Calflora

information on **wild California plants** for conservation, education, and appreciation

Mapping and Tracking (Invasive) Plants with Calflora's Weed Manager

Pete Frye
pfrye@calflora.org
Cynthia Powell
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Agenda

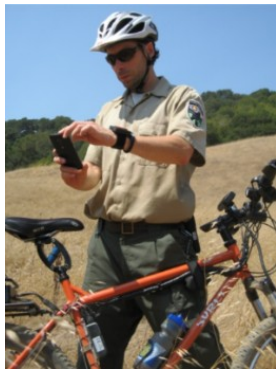
Introduction and Calflora basics
Overview of Weed Manager (WM)
History stacks
Email alerts
Mobile app Observer Pro
Field practice
Upload and edit field data
Questions & Discussion

The Calflora Team

Ed Dorrington
Developer

John Malpas
Developer

Foresta Sick-Hill
Bookkeeper



Pete Frye
Weed Manager
Software Director

Cynthia Powell
Executive Director
MS in GIS: cpowell@calflora.org

Darrell Anderson
Developer

Katherine Kunz
Development Director

What is Calflora?

Calflora is a 501(c)3 non-profit plant database. We provide information on wild CA plants for conservation, education, and appreciation.

Calflora

information on **wild California plants** for conservation, education, and appreciation

1994: PhD botanist Ann Dennis shared a text file of CA plants.

1997: Local botanist Tony Morosco joined Ann's efforts to document local plants.

2000: They created Calflora 501(c)3 not-for-profit.

the roots of Calflora

.

The Calflora database contains

> 10,000 native and introduced plant species

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> 3.5 million plant location observations (points, lines, and polygons) from dozens of data sources

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The Calflora database contains

> 10,000 native and introduced wild plant species

> 3.5 million plant location observations (points, lines, and polygons)

> 30,000 relationships between old and new plant names

> 300,000 plant photos

> 80,000 unique Calflora e-visitors each month (~2,600/day)

> 4,000 active data contributors (you?)

information on **wild California plants**

The Calflora database contains all 10,000+ native and introduced species: all wild plant species in the state.

We receive many data feeds from other data sources, including CCH and (some filtered) iNaturalist data.

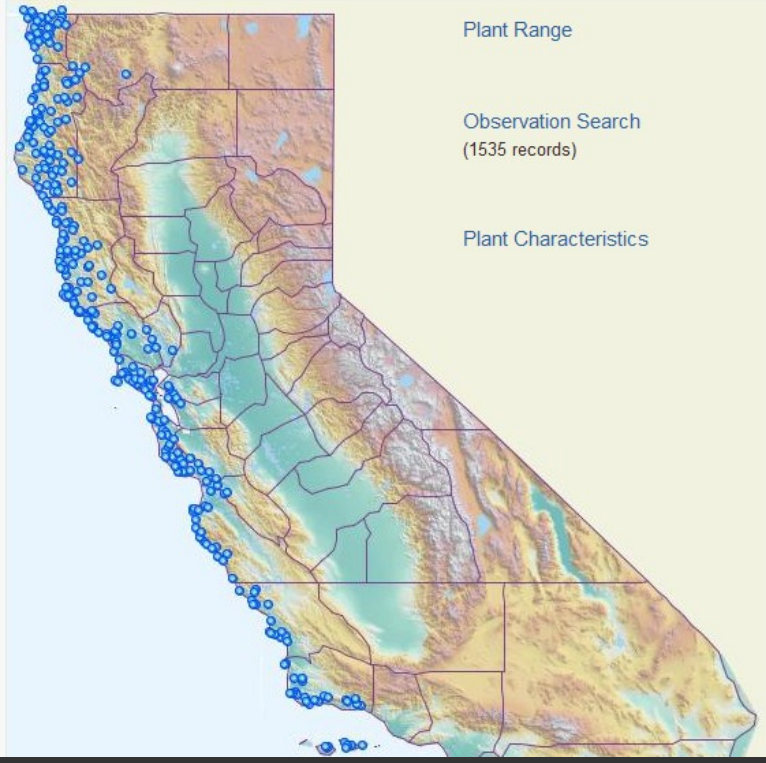
Popular “taxon report” pages

Calflora Taxon Report 8200 — Cynthia Powell — EDIT - SIGN OUT

Vaccinium ovatum Pursh
California huckleberry, Evergreen huckleberry

Vaccinium ovatum, a dicot, is a **shrub** that is **native** to California, and also found elsewhere in western North America.

Pests and Pathogens from Calinvasives



Plant Range

Observation Search
(1535 records)

Plant Characteristics

Bloom Period

Photos from Calflora / CalPhotos

Family: Ericaceae
Genus: Vaccinium

© 2017 James Gonsman

photo size:

One taxon report page for each wild plant species in CA

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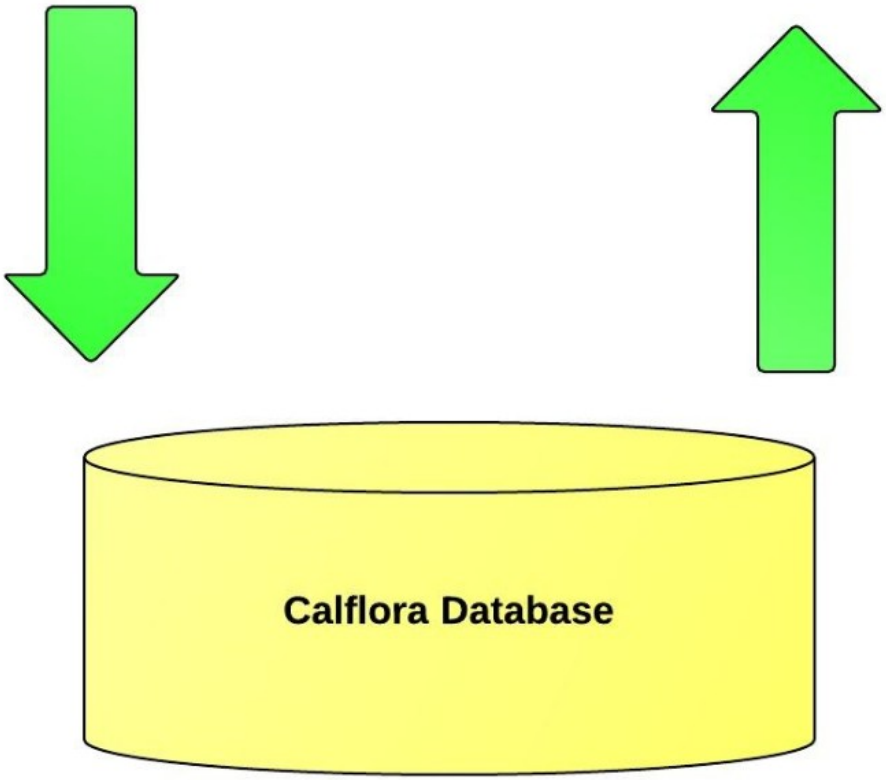
information on **wild California plants** for conservation, education, and appreciation

Data In

> 500 Professional Botanists
> 1000 Amateur Botanists
> 1800 Other Observers
> 100 Institutions

Data Out

Researchers
Students
Botanists
Ecologists
Land Managers
Conservationists



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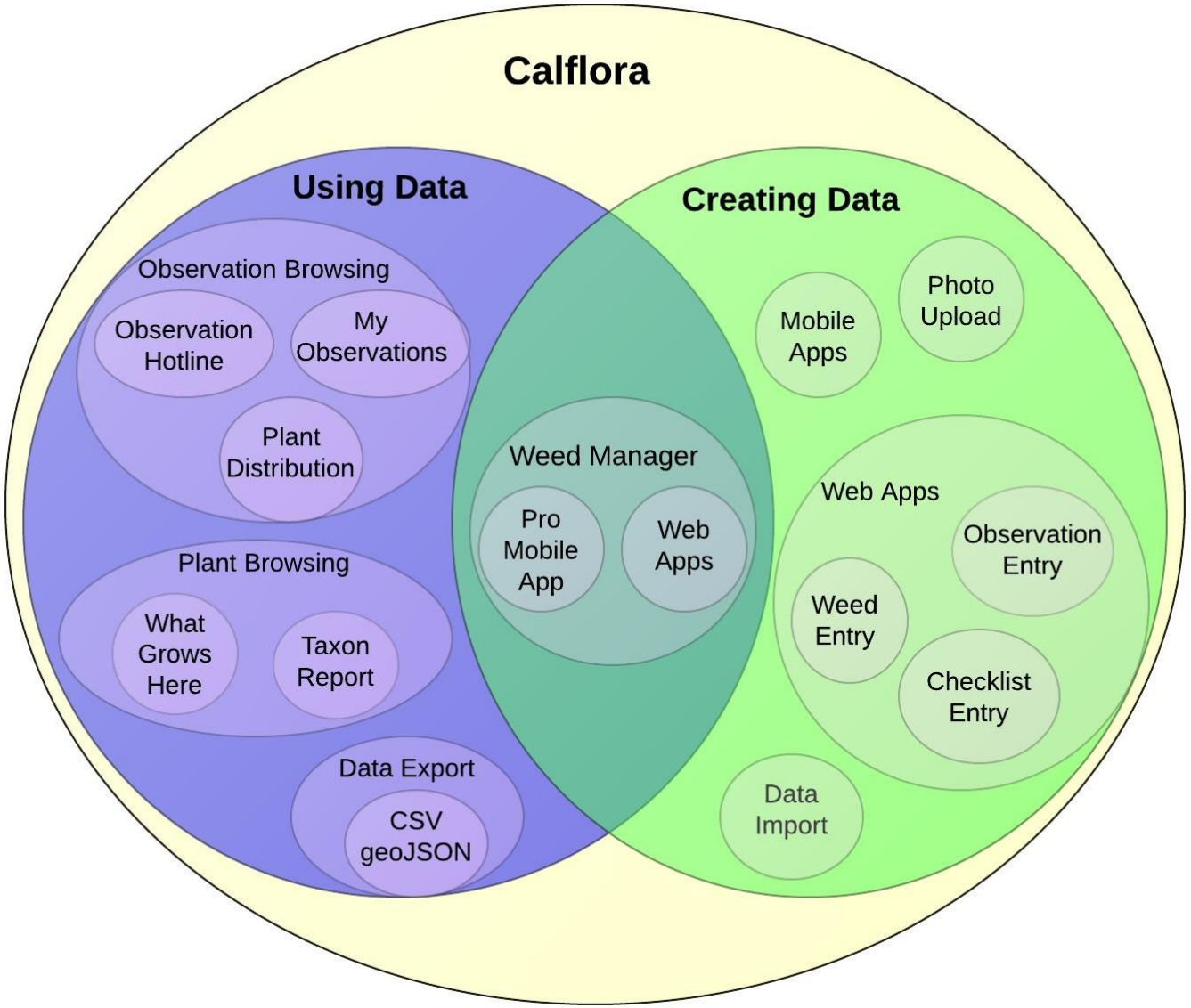

Non-weed uses of Observer Pro

1. Rare plants – CNDDB form
- track through time (history stacks)
2. Seed collection
3. Surveys – any plant list as checklist, releve

Primary Tools

GO = Group Observations

POE = Plant Observation Entry
(demo on website – how to navigate to)

OP = Observer Pro (mobile app)

Data Privacy

- Treatment data private

- Settings for observations:

1)Public
2)Unpublished
3)Private
4)Obscure (¼ USGS quad or ~1.5mi x 1.5mi square)

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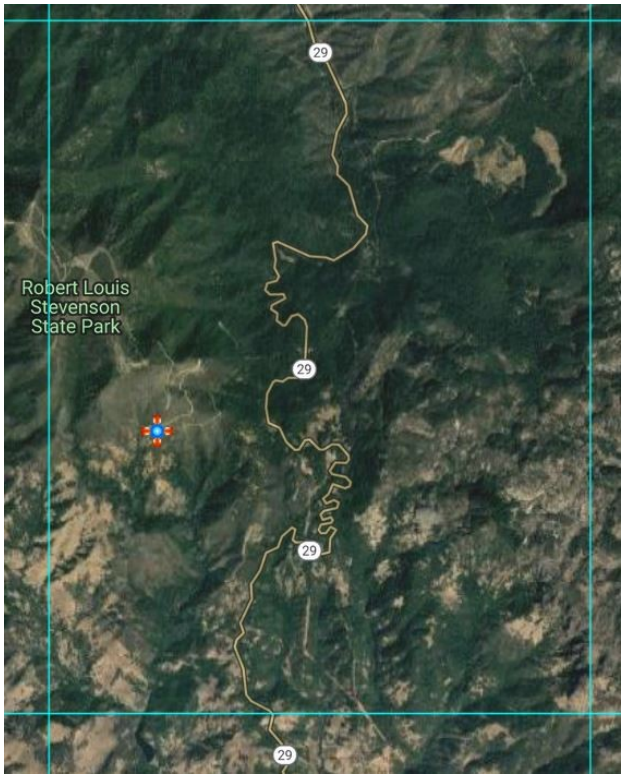
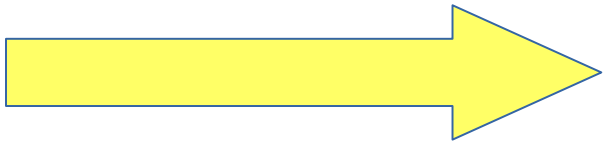
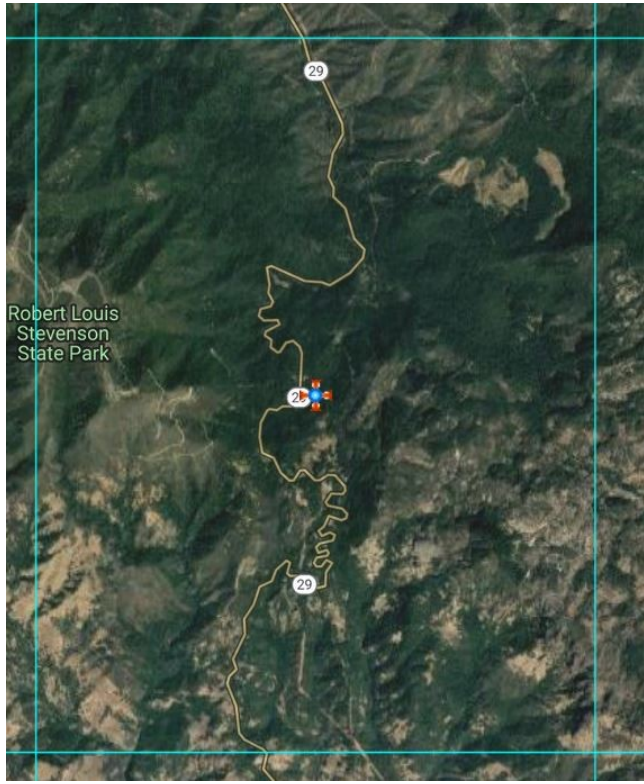
Obscured Data







Location Accuracy

6.0 error radius (meters)

113 square meters

Location Accuracy

2821 error radius (meters)

