



# ONE TAM

## Prioritizing Widespread Weeds with the WHIPPET Tool

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10.29.20

DPR Credits!

One Tam Partnership

WHIPPET Tool

One Tam Dataset

Results

Lessons Learned



# Get Your CEUs

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**DPR Slides Look Like This!**



# One Tam Partnership

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# Data collection on Mt. Tam

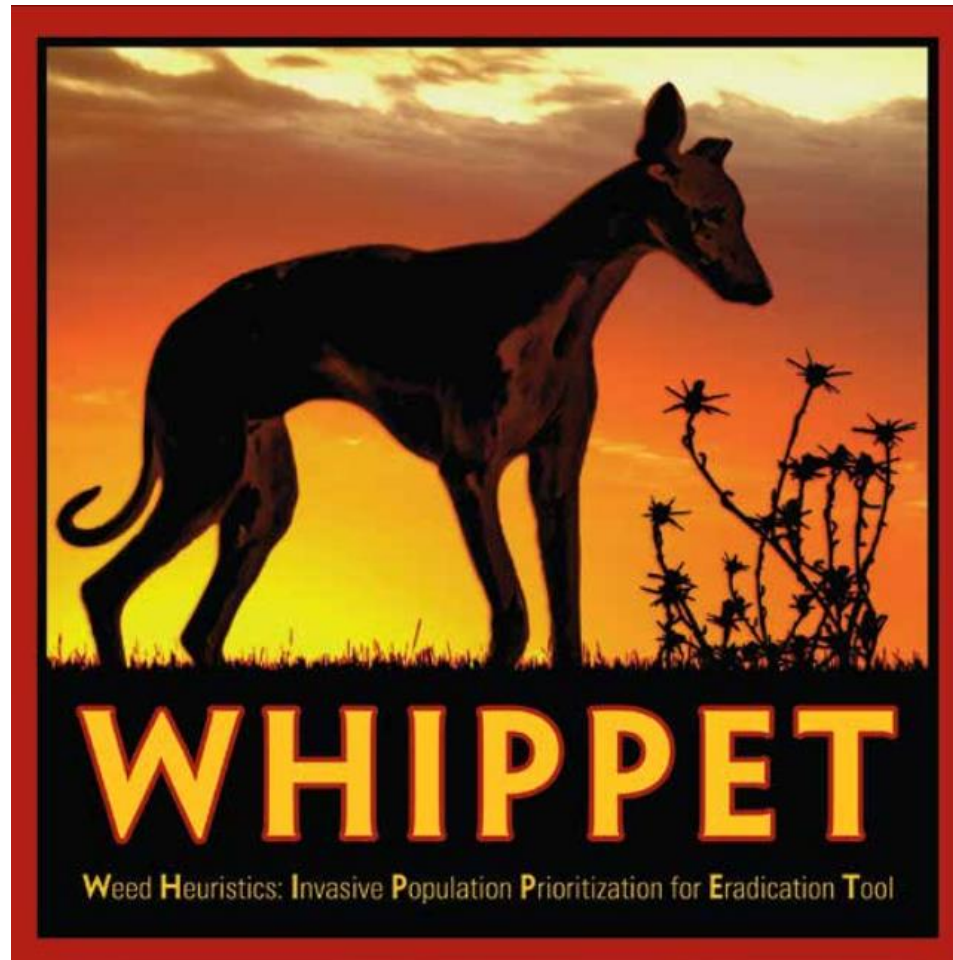


- Three EDRR Teams
- List with 62 species in two ranks
- Cover all roads and trails every three years
- Many treatment teams



**We were sitting on a mountain of data,  
with more weeds than we could treat.  
We needed to prioritize as a collaborative.**





