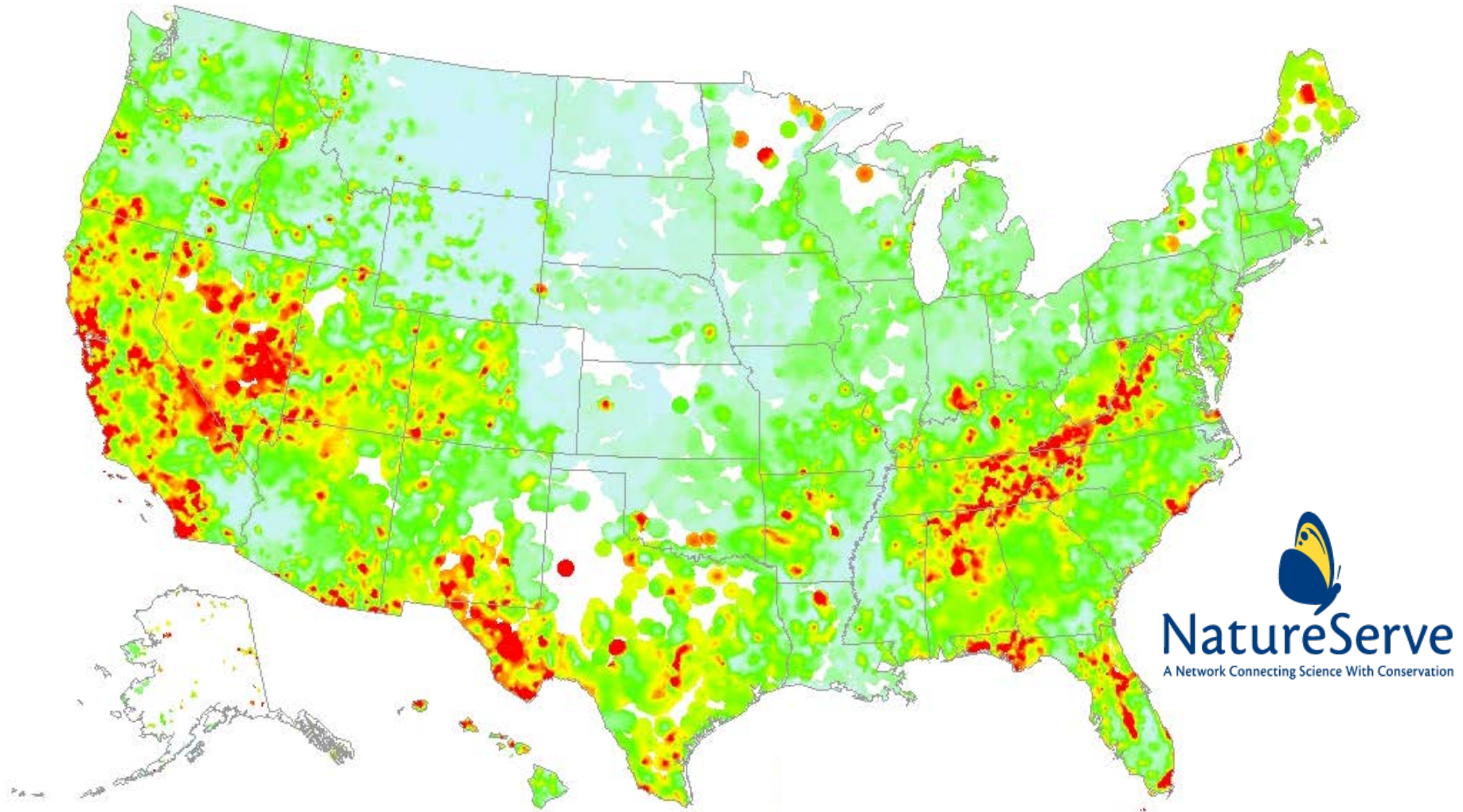


ESHA Determinations

- **Analytical Process**
- **Rarity**
- **ESHA Delineation**
 - **Vegetation Communities**
 - **Plants**
 - **Animals**
- **ESHA Considerations**
- **Buffering ESHA**

