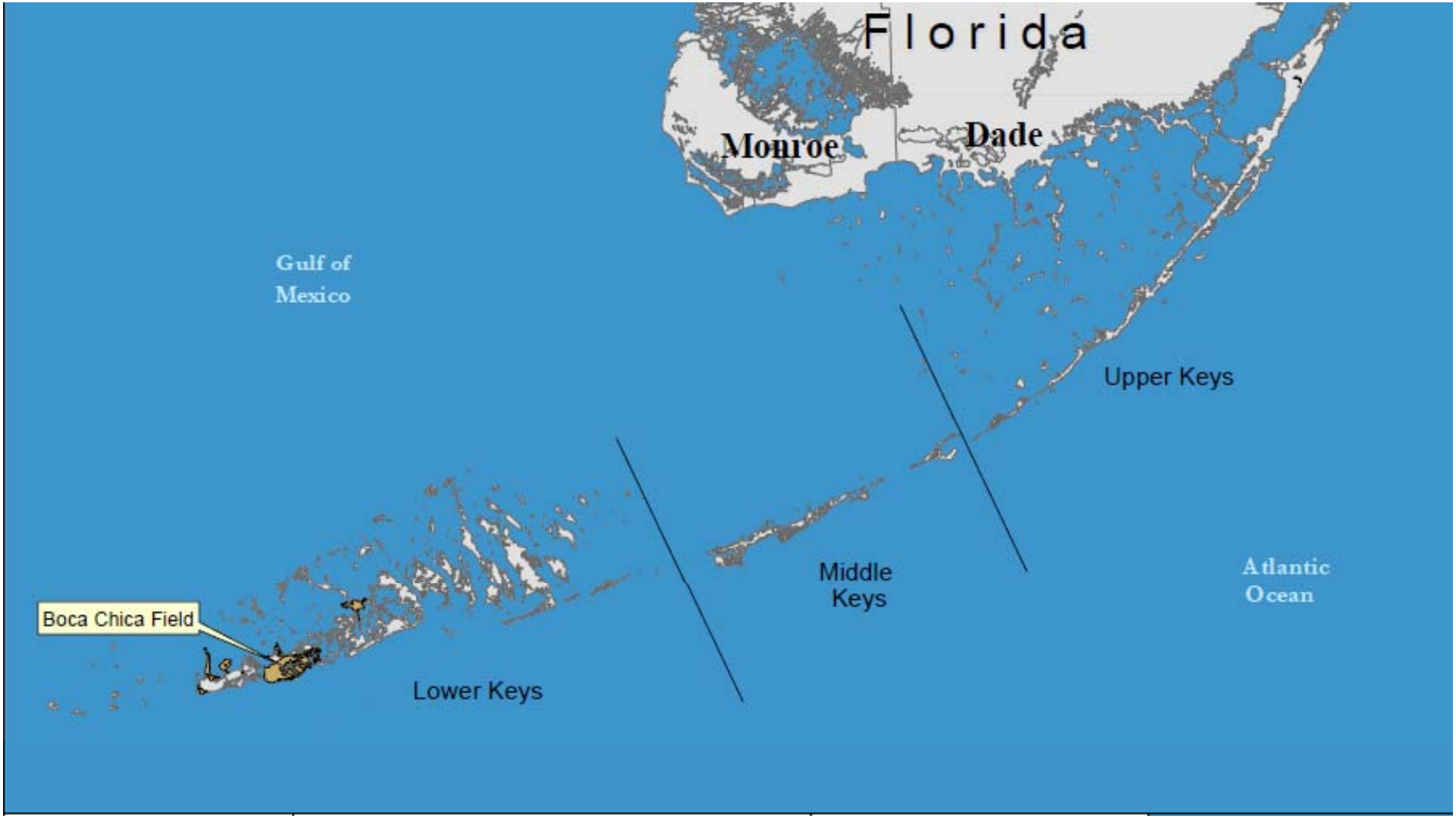