25000000 square meters

CALFORA HELP: https://www.calflora.org/entry/help/obscure.html

YouTube VIDEO: Obscuring the location of your plant observations in Calflora

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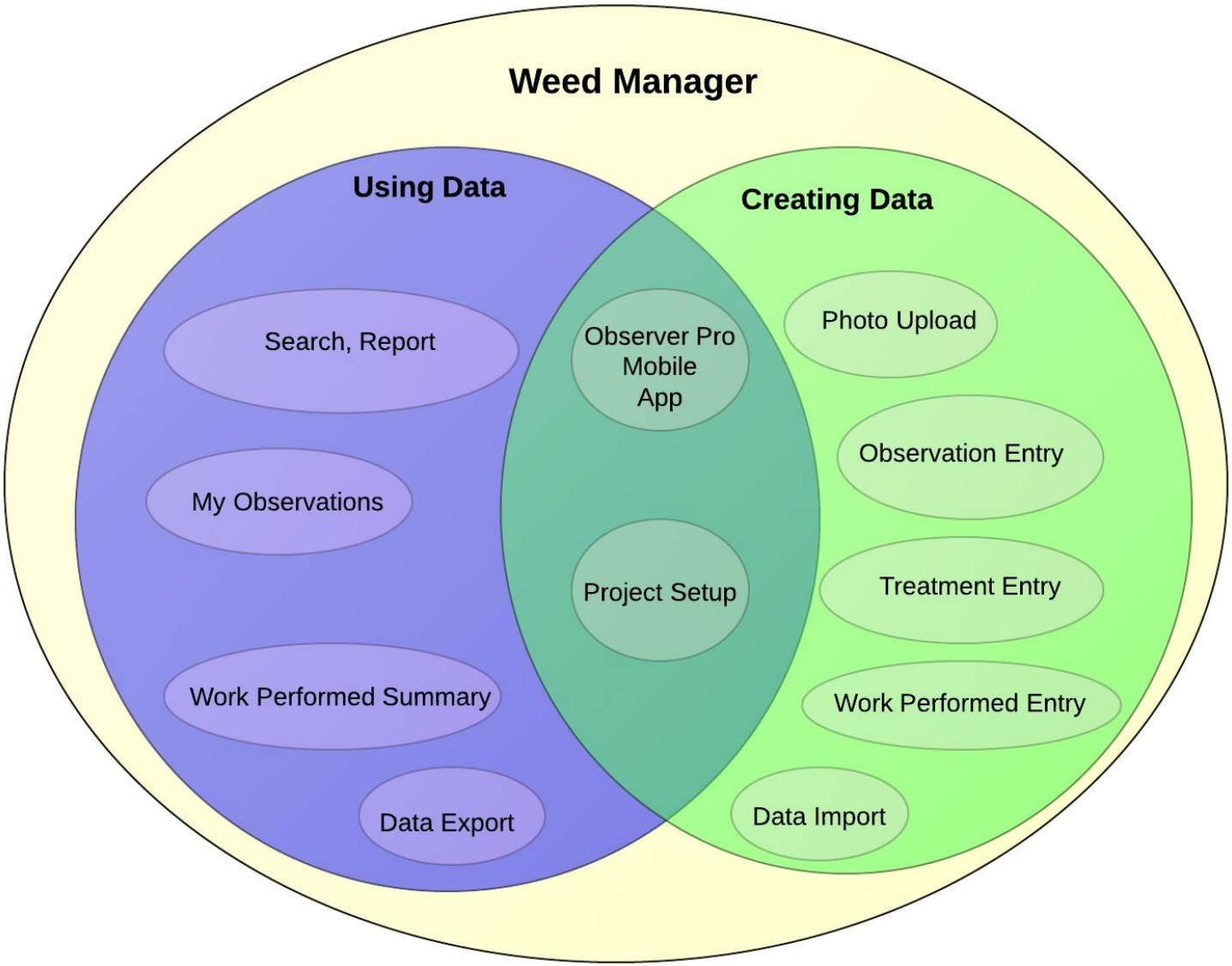
FREE TRIAL

- Through December 31st , 2023
- One custom form
- See all your groups observations in one place
- Access to all the tools we will review today
- Contact Calflora to get set up!

Weed Manager (WM) is a system which enables organizations engaged in land management to track weed infestations and treatments over time.


Weed Manager
Using Data
Creating Data
Search, Report
My Observations
Work Performed Summary
Data Export
Observer Pro Mobile App
Project Setup
Photo Upload
Observation Entry
Treatment Entry
Work Performed Entry
Data Import

Weed Manager

- Collect data
  - spatial & tabular
  - field or office
- Personalized forms, data dictionaries
- Searchable/viewable online
- Run customized reports
- Export to many formats

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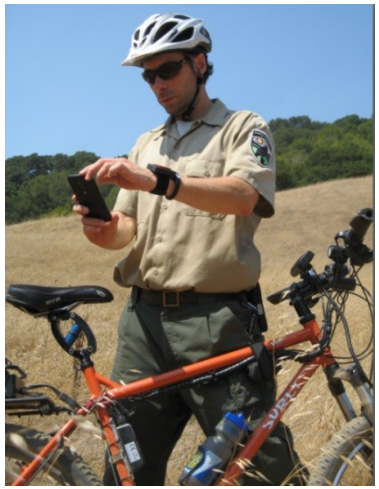
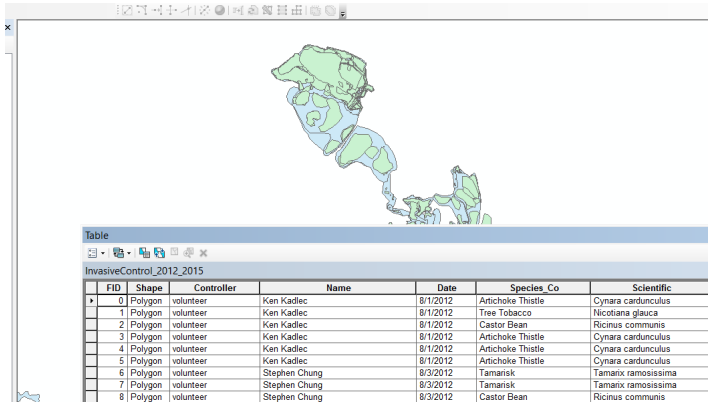
Weed Manager: Acquiring data

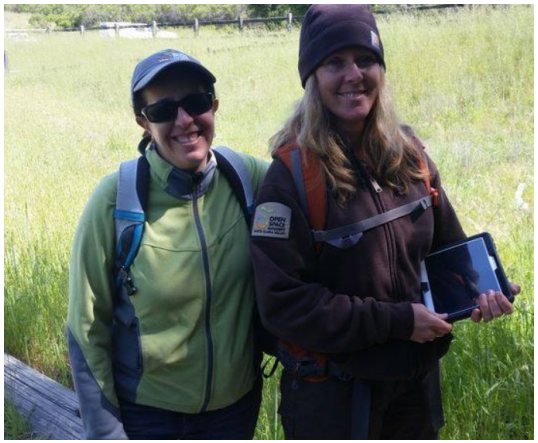


Observer Pro android phone app

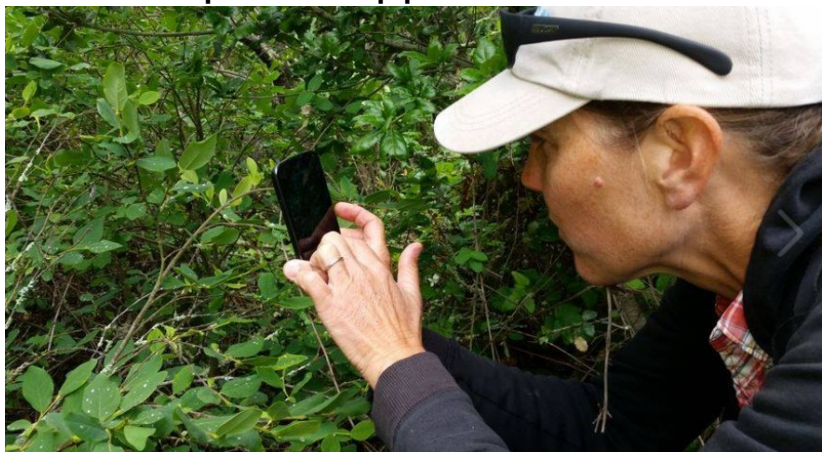


FID	Shape	Controller	Name	Date	Species_Co	Scientific
0	Polygon	volunteer	Ken Kadlec	8/1/2012	Artichoke Thistle	Cynara cardunculus
1	Polygon	volunteer	Ken Kadlec	8/1/2012	Tree Tobacco	Nicotiana glauca
2	Polygon	volunteer	Ken Kadlec	8/1/2012	Castor Bean	Ricinus communis
3	Polygon	volunteer	Ken Kadlec	8/1/2012	Artichoke Thistle	Cynara cardunculus
4	Polygon	volunteer	Ken Kadlec	8/1/2012	Artichoke Thistle	Cynara cardunculus
5	Polygon	volunteer	Ken Kadlec	8/1/2012	Artichoke Thistle	Cynara cardunculus
6	Polygon	volunteer	Stephen Chung	8/3/2012	Tamarisk	Tamarix ramosissima
7	Polygon	volunteer	Stephen Chung	8/3/2012	Tamarisk	Tamarix ramosissima
8	Polygon	volunteer	Stephen Chung	8/3/2012	Castor Bean	Ricinus communis

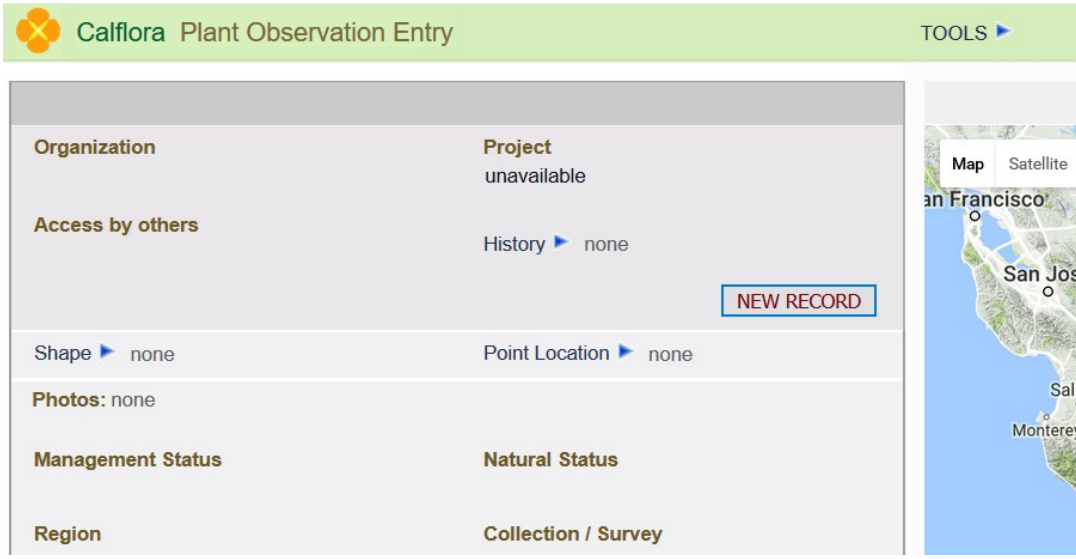
Upload shapefiles / geodatabases



iOS phone app



Geotagged Photos



Online

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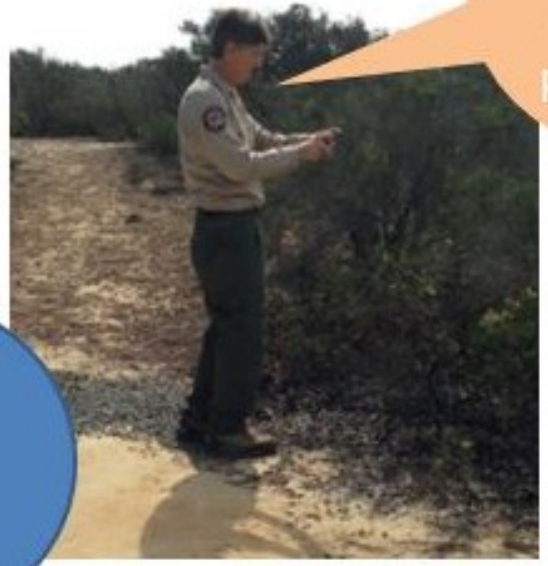

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Weed Manager: Managing data

Calflora Group Observations ▸ MAP LAYERS ▸ TOOLS Cynthia Powell

38.0127, -122.5716

Scientific Name

Common Name

Plant Status: rare

Plant List: none

◉ anywhere

○ in map area

Access by others: any

Region

Start Date eg. 2016-12-31

▸ POLYGON

Observer

End Date

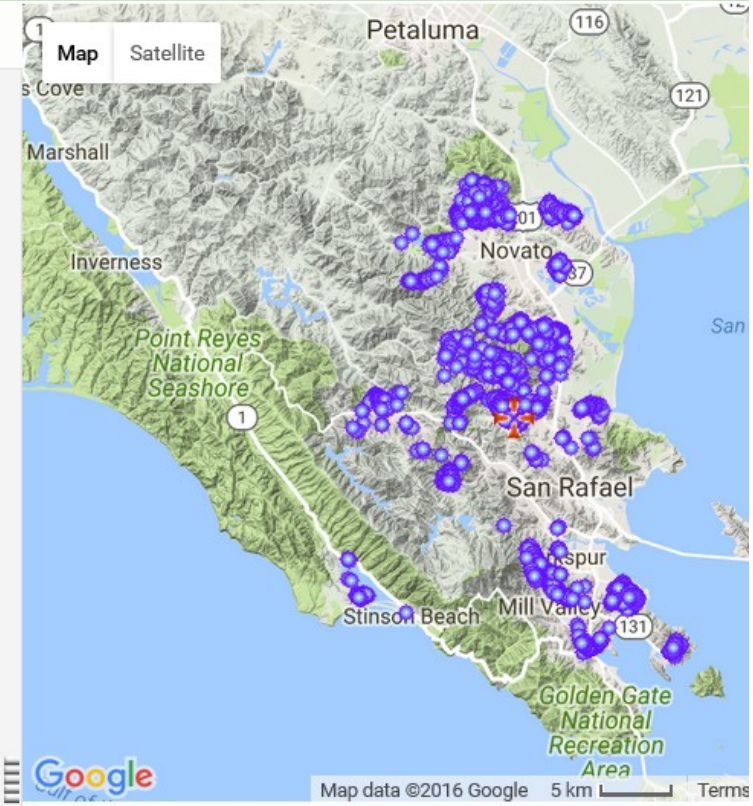
Group view: Marin County Parks data pro

☐ Only Shape Records

Treatment: any

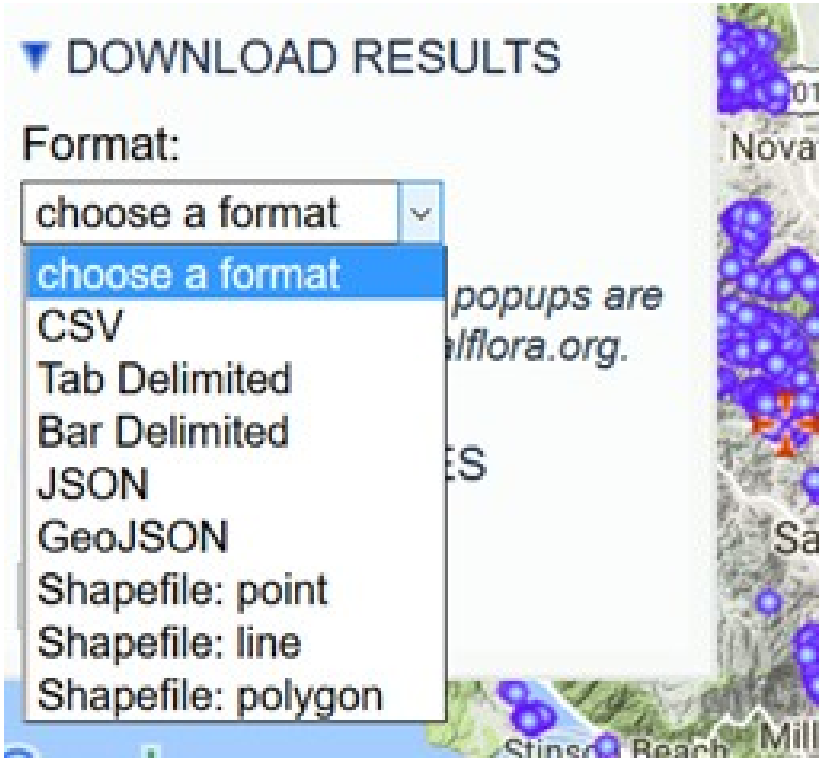
▸ Projects ▸ More Criteria

History Filter: All records



Group Observations

Weed Manager: Managing data



Data export API also available

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Weed Manager tools

- Weed Manager Groups
- Coordinating Groups
- Project setup
- Shape Editor
- Work session entry
- Reports
- Survey entry
- Hour and herbicide distributor

Weed Manager: **Groups**

A group is a set of people using Calflora with interests in common.

