



# Identifying Locally Rare Plants: Ventura County Example

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# Topics Covered

- Why focus on locally rare plants
- Regulations supporting consideration of locally rare plants in CEQA
- Definitions of what qualifies as a locally rare plant
- Methods to determine which taxa qualify
- Methods and tools to develop a list of locally rare plants
- Case Study: Ventura County

# Project Purpose

- Develop definition of a locally rare plant
  - Use existing definition(s) – don't invent something new and untried
- Develop lists of locally rare plants for each California county
- Use the list of locally rare plants to help conserve them at the local (county) level

# Need – Why Do This?

- Botanical resources in California counties are at risk
  - From developments in conflict with the plant's well-being
  - Climate change
  - Land/habitat mismanagement
- Provide tools for conservation
  - By having criteria to determine which taxa are rare
  - Identifying locally rare taxa
  - Educating the public and policy makers

# Definitions and Regulations

- General Plan Law puts responsibility to conserve biological resources at county and city level (Conservation Element)
  - Every county and city must develop a General Plan that includes policies to conserve the environment
- CEQA requires assessment of impacts on biological resources, including locally significant plants (Appendix G)
- Rare Plant: 5 or fewer populations (rarest category)
  - Generally follow G1/S1 Rarity Ranking level

# Case Study: Ventura County

- Ventura County General Plan Conservation Element policies:
  - COS-1.2 – Consideration of Sensitive Biological Resources
    - States that the County SHALL identify sensitive biological resources
  - COS-1.1 – Protection of Sensitive Biological Resources
    - County SHALL ensure that discretionary development that could impact sensitive biological resources be evaluated by a qualified biologist.

# Case Study: Ventura County

- Flora of Ventura County
  - Floristic research conducted by Magney started in early 1980s
  - Goal to publish complete flora of the county
  - Used as basis for list of locally rare and uncommon plants of Ventura County
- Ventura County Planning Division Lists of Locally Important Plants and Wildlife Species
  - First list based on Magney's list of locally rare plants of Ventura County

# Criteria Used for Lists

- Locally rare plants list of Ventura County developed by Magney on behalf of CNPS
  - Locally Rare: taxa with 5 or fewer extant populations within Ventura County
  - Locally Uncommon: taxa with 6-10 extant populations within Ventura County
- Ventura County Locally Important Plants
  - 5 or fewer extant populations within Ventura County, and
  - Taxon is declining throughout its range (beyond Ventura County)



# Methods to Determine Locally Rare

- Start with a county flora checklist
  - Best if checklist has location data
    - Even better if those location data are in a database
- Determine number of extant populations for each taxon within county
  - Overlay known occurrence data onto a land use map or current aerial imagery
  - Code those occurrences in developed areas as extirpated
- Those native taxa with 5 or fewer extant occurrences qualify as locally rare.

