



# North Coast Invasive Knotweed

## Early Detection Rapid Response Eradication Project

Candace Reynolds, NRS Division of RCAA, Projects Coordinator  
and Susannah Ferson, NRS Division of RCAA, Director





# Objectives

- ❖ Annual monitoring of target species
- ❖ Annual treatment of target species including:
  - Knotweeds
    - Himalayan (*Persicaria wallichii*)
    - Japanese (*Fallopia japonica*)
    - Giant (*Fallopia sachalinensis*)
  - Giant Reed (*Arundo donax*)
  - Shiny Geranium (*Geranium lucidum*)
- ❖ Public Outreach





# Project Partners

- ❖ Redwood Community Action Agency
- ❖ Humboldt County Department of Agriculture
- ❖ Mattole Restoration Council
- ❖ Caltrans
- ❖ California State Parks





Japanese Knotweed

# Knotweeds

- ❖ Knotweeds clog small waterways and reduce quality of riparian vegetation, resulting in increased bank erosion, sedimentation of streams, and loss of habitat.
- ❖ Deep rhizomes, strong roots – virtually impossible to control without herbicide
- ❖ In total 84 sites discovered totaling 5 acres throughout Humboldt and Del Norte County

<i>Species</i>	<i>sites</i>	<i>acres</i>
<i>Himalayan knotweed</i>	22	1
<i>Giant knotweed</i>	35	2
<i>Japanese knotweed</i>	27	2
<i>Total =</i>	84	5



# Himalayan Knotweed





# Treatments

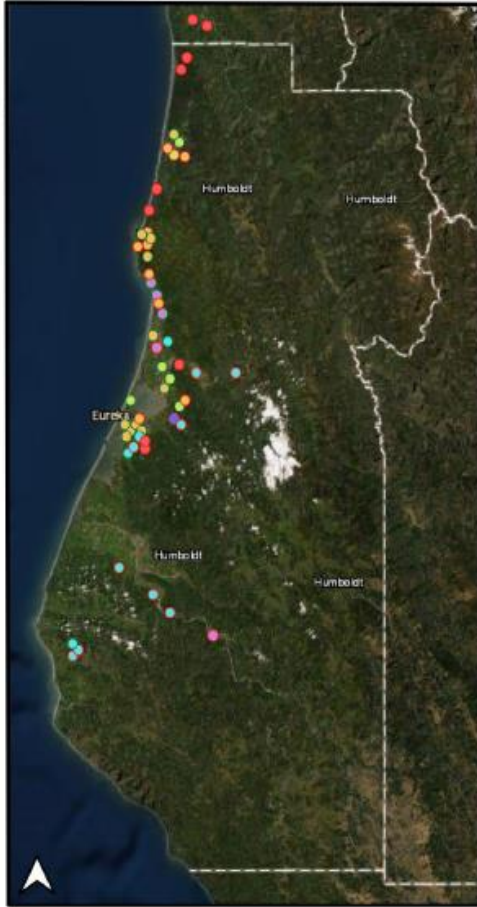
- ❖ Late summer/early fall treatments
- ❖ Methods: Chemical treatment/spraying
- ❖ Herbicide used: Habitat (Imazapyr)
- ❖ Community engagement: Detecting resprouts, continued treatment, and sharing info on social media



## 2014-2021 Map of Target Invasive Plant Species Treatment Sites in Humboldt and Del Norte Counties, California

### Legend

- Himalayan knotweed - eradicated
- Himalayan knotweed - not eradicated
- Giant knotweed - eradicated
- Giant knotweed - not eradicated
- Japanese knotweed - eradicated
- Japanese knotweed - not eradicated
- Giant reed - eradicated
- Giant reed - not eradicated
- Shiny geranium - not eradicated
- Bohemian knotweed - not eradicated



# Results

- ❖ Chemical treatments on emerging populations significantly effective
- ❖ To date, there has been an approximate 99% reduction in all of the knotweed species treated.



# Results 2015-2021

## Himalayan knotweed

**Table 2.** Himalayan knotweed sites, 2015-2021

Treating Entity	Total sites identified	Treated sites	Size of treated sites (acres)	After treatment (acres)	Percent Reduction
RCAA & County	32	29	4.2	0.00065	99.9%
Caltrans	6	6	0.13	0.00005	100%
State Parks	1	1	0.14	0	100%
<b>TOTAL</b>	<b>39</b>	<b>36</b>	<b>4.47</b>	<b>0.0007</b>	<b>99.9%</b>

## Giant knotweed

**Table 3.** Giant knotweeds sites, 2015-2021

Treating Entity	Total sites identified	Treated sites	Size of treated sites (acres)	After treatment (acres)	Percent Reduction
RCAA	5	5	0.93	0.00016	99.9%
Yurok Tribe	~30	-	-	-	-
<b>TOTAL</b>	<b>~35</b>	<b>5</b>	<b>.93</b>	<b>0.00016</b>	<b>99.9%</b>

## Japanese knotweed

**Table 4.** Japanese knotweed sites, 2015-2021

Treating Entity	Total sites identified	Treated sites	Size of treated sites (acres)	After treatment (acres)	Percent Reduction
RCAA	16	11	2.63	0.0042	99.8%
MRC	11	8	0.12	0.000432	99.2%
Yurok Tribe	~5	-	-	-	-
<b>TOTAL</b>	<b>~32</b>	<b>19</b>	<b>2.75</b>	<b>.0046</b>	<b>99.8%</b>



# 2018

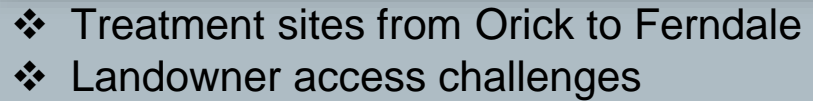


# 2021





## A photograph of a garden bed with a wooden fence. The bed contains green plants, yellow dandelions, and white dandelion seed heads. A small blue butterfly is visible on the right side of the image.





2016



2022



# 2023 Results

- ❖ Treated sites
- ❖ Monitor challenges with Cal Fire
- ❖ 2023 treatment in progress







# Future Work

- ❖ Funding from Humboldt County Dept of Agriculture through 2025
- ❖ RCAA will continue to seek funding through other sources
- ❖ Landowner access