- data collection
- data management

Share

- observations (including unpublished)
- searches
- plant lists

* group may have one or more “data czar(s)” who can edit / publish / delete any observations in that group.

Roles

Owner – add/remove members, assign roles

Czar – edit any observation in group

Project Czar – can edit existing projects and all records in the project they are assigned to

Team Leader – can edit existing projects, work session entry

Regular Member – edit their own, view all other data

Nominal Member – can only add data to group

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Weed Manager: **Organization Options**

CREW | ROLES | ACTIVITIES | BILLING CODES | CHEMICALS | SEARCHES

10 Records Click on ○ to view a record.

	Role	Billing Method	Hourly Rate
○	Youth Crew	hourly	21.55
○	Seasonal Staff	hourly	42.59
○	Regular Staff	hourly	100.00
○	Contractor	fixed price	0.00
○	Contractor Hourly	hourly	50.00
○	Volunteer	hourly	35.00
○	One Tam Staff	hourly	0.00
○	One Tam Intern	hourly	0.00
○	CCNB Sup	hourly	59.75
○	CCNB Crew	hourly	30.75

(Organization Options demo)

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Weed Manager: **Organization Options**

CREW | ROLES | ACTIVITIES | BILLING CODES | CHEMICALS | SEARCHES

15 Records Click on ◉ to view a record.

	Type	Product	Company	Active Ingredient	Registration	Formulation
◉	Dye	Hi-Light				
◉	Dye	Turf Mark				
◉	Surfactant	Pentra-bark			CA 83416-50001	
◉	Surfactant	Competitor			CA 2935-50173	
◉	Surfactant	Liberate			CA 34704-50030	
◉	Herbicide	Garlon 4 Ultra	Dow AgroSciences	triclopyr	EPA 62719-527	
◉	Herbicide	Aquamaster	Monsanto	glyphosate	EPA 524-343	liquid
◉	Herbicide	Poast	CDMS	sethoxydim		
◉	Herbicide	Habitat	BASF Specialty Herbicides	imazapyr	EPA 241-426	
◉	Herbicide	Roundup Pro	Monsanto	glyphosate	EPA 524-475	liquid
◉	Herbicide	Roundup	Monsanto	glyphosate		
◉	Herbicide	Fusilade II	Syngenta Professional Products	flauziflop-p-butyl	EPA 100-1084	
◉	Herbicide	Garlon 3A	Dow AgroSciences	triclopyr	EPA 62719-37	

Weed Manager tools

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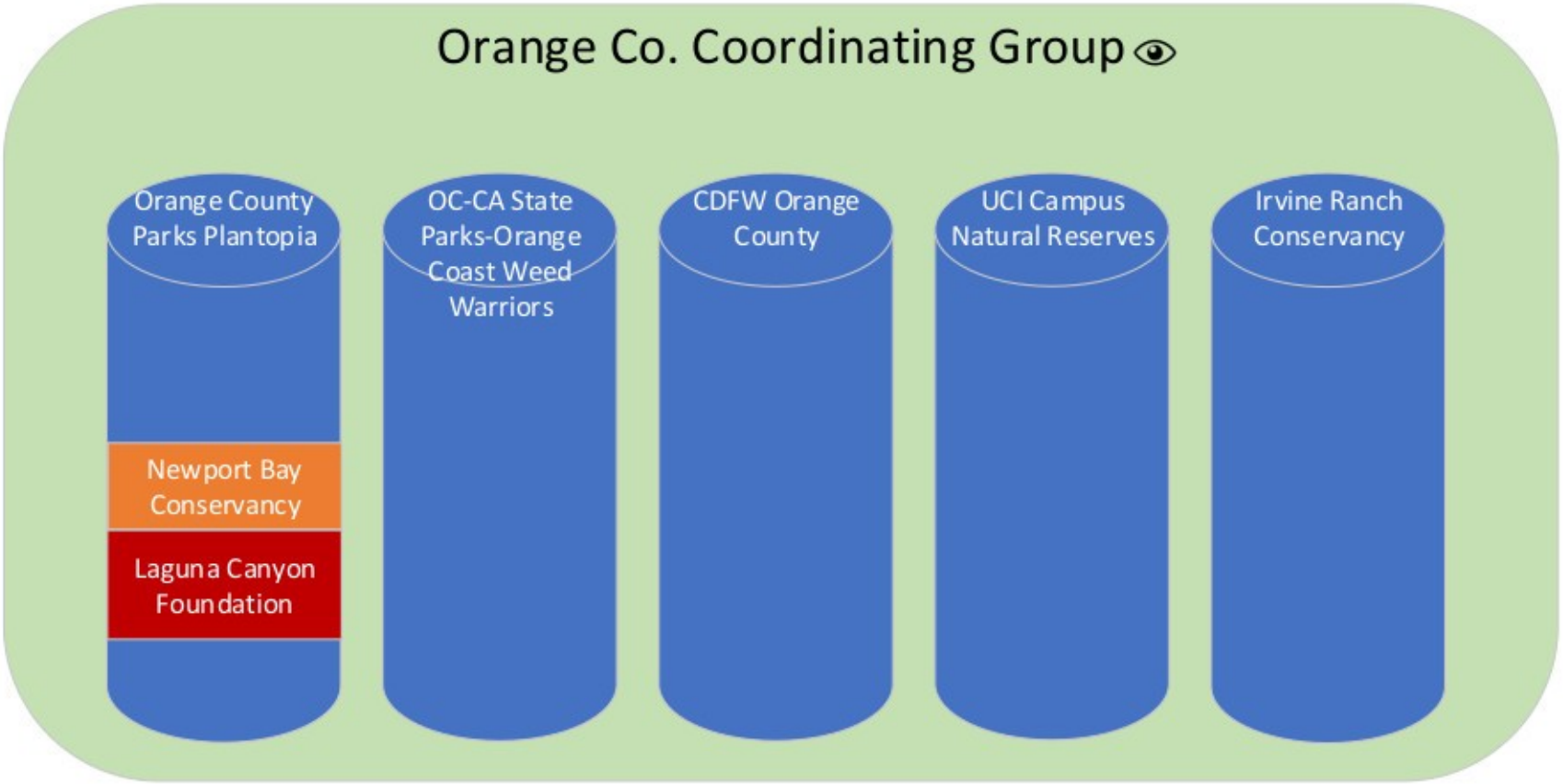
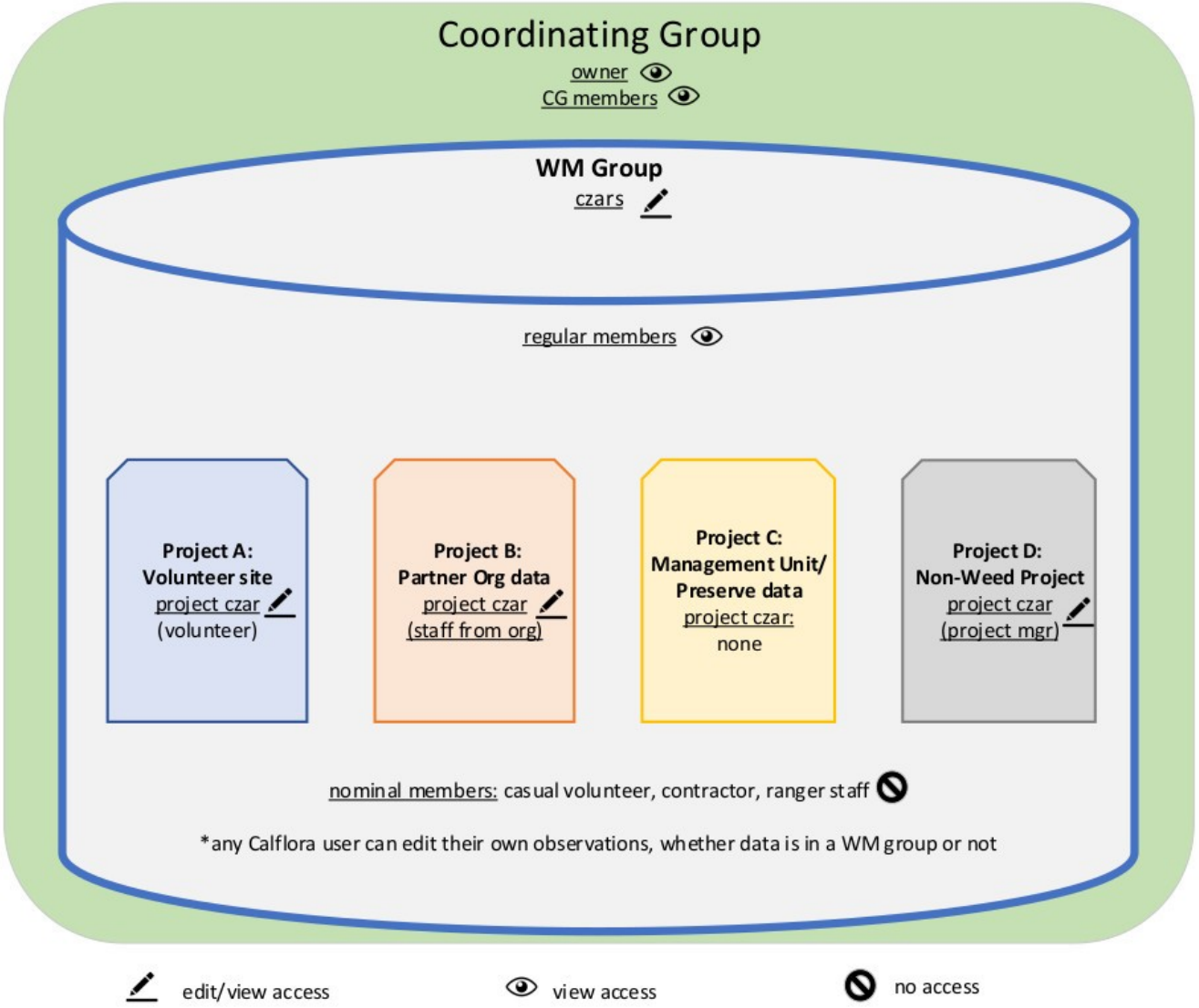
Weed Manager: **Coordinating Groups**



Weed Manager: **Coordinating Groups**



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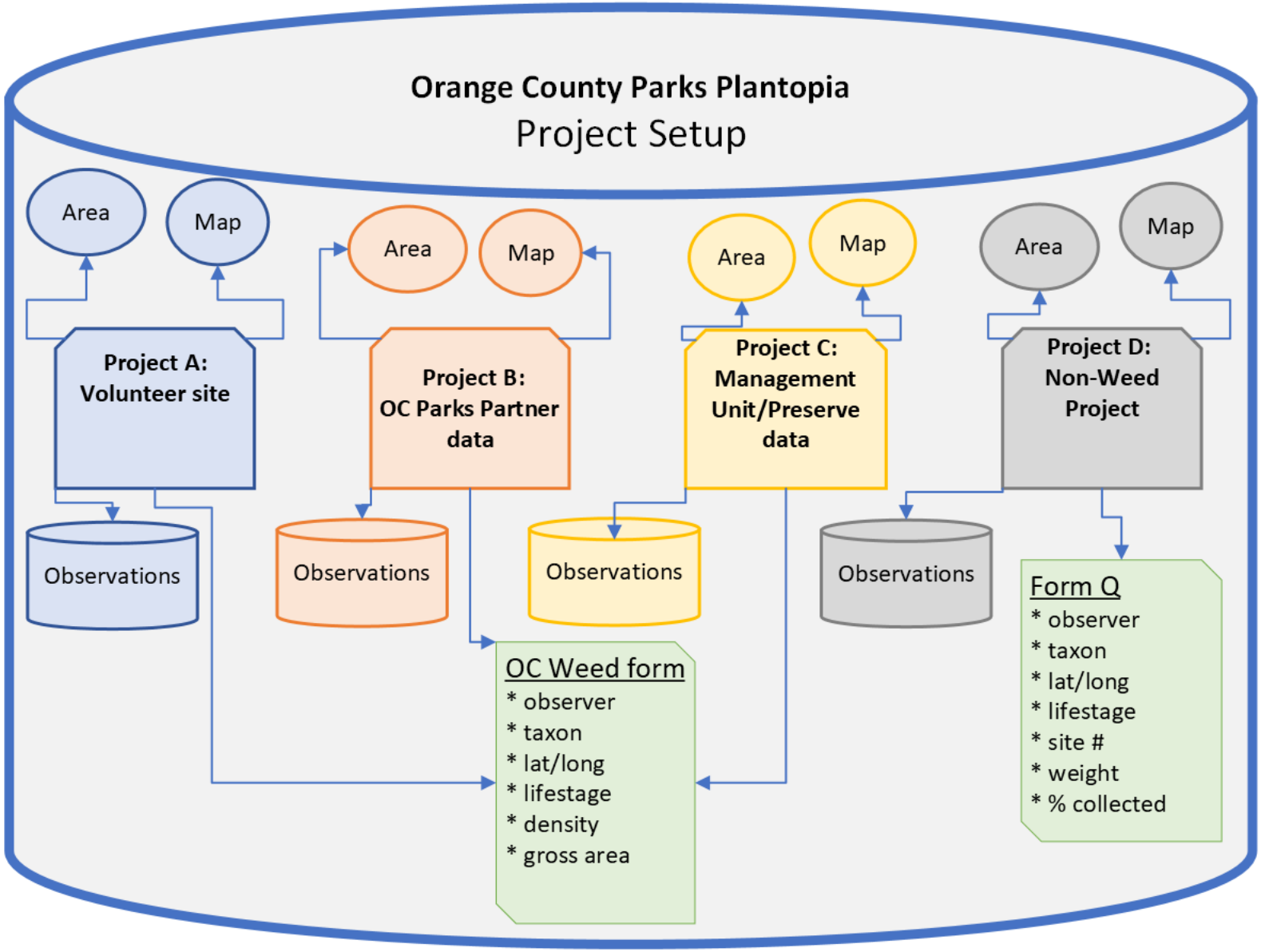
Weed Manager: **Project Setup**

A project is a way of organizing data collection and treatment records.

- For each record in WM
- Work session entry is organized by project
- Each project has defined field set for POE and Observer Pro
- Observer Pro
  - Historical records
  - Form – field set
  - Plant list
  - Center point


Orange County Parks Plantopia
Project Setup
Area
Map
Project A: Volunteer site
Observations
Area
Map
Project B: OC Parks Partner data
Observations
Area
Map
Project C: Management Unit/Preserve data
Observations
Area
Map
Project D: Non-Weed Project
Observations
OC Weed form
* observer
* taxon
* lat/long
* lifestage
* density
* gross area
Form Q
* observer
* taxon
* lat/long
* lifestage
* site #
* weight
* % collected

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Weed Manager: **Shapes**

you have your own portfolio of lines and polygons.
1) observation record with a line or polygon
2) make a search polygon from Observation Hotline or What Grows Here, and save it by name

Shape Editor application – search, view, create and edit
- upload a polygon shapefile (multi-part)
- make available elsewhere for search

* You can also share your polygons with a group.

(Shape Editor demo)

YouTube VIDEO: How to draw a polygon in Calflora map applications

Weed Manager tools

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Weed Manager: **Work Session Entry**

view, enter, or edit work session records
- per organization & project
an electronic timesheet

A crew record can describe a single person
(e.g. a member of the organization's staff), a contractor,
or a volunteer group.

Work can be incorporated into your Observer Pro form or entered completely separately later.