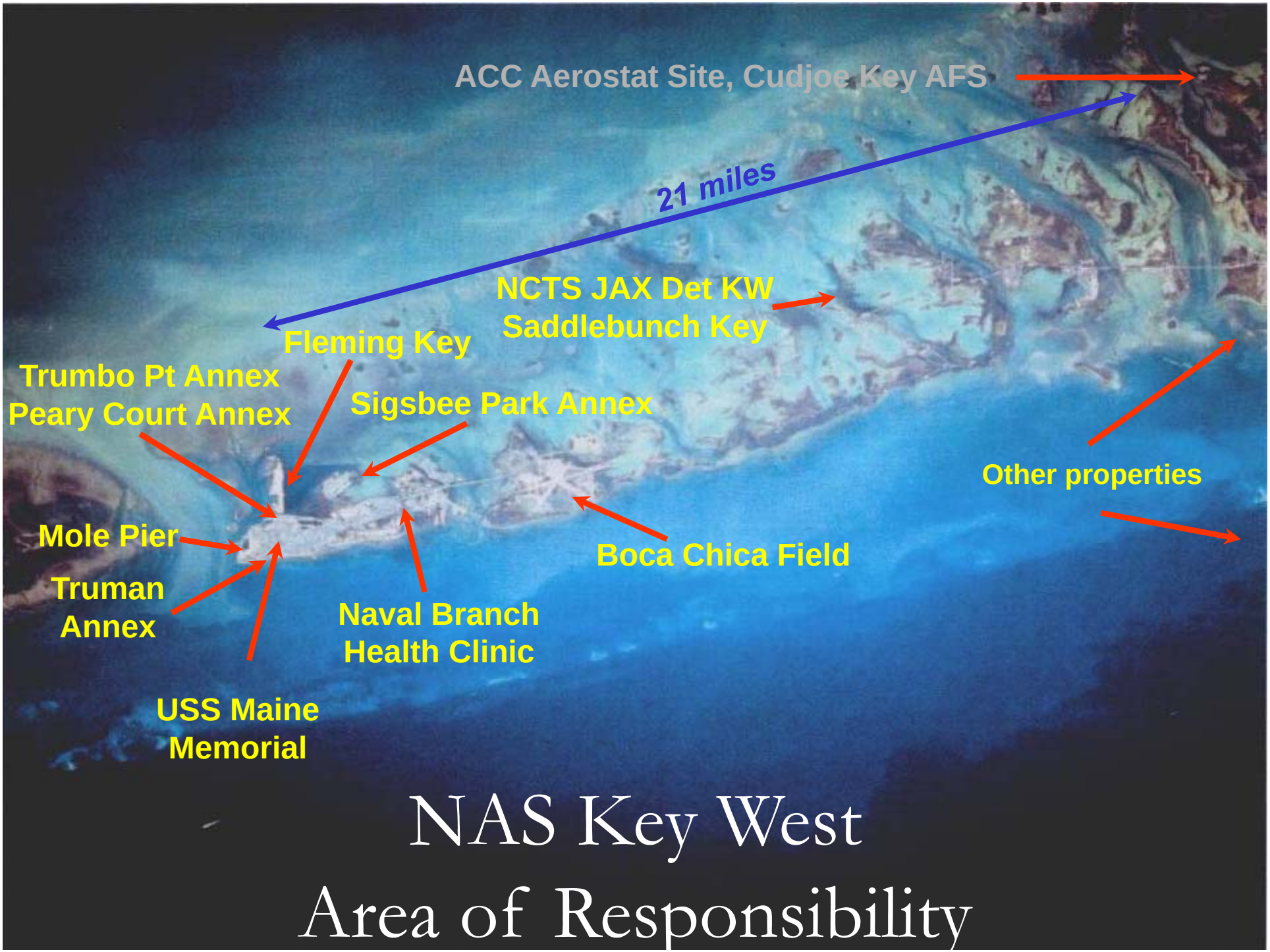
NAS KEY WEST MISSION STATEMENT

