# *Tracking Regional EDRR with Calflora:* Bay Area WMAs

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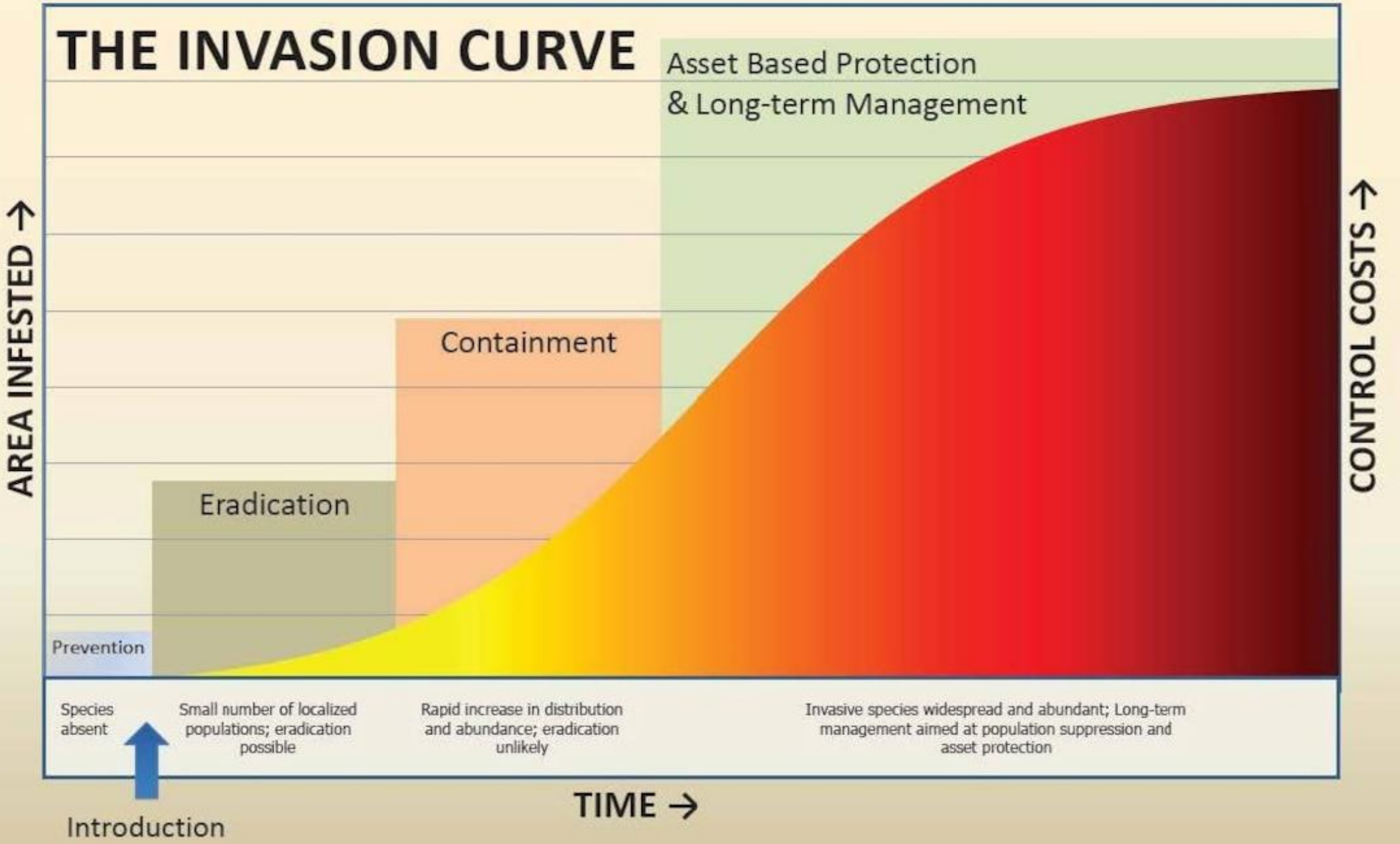
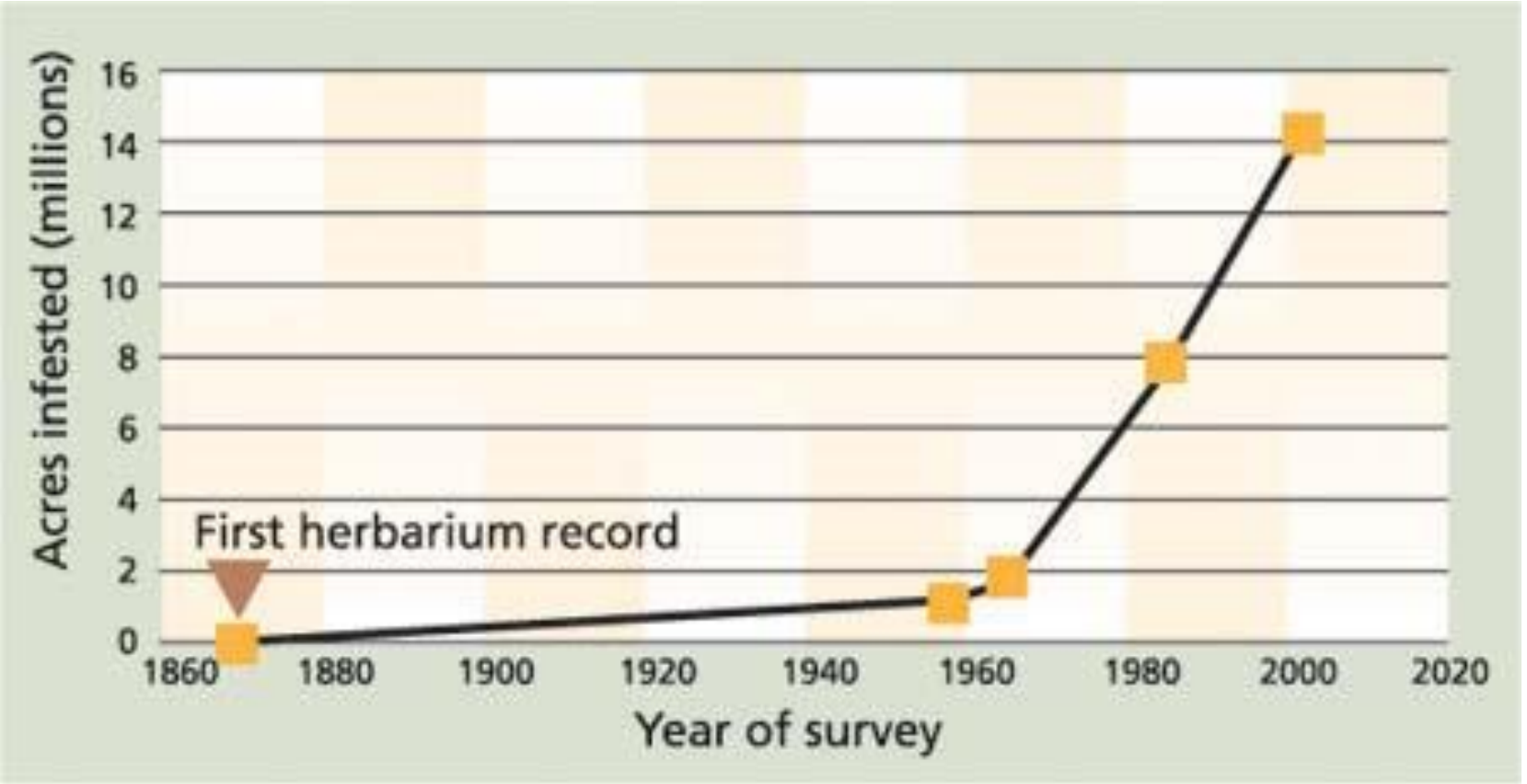
California Invasive Plant Council
November 1, 2022