(Work Session Entry demo)

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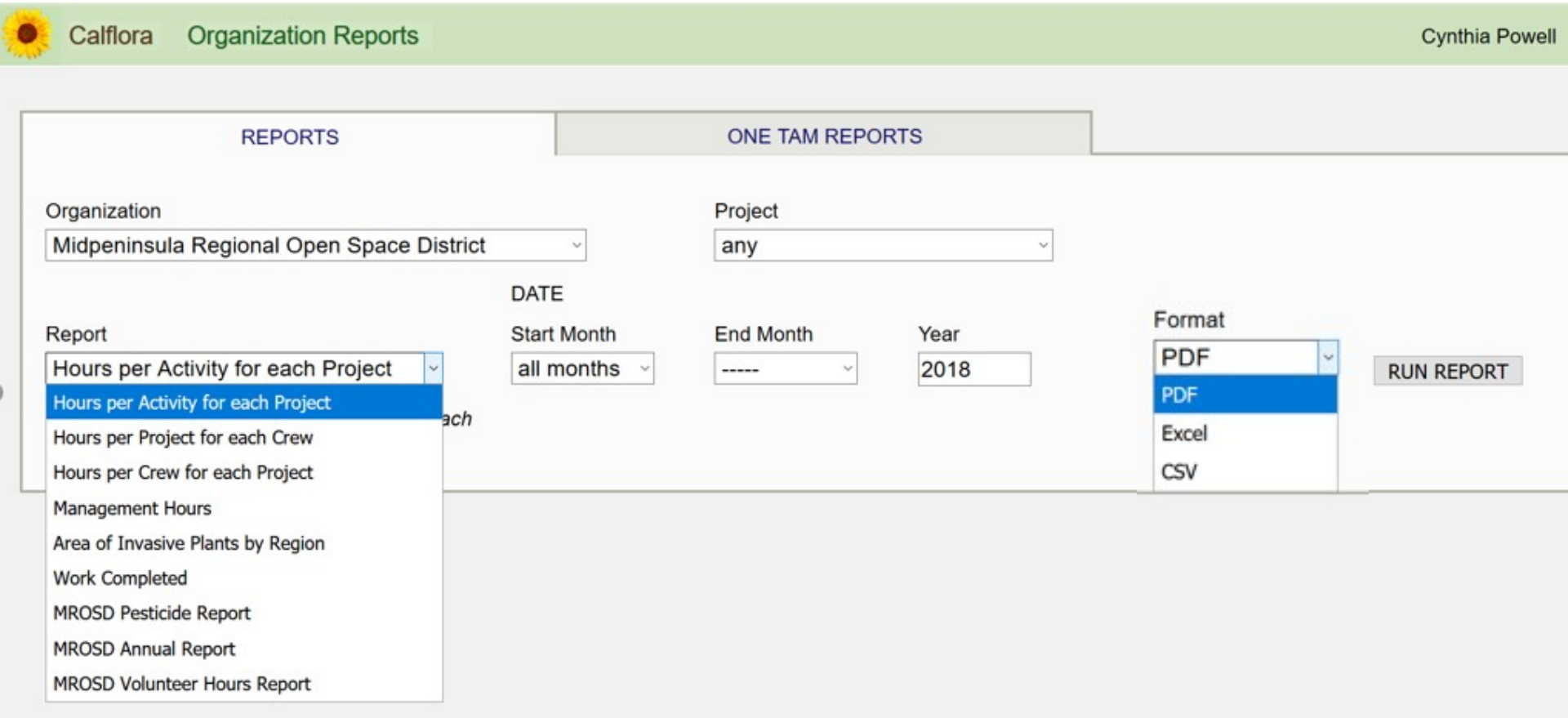
Weed Manager: **Group Reports**

Create reports on the work you've done to submit to your funder, supervisor, etc.



Hours per Activity for each Project

Midpeninsula Regional Open Space District YEAR: 2018

Project	Activity	Hours
Advanced Data Collection	Treatment	25.00
ARMS		140.93
ARMS	Treatment	224.10
Pre-Treatment Assessment		160.00
SCVWD Grant		1,336.00
SCVWD Grant	none	14.00
SCVWD Grant	Treatment	1,912.50
Weed Treatment		709.16
Weed Treatment	none	578.25
Weed Treatment	Treatment	802.73
TOTAL		**5,902.67**

AREA OF INVASIVE PLANTS BY REGION

Midpeninsula Regional Open Space District YEAR: 2018

Purisima Creek Redwoods

Plant	Gross Area (Acres)	Infested Area (Acres)
Acacia melanoxylon	17.26869	0.42814
Delairea odorata	0.00025	0.00024

AREA OF INVASIVE PLANTS BY REGION

Midpeninsula Regional Open Space District YEAR: 2017

Plant	Gross Area (Acres)	Infested Area (Acres)
Rancho San Antonio		
Allium vineale	1.53130	0.00766
Carduus pycnocephalus	3.22360	0.01612
Centaurea solstitialis	8.60187	0.33388
Dittrichia graveolens	0.15993	
Genista monspessulana	0.28510	0.00855
Phalaris aquatica	0.50620	0.31637
Silybum marianum	4.19956	0.09090
El Corte de Madera Creek		
Genista monspessulana	11.14370	0.33431

Weed Manager: Reports

VEGETATION AND BIODIVERSITY PROJECTS: MONTHLY IPM TREATMENT REPORT FORM

Marin County Open Space District

March 2016

CHEMICAL TREATMENTS

Date(s)	Preserve	Labor Source	Product Applied	EPA/Cal-EPA Registration Number	Undiluted Product Used	Target Pest	Hours
3/16	Terra Linda	Contractor	Fusilade II	100-1084	96 oz	Aegilops triuncialis	33
" "	" "	" "	Competitor	2935-50173	192 oz	" "	" "

OTHER MANAGEMENT ACTIVITIES

Date(s)	Preserve	Labor Source	Activity	Target Pest	Hours
3/3	Indian Valley	Staff	Hand pulling	Genista monspessulana	7.5
3/3	Roy's Redwoods	Staff	Hand pulling	Phalaris aquatica	4.0
3/3	Roy's Redwoods	Staff	Hand pulling	Genista monspessulana	2.0
3/3	French Ranch	Staff	Hand pulling	Arundo donax	0.5
3/4	Kent Island	Staff	Hand pulling	Cakile maritima	4.5
3/4	Kent Island	Staff	Hand pulling	Ammophila arenaria	9.0
3/7-3/8	Indian Valley	Staff	Hand pulling	Genista monspessulana	22.5
3/8	Indian Valley	Staff	Hand pulling	Cytisus scoparius	0.5
3/8-3/9	Lucas Valley	Staff	Shovel shear	Pyrocantha angustifolia	2.5
3/9-3/10	Ring Mountain	Staff	Hand pull	Cortaderia jubata	11.5
3/9	Lucas Valley	Staff	Hand pull	Grevillea robusta	1.0

Weed Manager: **Custom Reports**

- Uses third-party software – Jasper Reports
- Accessible from calflora.org with your existing login
- Build your own custom queries from your group's data
- Set reports to run at a regular interval
- Exports to PDF, Excel, Word, csv

CALFORA VIDEO:
https://www.calflora.org/newsletter/WeedManager/WM2meetingrecordings/20210318customizedreports/20210318meeting.mp4

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Weed Manager: **Survey Entry**

survey = a search for certain plants in a discrete area at a certain time

need to specify:

- Area
- Date
- Plant list

For each plant in the plant list, you can indicate whether or not you found it. If you did find it, you may indicate how abundant it was (1+, 1-10, 11-100, etc.).

You may also indicate plant count zero for “not found,”
→ absence data for that surveyed area.

37.87206, -122.58152

Viewing record # **svy320** entered on 2016-08-30

Organization
Mount Tamalpais State Park

Project
Illustrated Plant List

Access by others
published

NEW RECORD

Shape ▶

Point Location ▶

Name *
160830_tr_GTT_HEPE

Observer *
Thomas Reyes

Date *
2016-08-30

Reference Plant List

RECORD DETAIL | **PLANT LIST** | **OBSERVATIONS**

Gross Area
278298.8 Square Meters

Method
survey

Habitat

Elevation

Viewing record # **svy320** entered on 2016-08-30

RECORD DETAIL | PLANT LIST | OBSERVATIONS

▼ OBSERVATIONS IN THIS SURVEY ▶ SEARCH FOR OBSERVATIONS

16 observations

ID	Taxon	Date	Count	Observer
mg32079	Cortaderia jubata	2016-08-30	5	Thomas Reyes
mg32078	Cortaderia jubata	2016-08-30	1	Thomas Reyes
mg32077	Helichrysum petiolare	2016-08-30	1	Thomas Reyes
mg32076	Helichrysum petiolare	2016-08-30	1	Thomas Reyes
mg32074	Helichrysum petiolare	2016-08-30	4	Thomas Reyes
mg32062	Cortaderia jubata	2016-08-30	13	Thomas Reyes
mg32061	Cortaderia jubata	2016-08-30	3	Thomas Reyes
mg32049	Helichrysum petiolare	2016-08-30	1	Thomas Reyes
mg32047	Helichrysum petiolare	2016-08-30	1	Thomas Reyes
mg32042	Helichrysum petiolare	2016-08-30	2	Thomas Reyes
mg32041	Helichrysum petiolare	2016-08-30	11 - 50	Thomas Reyes
mg32039	Cortaderia jubata	2016-08-30	10	Thomas Reyes

Weed Manager tools

- Weed Manager Groups
- Coordinating Groups
- Project setup
- Shape Editor
- Work session entry
- Reports
- Survey entry
- Hour and herbicide distributor

Weed Manager: **Hour and Herbicide Distributor (HHD)**

apply a number of work hours and amount of herbicide

- to all treatment records for a chosen
  - Organization
  - Project
  - Day

HHD divides the total hours in proportion to the infested area of each record and shows this to the user in a preview table. The user can then adjust the number of hours allocated to each treatment record.

Agenda

Introduction and Calflora basics
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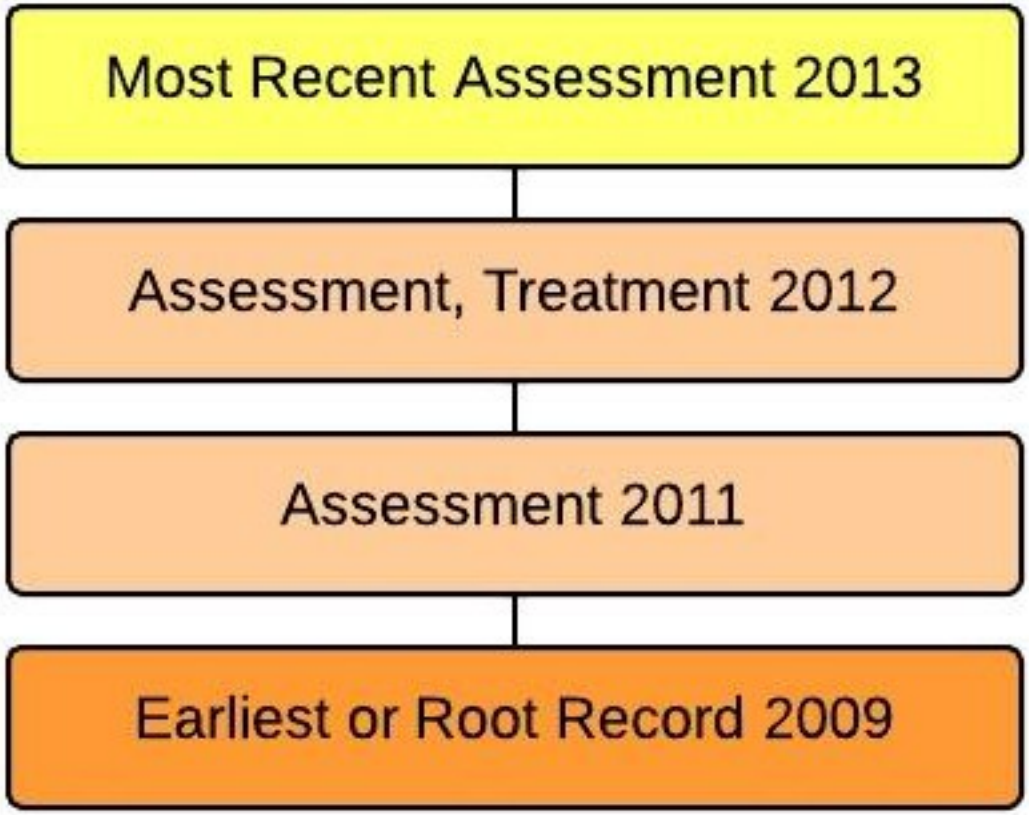
Upload and edit field data
Questions & Discussion

History stacks



Population Record

Population Attributes - stick with this observation through time

* Reference Polygon
* Accessibility
* Priority
* Plant Count

On phone app and website

Viewing Record # **mg11858** entered on 2015-05-08 by **MCOSD Restoration Crew**

Organization
Marin County Parks data pro

Project
TELIAETR

Access by others
published

History ▼ This is the earliest record.

NEW RECORD

Select a record below to view:

- mg11858 2015-05-08
- mg13614 2015-05-22
- mg23591 2016-04-25
- mg24910 2016-05-24
- mg27404 2016-06-28

Shape ► none

Find nearby records of
Aegilops triuncialis

CLEAR SEARCH

MARIN CO. PARKS WEED / TREATMENT

Scientific Name *
Aegilops triuncialis

Observer *
Shawn - Go Native

Location Description
TERRA LINDA-SLEEPY HOLLOW DIVIDE NORTH

Habitat
Grassy slope

Number of Plants *
1+

Percent Cover

Distribution
Scattered Plants

Phenology

38.02024, -122.56731

Viewing Record # **mg27404** entered on 2016-06-30 by **MCOSD Restoration Crew**

Organization
Marin County Parks data pro

Project
TELIAETR

Access by others
published

History ▼ Earliest record: # **mg11858**

NEW RECORD

Select a record below to view:

mg11858 2015-05-08
mg13614 2015-05-22
mg23591 2016-04-25
mg24910 2016-05-24
mg27404 2016-06-28