We Exist to Support Operational and Readiness Requirements for Department of Defense, Department of Homeland Security, National Guard, Federal Agencies and Allied Forces

We Exist to Enable and Sustain Warfighter Readiness

Where Are We


Florida
Monroe
Dade
Gulf of Mexico
Upper Keys
Middle Keys
Atlantic Ocean
Boca Chica Field
Lower Keys



NAS Key West
Area of Responsibility

BOCA CHICA FIELD

Department of Defense's Crown Jewel

for Training

Tactical Aviation Squadrons

We Exist to Enable and Sustain Warfighter Readiness

Truman Annex

Diverse Facility Includes

- Port Operations
  - Mole Pier
- Housing
- Visitor Quarters
- MWR Beach Patio

Truman Harbor

aka “The Mole Pier”

Looking South

Integrated Natural Resources Management Plan (INRMP)

- Sikes Act Improvement Act (SAIA) of 1997
  - Requires the Secretary of Defense to carry out a program to provide for the conservation and rehabilitation of natural resources on military installations.
  - Requires the military departments to prepare and implement INRMPs for each military installation in the United States that contain significant natural resources

- The INRMP is to provide for integrated land management, fish & wildlife management, forest management and outdoor recreation management by implementing an ecosystem approach to natural resources management without interfering with the military mission

- The INRMP must reflect mutual agreement with the USFWS and the State Fish & Wildlife Conservation Agency. Mutual agreement will concern conservation, protection, and management of fish and wildlife resources, and will be represented by the signing of the appropriate agency representatives.

- **NOAA Fisheries is a trustee of various marine resources covered by the NASKW INRMP and as such is also a signatory.**

Integrated Natural Resources Management Plan

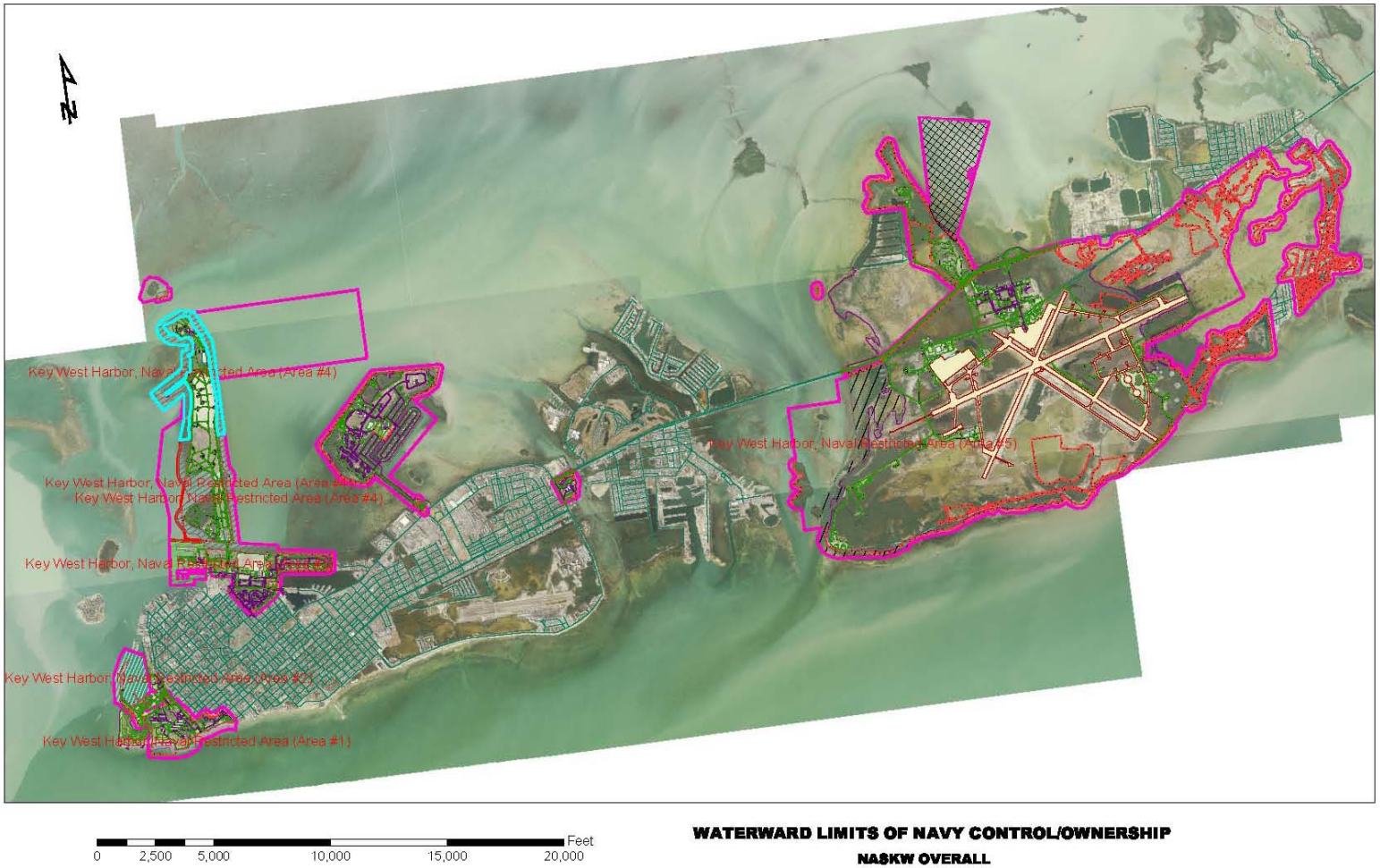
- Objectives of the NASKW INRMP:
  - To protect and conserve marine and near-shore estuarine habitats.
  - Preserve, protect and manage wildlife and their habitats to ensure healthy productive populations.
  - Protect and manage critically important habitats of resident and migratory threatened and endangered species, and species of special concern.
  - Monitor population demographic patterns of both resident and migratory threatened and endangered species, and species of special concern.
  - Continue collaborative partnering to protect and conserve the natural resources in the Florida Keys, maintain environmental compliance, and enhance NAS Key West's ability to meet its mission critical objectives.
  - Conduct annual meetings in cooperation with the USFWS, NOAA Fisheries and FFWCC to review and update the INRMP.