Developed by Gina Darin and the California Department of Food and Agriculture

User guide: <https://whippet.cal-ipc.org/documentation/WHIPPETUserGuide.pdf>

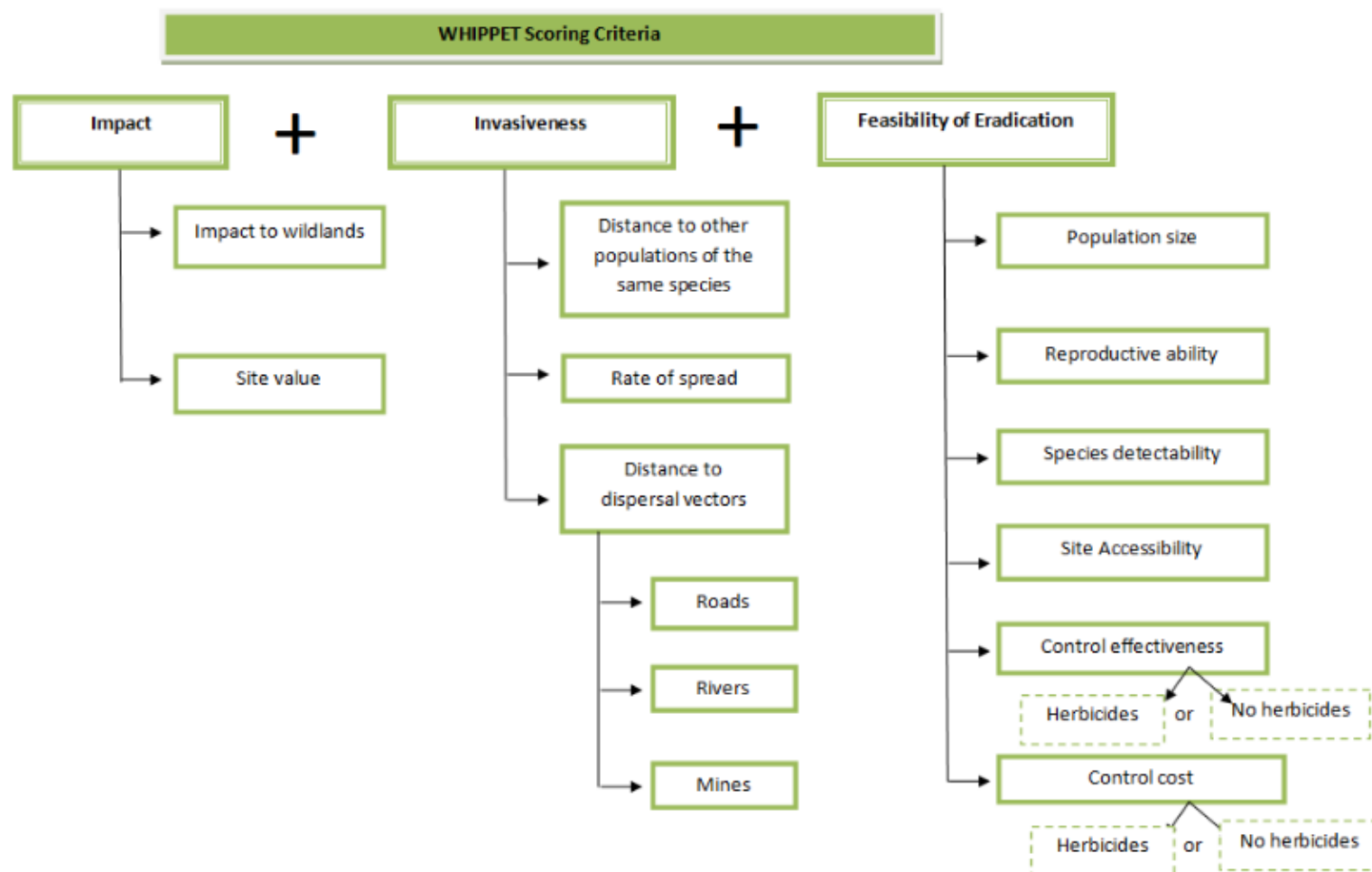


# Get Your CEUs

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WHIPPET is a tool to **prioritize invasive plants for successful management of populations**





# Get Your CEUs

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**Species identification and location** are fundamental pieces of information in order to use WHIPPET for prioritization





## Additional Factors

- Topography
- Efficiency of multi-species site treatments
- Data In: private lands, etc

Emphasis on **heuristics** –  
Involving or serving as an aid to learning  
discovery or problem solving by  
experimental methods



Photo credit: Lieven Leroy

# Dataset

Table

P2\_Merge

	OBJECTID *	Shape *	SciName	ComName	ObservDate	PopCount
	7412	Polygon	Foeniculum vulgare	Fennel	2018-05-30 09:45:41.0	26 - 75
	15462	Polygon	Ageratina adenophora	Thoroughwort	2018-05-30 09:49:29.0	1
	9111	Polygon	Ehrharta erecta	Upright veldt grass	2018-05-30 10:01:43.0	26 - 75
	7411	Polygon	Foeniculum vulgare	Fennel	2018-05-30 10:12:45.0	2 - 25
	1768	Polygon	Pennisetum clandestinum	Kikuyu grass	2018-05-30 10:15:32.0	26 - 75

12862 (0 out of 17262 Selected)

Over 17,000 records

- Several cuts to eliminate errors or bunk data
- Quality control on thousands of records