THE INVASION CURVE
Asset Based Protection
& Long-term Management
Containment
Eradication
Prevention
AREA INFESTED →
CONTROL COSTS →
Species absent
Small number of localized populations; eradication possible
Rapid increase in distribution and abundance; eradication unlikely
Invasive species widespread and abundant; Long-term management aimed at population suppression and asset protection
Introduction
TIME →

# *The need for EDRR…*

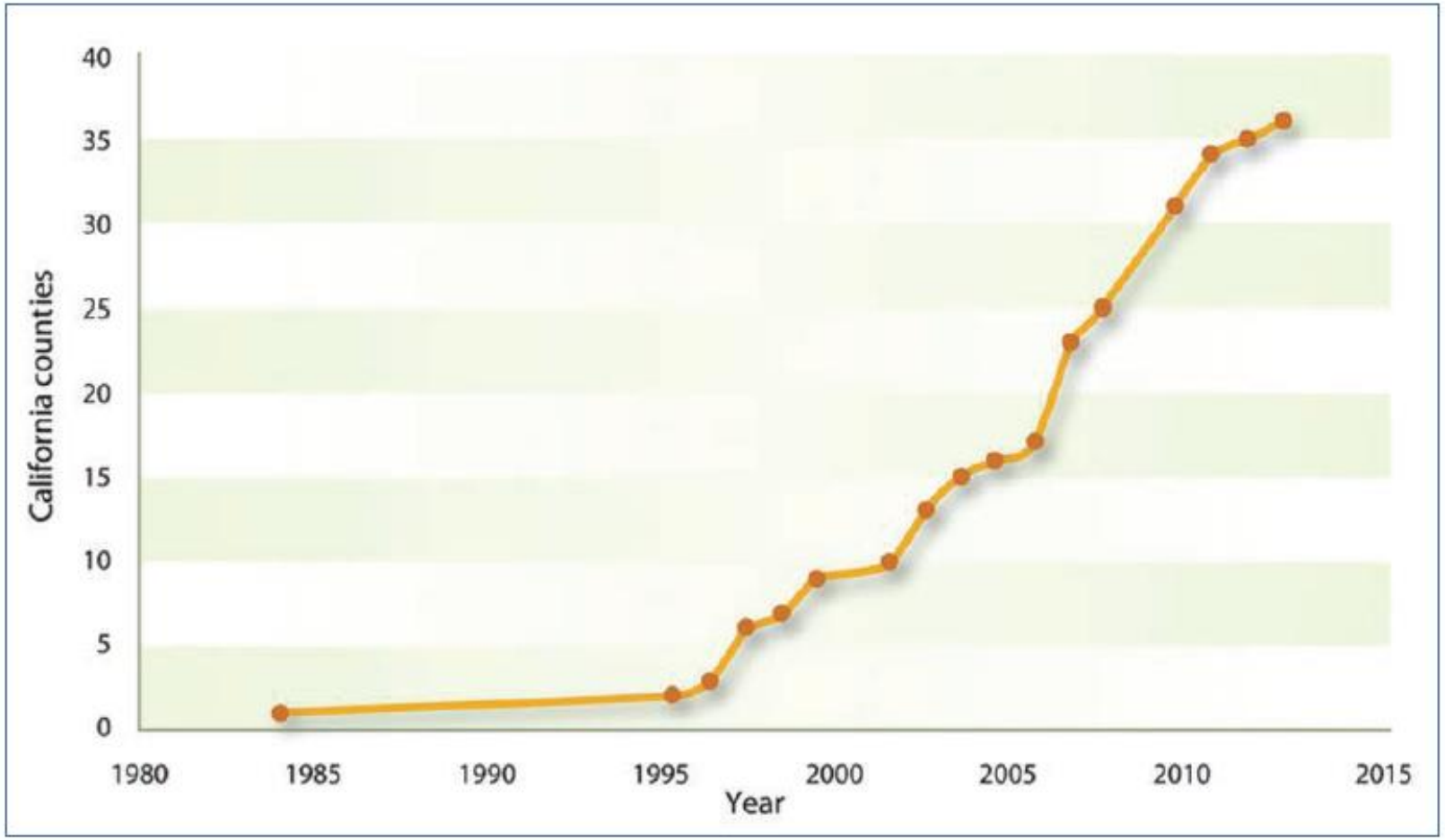