STAGHORN AND ELKHORN CORAL CRITICAL HABITAT

- Staghorn (*Acropora cervicornis*) *and* Elkhorn (*Acropora palmate*) coral listed as threatened under the Endangered Species Act.
- The ESA was revised via the National Defense Authorization Act of 2004 to recognize INRMP conservation measures and species benefits that could obviate the need for critical habitat designation.
- The INRMP is a management tool used by NASKW to ensure that the potential impacts of planned Navy actions on threatened coral species, or their habitats, is recognized at an early stage and to provide guidance for diminishing or eliminating any potential deleterious impacts.
- Pursuant to the NDAC the Navy deemed that the NASKW INRMP provides a conservation benefit to these corals and has therefore determined that a critical habitat exclusion for these species is warranted for the nearshore environments owned and controlled by the Navy.
- NOAA Fisheries concurred.

Integrated Natural Resources Management Plan

STAGHORN AND ELKHORN CORAL



Exclusion from critical habitat pursuant to section 4(a) (3) (B) (i) of the ESA

NOAA Fisheries Protected Resources Division

Smalltooth sawfish (*Pristis pectinata)*

- Boca Chica Field Clear Zones and Drainage Systems Restoration
- NASKW consulted with NOAA Fisheries on actions that may adversely affect ESA-protected species
- A significant portion of the area assessed includes mangrove wetland habitat identified as important to the smalltooth sawfish
- NASKW assessment concluded the smalltooth sawfish in or near the project area would have available refuge habitat during and after project completion considering the Navy's commitment to conduct advance mitigation of mangrove habitat and complete the remainder of the mitigation concurrent with each phase of the proposed mangrove removal in areas that are accessible to smalltooth sawfish.
- NOAA Fisheries concurred with the Navy's determination that the proposed activity is not likely to adversely affect any ESA-listed species under NOAA Fisheries PRD purview .
- The Navy agreed to periodically survey for potential smalltooth sawfish use of installation maritime areas.