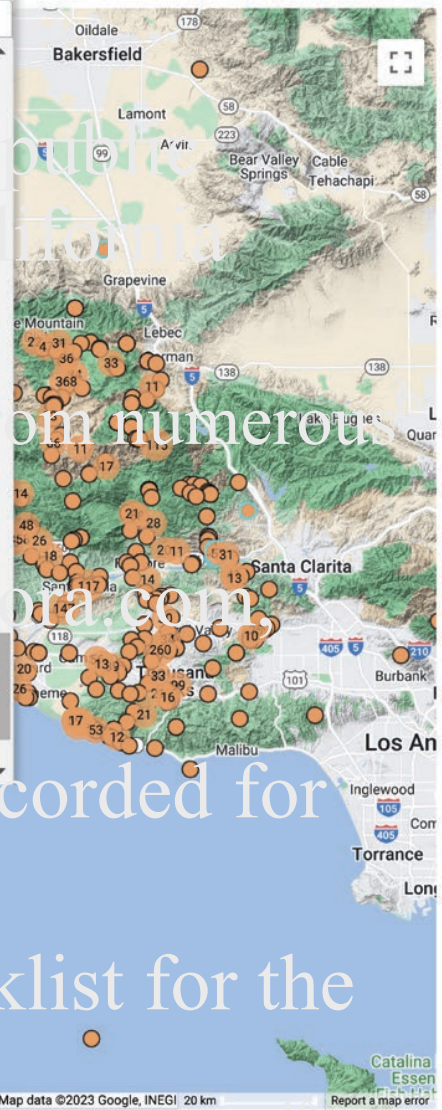
# Methods Used to Compile a Flora

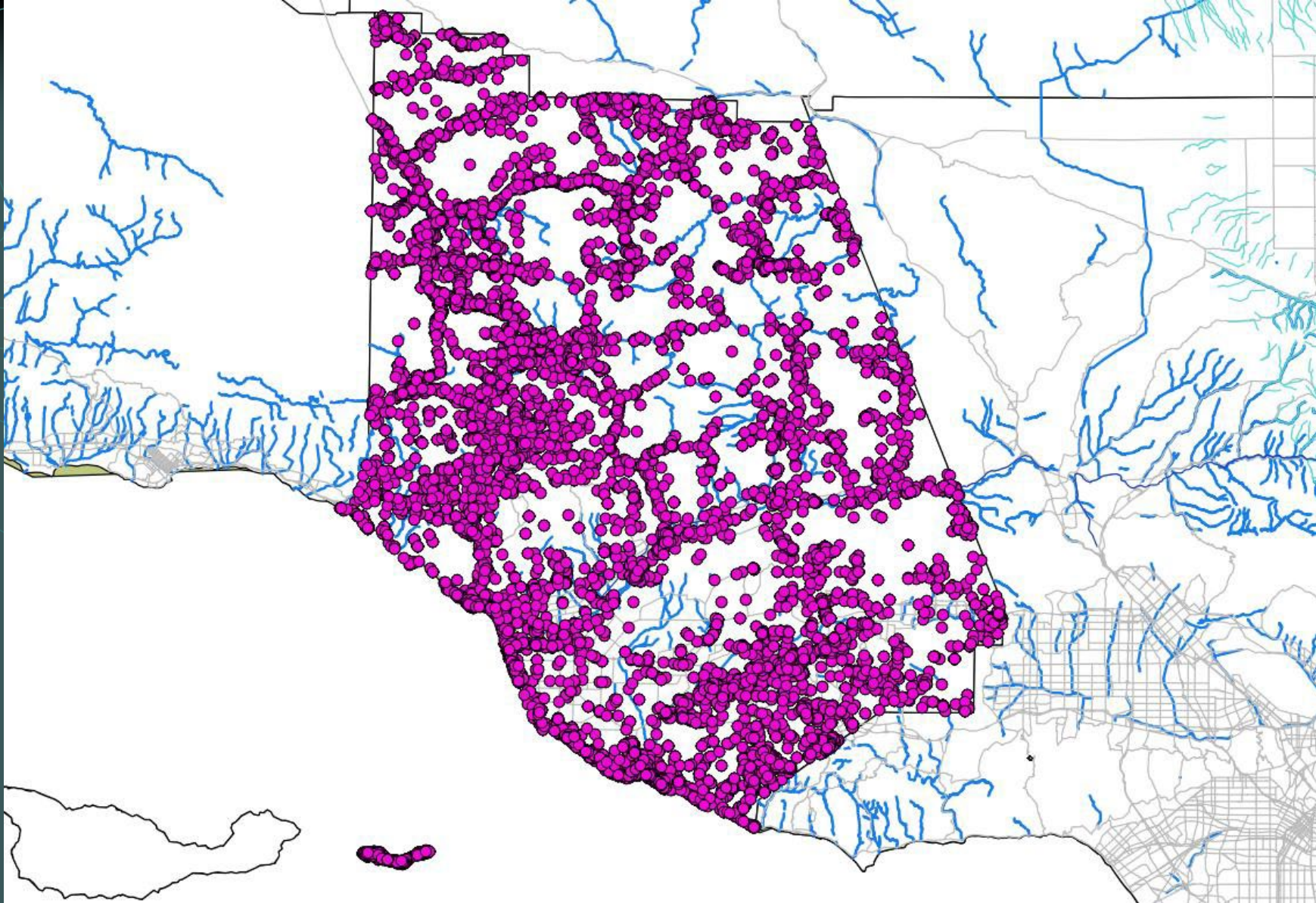
- Obtain a published local flora, or do the following:
- Download all vouchers deposited into public herbaria – using the Consortium of Herbaria
  - CCH contains over 1,000,000 records from numerous herbaria (mostly in California)
- Access observation records from iNaturalist, and NRIS (Forest Service)
- Create simple checklist of all plants recorded for the county
- Compile a preliminary annotated checklist for the county