# Get Your CEUs

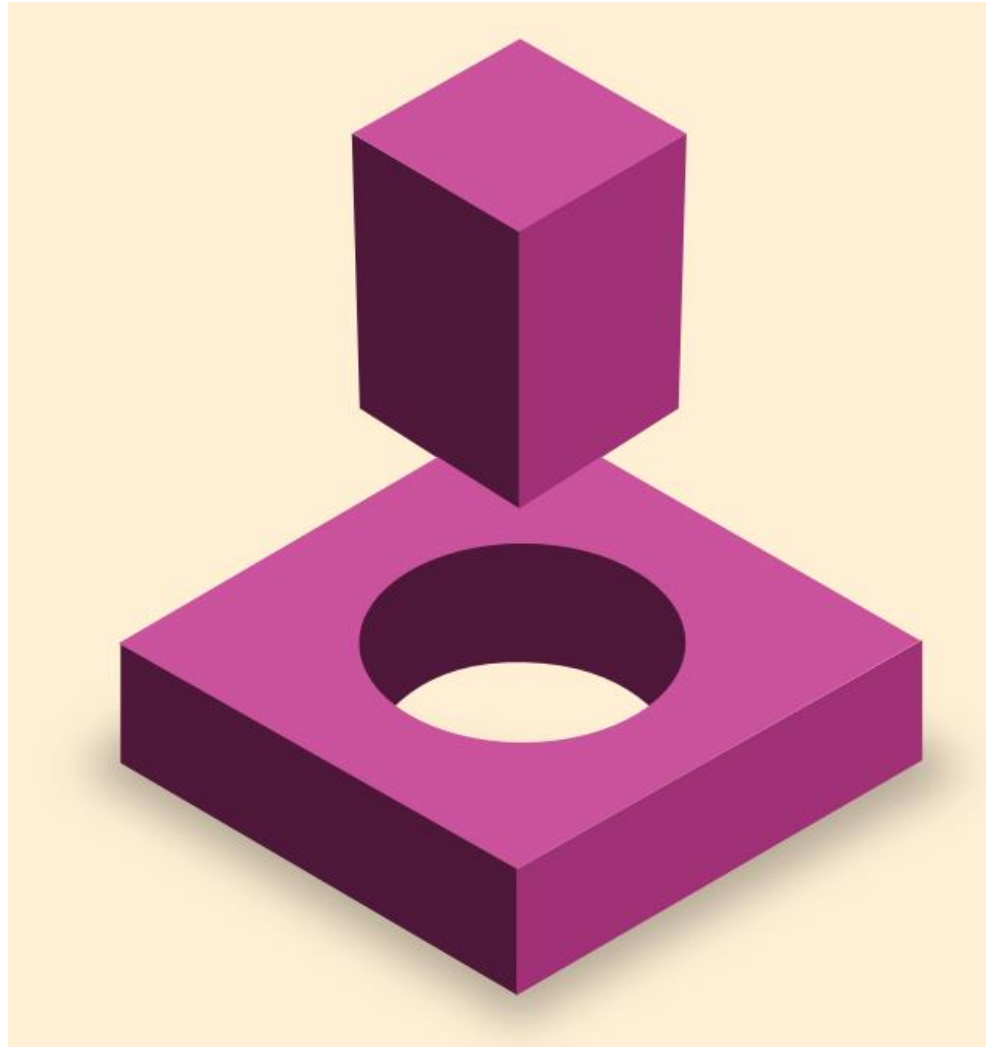
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Using WHIPPET, you can input monitoring data from  
**both Calflora and ArcGIS**