NatureServe's Hotspots Map



Rarity-Weighted Richness of Critically Imperiled and Imperiled Species

California Rarity Hotspots



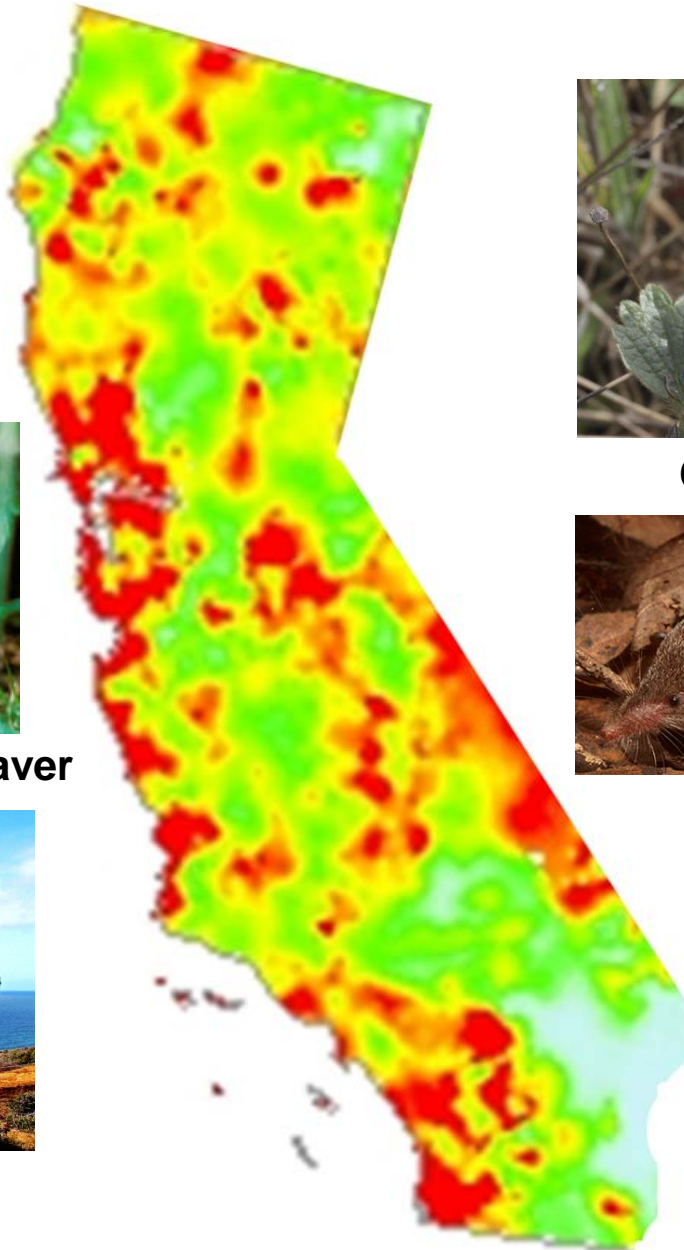
Humboldt Marten



Point Arena Mountain Beaver



Torrey Pine



Checkerbloom



Ornate Shrew

ESHA Determination

Determination = f (Identification, Delineation)



**Confirming the
Presence of
ESHA on a Site**

**Mapping the
ESHA
Boundary; the
Extent of ESHA
on a Site**

Analytical Process



Coastal Analyst

- **New Application**
- **Standard of Review**
 - CA, LCP, PWP, LRDP...?
- **Relevant Chapter 3 Policies**
 - **Biological Resources?**
- **Staff Report**



