

Outline – Week 6

- Review/Freewrite
- Activity Change
- SUBSTANCE: BIOTICS
- SUBSTANCE: AGRICULTURE
- Course Evaluation

Review/freewrite

- Write out three questions you have about the initial study assignment

Activity change

- Hand in Journal
- Start Community Service Activity
 - Contact an organization you would like to work with:
 - ✦ <http://erc.thinkhost.net/>
 - ✦ NEXT WEEK bring in the name and what hours you hope to work
 - ✦ Write in your journal weekly.
 - Comment on
 - ✦ Service done?
 - ✦ How your work applies to this class?
 - Turn in journal twice more during semester...
 - ✦ April 15 (total of 4 service entries)
 - ✦ May 13 (4 more service entries)

a) Candidate, sensitive or special status species

- identified
 - in local or regional plans, policies, or regulations(General plan)
 - by California Dept of Fish and Game (CDFG)
 - by US Fish and Wildlife Service (USFWS)
- e.g. Burrowing Owl
 - *Athene cunicularia*

Resource Area

BIOTICS: Environmental Setting

- Describe what's there PRE-PROJECT
 - **Onsite** and in the **Surrounding area**
 - At the time of project proposal
- Site visits, expert evaluation and maps
 - Species of Special Concern
 - Riparian habitat
 - Natural communities
 - Wetlands
 - Migratory corridors
 - Nests/burrows
 - Trees/local resources

Rare, Threatened, Endangered and Spp of

Special Concern: Animals

Lists and information

<http://www.dfg.ca.gov/biogeodata/>

Photos

<http://dpl.cs.berkeley.edu/photos/>

- E.g. California Tiger Salamander: *Ambystoma californiense*

The California Natural Diversity Database (CNDDDB) Maps

- <http://www.dfg.ca.gov/biogeodata/cnddb/>
- subscription-based

R, T & E Invertebrates

- T & E Inverts in general
 - shrimp, crayfish, snails, butterflies, beetles, grasshoppers and one fly
 - E.g.: Bay Checkerspot Butterfly
 - *Euphydryas editha bayensis*
- E.g.: Mt Hermon June Beetle
 - *Polyphylla barbata*
- T&E Insects
 - <http://www.mip.berkeley.edu/essig/endins/thebugs.htm>

Rare, Threatened, Endangered and other Special Status Plants

- Special Status Plants
 - <http://www.dfg.ca.gov>
- California Native Plant Society
 - <http://www.cnps.org/>
- E.g.: Narrow-leaf Spineflower
 - *Chorizanthe angustifolia*

BIOTICS: Thresholds

b) Riparian or other sensitive natural community

- Federal plans, policies and regulations
- State Department of Fish and Game
- Local
 - riparian protection/setback ordinances
 - [http://www.sccgov.org/SCC/docs/Planning,%20Office%20of%20\(DEP\)/attachments/650099pl_RiparianCorridorStudy.pdf](http://www.sccgov.org/SCC/docs/Planning,%20Office%20of%20(DEP)/attachments/650099pl_RiparianCorridorStudy.pdf)

Natural Communities

- Dunes
- Scrub/Chapparral
- Wetlands
- Riparian
- Oak Woodland
- Prairie/grasslands
- Pine/evergreen
- Alpine

c) Federally protected wetlands

- Section 404; Clean Water Act
 - Activities in waters of the United States that are regulated under this program include
 - ✦ fills for development,
 - ✦ water resource projects (such as dams and levees),

- ✦ infrastructure development (such as highways and airports), and
- ✦ conversion of wetlands to uplands for farming and forestry

– http://www.epa.gov/owow/wetlands/pdf/reg_autho_rity_pr.pdf

- Bay Area Wetland Project tracker
 - San Francisco Estuary Institute SFEI - unofficial
 - <http://shark.sfei.org/arcims/wprojects/viewer.htm>
- CERES <http://ceres.ca.gov/wetlands/>
- “No net loss” Prohibits
 - Removal
 - Filling
 - “Hydrological interruption”

Types of Wetlands -- Marshes

- frequently or continually inundated with water,
- emergent soft-stemmed vegetation adapted to saturated soil conditions
- Tidal
- Nontidal
 - ✦ Wet Meadows
 - ✦ Prairie Potholes

Vernal Pools

- Contain water winter through early summer.
- Generally (but not always) dry by late summer.
 - <http://www.vernalpools.com/regulatory.htm>
 - http://ceres.ca.gov/wetlands/whats_new/vernal_sjq.html

Swamps (woody)

- Forested Swamps
 - Bottomland Hardwoods
- Shrub Swamps
 - Mangrove Swamps

Bogs and Fens (peat covered)

Wetland Delineation

- Wetland Soils
- Wetland Plants
- Wetland Animals
- Standing Water

d) Interfere with fish or wildlife movement or breeding...

- Movement of
 - Native resident species
 - Migratory species
- Established migratory corridors
- native nursery sites
- Migratory Bird Treaty Act
 - <http://www4.law.cornell.edu/uscode/16/ch7.html>
- Marine Mammal Protection Act
 - <http://cnie.org/NLE/CRSreports/legislative/leg->

[11.cfm](#)

e) local biological resources

- e.g. Trees and Shrubs
 - size
 - heritage
 - historic
 - native
 - particular species
- If protected by local policy or ordinance
 - **E.g. city of San Jose municipal code 13.28.340:**
 - ✦ **Removal or destruction of heritage trees.**
 - “Any person who unlawfully vandalizes, grievously mutilates, removes or destroys a heritage tree shall incur a civil penalty in the amount of five thousand dollars for each such tree so vandalized, mutilated, removed or destroyed, the collection of which shall be enforced by civil action brought in the name of the city by the city attorney.”
 - Model tree ordinance available online from <http://phytosphere.com/treeord/index.htm>

f) HCP or NCCP

- HCP-- Habitat Conservation Plan: Controls “take” of an endangered species
 - <http://endangered.fws.gov/hcp/#about>
 - <http://ceres.ca.gov/planning/hcp/>
- NCCP-- Natural Community Conservation Plan (Ecosystem approach)
 - <http://www.dfg.ca.gov/habcon/>
- Approved local, regional or statewide plans

Impact Assessment/Explanation

- E.g.: [Guidelines for Assessing Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities](#)
<http://www.dfg.ca.gov/whdab/pdfs/guideplt.pdf>
- Describe likely effects on existing biotic resources – all phases
 - construction
 - project operation
 - infrastructure needed for the project
 - ✦ electric lines
 - ✦ lights
 - ✦ schools
 - ✦ sewer treatment outfall

More impact explanation considerations...

- All other impacts may affect wildlife
 - noise
 - air pollution
 - roads/traffic
 - hydrology/geology
 - etc.
- Cumulative Impacts

■ Mandatory Findings

Course evaluation I

No name, please...

1) Improvements in course structure?

2) Improvements in course content?

3) Other comments?