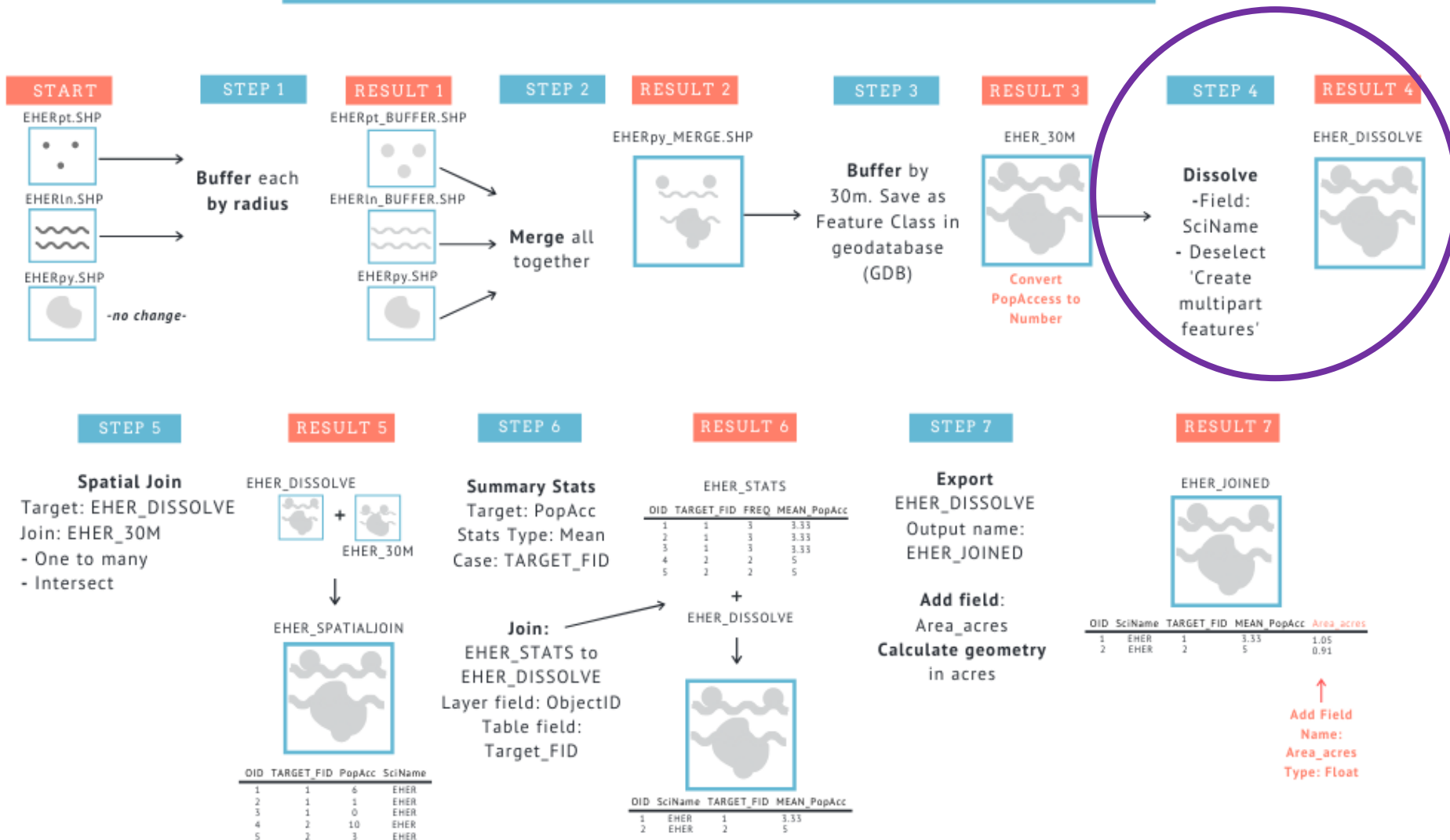




# Dataset Fitness for WHIPPET



# WHIPPET WORKFLOW

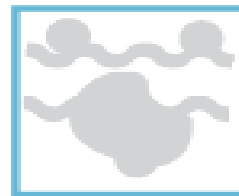


## STEP 4

**Dissolve**  
-Field:  
SciName  
- Deselect  
'Create  
multipart  
features'

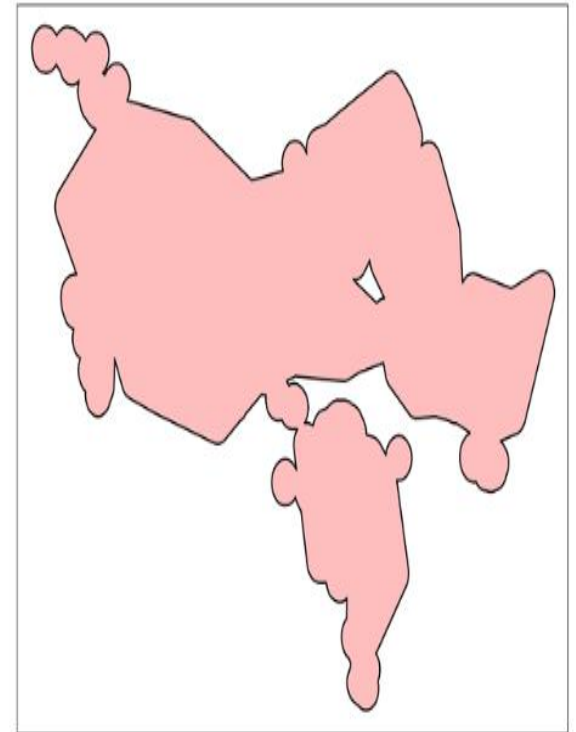
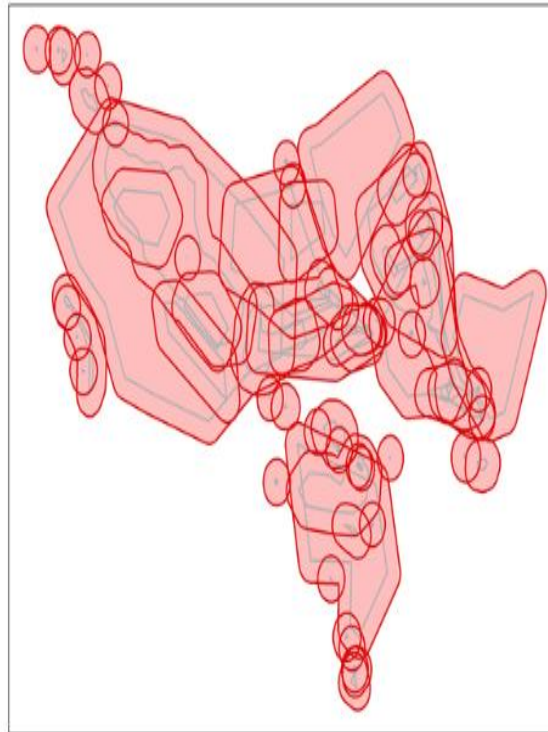
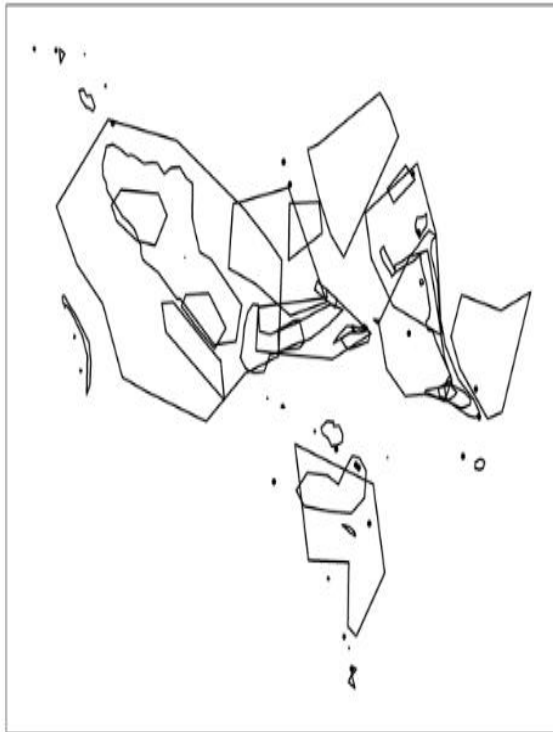
## RESULT 4