Smalltooth Sawfish Survey

NOAA Fisheries
Essential Fish Habitat (EFH)

- Boca Chica Field Clear Zones and Drainage Systems Restoration
- NASKW 2006 comprehensive Essential Fish Habitat Assessment concluded that because of the limiting hydrodynamic and environmental factors such as salinity regimes, much of the mangrove habitat found on Boca Chica Field is representative of a *basin type mangrove forest type* and, thus, does not fully support nursery or adult managed species.
- NASKW determined that the proposed action is expected to result in impacts that "may adversely affect" EFH.
- NOAA Fisheries concurred with the Navy's "may adversely affect" determination and
- concluded the expanded consultation, with the provision that the Navy would preserve wetland functions by planting native salt vegetation within mangrove areas that will be clear cut and base the plan for compensatory mitigation on the application of an appropriate functional assessment methodology.

Airfield Clear Zone Restoration

Converting mangrove wetlands into salt marsh wetlands

Raising elevations approx. 1 ft.

Integrated Natural Resources Management Plan

Boca Chica Field Clear Zones and Drainage Systems Restoration

- Wetland impacts associated with the project include approximately 250 acres of salt marsh and mangrove wetlands.
- Net functional loss of 104 functional units (State of Florida's Uniform Mitigation Assessment Method).

- The compensatory mitigation plan provides 901.78 acres of wetland mitigation
- Relative functional gain of 154.30 functional units
  - Open Water – 225.3 acres of hydrologic enhancement
  - Mangrove – 95.65 acres of restoration & enhancement
  - Saltmarsh/mangrove – 573.55 acres of restoration & enhancement
  - Saltmarsh – 7.28 acres of restoration & enhancement

Integrated Natural Resources Management Plan

Boca Chica Field Clear Zones and Drainage Systems Restoration

- The purpose of the proposed project is to ensure the safety of flight operations at Boca Chica Field
  - August 2004 EIS Notice of Intent
  - March 2007 NMFS ESA (Sawfish) Consultation Complete
  - March 2007 NMFS EFH Expanded Consultation
  - May 2007 Final EIS
  - Nov 2009 ACOE Permit Application Submitted
  - May 2011 ACOE Public Notice Issued
  - June 2011 NMFS EFH Expanded Consultation Complete
  - July 2011 ACOE Permit Issued
  - October 2011 Construction starts