Find nearby records of
Aegilops triuncialis

CLEAR SEARCH

Shape ▶

MARIN CO. PARKS WEED / TREATMENT

Scientific Name *
Aegilops triuncialis

Observer *
MCOSD Restoration Crew

Location Description
Terra Linda Preserve

Habitat
Grassland / Open field

Number of Plants *
49

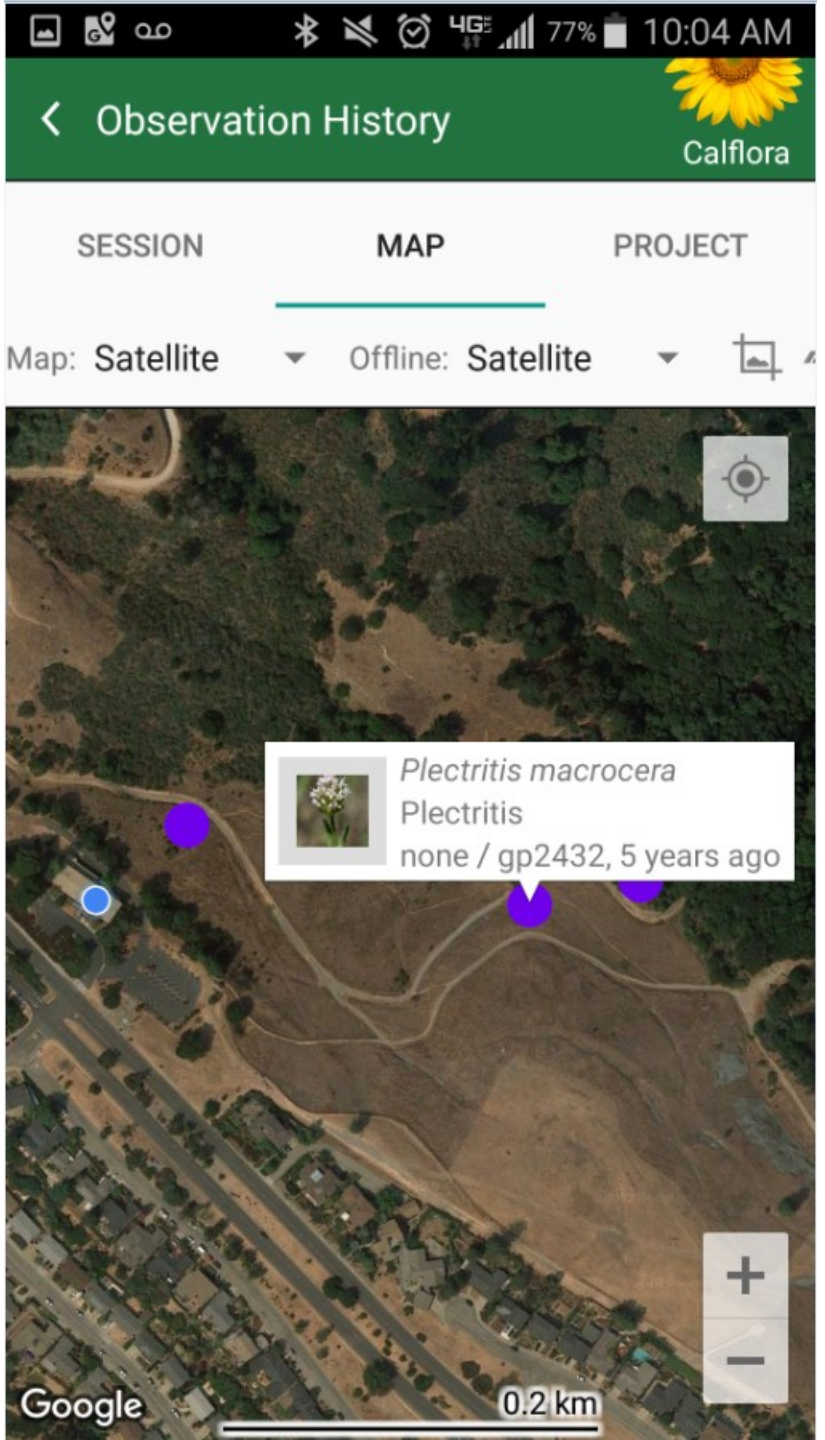
Percent Cover
0 - 1

Distribution
Scattered Plants

Phenology
Fruiting

38.02015, -122.56720

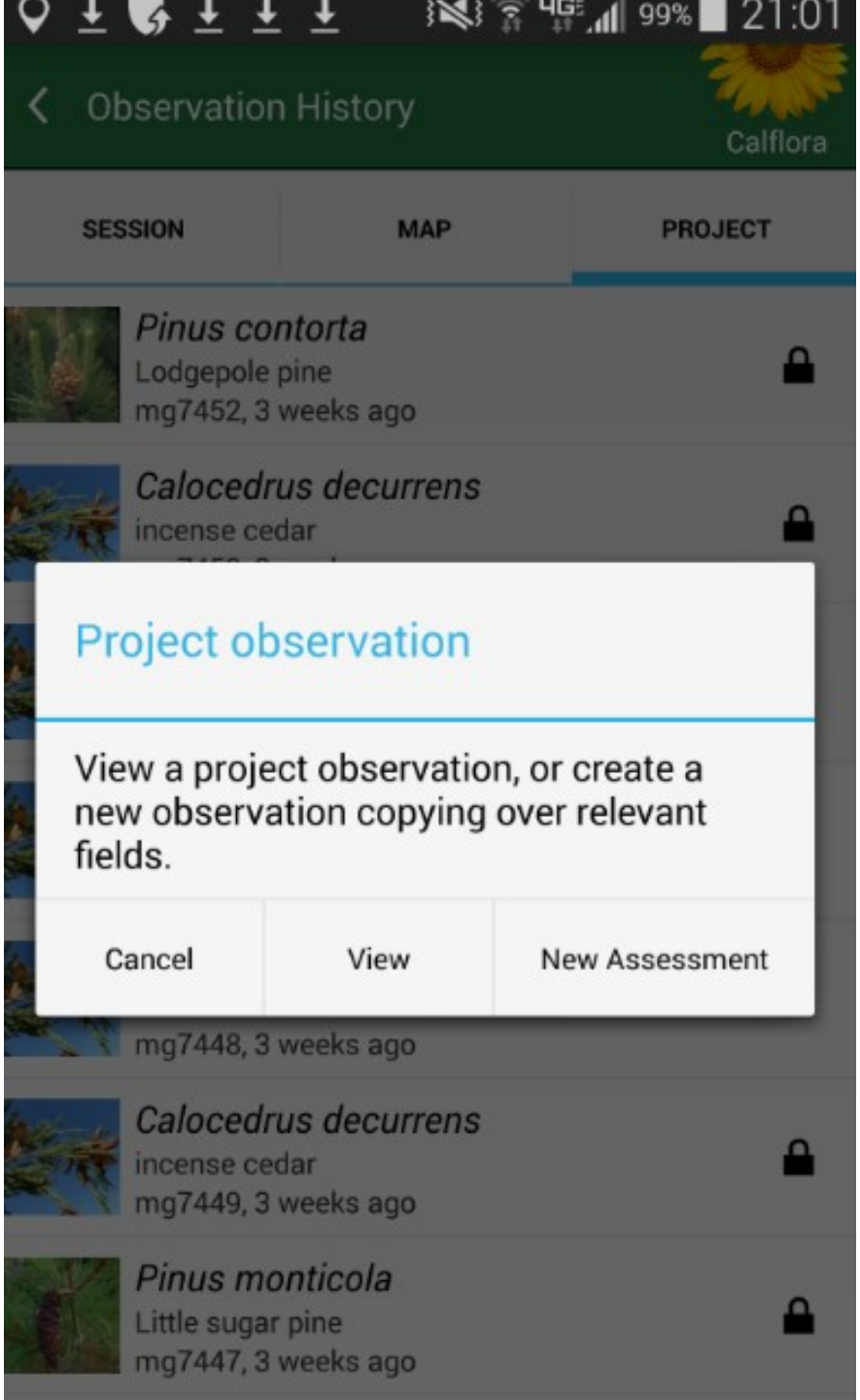
Travel to your project observations based on your blue GPS point



YouTube VIDEO: How to add a plant observation to a history stack using the Calflora website

YouTube VIDEO: How to create new assessments and history stacks on Calflora's Observer Pro phone app

Coming back the following year for a new assessment of the same patch



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Calflora

information on **wild California plants** for conservation, education, and appreciation

Be notified whenever new observations show up!
You may be alerted when any new observation of a certain plant shows up in a certain area.

E.g.
Rare plants (rated1-3) in Lassen NF
Stinkwort (EDRR) in Trinity County
What's new in my favorite local hiking spot

YouTube VIDEO: Creating a Calflora Email Alert

Alert: EDN recent records

Here are **3 records** that have been added or modified in the past week.

Ophioglossum californicum, California adder's tongue
Orange County
Ron Vanderhoff, 2018-03-19 (modified on 2018-03-31)

Area re-surveyed following 3-15-18 detection. 2,000 plus emergent stage plants estimated, over an area of approx. 1acre. All plants growing in flat, moist clay soil on east or northeast light shade from Eriogonum fasciculatum. Usually on mostly open soil, occasionally in short grass. Abundant bryophytes, soil crust well developed. With abundant plantago erecta. All vegetative.

Oxalis californica, Californica wood sorrel
Orange County
Brett Dean, 2018-03-30

Salicornia pacifica, Pickleweed
Alameda County
Michael Perlmutter, 2018-04-03 (modified on 2018-04-04)

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Observer Pro phone app:

- Available on android and iOS

- Don’t need data plan at all

- Don’t need wifi/connectivity in the field

- Do need wifi/connectivity before and after you go in the field to login and (after) upload observations

YouTube VIDEO: Observer Pro on Android

YouTube VIDEO: Observer Pro on iOS

CALFLORA HELP: https://www.calflora.org/entry/applications2.html?topknot=f#smartphone

- has written guides for both operating systems as well

Offline Maps

1) Calflora provided (no iOS)

2) make with MapTiler/ArcGIS (no iOS)

CALFLORA HELP: https://www.calflora.org/entry/weed-mgr.html#offline

3) Background Shapes

CALFLORA HELP: https://www.calflora.org/entry/help/bglp-help.html

YouTube VIDEO: Observer Pro background lines and polygons

4*) Google maps cache

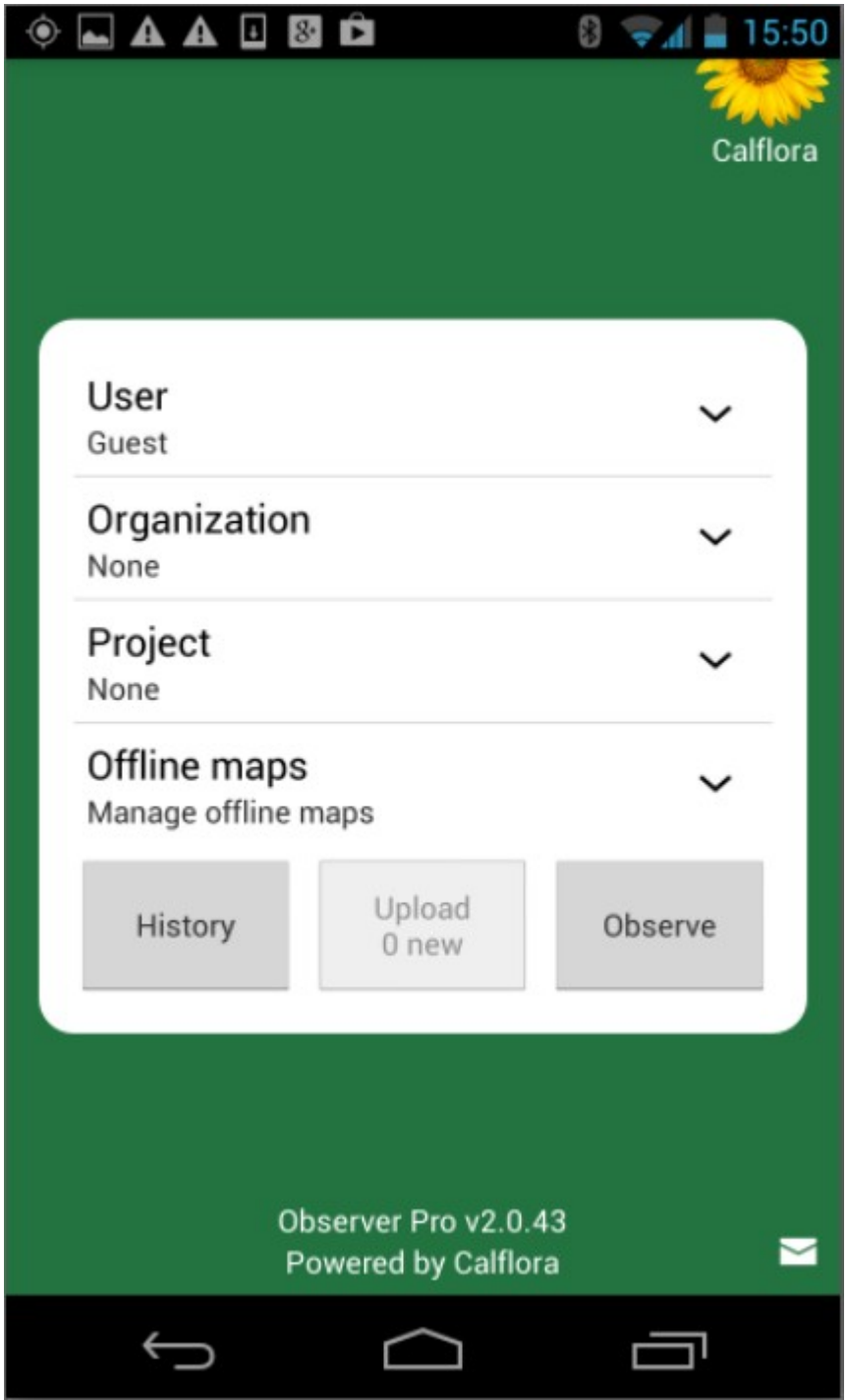
Background Shapes

My Calflora → Preferences → Observer Pro: Background Lines and Polygons

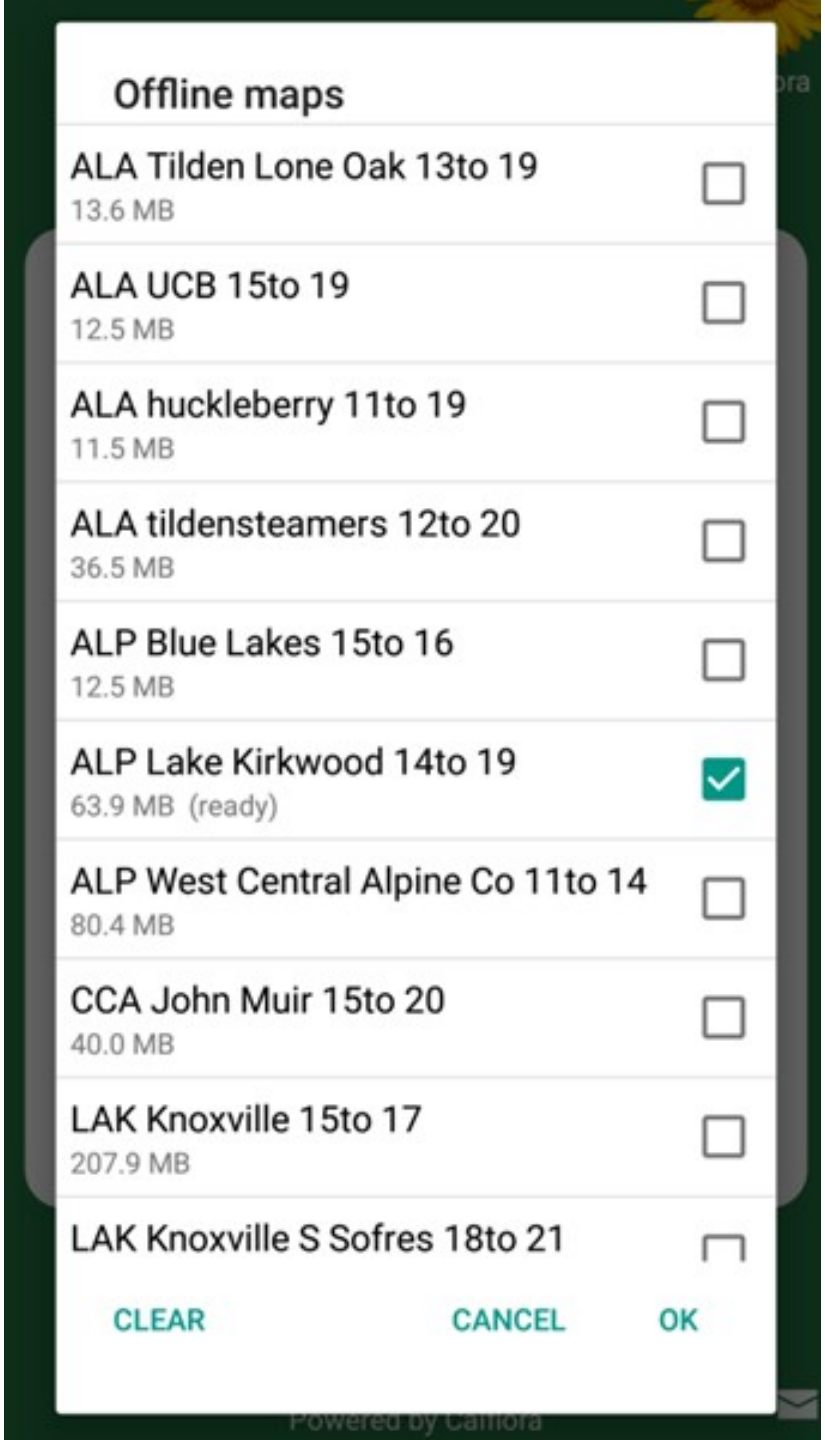
(demo w/ shape made in Shape Editor)