Search Criteria and Options

Records and Taxa

SBBG163 265	<a href="#">R. Burgess</a> 7406	2006-07-18	Achillea millefolium
SBBG156 895	<a href="#">R. Burgess</a> 8036	2008-06-08	Achillea millefolium
SBBG156 391	<a href="#">R. Burgess</a> 7735	2011-04-14	Achillea millefolium
SBBG156 690	<a href="#">C. Matt</a> 5117	2011-05-09	Achillea millefolium
SBBG156 579	<a href="#">C. Matt</a> 5117	2011-02-06	Achillea millefolium
SBBG164 654	<a href="#">Kristen Hasenstab-Lehman</a> 1501	2018-02-25	Achillea millefolium
SBBG156 847	<a href="#">R. Burgess</a> 10965	2018-07-12	Achillea millefolium
SBBG173 298	<a href="#">Kristen Hasenstab-Lehman</a> 1474	2019-01-31	Achillea millefolium
SBBG173 298	<a href="#">Kristen Hasenstab-Lehman</a> 1597	2019-02-20	Achillea millefolium
SBBG243 092	<a href="#">C. Matt</a> 5117	2022-03-01	Achillea millefolium
SBBG243 092	<a href="#">C. Matt</a> Guilliams 6992	2022-03-02	Achillea millefolium
SBBG183 18	<a href="#">Annie Meeder</a> 455	2022-03-16	Achillea millefolium
SBBG183 18	<a href="#">Annie Meeder</a> 455	2022-03-19	Achillea millefolium
SBBG183 18	<a href="#">C. R. B. J. ley</a> B2778	1956-04-15	Achillea millefolium var. arenicola
SBBG183 18	<a href="#">E. R. J. ley</a> B2778	1911-05-18	Achillea millefolium





Each colored dot represents at least one voucher collection. Blank areas lack voucher collections.

# Field Methods to Develop a Flora

- Review database of existing voucher collections & observations using GIS software
- Select bioregions with insufficient sampling
- Identify specific areas of a bioregion to survey
- Using handheld GPS units and iPads or Notebooks with ArcCollector/Survey 123 or similar app, record all observations within a survey plot (~10 m square circular plot) –
  - >1,300 plots so far with ~25,000 plant observations
  - 2,328 vouchers collected by CNPS since 2018



# Field Methods

- Collect voucher specimens for all taxa not previously vouchered for that bioregion or county
- Record all occurrences of special-status species (submit findings to the California Natural Diversity Database – CNDDDB)
- Estimate percent cover of dominant or characteristic species
  - Use to classify vegetation/plant communities
  - Identify rare plant communities

# Ventura County Flora Floristics

- Numbers come from:
  - Vouchers (in CCH): 50,201
  - ~1,000 Magney vouchers not yet in herbarium
  - Magney unvouchered observations
  - CNPS staff observations
- 2,007 native taxa in Ventura County
  - [www.venturaflora.com](http://www.venturaflora.com)
- Locally Rare Plants of Ventura County
  - <https://venturaflora.com/files/vcrareplants.htm>

# Rare Plants of Ventura County

- 6,578 native taxa in California
  - 2,423 rare (37% of native flora)
- 942 locally rare in VC (5 or fewer extant populations)
  - includes 116 taxa that are rare statewide
    - CNPS, ESA, CESA, Forest Sensitive
  - 47% of native flora (826=41% of native flora)
- 284 locally uncommon (6-10 extant populations)
  - Includes 20 taxa that are rare statewide
    - CNPS, ESA, CESA, Forest Sensitive
  - 14% of native flora (264=13% of native flora)