**Yellow starthistle in CA**




*California Agriculture* magazine 2006, 60(2):83-90

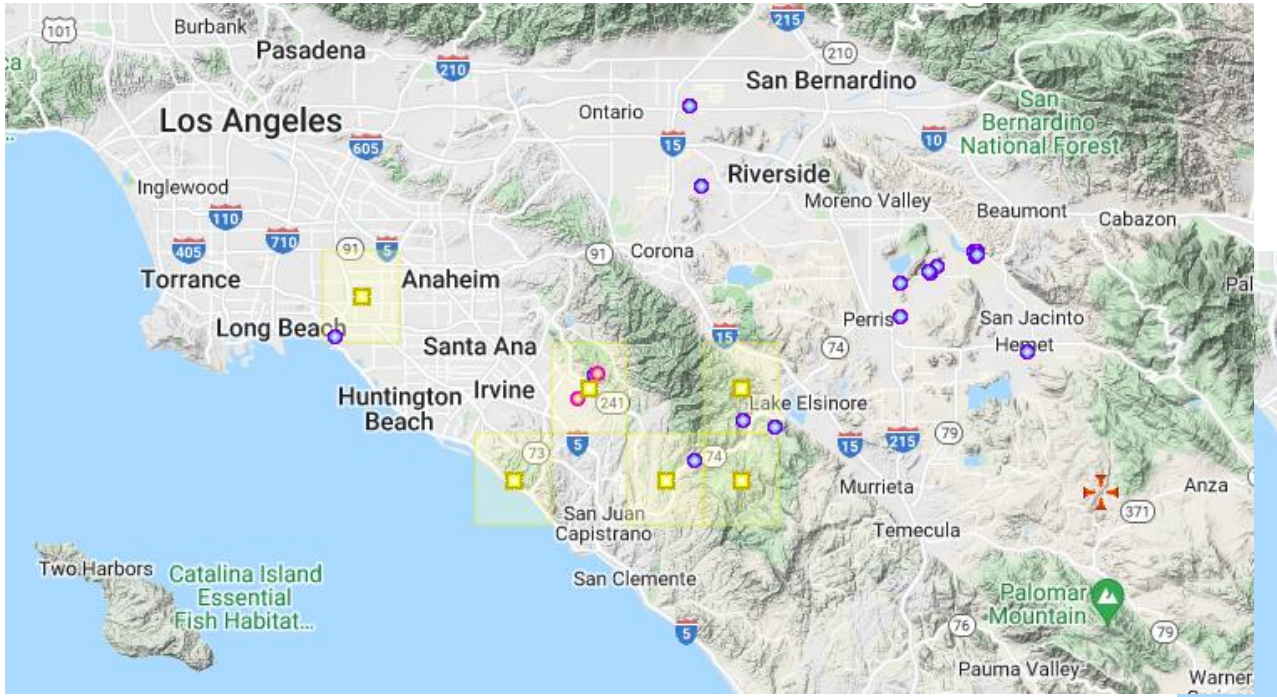
# *The need for EDRR…*

## Stinkwort in CA




*California Agriculture* magazine 2013, 67(2):110

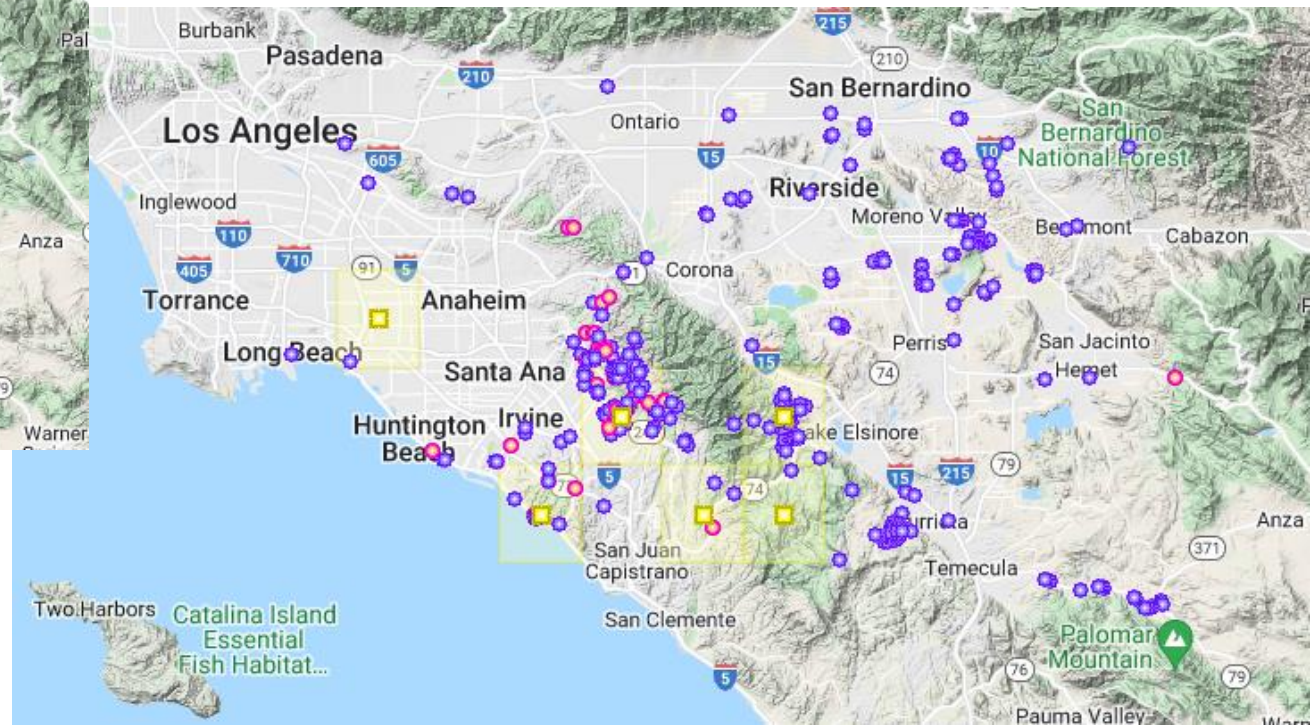
# *The need for EDRR…*




In 2017, there were 26 records

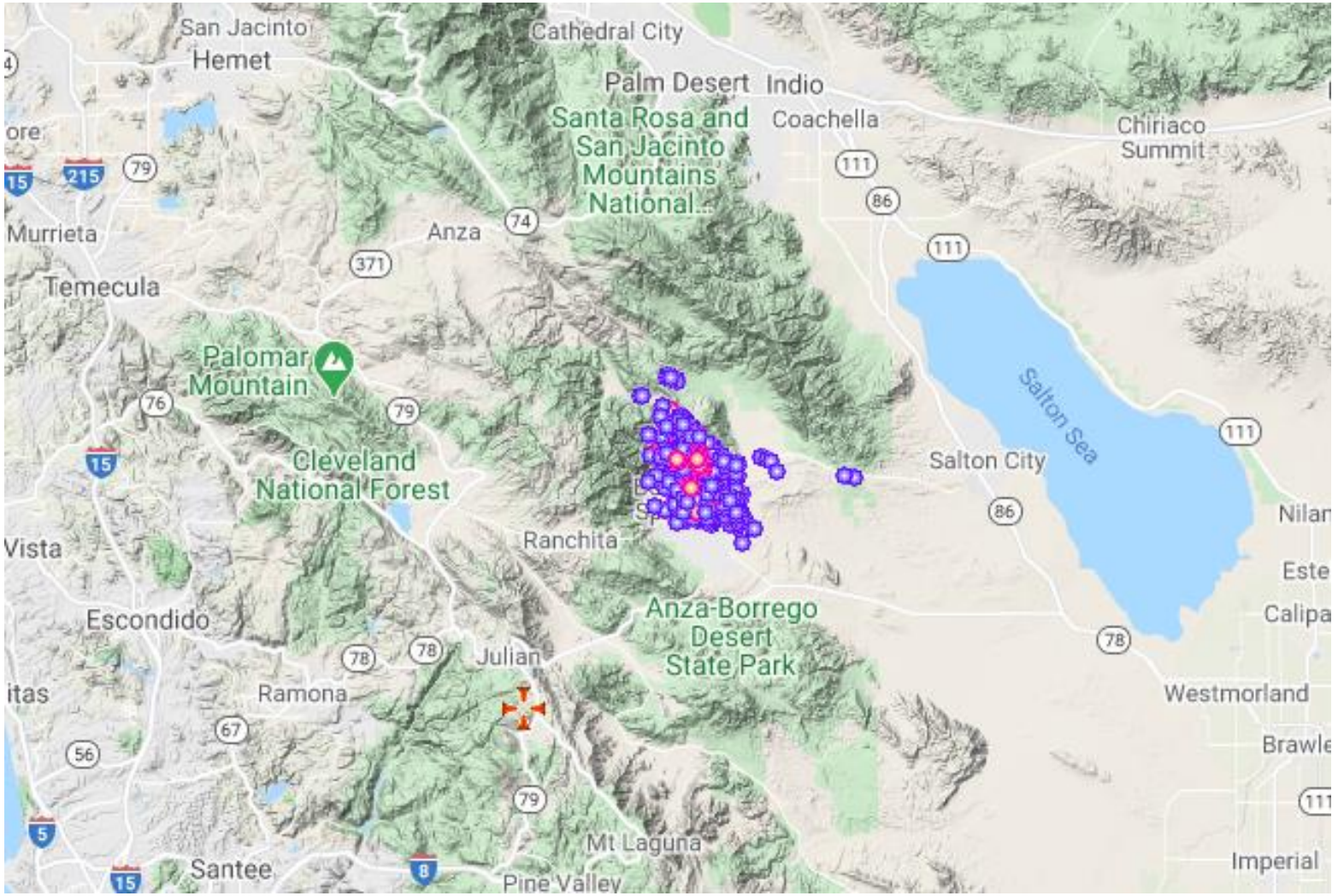
**Stinknet (*Oncosiphon pilulifer*) 2017-2022**

