



California Native Plant Society

Riparian & Wetland Plant Identification Workshop

Instructors:

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with assistance from

David Torfeh

Introductions

● Josie Crawford

- CNPS Education Program Director
- Training Coordinator

● David L. Magney

- Botanist
- Consultant – David Magney Environmental Consulting
- CNPS Chapter Council Chairman

● David Torfeh

- Ventura County Transportation Department
- CNPS Channel Islands Chapter hike leader

Workshop Overview Topics

- Ethics of the Botanist
- Taxonomy
 - Nomenclature
 - Phylogeny (how are they related?)
- Terminology (botanical)
- Dominant and Common Plants (ID)
- Keying
- Documentation
- Test (keying and sight ID)
 - Site identification of plants (~25)
 - Plant identification using keys (5)

Ethics of Botanist

- Professional conduct
 - Expected to know resource (including plants)
 - Expected to use current methods
 - Expected to stay current on science
 - Expected to report findings completely
 - Expected to use sound reasoning in developing conclusions
 - Expected to document findings
 - Expected to know everything (yeah, right)

Taxonomy

● Nomenclature

● Scientific/Botanical Names

- Latin, sometimes in Greek

● Binomials - Genus, species, Author(s)

- *Fraxinus dipetala* Hooker & Arnott

● Trinomials

- *Acer macrophyllum* Pursh var. *macrophyllum*
- *Ribes amarum* var. *hoffmannii* Munz

● Phylogeny

● Class, Order, Family, Tribe

- Super and Sub categories for each, sometimes

● Cladistics

Botanical Terminology

- Descriptive
 - Glossary of terms
- Latin, sometimes in Greek
- Botanical Names
 - Binomials, trinomials
 - Genus
 - Species
 - Subspecies or Variety
 - ‘Cultivars’
 - Hybrids (X)

Vegetation Classification Systems

- Cowardin et al. (U.S. Fish & Wildlife Service)
 - *Wetlands and Deepwater Habitats of the United States*
 - Wetland systems and subsystems
 - Used by USFWS and Corps for wetlands
- International/National Vegetation Classification System
 - California – Sawyer, Keeler-Wolf, & Evens (*Manual of California Vegetation 2nd Edition*) for CNPS
 - Adopted by California Department of Fish and Game, Ventura County Planning Division, NatureServe (formerly TNC)

Vegetation/Plant Communities

- Three basic riparian wetland habitat types:
 - Ruderal riparian-Herbaceous
 - Scrub
 - Forest/Woodland
- Five basic upland habitat types (not covered here):
 - Herbaceous (Grasslands/Herblands)
 - Shrublands
 - Scrub
 - Chaparral
 - Woodlands and Forests
 - Dunes

Vegetation/Plant Communities

- Alder-Cottonwood-Willow
 - *Alnus rhombifolia*-*Populus fremontii* Alliance
- Willow Woodlands/Scrubs
 - *Salix lasiolepis* Alliance
- Cottonwood-Willow
 - *Populus fremontii*-*Salix lasiolepis* Alliance
- Cottonwood-Sycamore
 - *Populus trichocarpa*-*Platanus racemosa* Alliance
- Sycamore-Coast Live Oak
 - *Platanus racemosa*-*Quercus agrifolia* Alliance
- Coast Live Oak Riparian
 - *Quercus agrifolia* [Woodland] Alliance

Vegetation/Plant Communities

- Mulefat Scrub

- *Baccharis salicifolia* Alliance

- Scalebroom Scrub

- *Lepidospartum squamatum* Alliance

- Freshwater Marsh

- *Typha domingensis* Alliance

- Floating Aquatic

- *Azolla filiculoides* Alliance

- *Lemna miniscula* Alliance

Dominant/Characteristic Plants

- *Acer macrophyllum* var. *macrophyllum*
- *Acer negundo* var. *californicum*
- *Alnus rhombifolia*
- *Amorpha californica* var. *californica*
- *Artemisia douglasiana*
- *Artemisia dracunculus*
- *Atriplex lentiformis* vars.
- *Avena barbata* *
- *Azolla filiculoides*
- *Baccharis pilularis* ssp. *consanguinea*
- *Baccharis salicifolia*
- *Brickellia californica*
- *Carex senta*
- *Chenopodium murale* *
- *Clematis ligusticifolia*
- *Cornus glabrata*
- *Cornus sericea*
- *Cyperus eragrostis*
- *Datisca glomerata*
- *Eriodictyon crassifolium* vars.
- *Eucalyptus camaldulensis* *
- *Ficus carica* *
- *Fraxinus latifolia*
- *Fraxinus velutina*
- *Heteromeles arbutifolia*
- *Juglans californica*
- *Juncus balticus* & *mexicanus*
- *Koelreuteria paniculata**
- *Lepidospartum squamatum*
- *Lonicera subspicata* var. *denudata*