Corals On Man-Made Structures

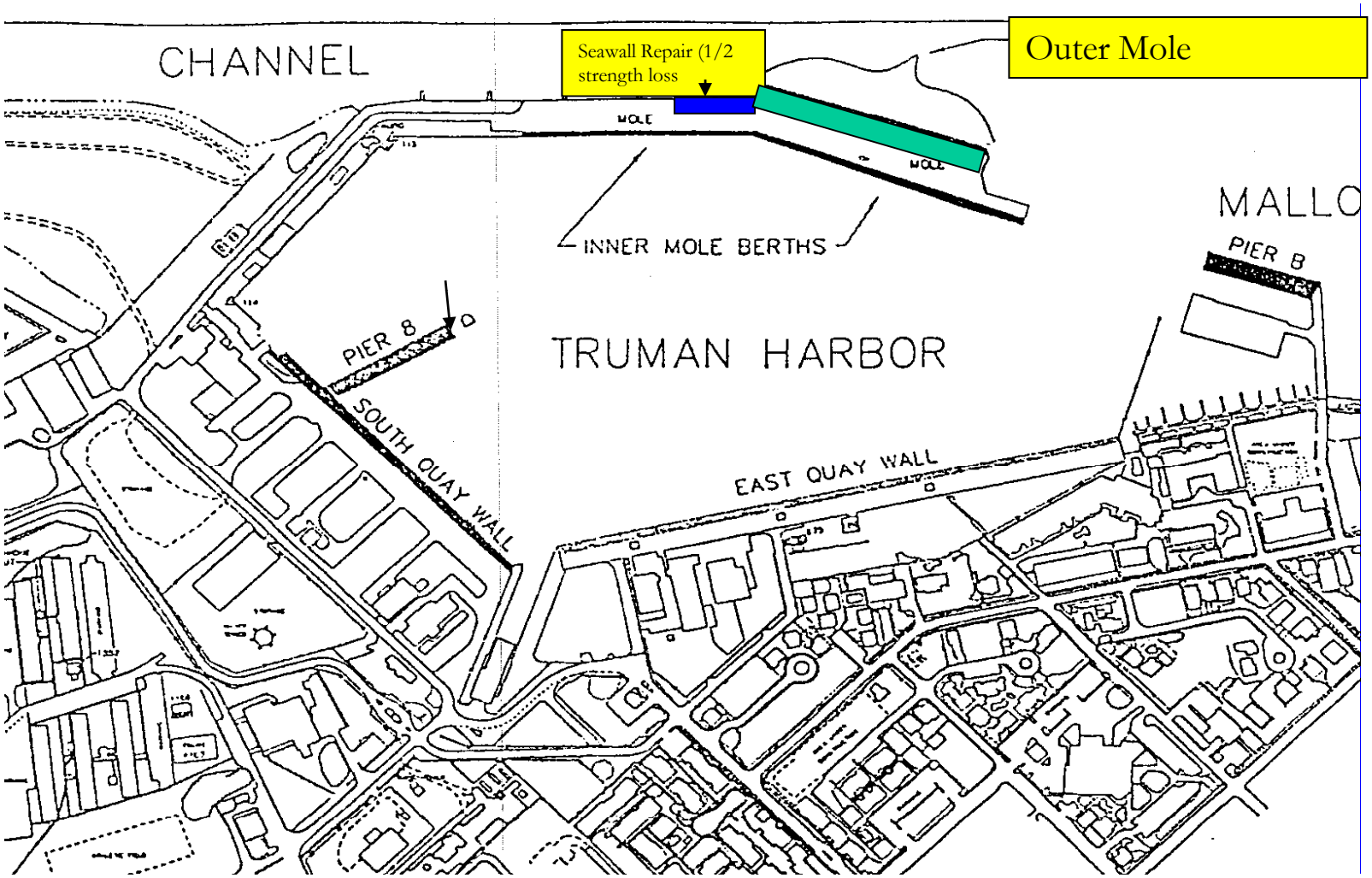
- NASKW Concerns/Issues
  - Because military lands and waters often are protected from human access and impact, they contain some of our nation's most significant remaining large tracts of land with valuable natural resources.
  - Navy in-water structures are kind of mini preserves because the Navy does not allow use around its piers, docks, etc -there are long-term benefits.
  - Steel sheet piles support quite elaborate communities, including stony corals and sea fans.
  - Repair/maintenance of these structures results in a temporary loss, but new corals quickly develop comparable communities.
  - Should the Navy be required to mitigate for the temporary loss due to pile/wharf repairs or replacement?