**In 2022 there are 1,170 records**



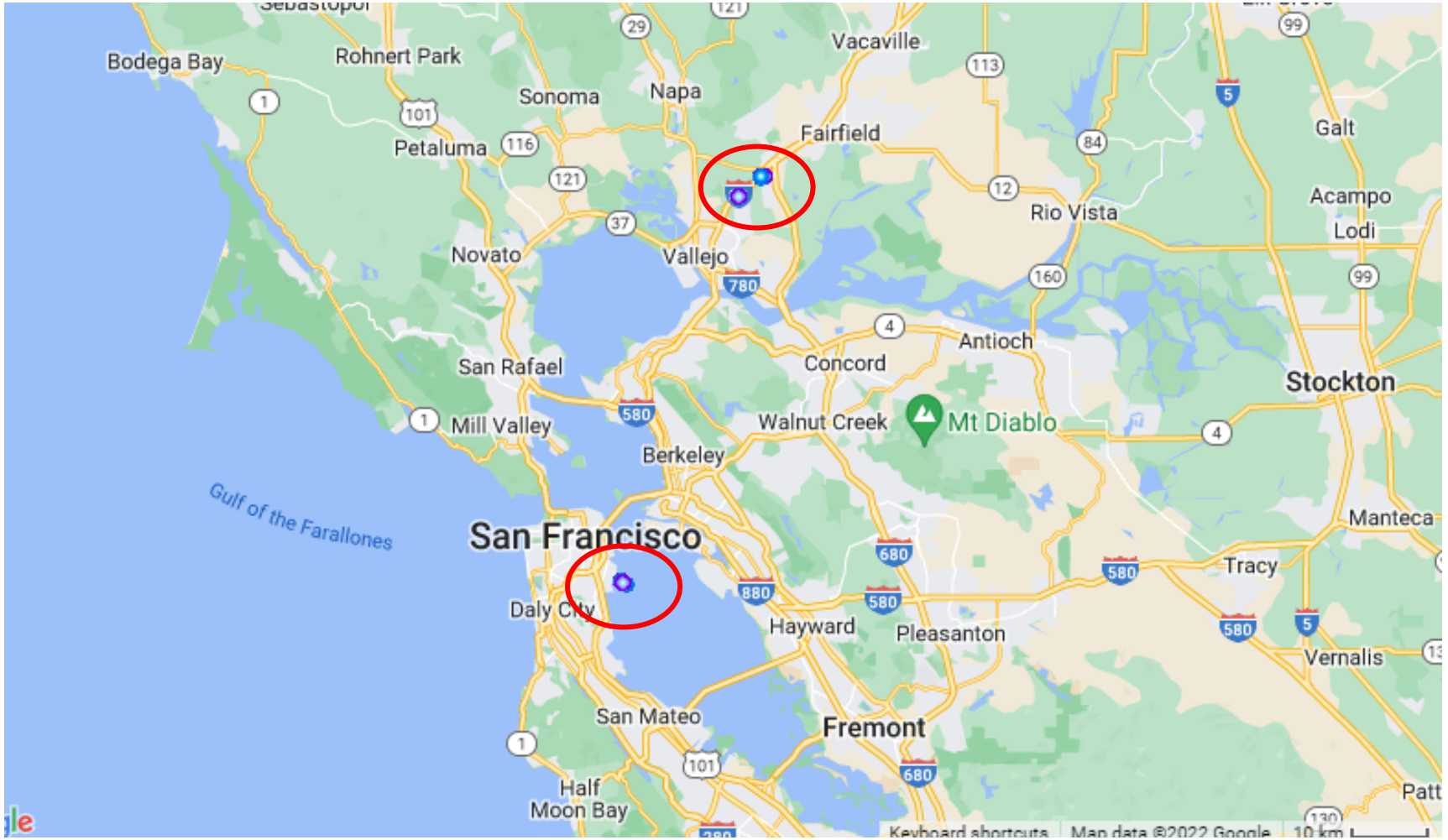
# *The need for EDRR…*

## *Volutaria* containment in Borrego Springs



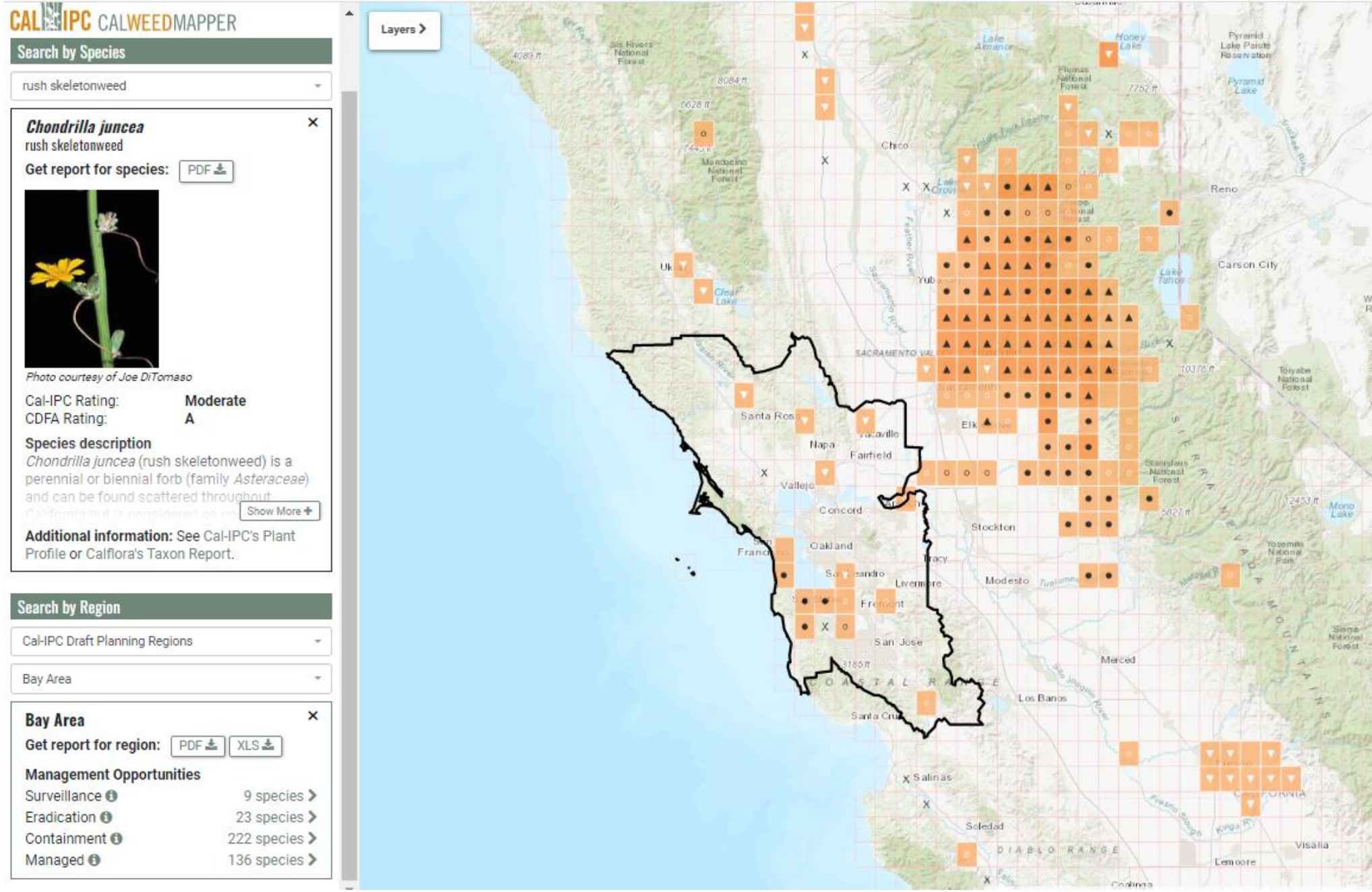