* preference is for your individual account

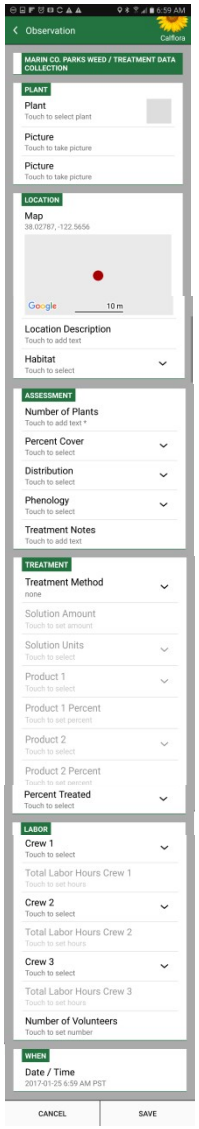
Get Your Device Out And Follow Along

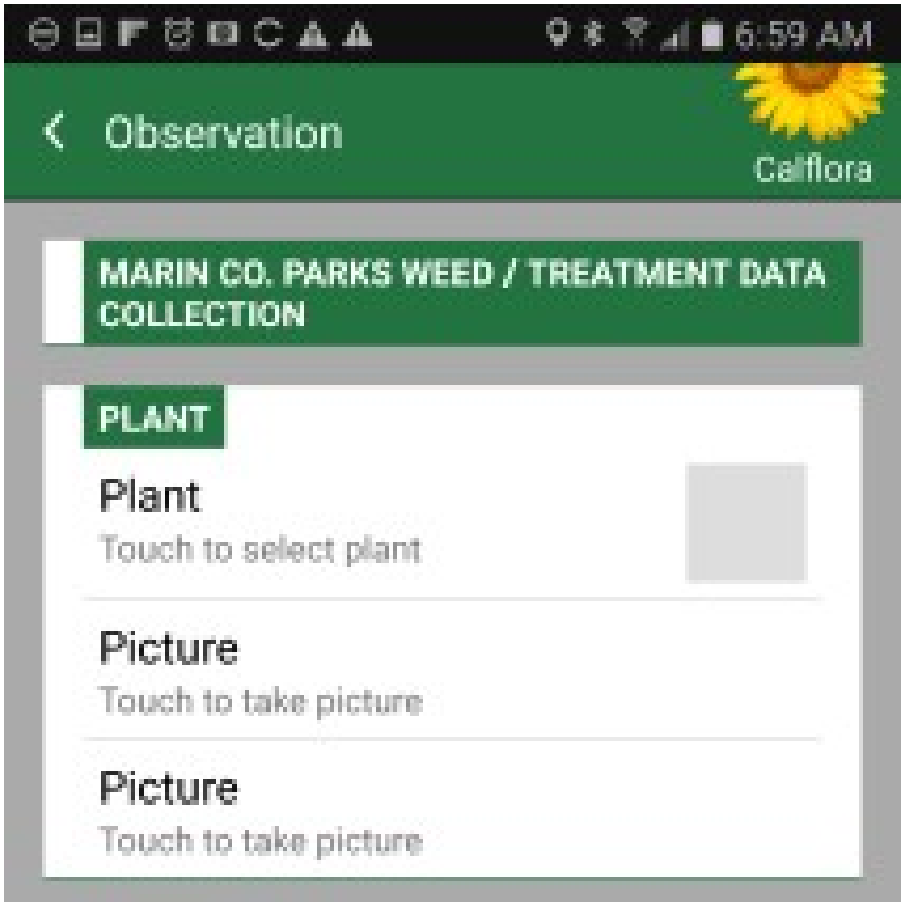


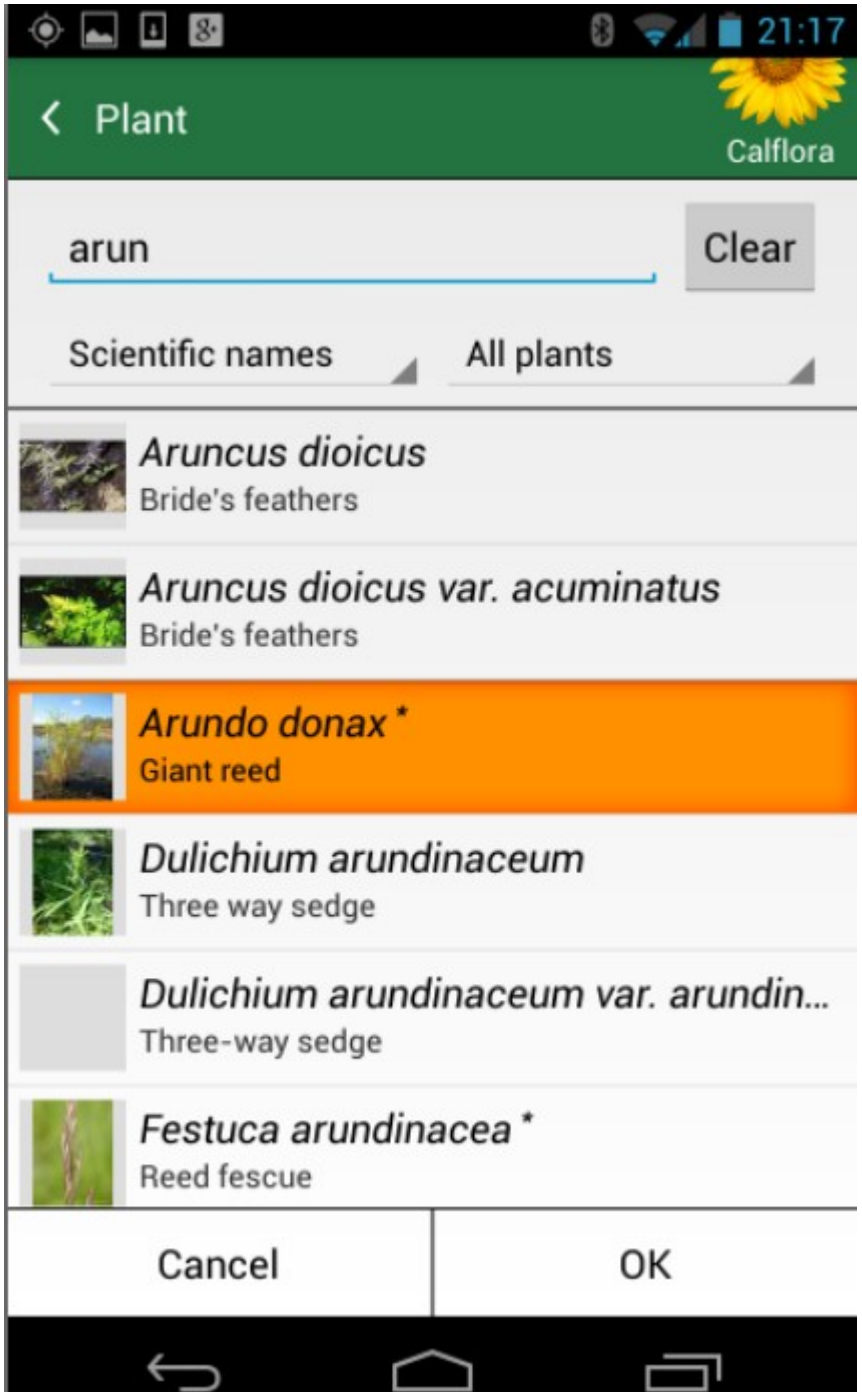
(Android)

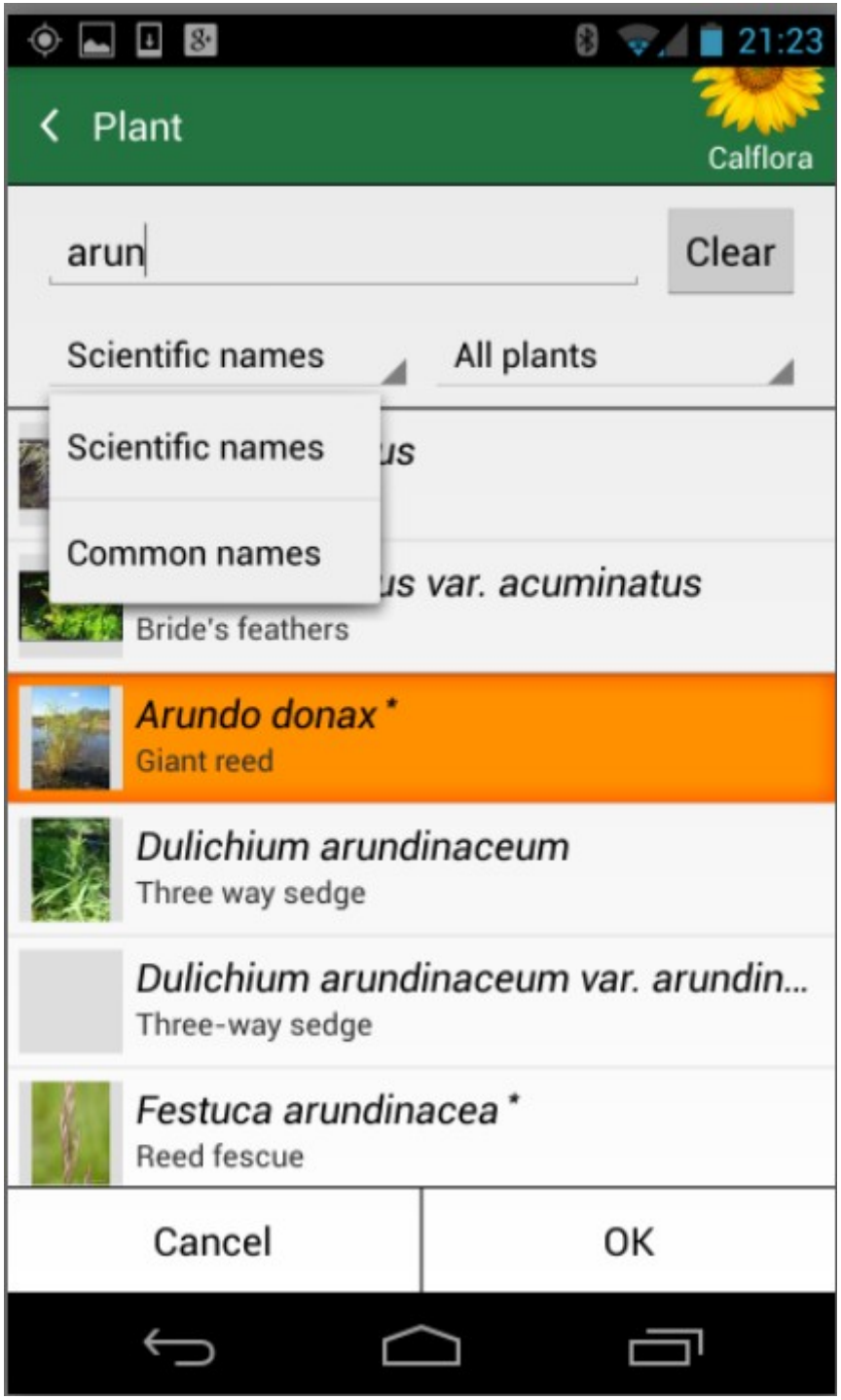

Offline maps
ALA Tilden Lone Oak 13to 19
13.6 MB
ALA UCB 15to 19
12.5 MB
ALA huckleberry 11to 19
11.5 MB
ALA tildensteamers 12to 20
36.5 MB
ALP Blue Lakes 15to 16
12.5 MB
ALP Lake Kirkwood 14to 19
63.9 MB (ready)
ALP West Central Alpine Co 11to 14
80.4 MB
CCA John Muir 15to 20
40.0 MB
LAK Knoxville 15to 17
207.9 MB
LAK Knoxville S Sofres 18to 21
CLEAR
CANCEL
OK