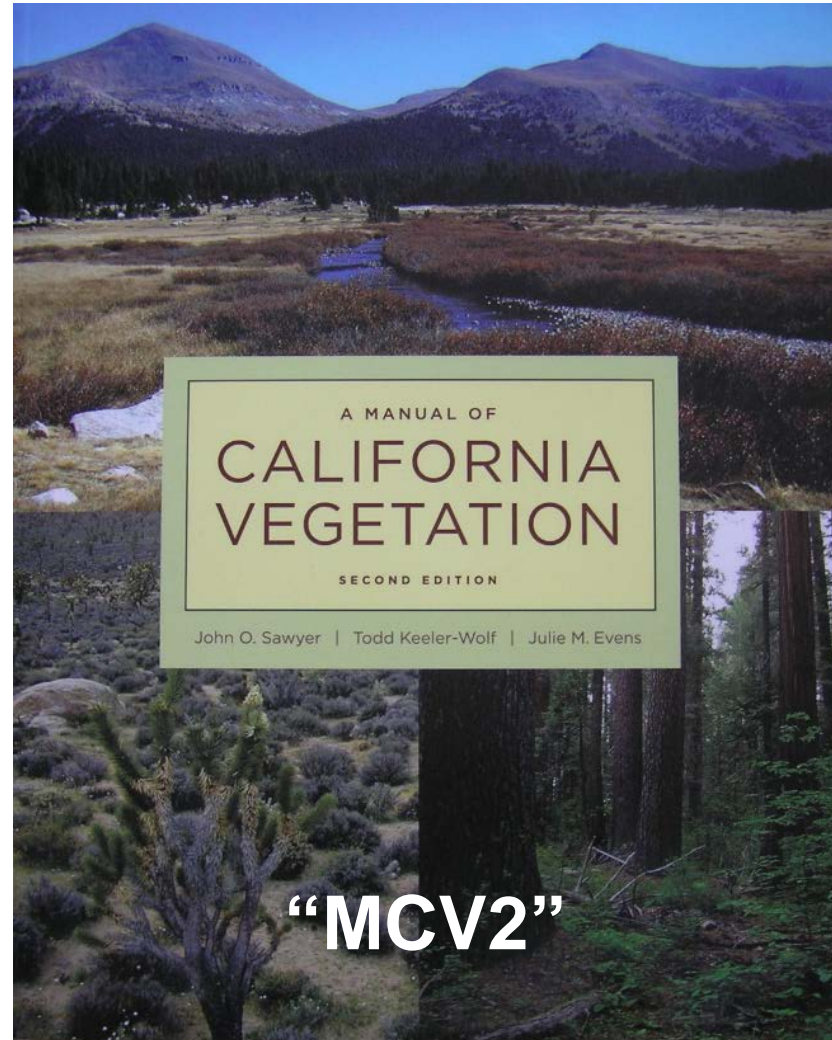
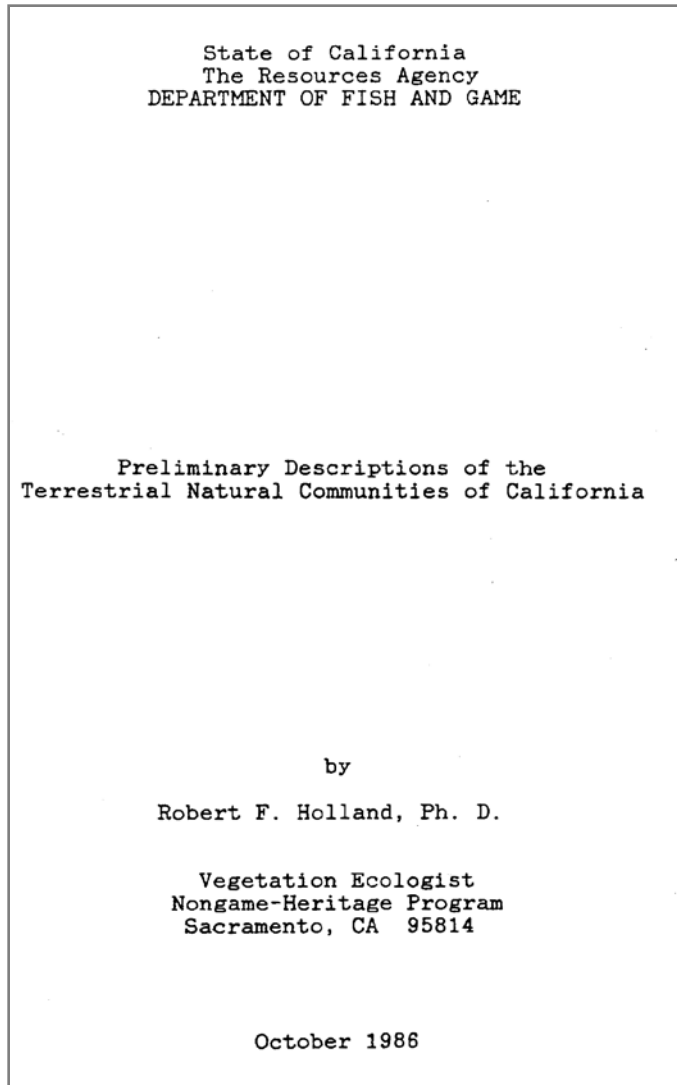
Staff Ecologist