# *The need for EDRR…*

***Dittrichia viscosa* (false yellowhead)**



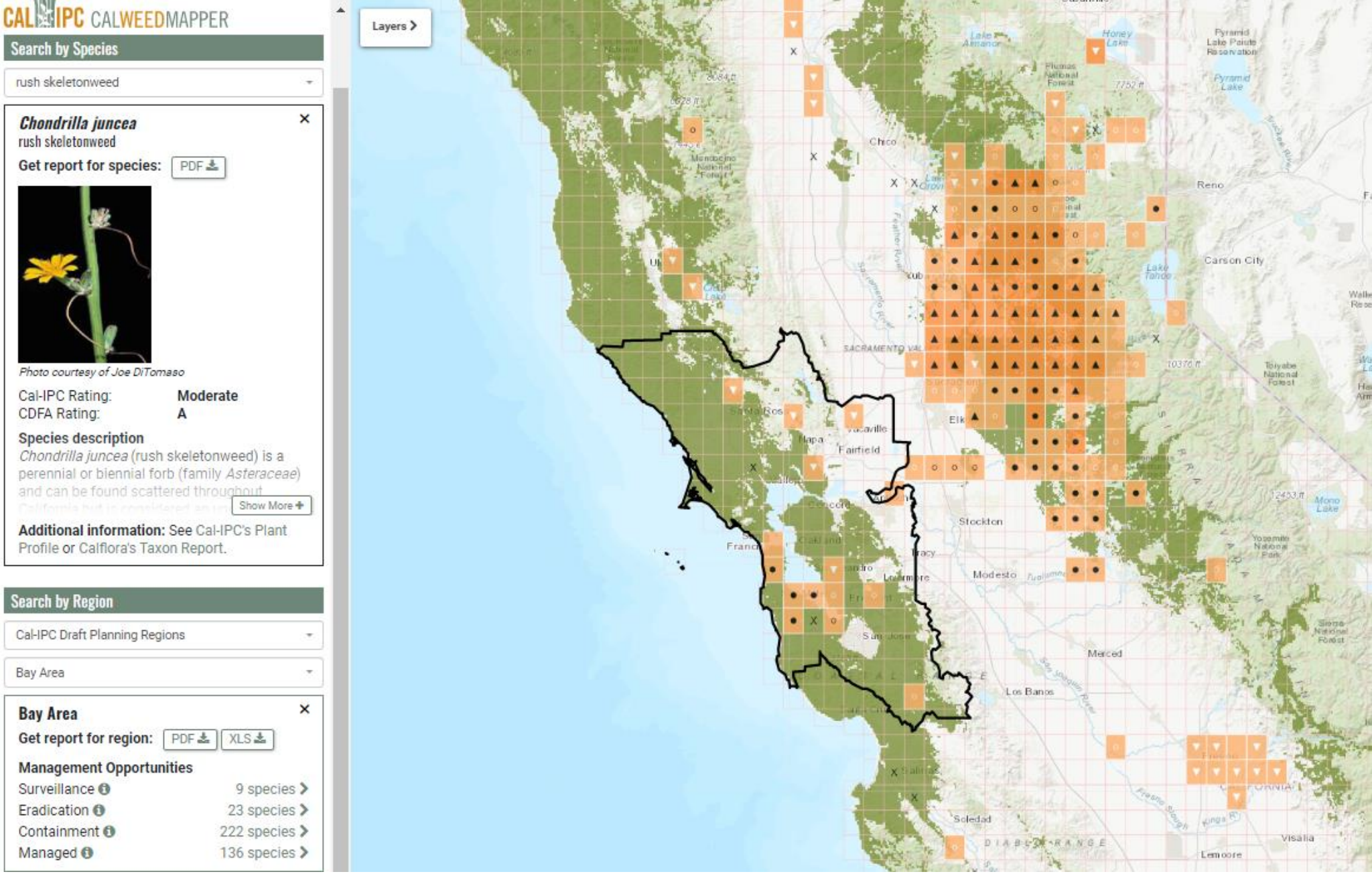
# Regional prioritization

Using CWM to help set regional EDRR priority species.