EHER\_DISSOLVE





# Generalizing the Dataset



# Raw Results

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Table



WHIPPET Scores

	OBJECTID *	Shape *	Area_acres	Scientific_Name	Site_Value	Road_Vector	Stream_Vector	Propagule_Pressure	Size	Population_Access	WHIPPET_Score
	2989	Point	0.826276	Foeniculum vulgare	10	10	6	10	10	10	8.277616
	3010	Point	0.827674	Foeniculum vulgare	10	10	6	10	10	10	8.277616
	839	Point	0.815589	Cortaderia jubata	10	10	6	6	10	10	8.251512
	3853	Point	0.777494	Hedera helix	10	10	10	10	10	6	8.203373
	979	Point	0.712509	Cortaderia jubata	10	6	6	10	10	6	8.131147
	1125	Point	0.712509	Cortaderia jubata	10	6	6	10	10	6	8.131147
	984	Point	0.71251	Cortaderia jubata	10	10	6	10	10	3	8.072859
	4110	Point	0.994062	Hedera helix	10	10	6	6	10	10	8.055477
	5000	Point	0.945229	Rubus armeniacus	10	10	6	6	10	10	8.055477
	1710	Point	0.784216	Cytisus scoparius	10	10	6	10	10	10	8.053542
	1836	Point	0.746463	Cytisus scoparius	10	10	6	10	10	10	8.053542
	3754	Point	0.712509	Hedera helix	10	10	6	10	10	6	8.052949
	3912	Point	0.719689	Hedera helix	10	10	6	10	10	6	8.052949
	1077	Point	0.712509	Cortaderia jubata	10	3	6	10	10	6	8.042768
	5026	Point	0.712509	Rubus armeniacus	10	10	10	10	10	3	8.027247
	2971	Point	0.791367	Foeniculum vulgare	10	10	10	10	10	3	8.01708
	712	Point	0.712509	Cortaderia jubata	10	10	6	6	10	6	8.016678
	870	Point	0.712509	Cortaderia jubata	10	10	6	6	10	6	8.016678
	940	Point	0.71251	Cortaderia jubata	10	10	6	6	10	6	8.016678
	1041	Point	0.719688	Cortaderia jubata	10	10	6	6	10	6	8.016678
	1115	Point	0.768996	Cortaderia jubata	10	10	10	6	10	3	7.990976
	3642	Point	0.747305	Hedera canariensis	10	10	10	6	10	6	7.971066
	3645	Point	0.753349	Hedera canariensis	10	10	10	6	10	6	7.971066
	4131	Point	0.735333	Hedera helix	10	10	10	6	10	6	7.971066
	4914	Point	0.984142	Rubus armeniacus	10	10	10	6	10	6	7.971066
	808	Point	0.930441	Cortaderia jubata	10	10	3	10	10	3	7.960041
	930	Point	0.712509	Cortaderia jubata	10	6	6	10	10	3	7.955071

0 (0 out of 5373 Selected)

WHIPPET Scores

# Species Results – Jubata & Pampas Grass

## CORTADERIA SPP.

Perennial grass

Cal-IPC rating – High

Cortaderia jubata (jubata grass) and Cortaderia selloana (pampas grass) are large perennial bunchgrasses from South America. Despite significant differences in morphology and reproductive biology, the two taxa are similar-looking, frequently confused, and managed in the same way—therefore they are treated together in one profile herein.