- **Site Biological Reports**
 - **Comprehensive, Current?**
 - **CEQA / NEPA EIR, EIS, MND?**
- **CNDDB Search**
- **Aerial Photography**
- **Scientific Literature**
 - **Peer-Reviewed**
 - **White Papers**
 - **Books/Manuals**
- **Biological Experts**
- **Site Visits**
- **Technical Memoranda**

Defining Vegetation Communities

“Holland”

“Manual of California Vegetation”



Holland Delineation Example

Carpinteria Bluffs III Site

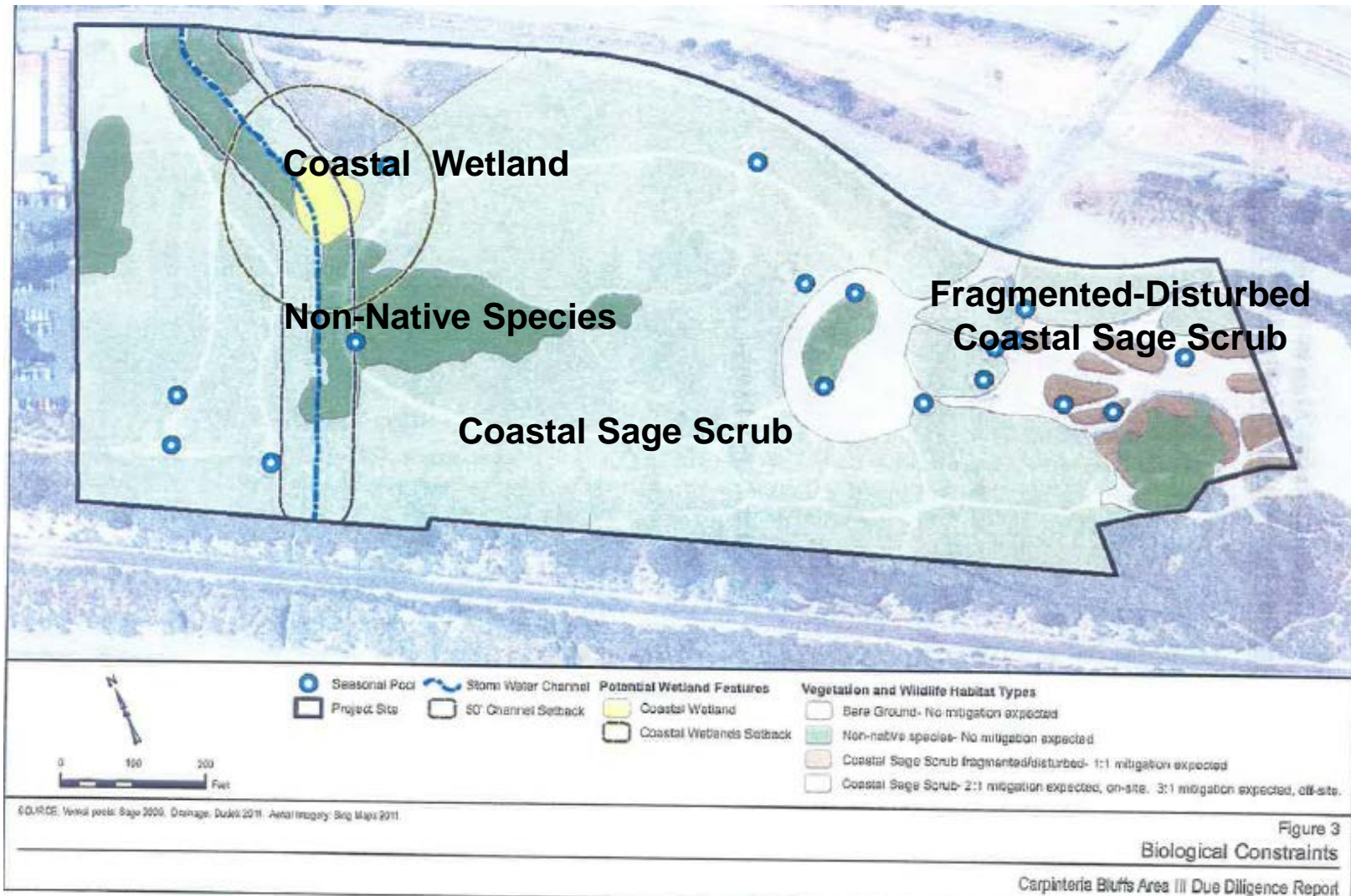
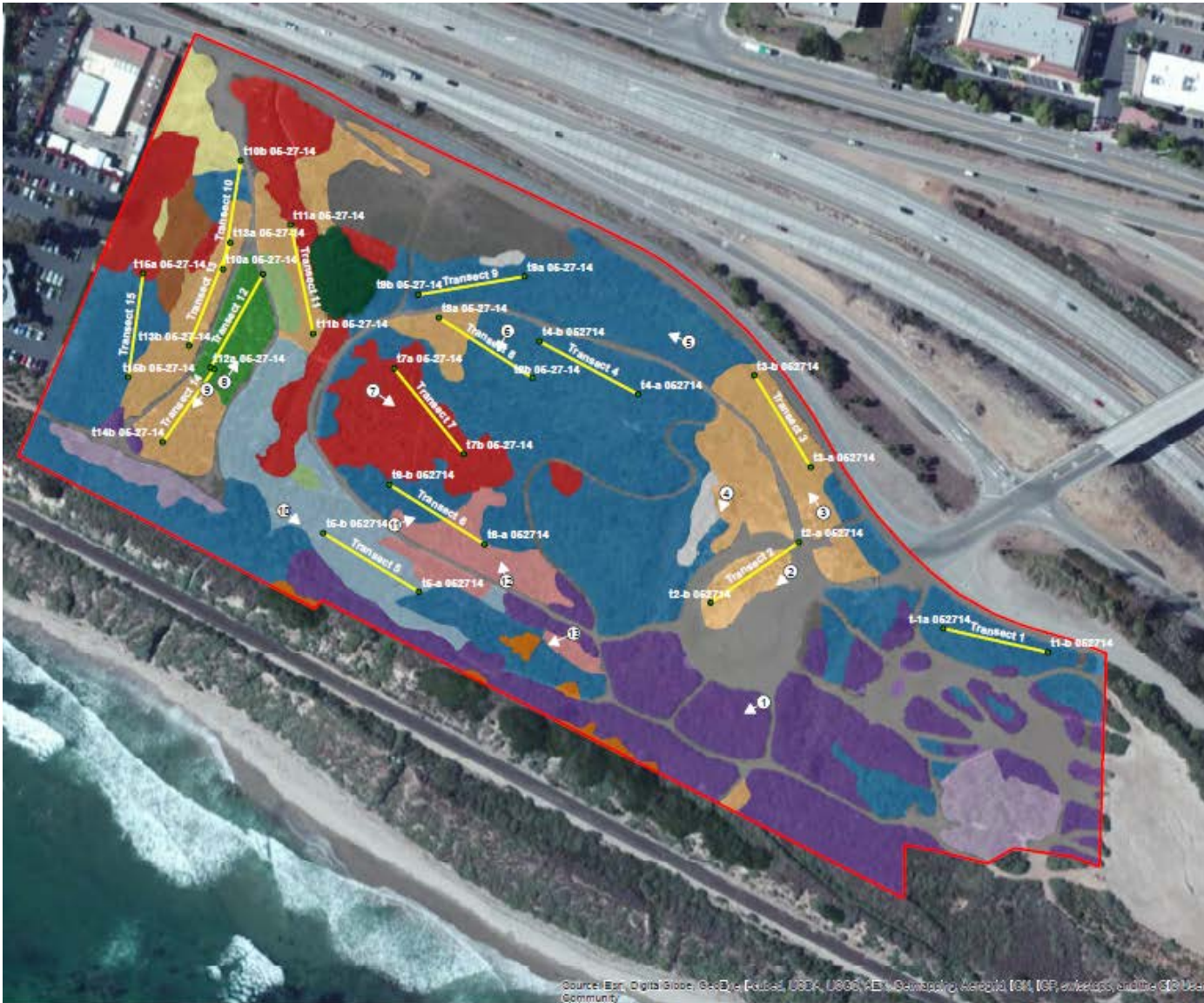