Corals On Man-Made Structures

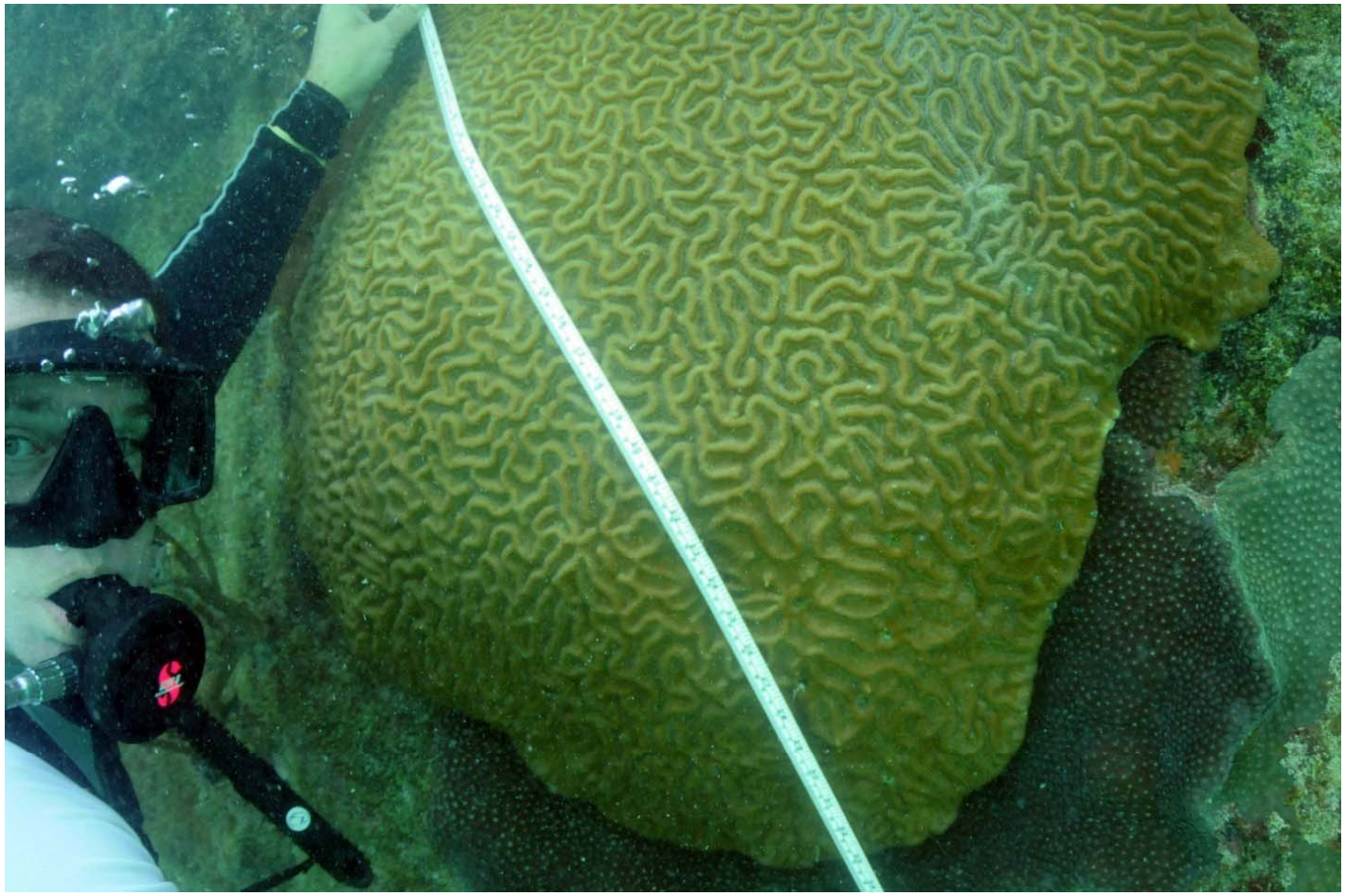
The Mole Pier

- Proposed project involves repair of approximately 400 linear feet of seawall by replacing the existing wall with a new steel sheet pile wall and concrete pile cap.
- A benthic resource assessment was conducted to document living marine resources including hard and soft coral and seagrass communities that could be potentially impacted by the proposed project.
- A total of 732 individual stony coral colonies were identified within the survey area and will be impacted by the proposed project. The majority of these corals were attached to the upper half of the vertical sheet pile wall.
- Sea fans were abundant, with 602 sea fans enumerated within the survey area. Sea plumes and sea rods were also common in the survey area.
- The seafloor adjacent to the existing seawall is barren substrate lacking a perceptible benthic community.

Mole Pier


Seawall Repair (1/2 strength loss
Outer Mole
CHANNEL
MOLE
MOLE
INNER MOLE BERTHS
MALLO
PIER 8
PIER 8
TRUMAN HARBOR
SOUTH QUAY WALL
EAST QUAY WALL

