



# Point Mugu Sea Range Overview





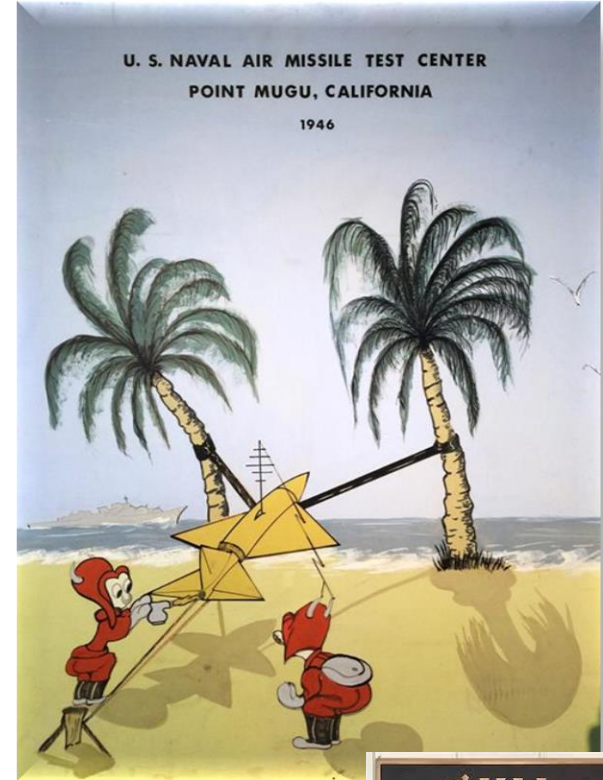
# Point Mugu Sea Range History



Point Mugu beach became a satellite training area for Seabees at Port Hueneme



In 1945, Fleet Admiral Nimitz approved the Navy's First Missile Test Center at Point Mugu



Naval Air Missile Test Center Established at Point Mugu on October 1, 1946



Loon Test Group first missile testing of surface-to-surface missile for potential use against Japan



Pilotless Aircraft Unit Arrived at Point Mugu





# NAVAIR Organization

Secretary of the Navy

Chief of Naval Operations (CNO)

Assistant Secretary of the Navy Research, Development, & Acquisition (ASN RDA)

Naval Air Systems Command (NAVAIR) ★★ ★

Naval Sea Systems Command (NAVSEA)

Naval Information Warfare Systems Command (NAWWAR)

Program Executive Offices Demand

S&T Demand

Point Mugu Sea Range History

Aircraft Division Naval Air Warfare Center Aircraft Division (NAWCAD)

Weapons Division Naval Air Warfare Center Weapons Division (NAWCWD)

Depots Fleet Readiness Centers (FRCs)