Figure 3
Biological Constraints

MCV2 Delineation Example

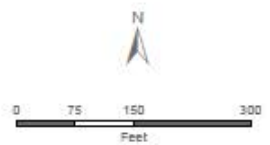
Carpinteria Bluffs III Site



- Legend**
- Approximate Project Boundary
 - Arroyo Willow Thicket (0.23 acre, G4 S4)
 - Brassica nigra & other Mustards (0.19 acre, NNI*)
 - Bromus diandrus (0.27 acre, NNI*)
 - California Brittle Bush Scrub (0.91 acre, G4 S3)
 - California Sagebrush Scrub (0.11 acre, G4 S4)
 - California Sagebrush-Black Sage Scrub (0.31 acre, G4 S4)
 - Cliff Aster (0.52 acre, NA***)
 - Coyote Brush Scrub (6.88 acre, G5 S5)
 - Unvegetated/Disturbed (4.16 acre, NA***)
 - Ice Plant Mats (1.89 acre, NNI*)
 - Lemonade Berry Scrub (0.12 acre, G3 S3)
 - Menzies Golden Bush Scrub (2.35 acre, G4? S4?)
 - Mulefat Thickets (0.10 acre, G5 S5)
 - Myoporum Groves (0.61 acre, NN**)
 - Quailbush Scrub (3.23 acre, G4 S4)

Total Acreage: 21.88

*NNI= Non-Native Invasive
 **NN= Non-Native
 ***NA= Not Applicable



CARPINTERIA BLUFFS AREA III
 Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 1

Source: Esri, DigitalGlobe, GeoEye, Earthstar (United States), CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, ISF, Planet Labs, and the GIS User Community

Quantitative Sampling

A vertical wooden stake is planted in a field of dry, brownish grass. A small white rectangular marker is on the ground near the base of the stake. The background shows a flat, open landscape under a clear sky.

Transect

A metal quadrat frame is placed over a patch of green, leafy plants. The frame is a square grid made of thin metal rods. The plants are dense and appear to be a type of herb. The ground around the quadrat is covered with dry grass and other vegetation.

Quadrat

How We Determine Rarity

- **Global and State 1 - 3 Ranked Vegetation Communities (i.e. G1, G2, G3, S1, S2, S3)**
- **Global and State 1 - 3 Ranked Plant and Animal Species**
- **Federally Rare, Threatened, & Endangered Species**
- **State Rare, Threatened & Endangered Species**
- **Federal and State Proposed/Candidate Species**
- **California Native Plant Society “1B” and “2” Listed Species**
- **California Species of Special Concern**
- **California Fully Protected Species**
- **Habitats that Support Listed Species**