### Regional Distribution

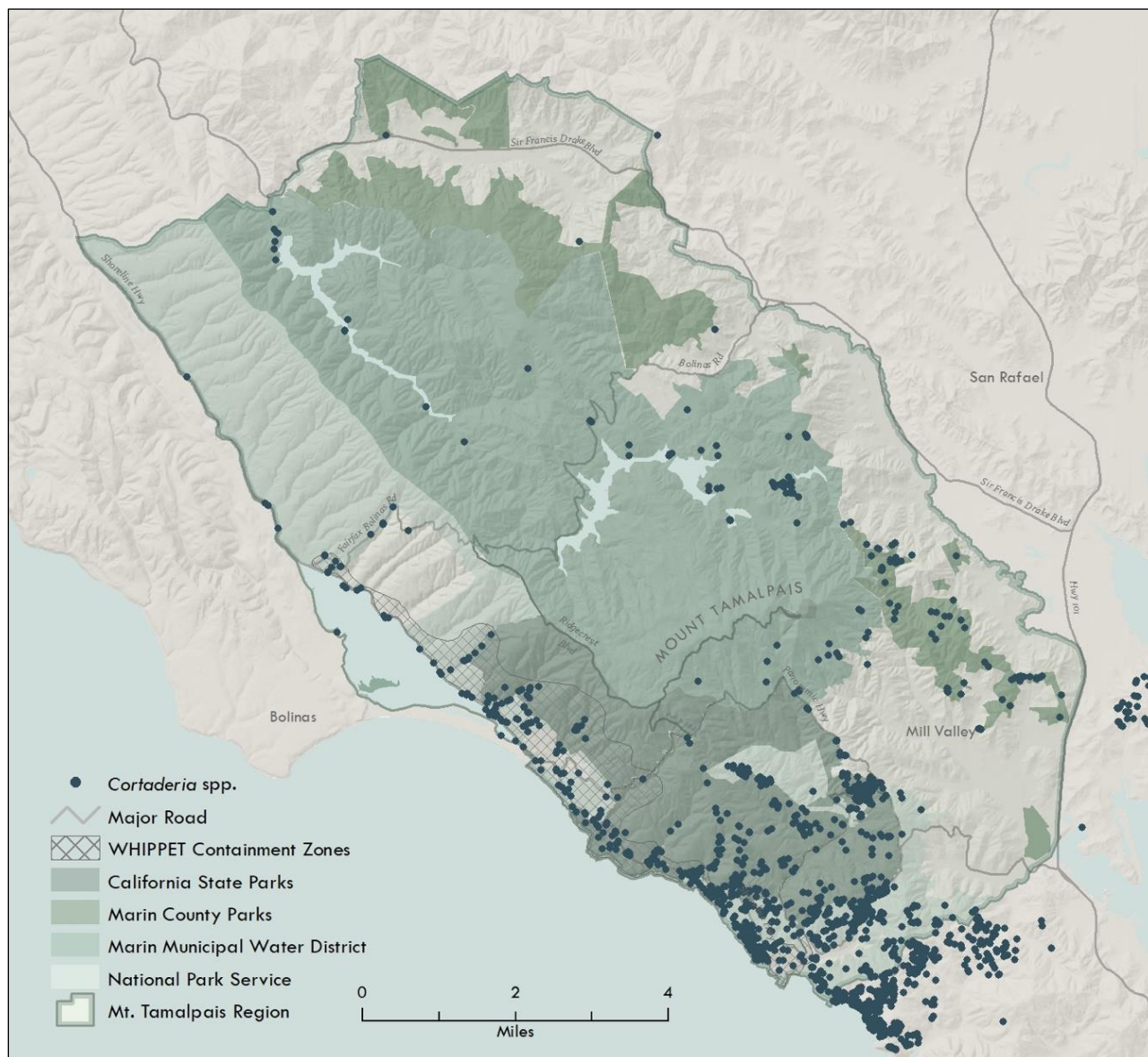
Species	Patches	Populations	Gross Acres
<u>Cortaderia jubata</u>	988	445	128.04
<u>Cortaderia selloana</u>	18	15	0.65

These plants flourish along the coastline and move inland wherever conditions are mild and moist. Mt. Tamalpais is no exception—jubata grass is a fixture of coastal bluffs and grasslands in the southwest quadrant of the region, but also ventures toward the interior to sporadically inhabit lakeshores, drainages, springs, and foggy exposures. These plants readily escape from horticultural installations and are seen densely represented within the wildland-urban interface east of the mountain's peak and around coastal hamlets like Stinson Beach. High potential for reintroduction from private lands and other untreated populations should be considered in all management planning for jubata and pampas grass.





# Species Results – Jubata & Pampas Grass



# Species Results – Jubata Grass

## WHIPPET Scores

4.74 – 8.25

Jubata and pampas grass populations make up a huge proportion of the overall top scores irrespective of species. These high scores cluster in geographic areas that have been assigned high site values—Muir Woods, Lone Tree/Cold Stream, and Dias Ridge especially. High-scoring populations in Baltimore Canyon and Blithedale Summit require management status verification.

## Recommended Treatment Strategy

Continue follow-up treatments where populations are at maintenance level. Initiate new treatment only in highest-value habitats. Where possible, prioritize tops of watersheds over bottoms.