NAVAIR

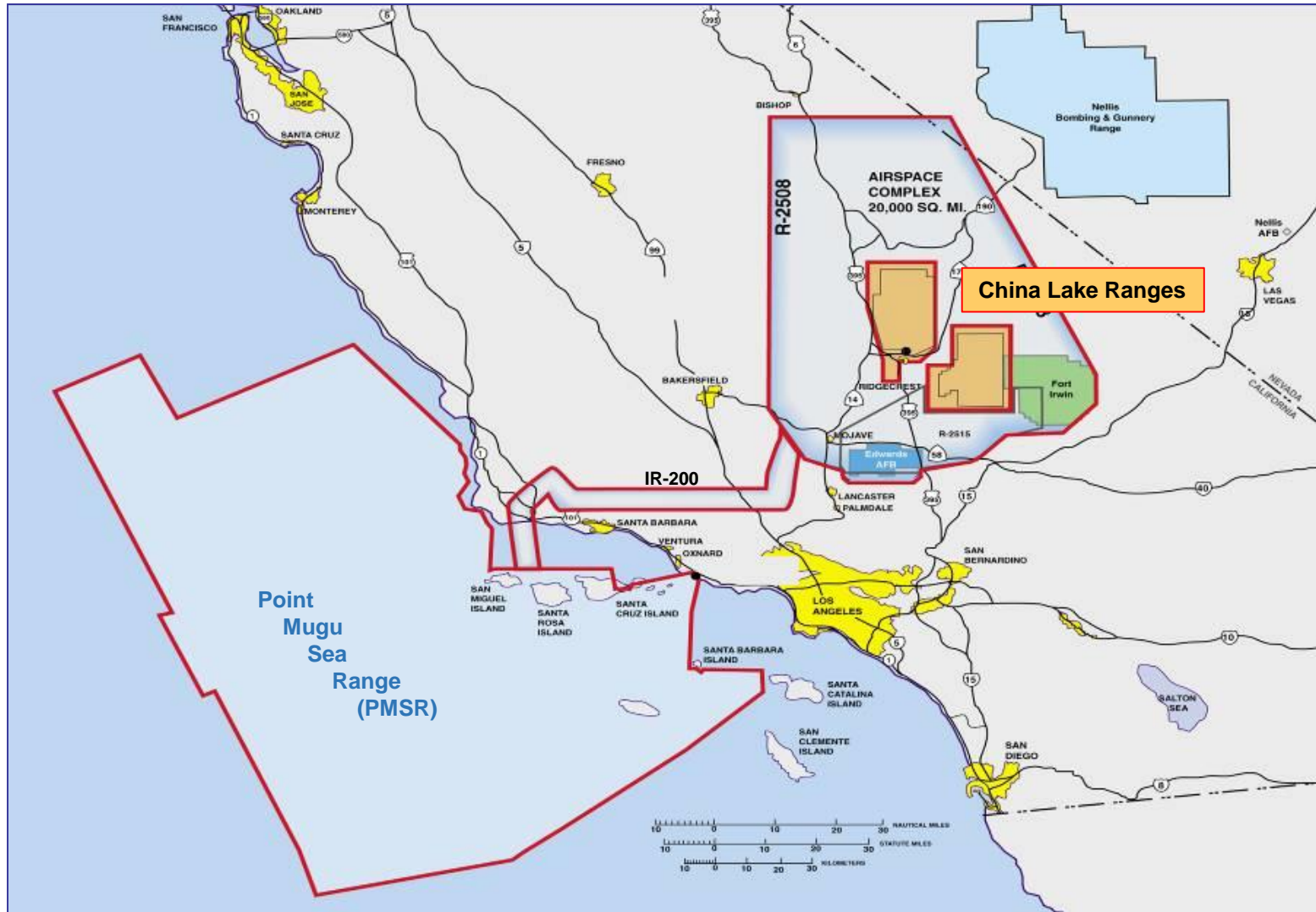
China Lake  
Point Mugu  
North Island

Lakehurst  
Patuxent River  
Cherry Point  
Jacksonville  
Orlando





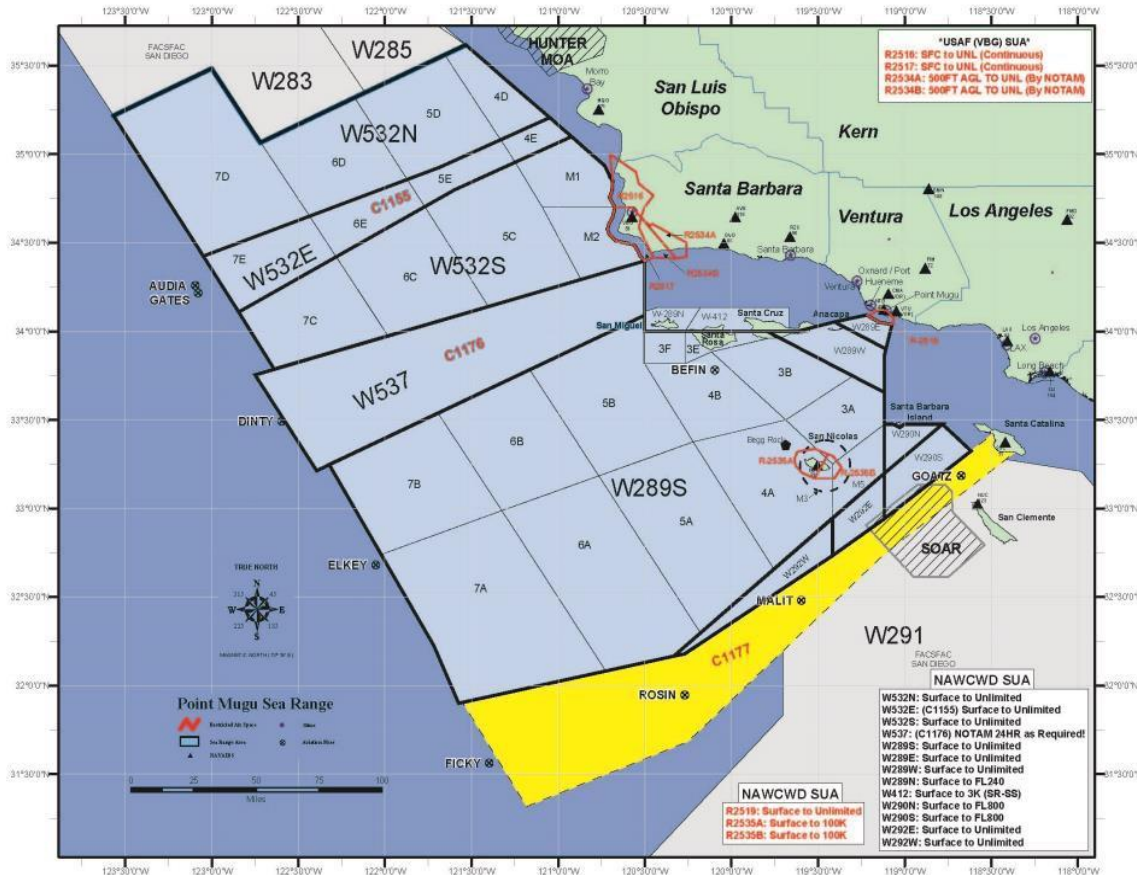
# NAWCWD Ranges





# Point Mugu Sea Range (PMSR)

PMSR is a Major Range and Test Facility Base (MRTFB), designated as a core Department of Defense (DoD) Test and Evaluation (T&E) infrastructure and workforce preserved as a national asset to provide T&E capabilities to support DoD acquisition



- Maritime and Littoral Operations
- 36,000 sq mi of controlled air and sea space
  - Expandable to broad open ocean via coordination with Navy / FAA
- Located adjacent to deep water harbor of Port Hueneme
- Heavily instrumented off-shore islands & mainland facilities

# PMSR Operations

## Specific Focus

- DoD National Priority Testing
- DoD and Naval Weapon Systems Testing
  - Aircraft and Aircraft Weapon systems
  - Ship and Ship Self-Defense Systems
- Cruise Missile testing
- Unmanned Vehicle Testing
- Ship Qualifications Trials and Fleet Training
- Hypersonic Weapons
- Directed Energy Systems
- Strategic Systems testing



“Graduation” Level Test & Evaluation events supporting a wide range of complexity

- Long-range, multi-participant to single participant events
- Air-to-Air, Air-to-Surface, Surface-to-Air, Surface-to-Surface, Sub-Surface to Surface Weapons
- Threat representative target systems
- Threat representative Electronic Warfare systems