Rare Vegetation Community

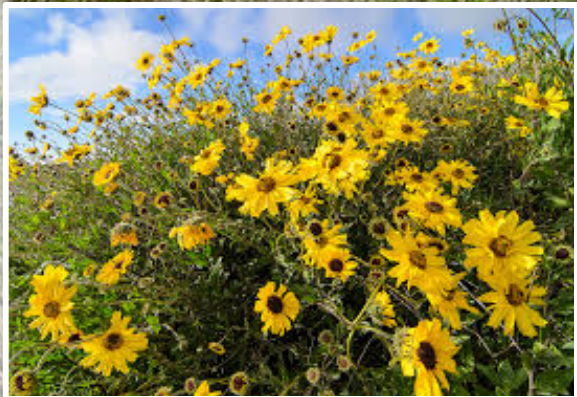
Southern Foredunes



East End Broad Beach, Malibu, 2009

Rare Vegetation Community

Encelia californica Shrubland Alliance



California Sunflower
Encelia californica

La Piedra State Beach, LA County, 2010

Rare Vegetation Community

Purple Needlegrass Grassland



Purple Needlegrass,
Stipa pulchra

El Matador State Beach, LA County, 2010

Rare Natural Community

Vernal Pools



More Mesa, Santa Barbara (c. 2005)

Rare Plant and Animal Populations

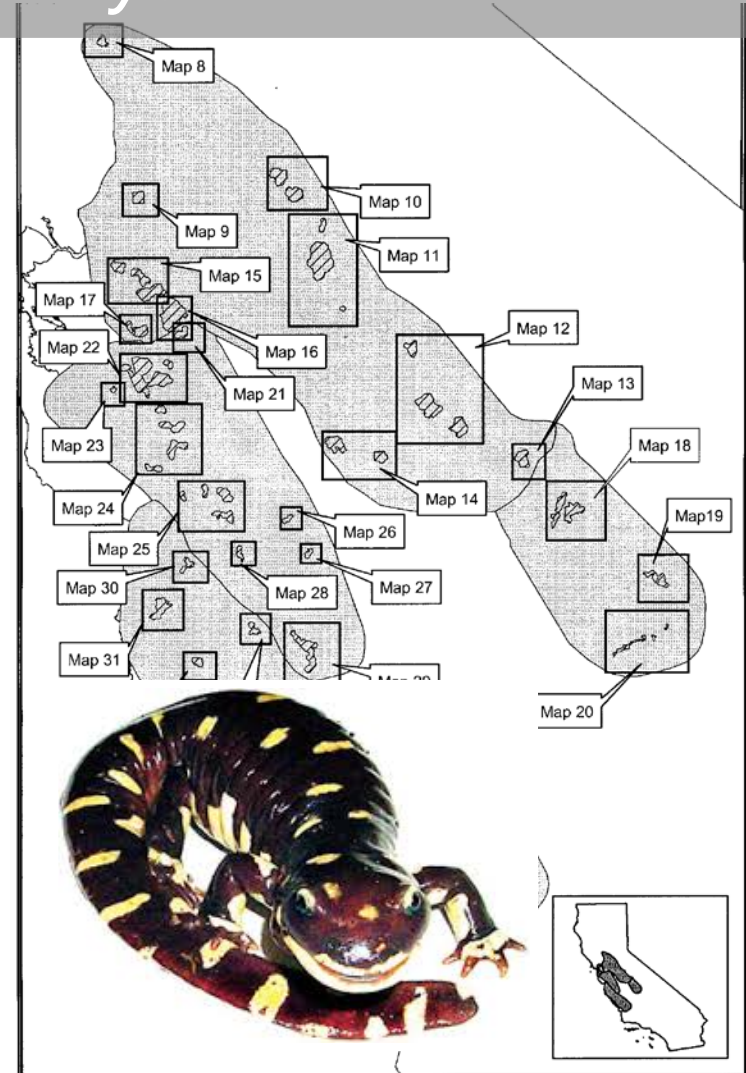
Coast Lily

Lilium maritimum



Tiger Salamander

Ambystoma californiense



Rare Annual Plant Populations

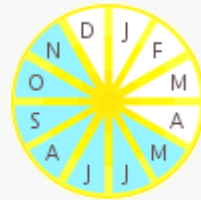
[Interactive Distribution Map](#)

[Observation Hotline](#)

(observation details + photos)