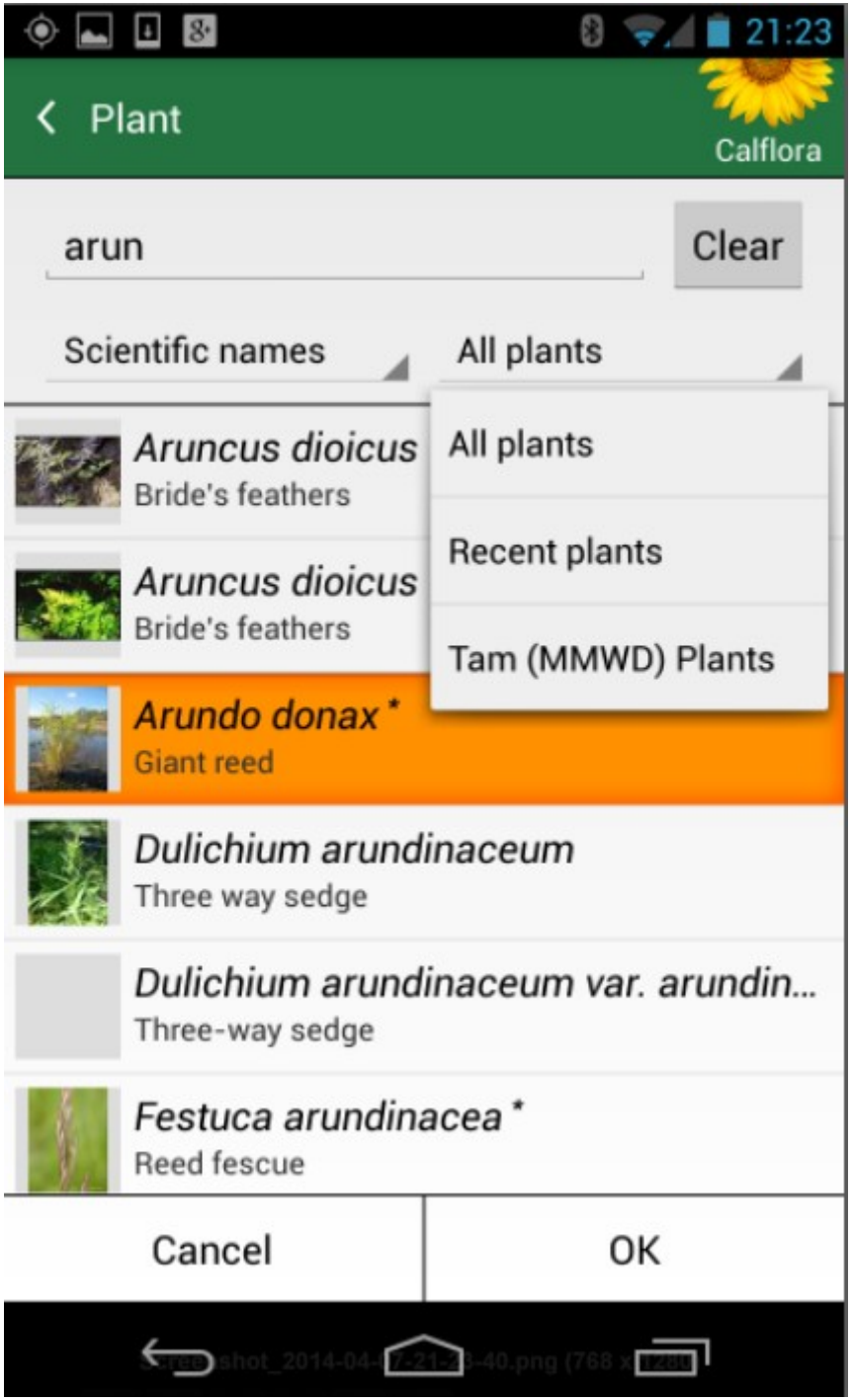
Mobile Form Full View

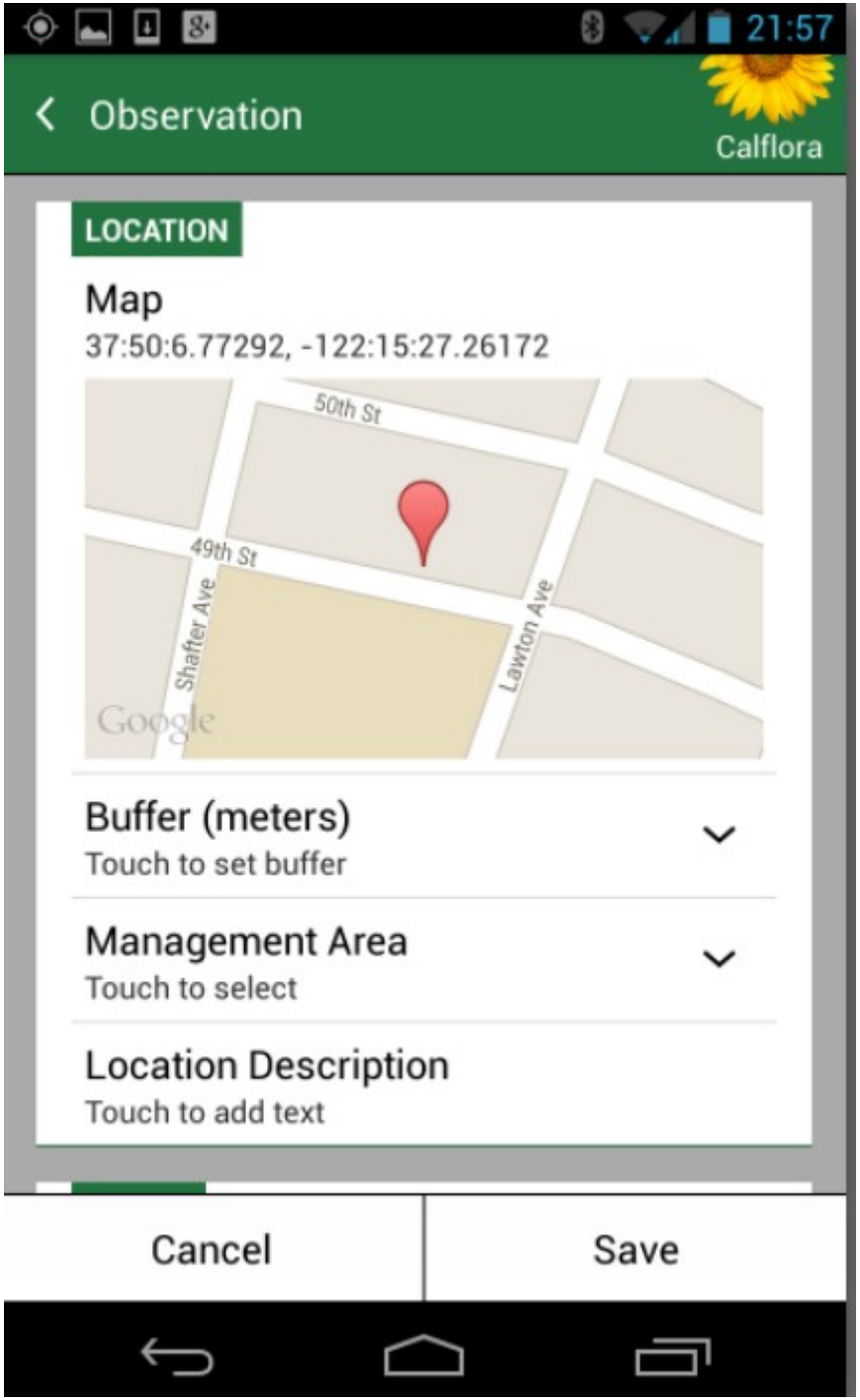


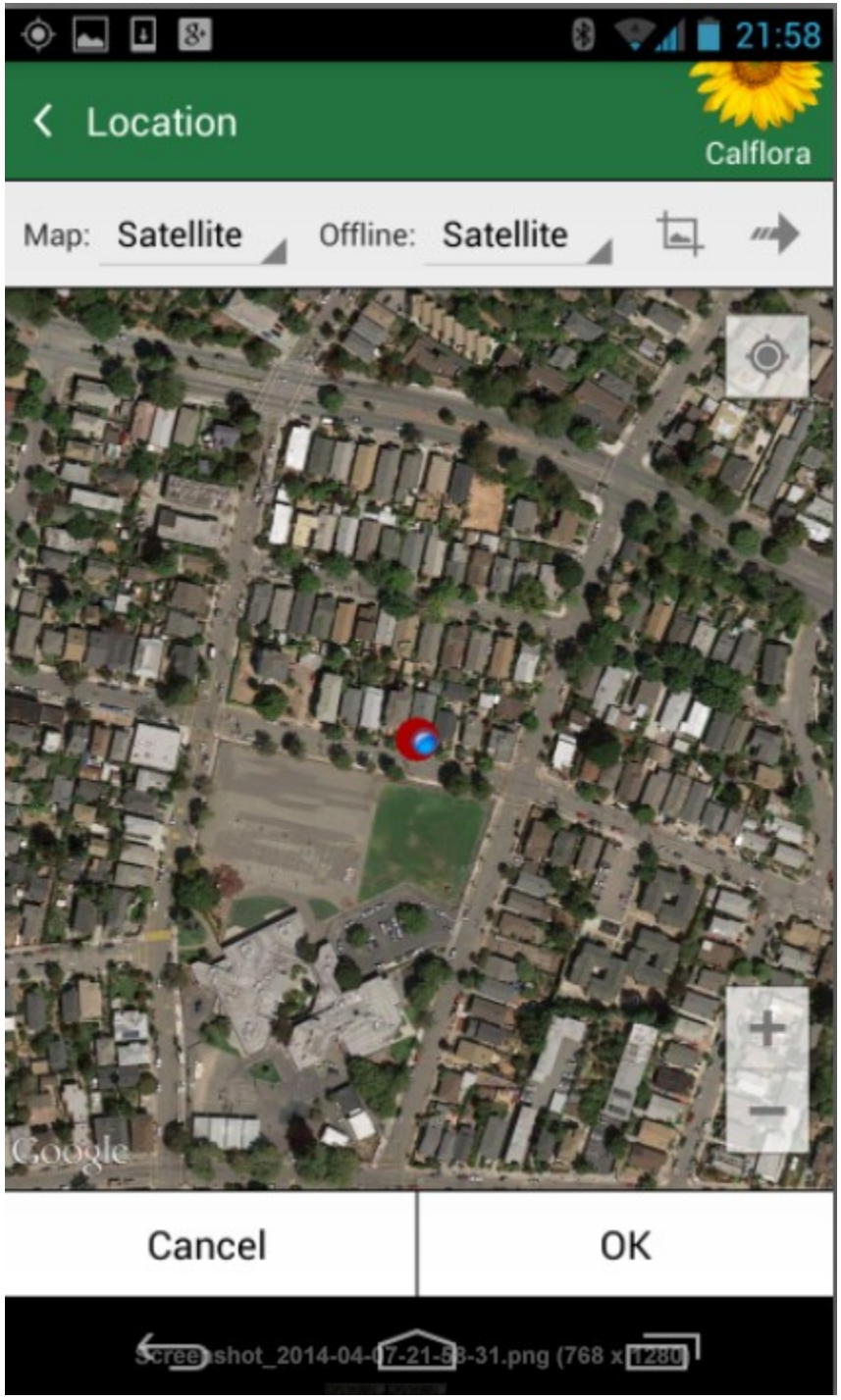

6:59 AM
Observation
Calflora
MARIN CO. PARKS WEED / TREATMENT DATA COLLECTION
PLANT
Plant
Touch to select plant
Picture
Touch to take picture
Picture
Touch to take picture


21:17
Plant
Calflora
arun
Clear
Scientific names
All plants
Aruncus dioicus
Bride's feathers
Aruncus dioicus var. acuminatus
Bride's feathers
Arundo donax *
Giant reed
Dulichium arundinaceum
Three way sedge
Dulichium arundinaceum var. arundin...
Three-way sedge
Festuca arundinacea *
Reed fescue
Cancel
OK

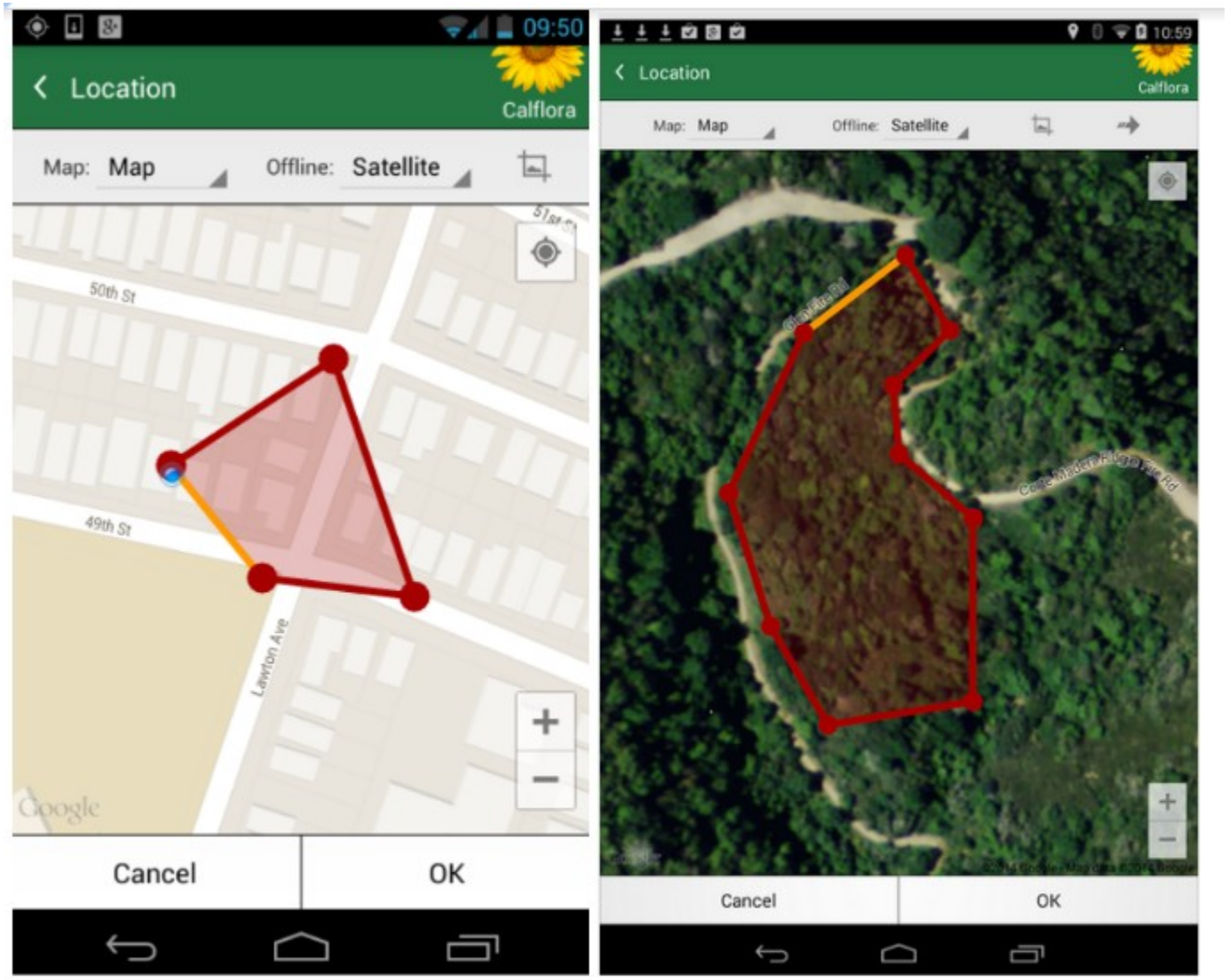

21:23
Plant
Calflora
arun
Clear
Scientific names
All plants
Scientific names
Common names
us
us var. acuminatus
Bride's feathers
Arundo donax *
Giant reed
Dulichium arundinaceum
Three way sedge
Dulichium arundinaceum var. arundin...
Three-way sedge
Festuca arundinacea *
Reed fescue
Cancel
OK


21:23
Plant
Calflora
arun
Clear
Scientific names
All plants
All plants
Recent plants
Tam (MMWD) Plants
Aruncus dioicus
Bride's feathers
Aruncus dioicus
Bride's feathers
Arundo donax *
Giant reed
Dulichium arundinaceum
Three way sedge
Dulichium arundinaceum var. arundin...
Three-way sedge
Festuca arundinacea *
Reed fescue
Cancel
OK


21:57
Observation
Calflora
LOCATION
Map
37:50:6.77292, -122:15:27.26172
50th St
49th St
Shafter Ave
Lawton Ave
Google
Buffer (meters)
Touch to set buffer
Management Area
Touch to select
Location Description
Touch to add text
Cancel
Save

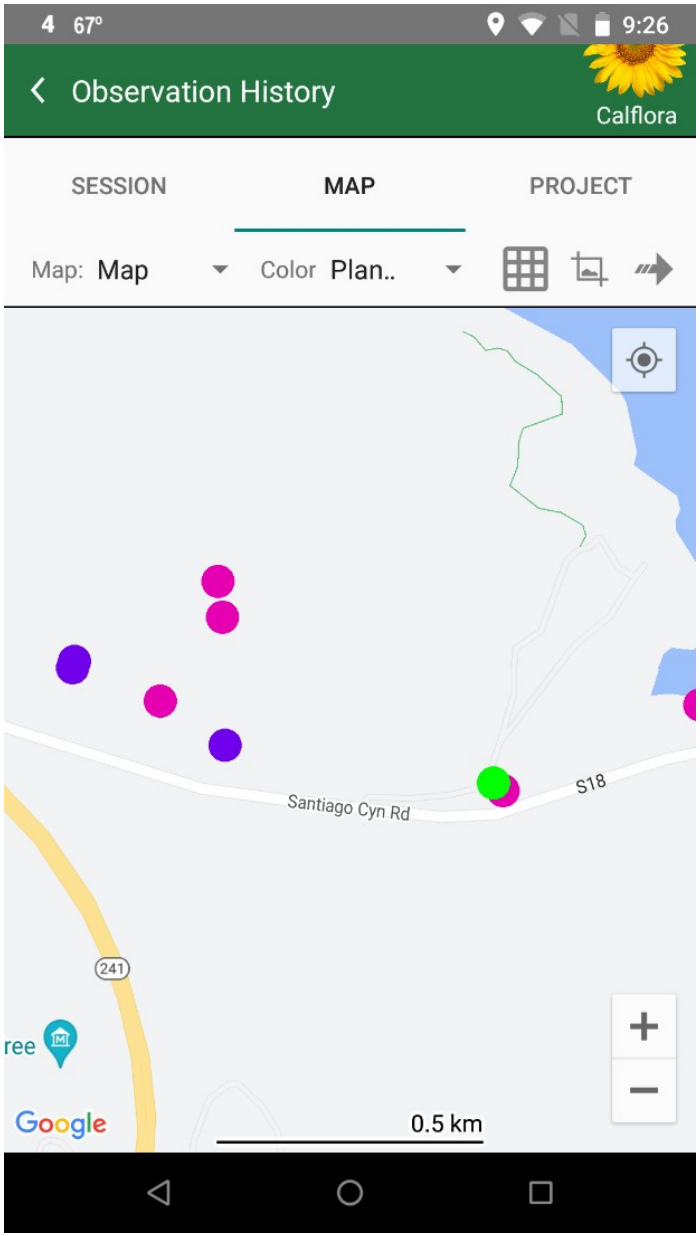

21:58
Location
Calflora
Map: Satellite
Offline: Satellite
Google
Cancel
OK

Drawing polygons



Drawing polygons: android & iOS

Viewing Historical Data



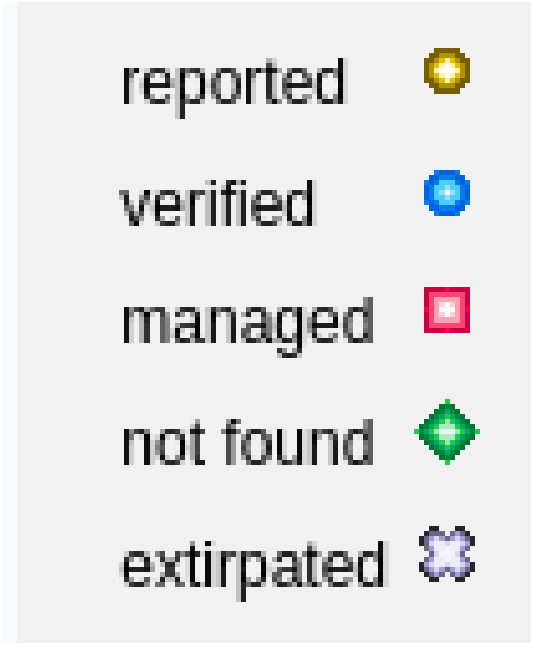
Historical Record
(point only)

Historical Record
(with polygon)

Session Record
(created in OP by user)