# Flora Development Tools

## ● Jepson eFlora and CCH

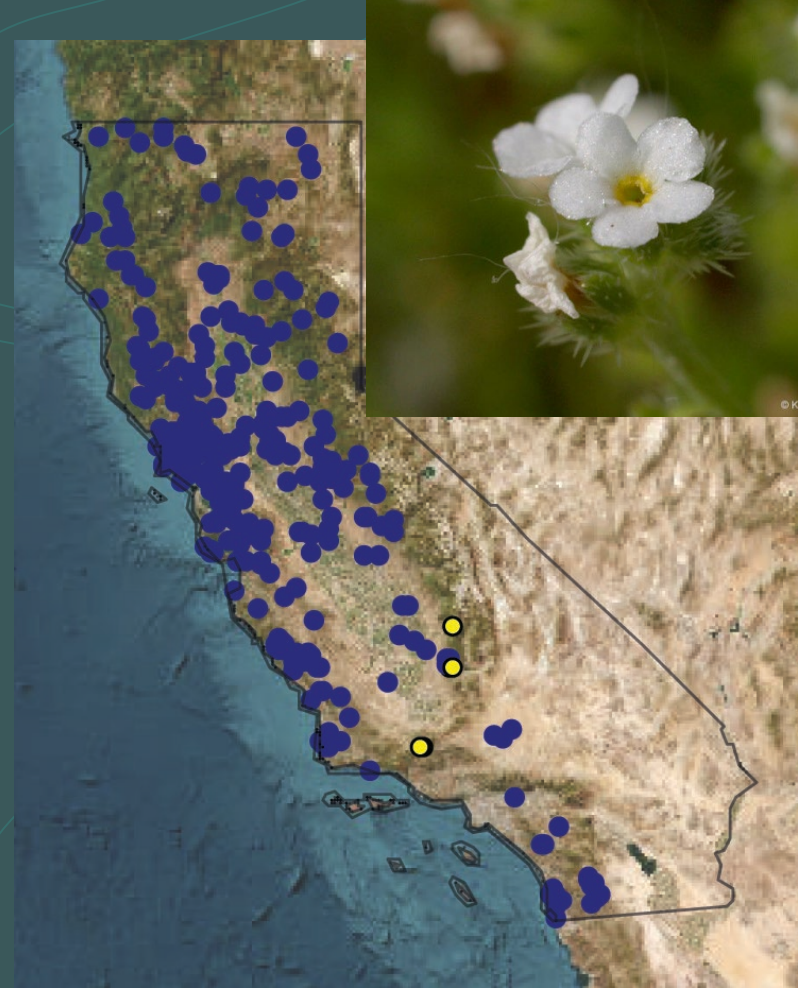
- Use to determine records in a county and statewide distribution (ex. *Nama demissa* var. *demissa*)
  - 666 specimens (55 w/o coordinates), none from Ventura County. But a Frazier Mountain voucher exists at ILL (*A.G. Vestal sn 4-Jun-1955*)
  - Rare in VC because at edge of range