Justification: Many populations of jubata and pampas grass, unfortunately, exist in a variety of untreatable conditions. Some have found purchase on near-vertical coastal cliffs, and others are peppered throughout the landscaping of private residences. These plants will likely always exist as source material for reintroduction, and as such, the best-case outcome for adjacent patches is at the level of maintenance rather than eradication.

# Species Results – Jubata & Pampas Grass

## Future Management Recommendations

### MCP

- Verify management status of high-scoring populations in the Blithedale Summit/Baltimore Canyon complex before moving forward with prioritization.
- Follow up on managed population in high-value habitat at French Ranch.
- Defer action in Alto Bowl and Camino Alto.
- Continue to treat new or small patches during EDRR surveys.

### MMWD

- Continue follow-up on maintenance-level populations at Filter Plant and Peters Dam.
- Continue follow-up on populations in high-value habitats at Azalea Hill, Old Stage Fire Road, and Kent Lake shoreline.
- Initiate treatment on Matt Davis Trail population – contractors likely necessary.
- Follow up on managed one-off populations such as those around Hoo-Koo-E-Koo and Double Bowknot opportunistically during adjacent fieldwork or during EDRR surveys.
- Continue to treat new or small patches during EDRR surveys.

### NPS

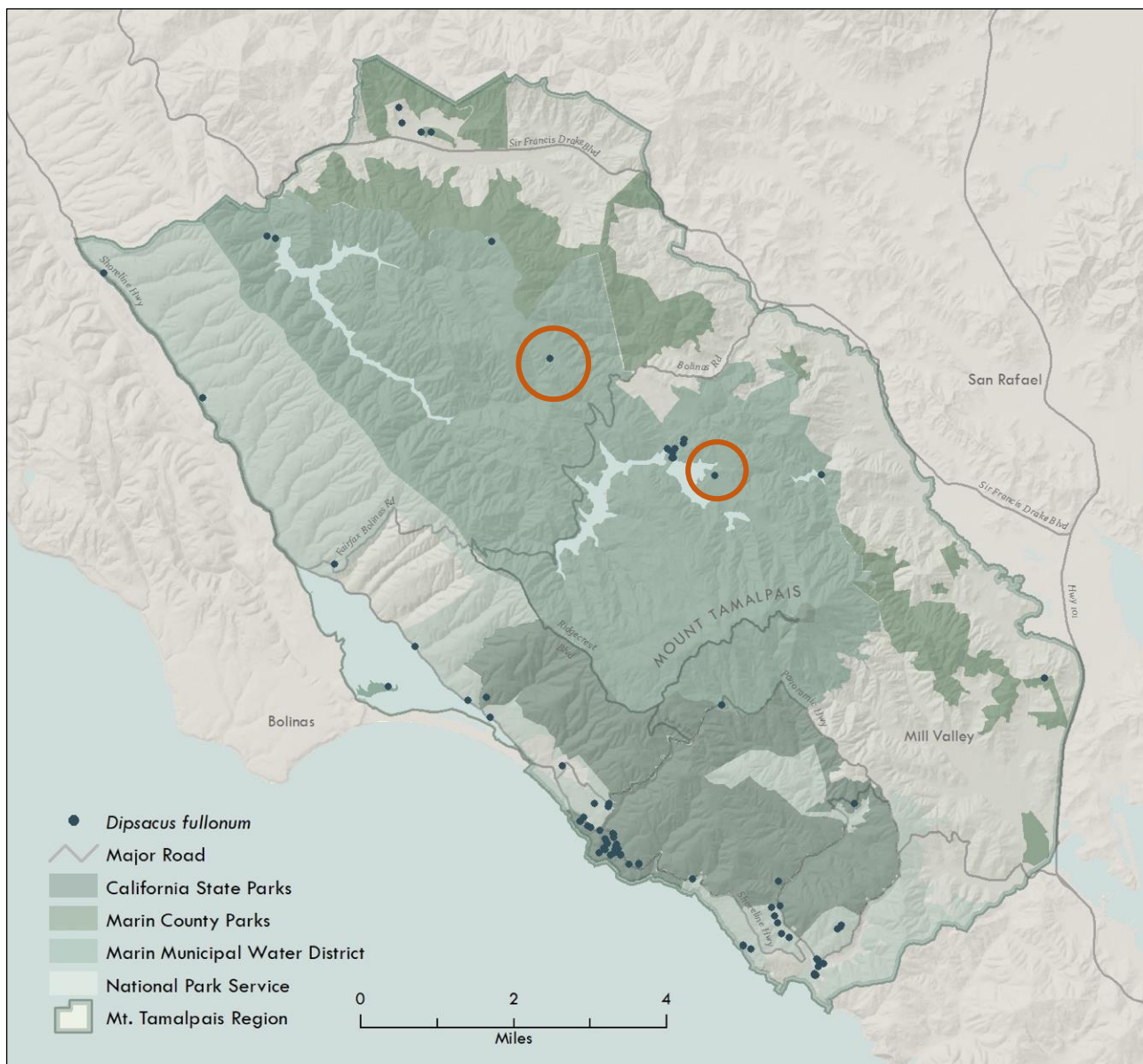
- Follow up on managed population in high-value habitat toward upper end of Bolinas-Fairfax Rd.
- Continue maintenance-level management in Redwood Creek Watershed.
- Verify management status of populations near Stinson Beach before attempting prioritization. In the meantime, institute containment around coastal corridor from Bolinas Lagoon to Slide Ranch.