Dominant/Characteristic Plants

- ❖ *Malacothamnus fasciculatus*
- ❖ *Nicotiana glauca* *
- ❖ *Peritome [Isomeris] arborea*
- ❖ *Phoenix canariensis* *
- ❖ *Platanus racemosa* var. *racemosa*
- ❖ *Pluchea sericea*
- ❖ *Polygala cornuta* var. *fishiae*
- ❖ *Populus trichocarpa*
- ❖ *Populus fremontii* var. *fremontii*
- ❖ *Prunus emarginata*
- ❖ *Rhamnus tomentella*
- ❖ *Rhus trilobata* vars.
- ❖ *Quercus agrifolia* ssp. *agrifolia*
- ❖ *Quercus chrysolepis*
- ❖ *Quercus lobata*
- ❖ *Ricinus communis* *
- ❖ *Rosa californica*
- ❖ *Rubus discolor* *
- ❖ *Rubus ursinus*
- ❖ *Salix exigua*
- ❖ *Salix gooddingii*
- ❖ *Salix laevigata*
- ❖ *Salix lasiolepis*
- ❖ *Salix lucida* ssp. *lasiandra*
- ❖ *Sambucus mexicana*
- ❖ *Solanum douglasii*
- ❖ *Spartium junceum* *
- ❖ *Tamarix ramosissima* *
- ❖ *Toxicodendron diversilobum*
- ❖ *Umbellularia californica*
- ❖ *Washingtonia robusta* *

Keying

- Keying is a method to identify a plant
 - Tiered Paired couplets
 - Focusing on key diagnostic features of the plants in question
- Usually requires sexual parts of plants
- Uses Latin terms to describe the plant parts
 - Use glossary of terms, and illustrations of them
- Often requires magnification
 - 10X hand lens
 - Binocular dissecting microscope

Documentation

- Field notes (keep a field notebook to record them):
 - Site location (coordinates)
 - Aspect
 - Soil & Geology
 - Date
 - Associated Species
- Voucher Notebook
 - Collection Number
 - Date Collected
 - Collectors
 - Botanical Name

Documentation (continued)

● Voucher Specimen Labels

- Contains botanical name, location (general and specific), site conditions, associated species, collection number, collector(s) name, substrate, aspect, purpose

● Press specimen

● Deposit specimen

- Specimens should be deposited into a local public herbarium

Resources

● Floras

- Jepson Manual (statewide 1993, 2012)
- Munz & Keck (statewide 1959, 1973)
- Munz (southern California 1975)
- Magney (Ventura County 2013?)
- Smith (Santa Barbara Region 1998)
- Mason (Flora of the Marshes of CA 1957)
- Corps (Common Wetland Plants of Central CA)
- USDA (Western Wetland Flora 1997)
- West Coast (Illustrated Flora of the Pacific States)

Resources

Web

- Ventura County Flora - www.venturafloora.com
- Consortium of Calif. Herbaria - <http://ucjeps.berkeley.edu/consortium/>
- Jepson Manual eFlora - <http://ucjeps.berkeley.edu/IJM.html>
- Calflora - www.calflora.com
- Flora of North America - http://www.efloras.org/flora_page.aspx?flora_id=1
- USDA - <http://plants.usda.gov/java/>
- CNPS Channel Islands Chapter - www.cnpsci.org

Institutions

- Herbaria (UCSB, SBBG, RSA, UCLA, MAGN, etc.)
- CNPS (www.cnps.org)

Conclusion

- Questions & Answers
- Test
 - Site identification of plants (~25)
 - Plant identification using keys (5)
- Certificate of Completion
 - If you receive a passing score on test (70%)
 - If you attended the entire workshop
- Record of Attendance given to all regardless