# Suitable range

Lots of room to expand. Shows what we're trying to avoid…



# Regional Prioritization

| Region | No. Counties | Area (sq. miles) | No. EDRR Targets |
|---|---|---|---|
| Bay Area | 9 | 6,907 | 17 |
| Central Coast | 3 | 5,114 | 8 |
| Central Sierra | 5 | 6,282 | 7 |
| Channel Islands | 3 | 351 | 37 |
| Desert | 1 | 20,057 | - |
| East Sierra | 2 | 13,230 | 12 |
| North Central | 3 | 13,233 | 18 |
| No. Central Valley | 6 | 7,996 | 18 |
| North Coast | 2 | 4,763 | 11 |
| North Sierra | 6 | 8,139 | 14 |
| Northeast | 2 | 8,459 | 5 |
| Northwest | 2 | 4,574 | 8 |
| Sierra San Joaquin | 3 | 9,544 | 3 |
| So. Central Coast | 2 | 6,034 | 7 |
| So. Central Valley | 3 | 4,821 | 7 |
| South Coast | 2 | 5,901 | 10 |
| South Sierra | 3 | 14,346 | 6 |
| Southeast | 3 | 15,590 | 5 |
| Southwest | 3 | 12,204 | 22 |

# *Selecting Bay Area EDRR target species*

- In 2020, Cal-IPC met with and surveyed leaders of Bay Area WMAs:
  - San Mateo WMA
  - San Francisco WMA
  - Marin-Sonoma WMA
  - Napa WMA
  - Solano WMA
  - Alameda-Contra Costa WMA
  - Santa Clara WMA
- Selected EDRR target species.

# *Counting Bay Area EDRR populations*

1. We started with all **Calflora** public records from 2000 through September 2022, including observation records, survey records, herbarium records, and iNat records
2. We counted **history stacks** as a single population
3. We counted **records within 25m** (of the same species) as a single population
4. We removed CalWeedMapper records, which are redundant with other data

Thus, our total is lower than the results obtained from a direct Calflora observation search. We're working to make this process simpler, so that progress can be monitored more directly. You can help by history stacking records for a single population!

# *Tracking management*

For a given population, we count it as managed when there is a record from the current year (ideally appended to a history stack for that population) with the **"Management Status"** field marked as either:

- **"Under management"** (ideally with details in the "Notes" field)
- **"Searched for, not found"** if management has been recorded in previous years (we assume that this is post-treatment monitoring)

(Note that "Searched for, not found" is also used when investigating the site of an old Calflora observation to see if the plant is truly there now.)

# EDRR/eradication targets (“rare weeds”) in the Bay Area:

| | | |
|---|---|---|
| *Acroptilon repens* | Russian knapweed | 43 |
| *Aegilops cylindrica* | jointed goatgrass | 17 |
| *Centaurea diffusa* | diffuse knapweed | 4 |
| *Centaurea iberica* | Iberian knapweed | 9 |
| *Centaurea stoebe* | spotted knapweed | 9 |
| *Cuscuta japonica* | Japanese dodder | 26 |
| *Dittrichia viscosa* | false yellowhead | 10 |
| *Euphorbia helioscopia* | sunwort | 10 |
| *Helianthus tuberosus* | Jerusalem artichoke | 1 |
| *Linaria dalmatica* | Dalmatian toadflax | 6 |
| *Oncosiphon pilulifer* | stinknet | 1 |
| *Onopordum Illyricum* | Illyrian thistle | 6 |
| *Paspalum urvillei* | Vasey's grass | 11 |
| *Paspalum vaginatum* | seashore paspalum | 3 |
| | Total # populations: | **156** |

## Plus…

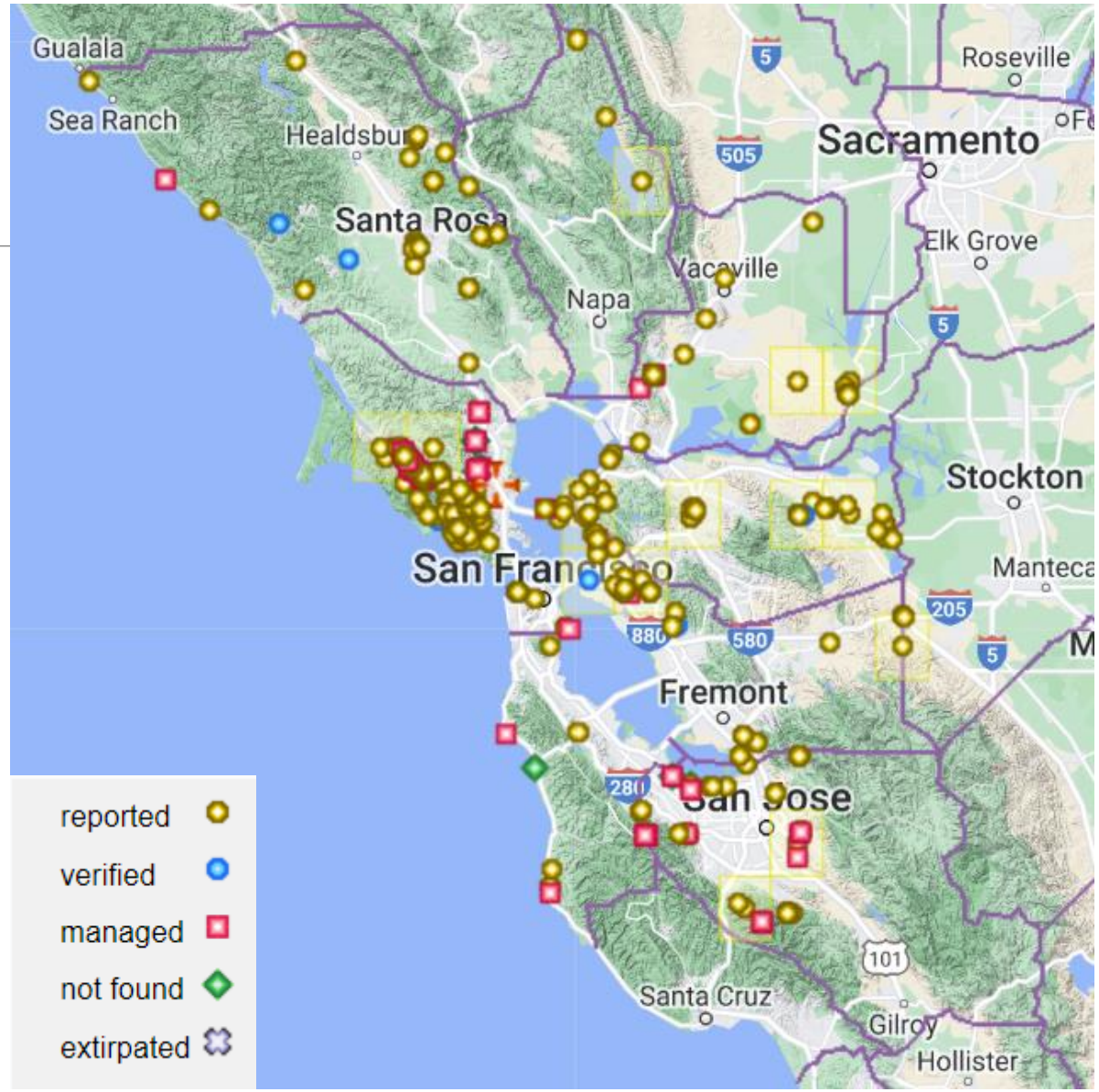
*Fallopia japonica* (Japanese knotweed) outside the heavily infested San Geronimo Valley in Marin County (**15 populations**).

