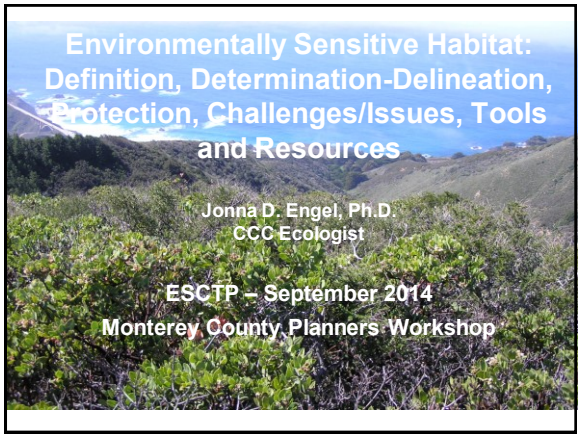


What Do Technical Services Biologists Do ?

- •Pre-project Review with Applicants and Local Agencies
- •Initial Project Consultation
- •Help Identify Biological Issues Associated with Proposed Projects
- • Help with Filing (Incomplete) Letters
- •Review Biological Reports & Wetland Delineations
- •Participate in Site Visits
- •Conduct Technical Data Analysis
- •Help Applicants Develop Mitigation & Monitoring Plans
- •Help Draft Condition Language
- •Coordinate with Other Agencies During the Permitting Process
- •Write Technical Memoranda & Give Technical Presentations to the Commission
- •Evaluate Condition Compliance for the Executive Director
- •Evaluate Significance of Biological Issues Raised by Appeals
- •Identify Resource Damage from Unpermitted Development & Assist in Enforcement Cases
- •Analyze Biological Issues and Help Craft Biological Recommendations During LCP Updates
- •Coordinate with Mapping to Produce Exhibits for Staff Reports and Hearing Presentations
- •Participate on External Panels

2

Section 30107.5 - ESHA Definition

"Environmentally sensitive area" (ESHA) means any area in which plant or animal life or their habitats are either rare OR especially valuable because of their special nature or role in an ecosystem AND which could be easily disturbed or degraded by human activities and developments.

3

Important Elements to the Definition of ESHA

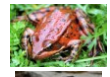
1. **A geographic area can be designated ESHA because of the presence of rare species of plants or animals or the presence of a rare habitat type, OR,**
2. **A geographic area may be designated ESHA because the species or habitat it supports is especially valuable because of its special nature or role in an ecosystem, AND,**
3. **The geographic area must be easily disturbed or degraded by human activities.**

4

How We Determine Rarity?

- **Federally Endangered & Threatened Species**
- **State Endangered & Threatened Species**
- **Federal and State Proposed/Candidate Species**
- **Global and State 1 – 3 Ranked Species & Habitats (e.g. G1, G2, G3, S1, S2, S3)**
- **California Native Plant Society (CNPS) Rare Plant Inventory: "1B" and "2" Listed Species**
- **California Species of Special Concern (SSC)**
- **California Fully Protected Species**
- **Rare Habitats/Natural Communities (MCV2)**
- **Habitats that Support Listed Species**
- *****

Examples of Federal & State Listed Species

Species		Listing Status
California Steelhead		Federally Threatened
California Tiger Salamander		Federally Threatened State Threatened
California Red-Legged Frog		Federally Threatened
Snowy Plover		Federally Threatened
Yadon's Rein Orchid		Federally Endangered

- Endangered: Taxa which are in danger of becoming extinct throughout all or a significant portion of their range.
- Threatened: Taxa which are likely to become endangered in the foreseeable future in the absence of special protection

Examples of California Native Plant Society Listed Species

Hoffman's Rockcress
CNPS List 2

San Luis Mariposa Lily
CNPS List 1B

Bigleaf Crownbeard
CNPS List 1B

CNPS 1B: plants that are rare, threatened, or endangered in California and elsewhere.