**\$100+ million annual operating budget**



# PMSR Capabilities



## Fully-Instrumented Littoral Sea Range

- Enhanced Security with Program Level Facilities
- Range Safety w/ Flight Termination
- Secure Inter-Range (and Intra-Range) Networks
- Precision Time/Space/Position Information and Tracking
- High Bandwidth Telemetry / Data Displays and Analysis
- Photography and Advance Optical Data Systems
- Test Management and Test Execution
- Meteorological Forecasting and Geophysics Support
- Environmental Planning, Assessment, Approval
- Frequency Management & Spectrum Monitoring

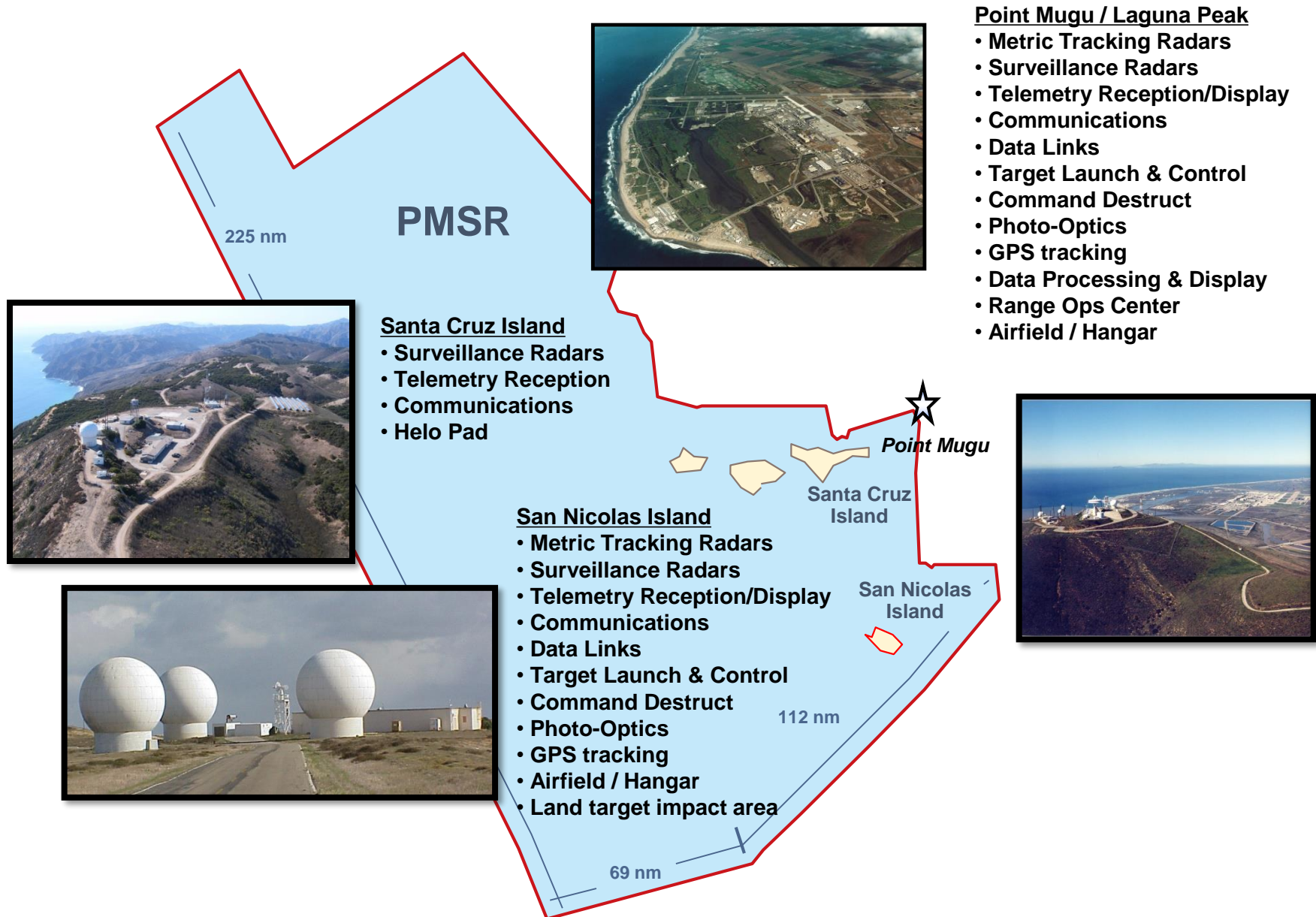
## Realistic Maritime and Littoral Operating Environment