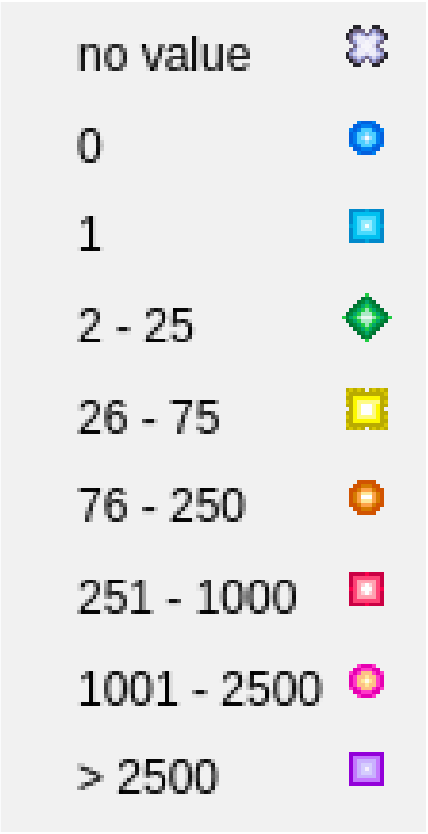
Alternate Symbology for Historical Data

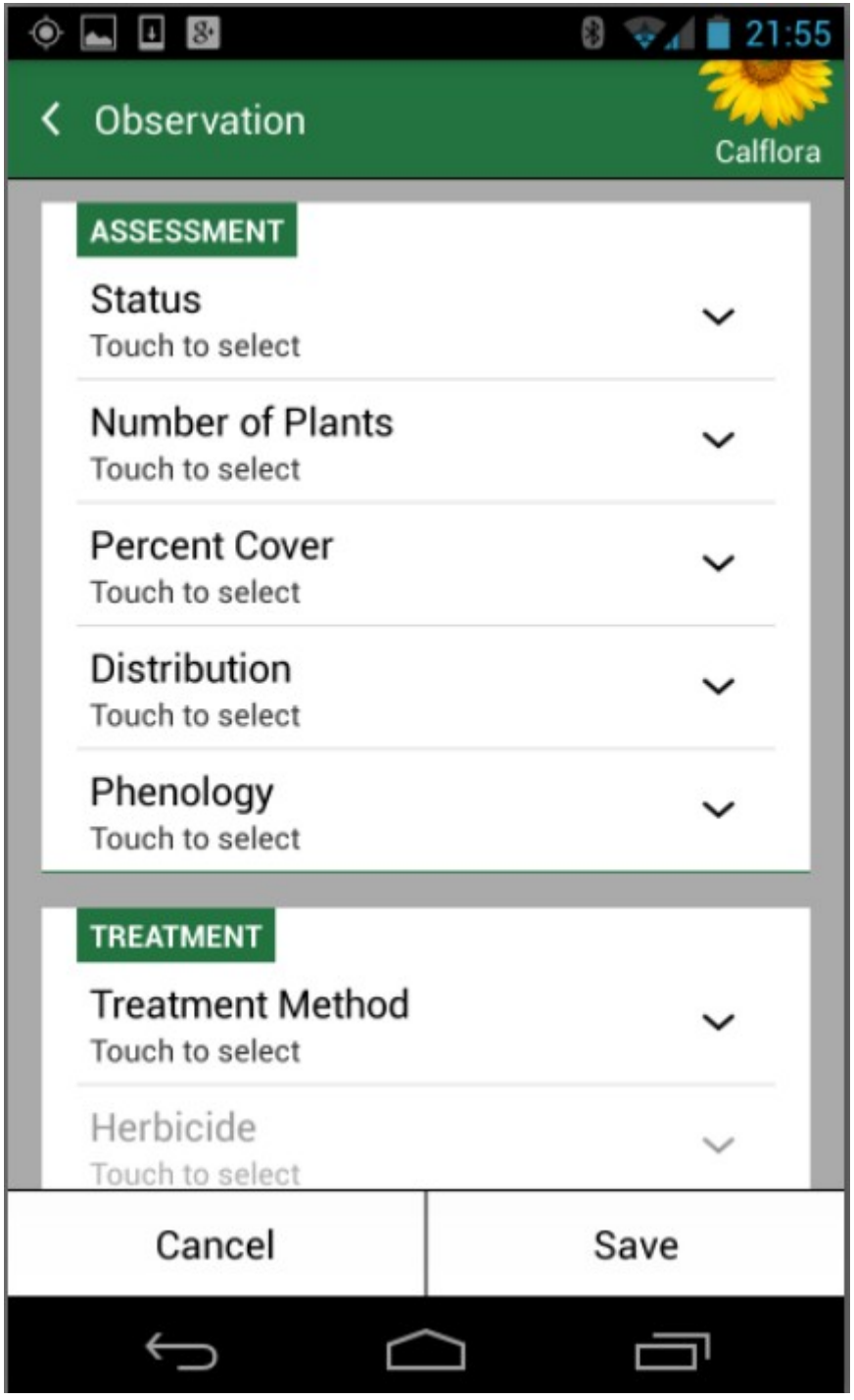
Management Status



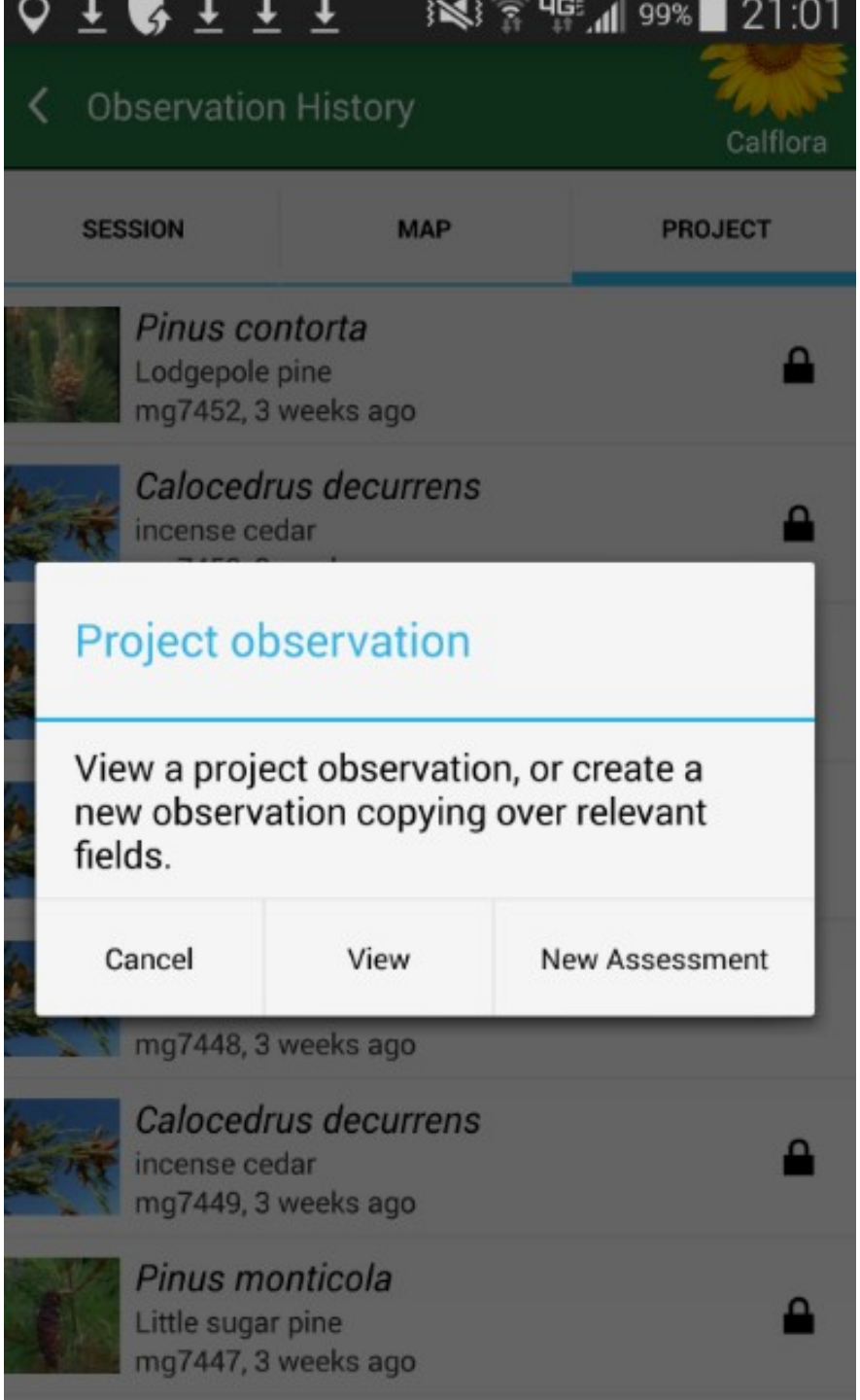
Population Priority

Population Plant Count




21:55
Observation
Calflora
ASSESSMENT
Status
Touch to select
Number of Plants
Touch to select
Percent Cover
Touch to select
Distribution
Touch to select
Phenology
Touch to select
TREATMENT
Treatment Method
Touch to select
Herbicide
Touch to select
Cancel
Save

Coming back the following year for a new assessment of the same patch

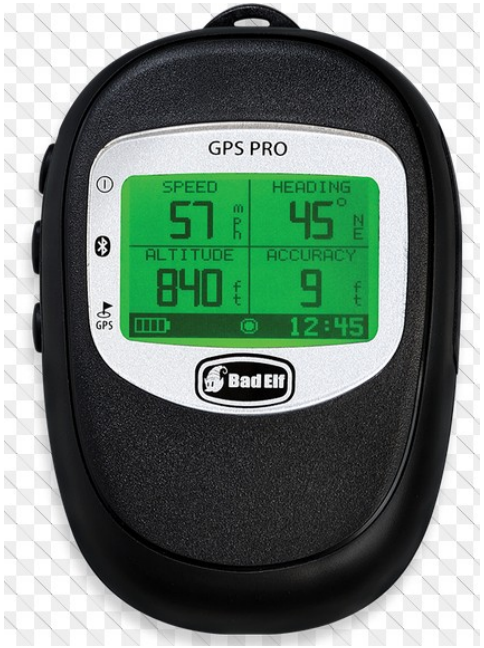


Dual XGPS150A

Universal Bluetooth® GPS receiver for portable devices

Garmin GLO Bluetooth GPS for iOS and Android

Bad Elf – has High Accuracy models



GNS 2000 GPS MFI GLONASS RECEIVER

Agenda

Introduction and basics
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Field Assignment

- 1 new assessment
- 1 new population
- 1 polygon
- 1 line or point
- Fill out all fields
- Take photos

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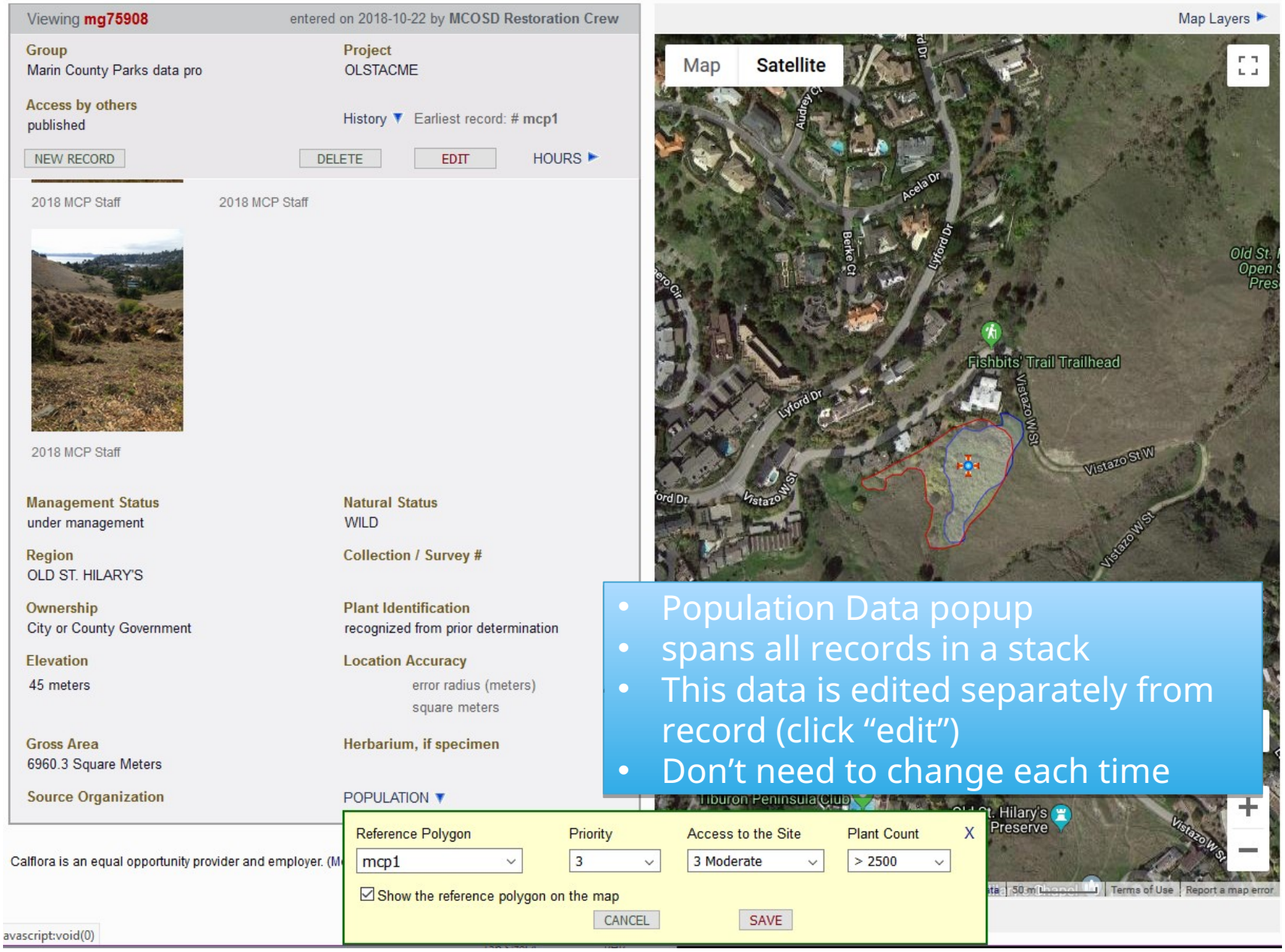
Skills to Demo

QA/QC in POE
Photo rotate, notes
History Stacking
Shape Editor – convert line to polygon
Symbology in G.O.
Column Sets → Data Download

POPULATION Record



- Population Data popup
- spans all records in a stack
- This data is edited separately from record (click “edit”)
- Don’t need to change each time

Calflora Plant Observation Entry

TOOLS ▶

MCP Staff | EDIT - LOGOUT

Viewing **mg46658** entered on 2017-07-03 by **Pete Frye**

Organization
Marin County Parks data pro

Project
TELIAETR

Access by others
published

History ▶ Earliest record: # **mcp4449**

NEW RECORD | DELETE | EDIT | HOURS ▶

Aegilops triuncialis — Goatgrass

Observer *
Pete Frye

Observation Date *
2017-07-03 13:14:40

Location Description
Terra Linda

Habitat
Grassland / Open field

Number of Plants *
37

Percent Cover
0 - 1

Distribution
Scattered Plants

Phenology
Fruiting

Treatment Notes
Pulled about 50 yst near center. Not much nearby

Treatment Method
Hand Pull

Solution Amount

Solution Units

Product 1

Product 1 Percent

Product 2

Product 2 Percent

Product 3

Product 3 Percent

Percent Treated
100

Crew 1
Restoration Crew

Crew 2
Resource Specialists

Crew 3

Number of Volunteers

Photos: none

Management Status
under management

Natural Status
WILD

Region
TERRA LINDA/SLEEPY HOLLOW DIVIDE

Collection / Survey

Ownership
City or County Government

Plant Identification
recognized from prior determination

Elevation
79 meters

Location Accuracy
8.0 error radius (meters)

Map Layers ▶

38.02242, -122.55332

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Questions & Discussion

DONE!

Calflora

information on **wild California plants** for conservation, education, and appreciation

Mapping and Tracking (Invasive) Plants with Calflora's Weed Manager

Pete Frye
pfrye@calflora.org
Cynthia Powell
cpowell@calflora.org