CNPS 2: plants that are rare, threatened, or endangered in California, but more common elsewhere.

Examples of Department of Fish and Wildlife Species of Special Concern

Globose Dune Beetle

Silvery Legless Lizard

Northern Harrier

Dusky Footed Woodrat

SSC include plants and animals whose populations are declining, have limited ranges, and or continuing threats have made them vulnerable.

Maritime Chaparral

Maritime Chaparral Determination Similar to Making a Wetland Determination:

- Indicator Plant Species (hydrophytic plants)
- Nutrient Poor Soil (hydric soil)
- Maritime Climate (hydrology)

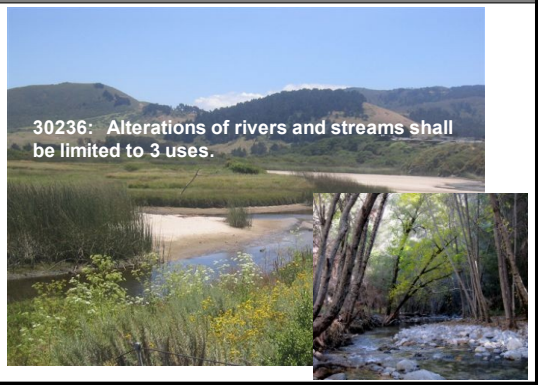
Foster Property

Central Coast Dunes

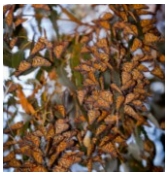
Coastal Prairie -Native Grassland

Coastal Woodlands; e.g. Monterey Pine Forest

Riparian Habitat



Especially Valuable Habitat Areas



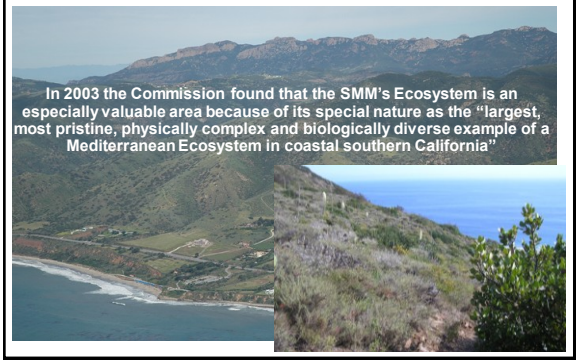
Monarch Butterfly Habitat

California Gnatcatcher Occupied CSS

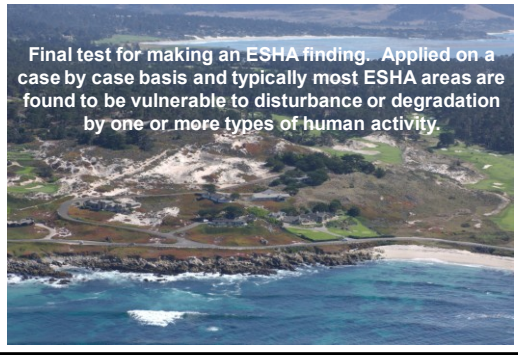
Tree Stands ThatSupport Raptor Nesting

ALSO –Wildlife Corridors/ Dispersal Corridors

Mediterranean Ecosystem in the Santa Monica Mountains



Easily Disturbed or Degraded by Human Activities and Developments?



Section 30240 - Environmentally Sensitive Habitat Areas; Adjacent Developments

Provides Direction for Protection ESHA:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

How We Protect ESHA

- Staff Makes Recommendation for What Constitutes ESHA – Recommendation Based on "On the Ground" Existing Habitat

- Avoid the ESHA

- Mitigate Unavoidable Impacts – If Project is Permitted (e.g. takings)

- Buffer the ESHA

What is a Buffer?

American Heritage Dictionary: "One that lessens, absorbs, or protects against the shock of an impact; to deaden the shock of".

A buffer, in the context of the Commission, is a barrier, "safe zone", or bordering strip of natural habitat or land between ESHA and development or human disturbance.