- Vast and Expandable Special Use Airspace
- Launch Facilities and Surface Launch Control
- Electronic Warfare Systems
- Sea, Land & Air Target presentations
- Ordnance Storage and Assembly facilities

## Test Squadron (VX-30) with Range and Test Support Aircraft

- Dedicated Range Surveillance, and Clearance (G-4, P-3, C-130)
- Airborne Telemetry, FTS, and Photo Optics (Cast Glance)
- Airborne Logistics (C-130)

# PMSR Instrumentation





# Aerial Target Systems

\*Provided by NAWCWD Threat/Target Systems Department (TTSD)

## Supersonic



**AQM-37C**



**GQM-163**

## Subsonic



**BQM-34S**



**BQM-177A**

## LSAT



**PHANTOM IV**



**Vindicator**



**BQM-147 ExDrone**

← **Operational** →



**Target Orange Missile**



**NMQ-1B ExPredator**

← **Developmental** →



# Seaborne Powered Targets

\*Provided by NAWCWD Threat/Target Systems Department (TTSD)

1. High speed Maneuverable Surface Target - (HSMST)
  - Manned or Unmanned, Shootable, Swarming, Humannequin
2. Fast Attack Craft Target - (FACT)
  - Manned or Unmanned
3. Mobile Ship Target - (MST)
  - Manned or Unmanned, Configurable, Shootable
4. Ship Deployable Surface Target - (SDST)
  - Manned or Unmanned, Shootable, Swarming
5. QST-35 (A,B)
  - Manned or Unmanned, Shootable





# Low Cost Expendable Targets

\* Provided by NAWCWD Threat/Target Systems Department (TTSD)

## 1. Low Cost Modular Target (LCMT)

- Configurable, EO/IR, RF, Shootable

## 2. Polyethylene Tow Target (PETT)

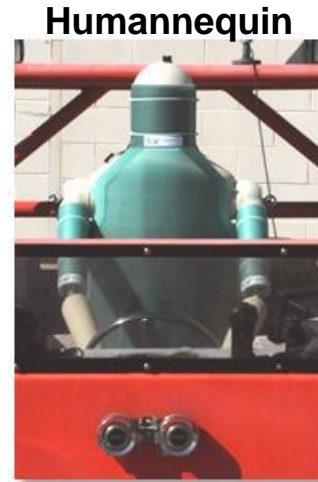
- Configurable, Shootable

## 3. Low Cost Tow Target (LCTT)

- Configurable, EO/IR, RF, Shootable

## 4. SQUID

- Shootable

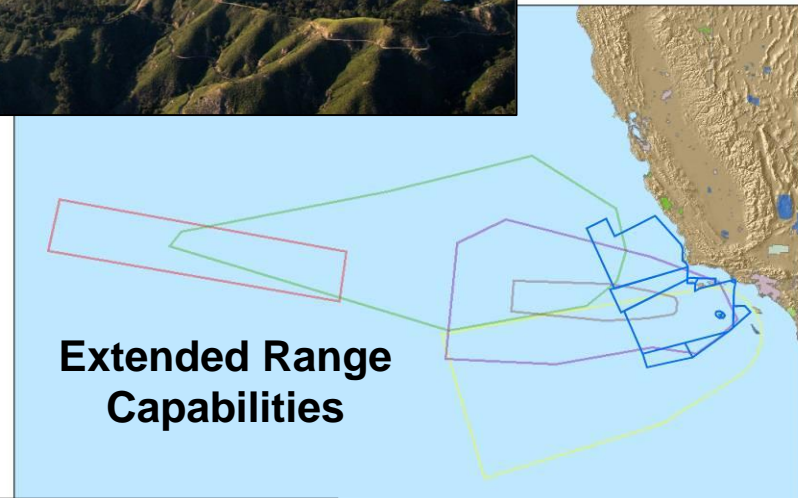




# Range Support Aircraft

\* Provided by NAWCWD Air Test & Evaluation Squadron THREE ZERO (VX-30)