**For a total of 171 populations as of Oct 2022.**

# EDRR Populations 2000 - present

There are currently 171 reported EDRR populations in the Bay area.

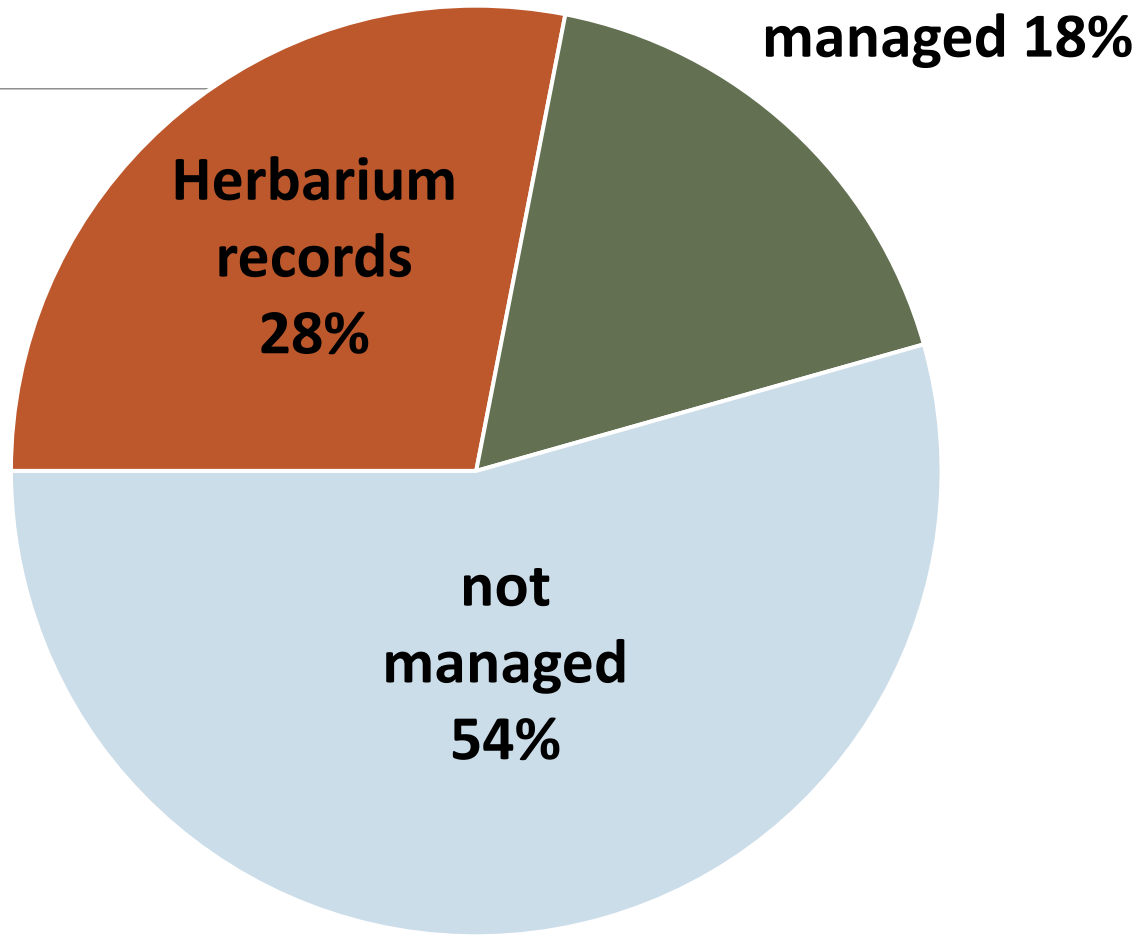
- **Alameda:** 36
- **Contra Costa:** 35
- **Marin:** 9
- **Napa:** 2
- **San Francisco:** 6
- **San Mateo:** 9
- **Santa Clara:** 31
- **Solano:** 17
- **Sonoma:** 26



# *Management from 2000 to present*

Of the 171 total populations of EDRR target species/rare weeds…

- 48 herbarium records without a co-occurring record



# *Herbarium records*

- **48** of the **171** Bay Area EDRR populations are herbarium records that do not co-occur with a Calflora observation
- These populations may no longer exist and may be inflating the number of EDRR populations
- Visiting these records and creating new Calflora observations with a filled in management status will help us to more accurately represent EDRR management

# *2022 results to date*

Of **171** Bay Area EDRR target populations mapped in Calflora to date:

- **11** are newly added this year (6% increase)
- **19** are marked as visited in 2022 (11%)

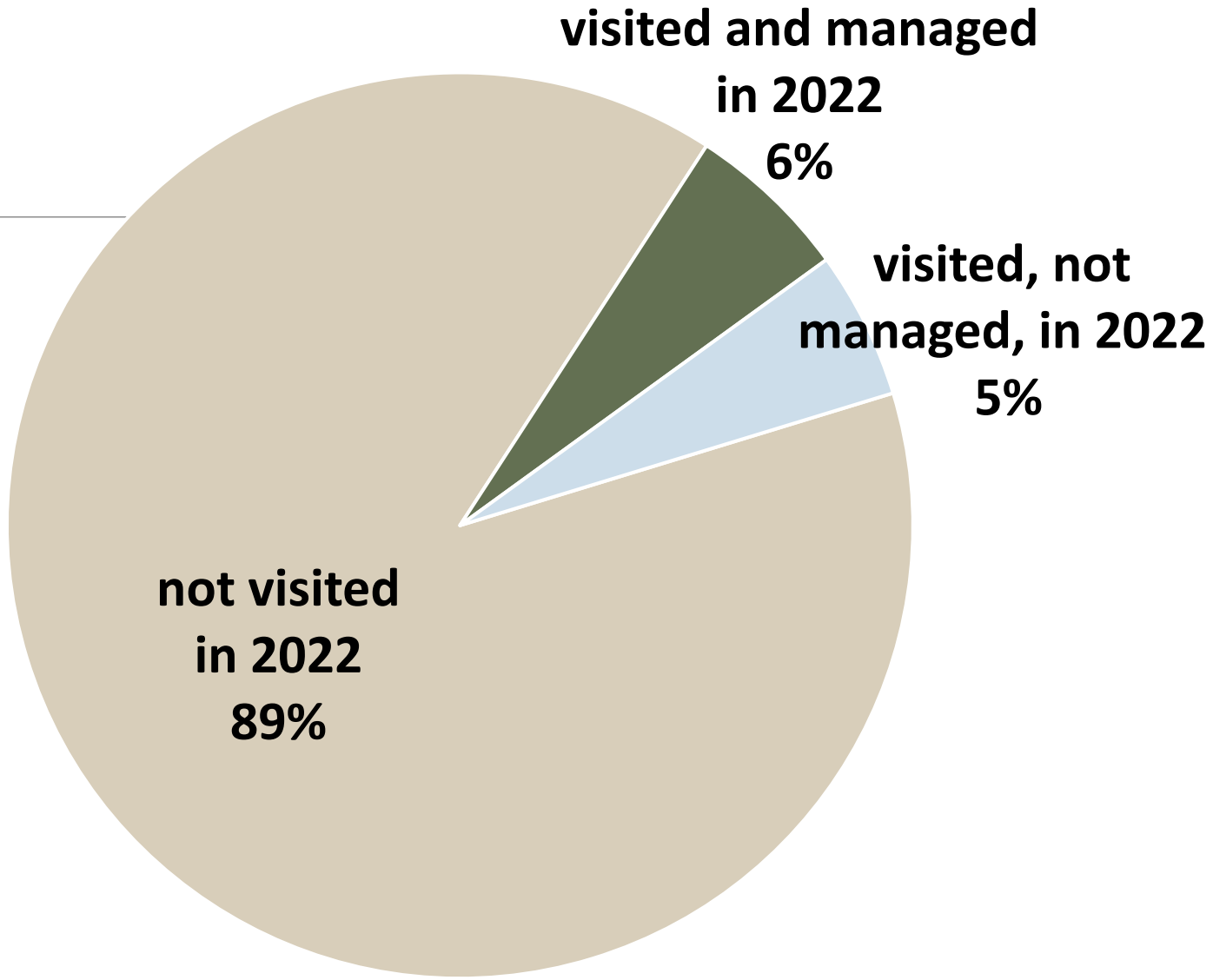
  …of those visited, **10** are “under management” or “not found” (53%)