• point, line, or polygon

■ one or more occurrences
within a 7.5-minute quadrangle



Bloom Period

Southern Tarplant *Centromadia parryi* ssp. *australis*

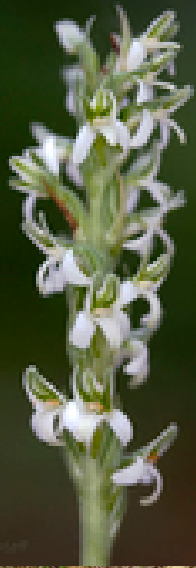


- S2, Imperiled; CNPS 1B.1 Seriously Endangered in California

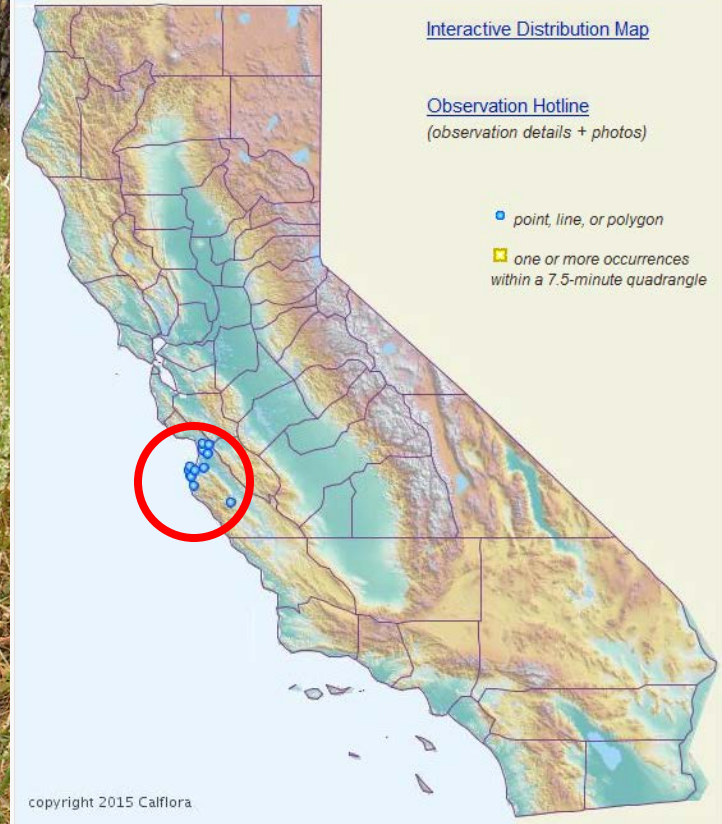
- Blooms between May and November

- Facilitated by Natural Disturbance such as Flooding

Rare Perennial Plant Populations



Yadon's Rein Orchid
Piperia yadonii



- **G2 S2, Imperiled; CNPS 1B.1**
Seriously Endangered in California
- **Blooms between May and August**
- **Coastal Bluff Scrub, Maritime Chaparral, Closed Cone Pine Forest**

Pebble Beach, California



Habitat that Supports Rare Animals

Smith's Blue Butterfly

Euphilotes enoptes smithi



Obligate on:

Coastal Buckwheat

Eriogonum parvifolium

Habitat that Supports Rare Animals



San Francisco Ducky Footed Woodrat
Neotoma fuscipes annectens
San Diego Wood Rat
Neotoma lepida intermedia



Habitat that Supports Rare Animals

California Coastal Gnatcatcher

Polioptila californica



Distinct Habitat Requirements
Coastal Sage Scrub

Especially Valuable Habitat



**Tree Stands Supporting
Nesting Raptors**



ESHA Considerations



Disturbance – Natural and Anthropogenic

Marblehead, San Clemente, 2006

ESHA Considerations



**September 19, 2012
Before Mowing Ended**



**January 29, 2014
After Mowing Stopped**

Disturbance - Unpermitted Development

What is a Buffer?



Buffer Considerations

- 1. Scientific Literature**
- 2. Landscape Setting – Urban, Rural, Zoning, Adjacent Uses?**
- 3. Cumulative Impacts – Build out Potential, Future Development Types?**
- 4. Type of Development?**
 - Noise**
 - Lighting**
 - Domestic Animals**
 - Herbicides, Pesticides**
 - Traffic**