- Sea Surveillance / Clearance
- Cast Glance High Res Video
- Telemetry
  - Decommuration
  - Record
  - Relay
- Flight Termination
  - Control
  - Relay
- Communication Relay
  - UHF
  - VHF
- Tracking Relay
- In Flight Refueling
- Cargo/Logistics



# San Nicolas Island (SNI)



- Entire island under Navy ownership since 1933.
- Approximately 130 personnel on the island.
- Airfield: 10,000 foot runway with daily scheduled passenger & logistics flights
- Connectivity: High bandwidth fiber optic infrastructure to Pt Mugu & other DoD ranges
- Cargo barge for large and heavy material and equipment.

- 60 miles off shore
- Secure facility / hangar
- Strike Ops: Inert impact area
- Missile and Target buildup, storage and launch facilities.
- Directed Energy facilities (future)





# SNI Facilities and Capabilities



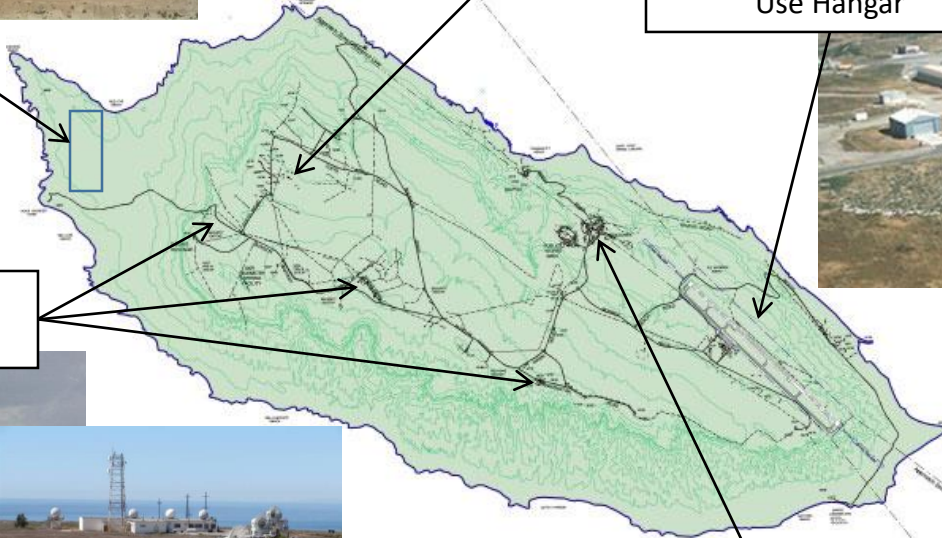
Impact/Ground Target Area



Missile and Aerial Target Launch and Buildup



Airfield with Exclusive Use Hangar



Telemetry, Radar, and Communication Sites



Visitor Quarters and Facilities (Nic Town)



# Environmental Stewardship

- SNI is home to thousands of seals, sea lions, elephant seals and seabirds.
- The waters offshore southern California include habitat for more than 25 species of whales and dolphins.
- The Navy restricts access to sensitive breeding areas and rookeries on SNI.
- The PMSR plans and executes its activities to avoid adverse impacts to marine mammals and seabirds.



- The Navy is a partner in the effort that brought sea otters back to southern California in 1987. Today, more than 100 sea otters reside in the nearshore waters of the island.

# Questions?

