

TIPAY NATION OF SANTA YSABEL

Huunash Ewaa

Southwestern Pond Turtle

Habitat Restoration



Cultural Significance

- ▶ Origin Stories: Turtle Island
- ▶ Ceremonial: Rattles
- ▶ Food Source

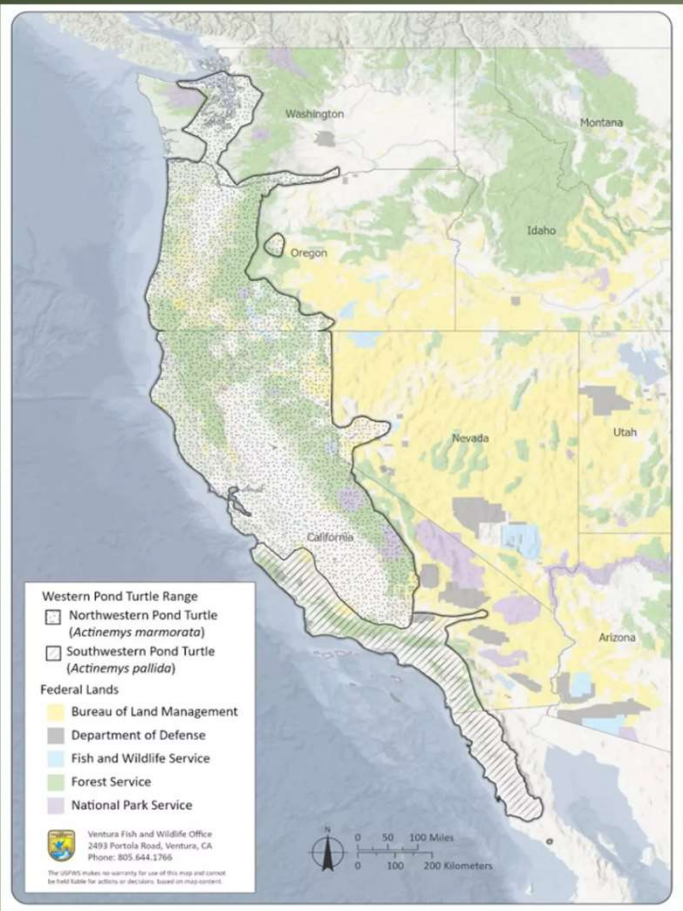


Huunash Ewaa

Southwestern Pond Turtle

Actinemys pallida

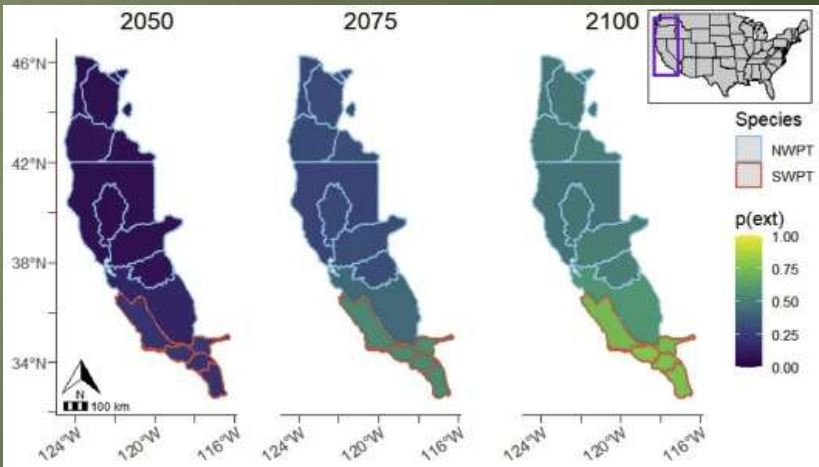
STATUS: Priority 1 Species of Special Concern
USFWS: Proposed Threatened