"Buffer," "buffer zone," and "setback" are used interchangeably by the Commission and all three terms are found in LCPs.

Purpose of a Buffer

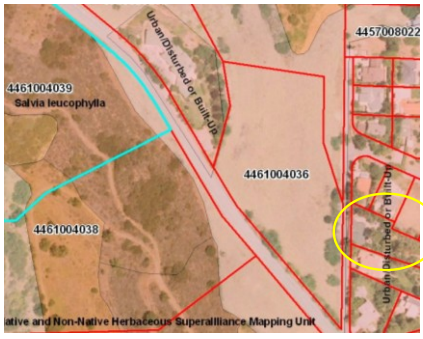
The purpose of a buffer is to create a zone where there will be little or no human activity; to "cushion" species and habitats from disturbance and allow native species to go about their "business as usual".

ESHA Determination Challenges/Issues

1. Level of Disturbance

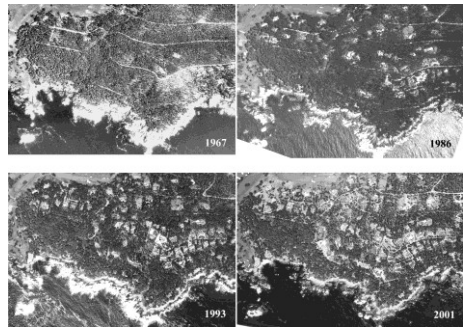
ESHA Determination Challenges/Issues

2. Patch Size



ESHA Determination Challenges/Issues

3. Level of Habitat Fragmentation



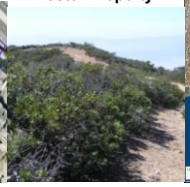
ESHA Determination Challenges/Issues

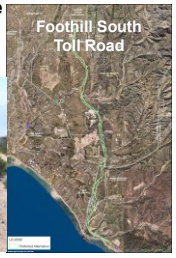
4. Differences of Opinion between CCC Ecologists and Applicant's Consultants:

- ESHA Boundaries
- ESHA/Non-ESHA
- Level of Degradation/Disturbance
- Habitat Type

Malibu Bay Company

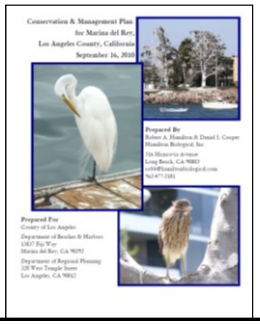
Foster Property





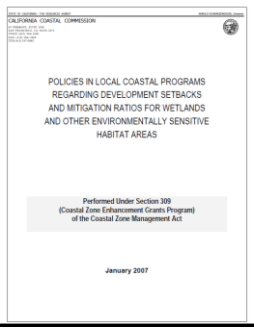
ESHA Determination Challenges/Issues

5. No ESHA "light" – An Area is Either ESHA or not ESHA, Nothing Inbetween



ESHA Determination Challenges/Issues

6. ESHA Buffers – Many LCP's have Inadequate ESHA Buffer Policies



CALIFORNIA COASTAL COMMISSION

POLICIES IN LOCAL COASTAL PROGRAMS REGARDING DEVELOPMENT SETBACKS AND MITIGATION RATIOS FOR WETLANDS AND OTHER ENVIRONMENTALLY SENSITIVE HABITAT AREAS

Performed Under Section 309 (Coastal Zone Enhancement Grants Program) of the Coastal Zone Management Act