### State Parks

- Initiate treatment at two small populations in high-value serpentine habitat just west of Pantoll Campground.
- Continue maintenance-level management in Redwood Creek Watershed.
- Institute containment to keep plants out of Ridgecrest grassland complex.
- Assess feasibility of treating populations in high-value habitats in Lone Tree Creek and Cold Stream Creek.
- Continue to treat new or small patches during EDRR surveys.

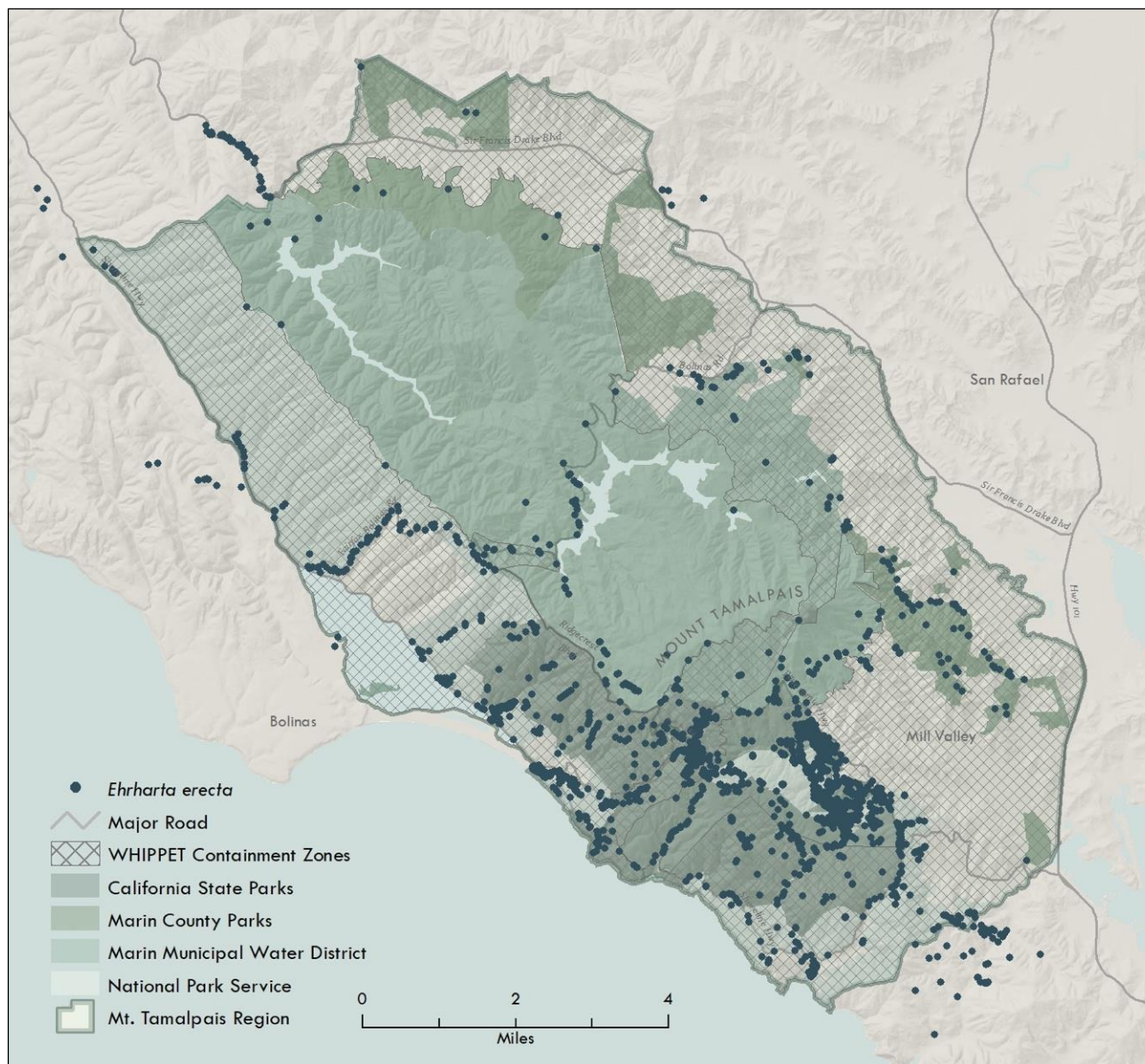


# Species Results – Wild Teasel





# Species Results – Panic Veldt Grass



# Lessons Learned

- WHIPPET is helpful for widespread weed prioritization!
- It's a great neutral tool in a partnership environment
- Analyze your data early to find flaws in dataset.





# Looking Forward

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# THANK YOU!



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Photo credit: Lieven Leroy