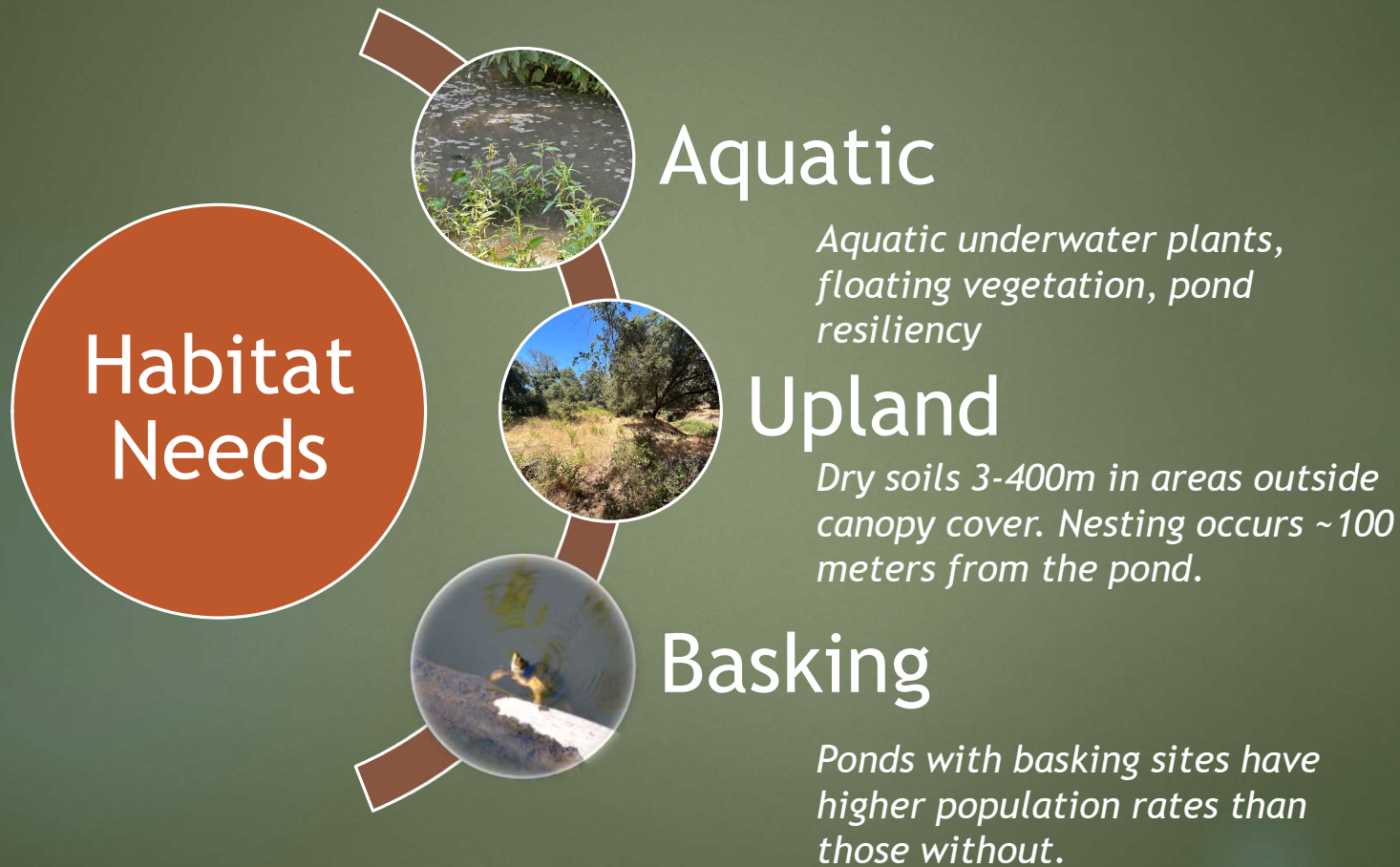
USFWS 2023 report indicated:

- ▶ Northwestern species: Have a high probability to sustain populations through 2050.
- ▶ Southwestern species: Have a 25% of extinction through 2050, which is a low extinction probability. *HOWEVER*, extinction rates jump to 50% by 2075 and 70% by 2100 for Southwestern species.

- Increased risk due to stochasticity (demographic and environmental)
- Inability to adapt to changing conditions.



Habitat



Turtle Points of Interest

Mating

February-
November

Roughly one
clutch every other
year, sometimes
two per year

Nesting & Overwintering

Overwintering:

~ 500 meters from
water or in silt/mud
deposits underwater.

Nesting:

~ 100 meters from
water

Soft soil

Sun exposure

*(temp. dependent sex
determination)

Actinemys pallida

Higher historic genetic
diversity are held
within this species.