January 2007

ESHA Determination Challenges/Issues

7. Dated LCP's – Not All ESHA Identified

8. LCP ESHA Maps – Not All ESHA Mapped

9. Critical that ESHA be Protected in Place; Can't Move ESHA – Bolsa Chica Decision

10. Takings

11. Edge Populations

12. Transitional Populations – e.g. Maritime Chaparral/Pine Forest/Oak Woodland; Grassland/Sage Scrub

ESHA Determination Challenges/Issues

13. Dominance vs. Presence of Indicator Species

14. Communities with Evolving Definitions

15. Seed Banks

16. Coastal Act vs. Local Coastal Plan Policies

Biological Analysis Tools/Resources

- **Biology Report Prepared by Applicant's Consultant**
- **National Environmental Quality Act (NEPA)**
  - **Biological Opinion/Assessment (BO/BA)**
  - **Environmental Impact Study (EIS)**
- **California Environmental Quality Act (CEQA)**
  - **Initial Study (IS)**
  - **Mitigated Negative Declaration (MND)**
  - **Environmental Impact Report (EIR)**

DEPARTMENT OF FISH AND GAME **Biogeographic Data Branch**

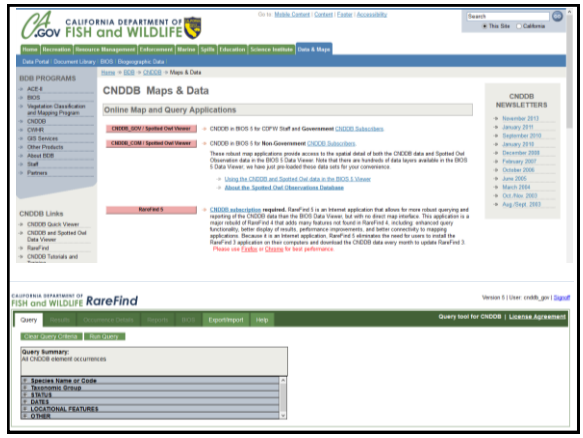
California Natural Diversity Database - CNDDB

Ways to Access CNDDB

1. Rare Find 3 – requires installation on your computer

2. Rare Find 5 – Online version of Rare Find 3
http://www.dfg.ca.gov/about/data.html

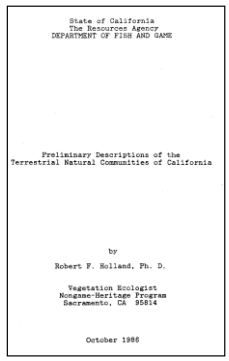
Rare Find 5 Contact: Kristine Spencer (916) 324-3812 or (916) 322-2493.
BIOS – Online mapping tool that is being integrated to Rare Find



Additional Tools for Identifying Biological Resources on Proposed Development Sites

- **SITE VISIT (s)**
- **Commission Regional Guides**
- **Google Earth/Bing Maps**
- **California Coastal Records Project**
- **Consultation with Agency and Academic Experts**

Defining Vegetation Communities



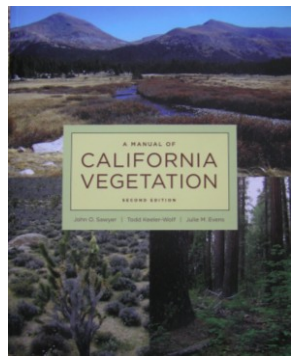
State of California
The Resources Agency
DEPARTMENT OF FISH AND GAME

Preliminary Descriptions of the Terrestrial Natural Communities of California

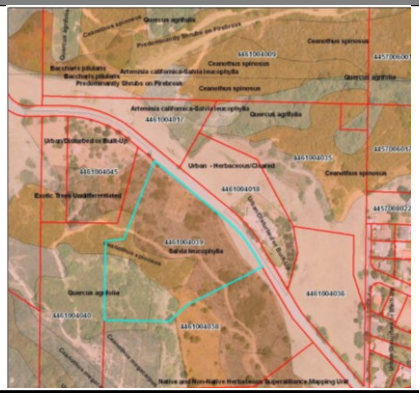
by
Robert F. Holland, Ph. D.