Thus, per Calflora record keeping, **6% of EDRR populations have been controlled in 2022 so far**…

# *2022 management*

Of the 171 total populations of EDRR target species/rare weeds…

- 11% of all populations have been visited in 2022



# *Using management status field: historic vs. 2022*

| | 2000 - present | 2022 |
|---|---|---|
| Populations visited **with** management status completed | 22% | 58% |
| Populations visited **without** management status completed | 78% | 42% |

Management status has been completed more consistently in 2022 compared to the past.

# *Using history stacks: last 5 years*

| Year | # History Stacks Existing |
|---|---|
| 2022 | 20 |
| 2021 | 18 |
| 2020 | 10 |
| 2019 | 9 |
| 2018 | 6 |

History stacks are being used more regularly! There are 20 history stacks from 2000 – present.

# *Overall status*

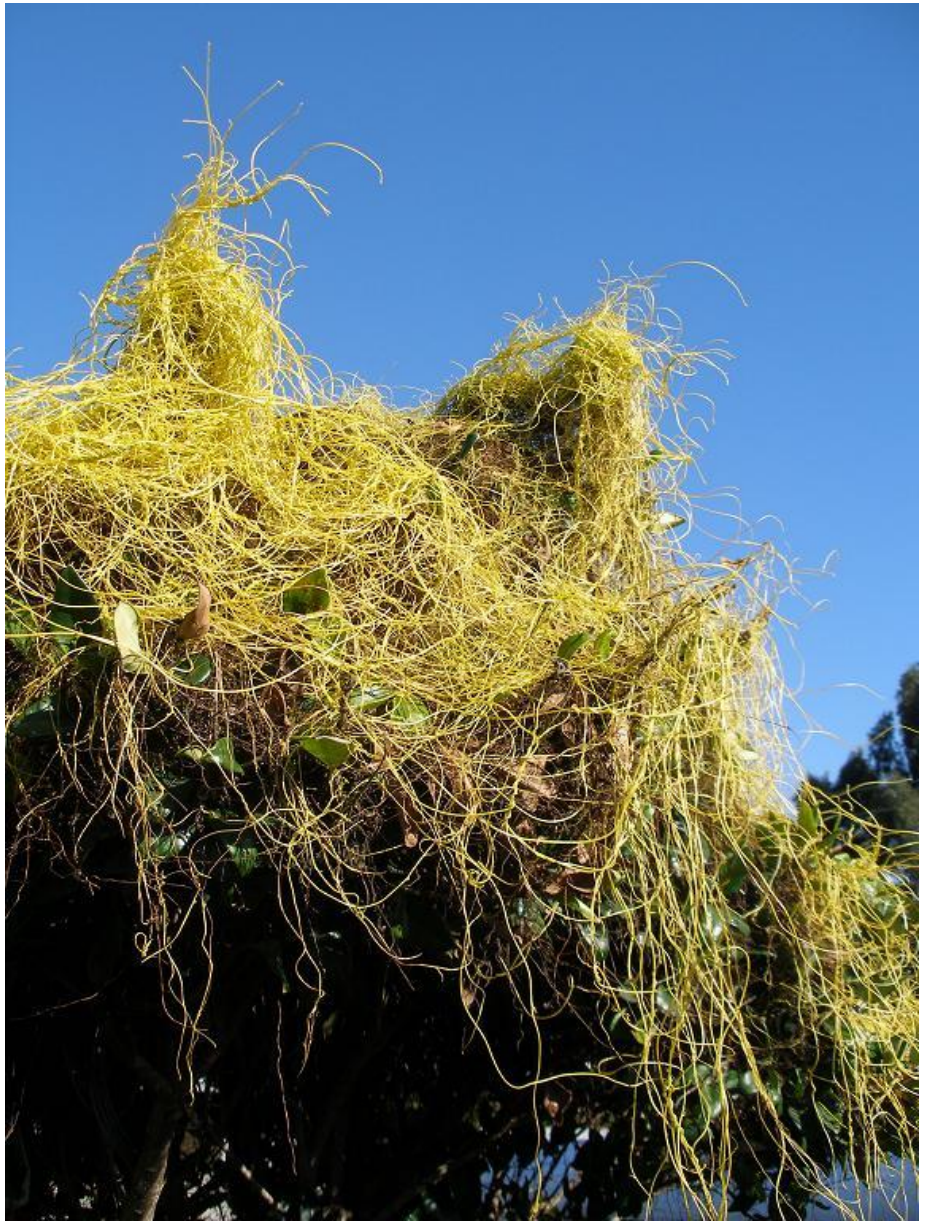
- Isolated herbarium records make up a good portion of the EDRR populations. If we can visit these sites and make new observations, we can more accurately track management progress.
- 11% of all populations have been visited in 2022. We can increase the proportion of populations visited by using history stacks.
- WMA partners are using management status and history stacks more regularly compared to the past!
- We're currently at **~6% of our goal** of controlling all populations.
- **New WMA funding** will help!

# *Help track Bay Area EDRR populations*

1. **Keep records in Calflora** – aim for every EDRR population, every year
2. **Use history stacking*** – append new records for each visit
3. **Mark management status*** – and leave details in “Notes” field
4. **Sign up for email alerts*** – and follow up on new observations

***Training videos** available from recent webinars at:

**www.cal-ipc.org/solutions/mapping/**



*Cuscuta japonica*

# Thank you!

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