



Vernal Pool  
Management  
MCB Camp Pendleton

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# Context

- MCB Camp Pendleton is vital training facility for USMC and partners
- MCB Camp Pendleton supports 7% of San Diego FS complexes and 18% of Riverside FS complexes in the region (San Diego County)
- Management plans facilitate efficient consultation between MCB Camp Pendleton and USFWS
  - Camp Pendleton has 19 T&E species, 7 of which have associated management plans that assist in training relief and project consultation
  - Training Restrictions: More than 3,500 mapped basins where training is currently restricted (~2,900 acres)

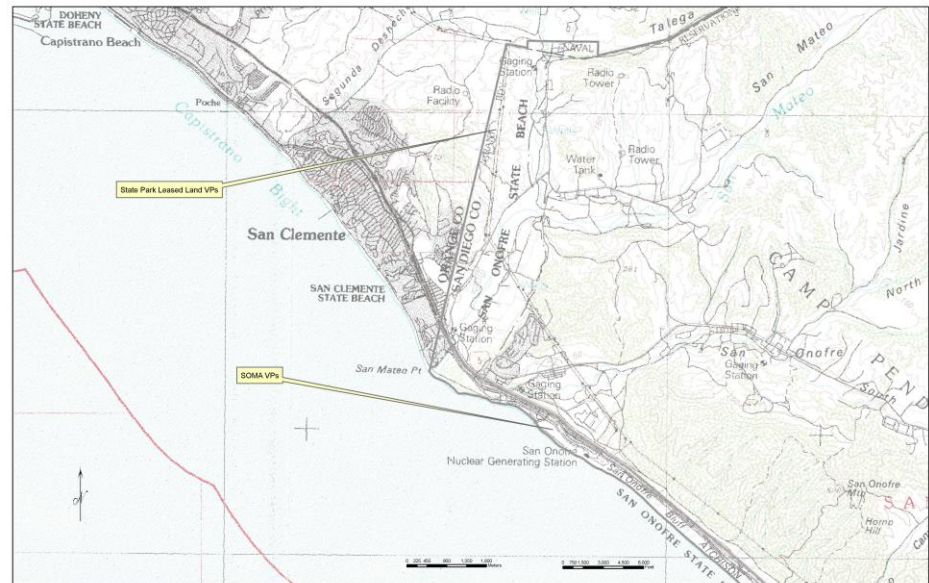
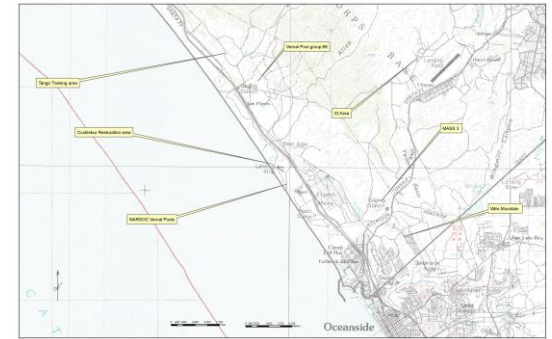
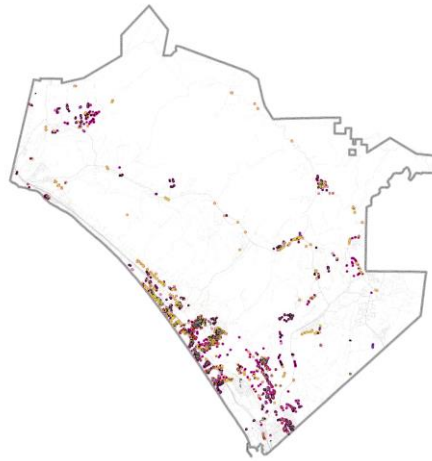
# CPEN Vernal Pool Complexes