# Example 2

## ● *Plagiobothrys bracteatus*

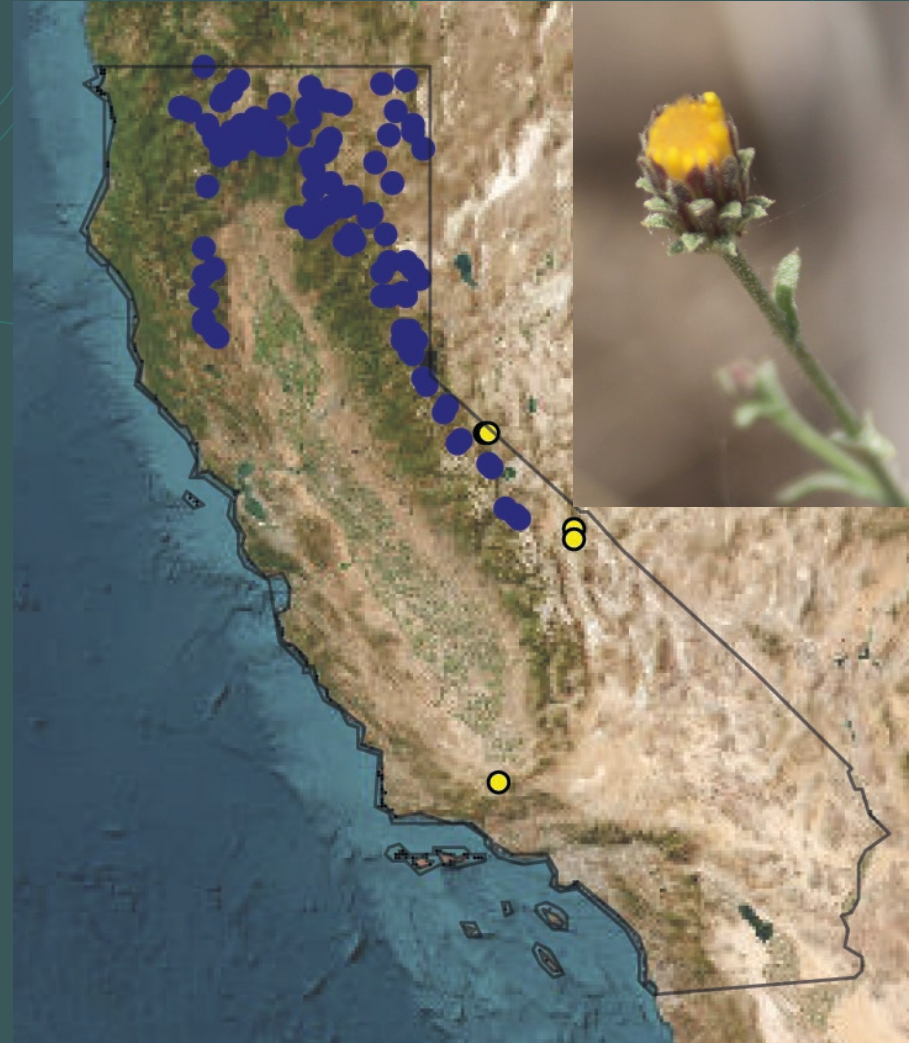
- 772 specimens in CCH database (250 w/o coordinates)
  - 4 vouchers at SBBG from wet meadows & vernal ponds in the San Guillermo Mountain area (*R. Burgess & P. Munro 10522 SBBG*)
- Clearly common in Calif. but rare in Ventura County (< 5 populations)
  - Rare due to lack of habitat



# Example 3

## ● *Dieteria canescens* var. *shastensis*

- 315 vouchers (86 w/o coordinates) in high elevations of northern California and Sierra Nevada.
- 5 (maybe 6) populations in Ventura County (rare or uncommon)
- Large disjunction in range



*Antirrhinum nuttallianum*  
*ssp. subsessile*



*Lomatium lucidum*



# Work Done to Date

- Lists of locally rare plants have been developed for other counties:
  - Ventura County – David Magney
  - Santa Barbara County – Dieter Wilken
  - Liebre Mountains, Los Angeles County – Magney
  - Alameda & Contra Costa Counties – Lake et al.
  - Napa County – White et al.
  - Sonoma County -
  - Santa Cruz County – Neubaur
  - San Mateo County - Corelli
- Same approach can be applied to other counties



# CCH Online Publication Tool

- Consortium of California Herbaria 2 has a Checklists tool to publish lists. Species inventory categories created to date include:
  - California State Parks (4)
  - California-Wide Taxon Lists (3)
  - County Floras (5)
  - CSU Natural Reserve Systems (2)
  - Local Floras (11)
  - National Park Service, California Parks (19)
  - UC Natural Reserve System (7)
  - Miscellaneous Inventories (37)

# Additional Information

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CNPS Rare Plant Program

<https://www.cnps.org/rare-plants>

Ventura County Flora

<https://www.venturaflora.com/>

General Plan Law

<https://opr.ca.gov/planning/general-plan/>

CCH2

<https://www.cch2.org/portal/checklists/index.php>