Vegetation Ecologist
Nongame-Heritage Program
Sacramento, CA 95814

October 1986



CDFG High Resolution Vegetation Mapping



Southern California Wetlands Mapping Project

http://www.socalwetlands.com/website/area.htm

Wetland and riparian areas will be mapped in 193 USGS orthoquads in the coastal watersheds in WQCB Regions 3, 4, 8, and 9

California Natural Resources Agency — California Environmental Resources Evaluation System

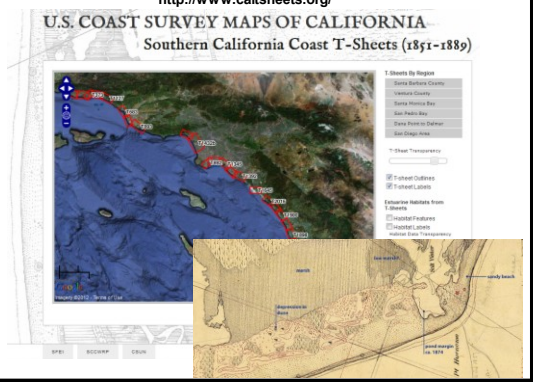
http://ceres.ca.gov

- California Wetlands Portal
- LUPIN
- California Wetlands Information System
- California Watershed Portal
- CalOCEAN
- Digital Atlas

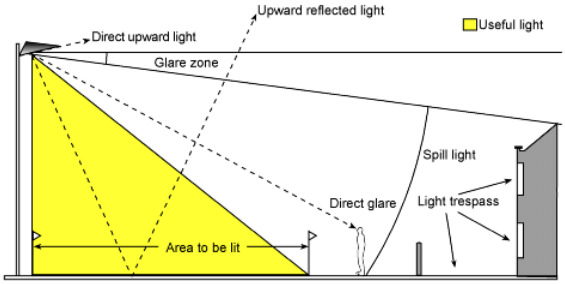
U. S. Fish & Wildlife Service
National Wetlands Inventory
http://www.fws.gov/wetlands/Data/Mapper.html

Historical Ecology

http://www.caltsheets.org/



Light Tresspass, Sky Glow, and Glare



Electromagnetic Spectrum

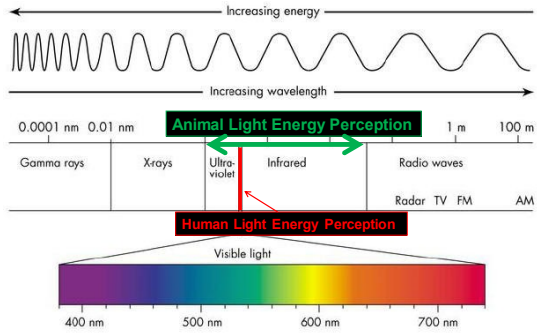


Table 3: IESNA Table 26.4, Nighttime Outdoor Lighting Zone Definitions

Zone	Outdoor Lighting Situation	Definition	Pre Curfew Lighting Threshold
LZ0	No Ambient Lighting	Areas where the natural environment will be seriously and adversely affects by lighting impacts include disturbing the biological cycles of flora and fauna and /or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to the darkness and they expect to see little or no lighting. When not needed lighting should be extinguished	0.1 lux (.01fc)
LZ1	Low Ambient Lighting	Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.	1 lux (0.1fc)
LZ2	Moderate Ambient Lighting	Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.	3 lux (0.3fc)
LZ3	Moderately High Ambient Lighting	Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.	8 lux (0.8fc)
LZ4	High Ambient Lighting	Areas of human activity where the vision of human residents and users is adapted to high light levels. Lighting is generally considered necessary for safety, security and /or convenience and it is mostly uniform or continuous. After curfew, lighting may be extinguished or reduced in some areas as activity levels decline.	15 lux (1.5fc)

Sports Field Night Lighting

"Sports fields are the second biggest contributor to light pollution in cities, after commercial districts, and contribute far more to light pollution relative to their area than any other feature" (Luginbuhl et al. 2009)

Noise

Terrestrial and Aquatic

Climate Change – Sea Level Rise

Shoreline Armoring

Beach Replenishment