## North

1. Soma
2. State Leased Land

## South

1. Cocklebur
2. Marsoc
3. VP68
4. Wire Mt.
5. Tango
6. Mass 3
7. 33 Area





Yearly Monitoring  
Army of two



**Listed Species in our pools**  
**Plants covered in Rare Plant Mgmt. Plan**

1. Spreading Navarretia
2. San Diego Fairy Shrimp
3. Orcutt's grass
4. SD Button-celery
5. Riverside Fairy Shrimp

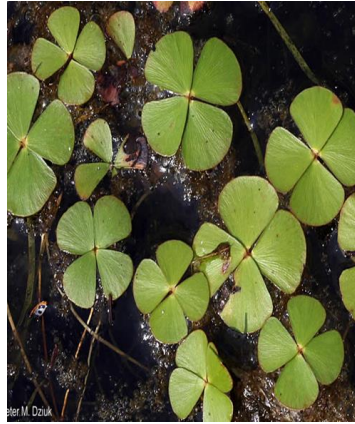
# Artificial Basins

- LFS dominate
- Working on Abatement study with USGS
- Riverside will survive if ponding is sufficient
- Major conflict for road maintenance



## Other Important Resources

- Waterfowl
- Spadefoot Toad
- Marsilea
- Pilularia
- Callitriche





SFT Basin Creation  
In Tango Training Area

# PLAN

- Vernal Pool Management Plant Elements
  - Maintain viable populations of San Diego and Riverside fairy shrimp on Base
  - Facilitate Base compliance with the Endangered Species Act (ESA)
  - Conservation Assurance CPEN Doing our part
- Relief of Training and Project Restrictions
  - Create a 3-level system for management based on training needs
  - Create a Consultation Class System for future projects



# Goals

- Vernal Pool Management
  - No net loss of populations of San Diego and Riverside FS on Base
  - Conserve vernal pool ecosystems, high quality habitat
- Relief of Training and Project Restrictions
  - Un-mapping of 1,255 basins that were previously classified as vernal pools on the Environmental Operations Map
  - Reduced acreage for FS avoidance: 2,900 ac to 1,400 ac (~51% reduction)
  - Authorized take for occupied basins on existing roads & ranges
  - VP Consultation Class System created to reduce USFWS consultation times for projects with fewer restrictions

# Proposed Training Restrictions by Conservation Level

## Maximum

- No Off-road Vehicles
- No bivouacking w/in 50 m
- No Digging
- 1,568 basins
- 944 acres

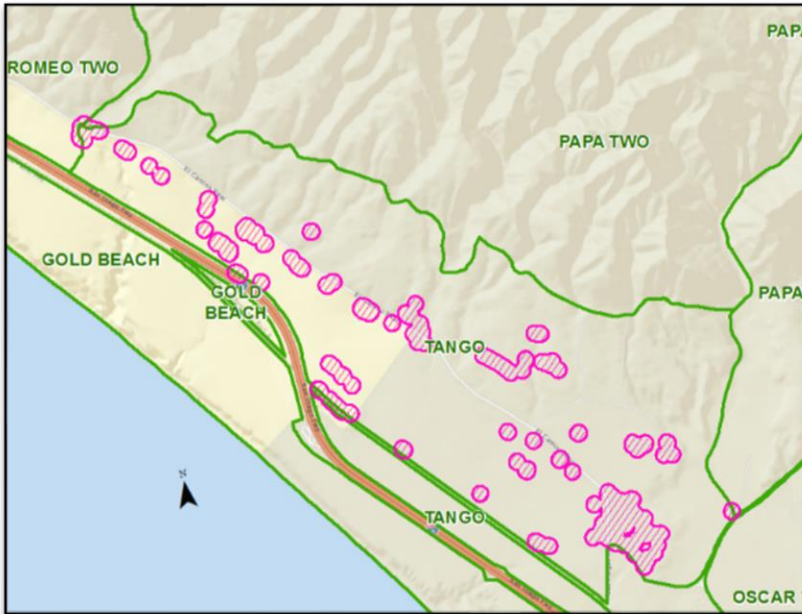
## Status Quo - Current Status


- No Off-road Vehicles
- No Bivouacking w/in 50 m
- No Digging
- 64 basins
- 157 acres

## Limited


- No Digging
- 643 basins
- 762 acres
  
- Note: Other sensitive resources may be present--  
Pacific Pocket Mouse, cultural sites, etc.

# Example: Reduced Training Restrictions, TANGO TA





## Timeline and Steps for Implementation

- Initial implementation: 10 Years – Start Consult ASAP
  - Progress assessment: Year 5 (Adaptive Mgmt.)
  - Coordinate with G-3/5
  - Update GIS Geodatabase, EOM, and Range Regulations
  - Provide routine briefs and education sessions
  - Implement compensation, restoration, and monitoring – Already started many on going restorations
- 



# Restoration Work

VP68  
Soma  
Del Mar