Corals On Man-Made Structures

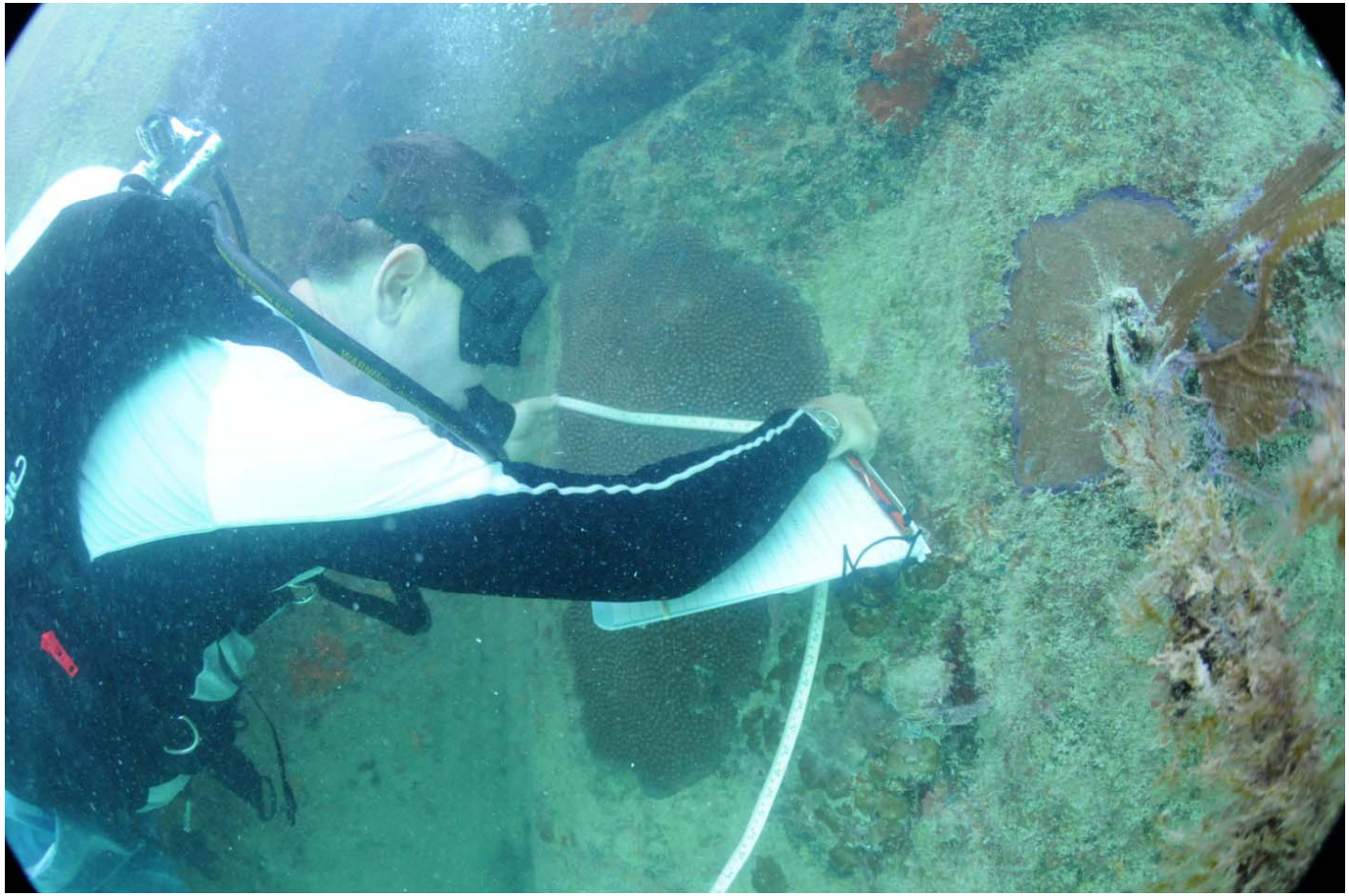


Photos showing measurement of stony corals using a nylon tape.

Corals On Man-Made Structures

Photo showing octocorals attached to the seawall including sea fans and sea plumes. A total of 602 sea fans were counted in the survey area.

Corals On Man-Made Structures



Photos showing measurement of stony corals using a nylon tape for accuracy. The 732 stony coral colonies identified within the survey area had an estimated area of 461,808 cm^2.

Corals On Man-Made Structures

Photo showing the seafloor adjacent to the existing seawall. High currents and wave action maintain shifting sediments and seagrass or hardbottom communities are not present.

NAVAL AIR STATION
RESCUE
USN