6

Turtle Highway
Master Plan

5

Cattle Exclusion

1

Conservation and Evaluation Monitoring
Activity (CEMA) /Indigenous Stewardship
Methods Evaluation (ISME)

2

Pond and Riparian
Habitat Restoration

3

Data Collection/Mapping

4

Community
Engagement





INSY
Environmental
Department

Coordinating Entity

- Environmental Director
- Environmental Assistant
- Environmental Technician
- Water Quality Technician
- Propagation Specialist
- Interns
- INSY Roads Department

Key Tribal Staff

General
Council

Tribal Ecological
Knowledge

ISME Group

Provide TEK Guidance

Tribal
Council

Guidance and Approval



Funding Partner

Partners

Funding & Support

INSY Cattle
Ranchers

Negotiating



Tracking
Population



US Army Corps
of Engineers®

Determine Assistance Needs



Project Support Work

Habitat Threats



Altered Hydrology

- ❖ Dams upstream disrupt the natural flow of water in the stream
- ❖ Incising decreases water retention
- ❖ Erosion from cattle



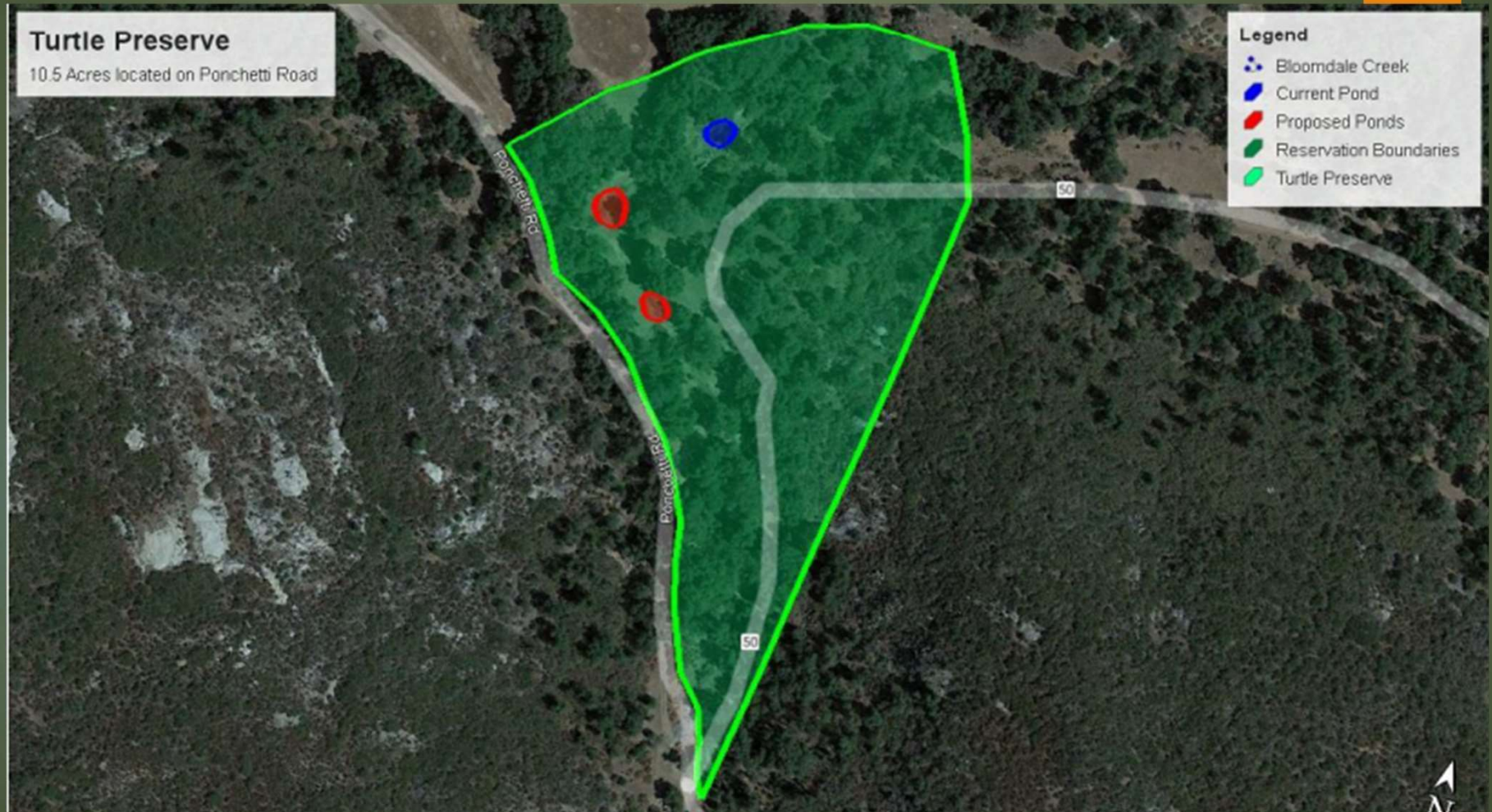
Non-native species

- ❖ Blackberry-invasive
- ❖ Bullfrogs-predation
- ❖ Fish- predation

Other Concerns

- ❖ Habitat Loss/Fragmentation
- ❖ Humans
- ❖ Disease

Project Location



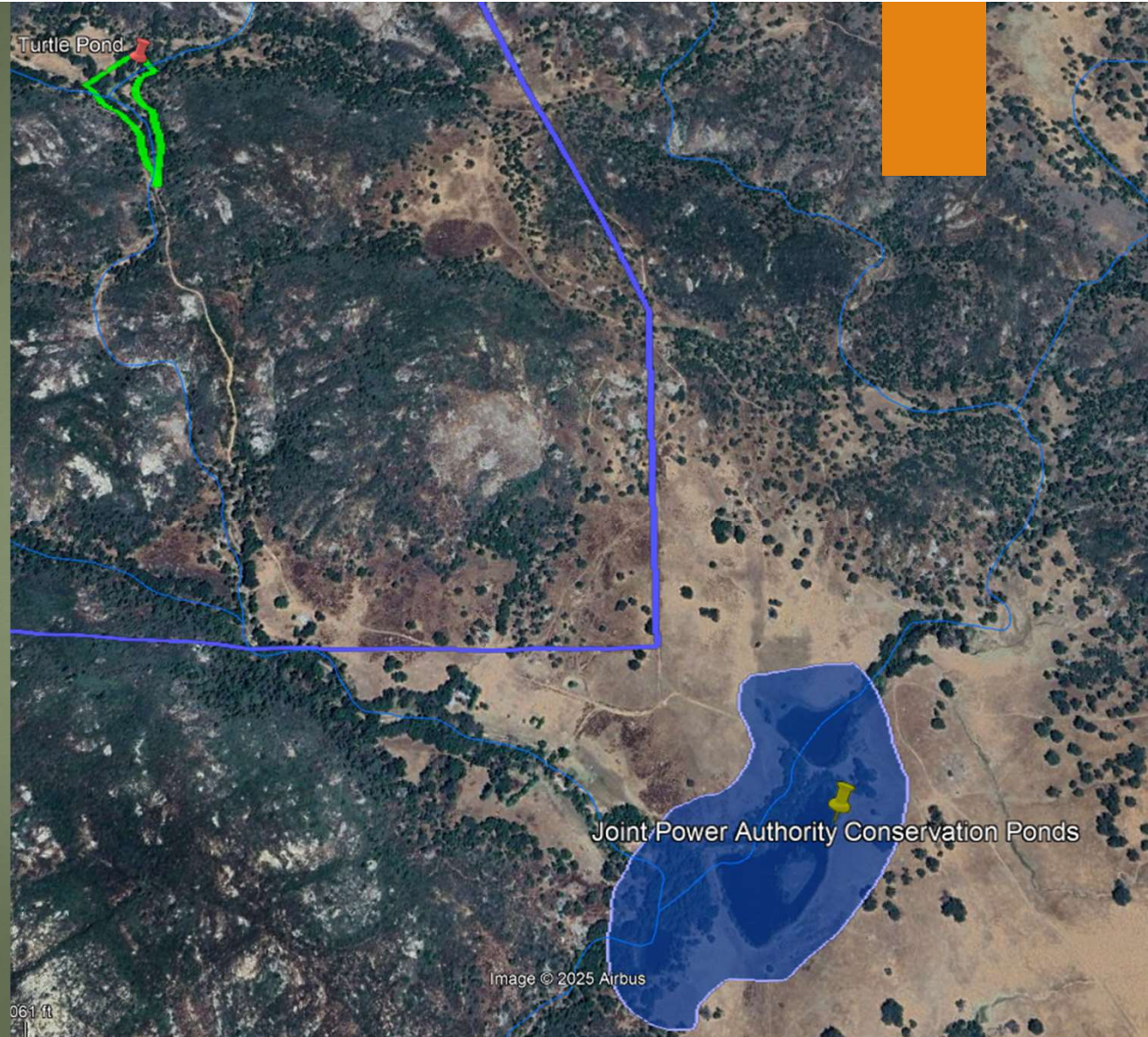


Google Earth Timelapse





Turtle Highway



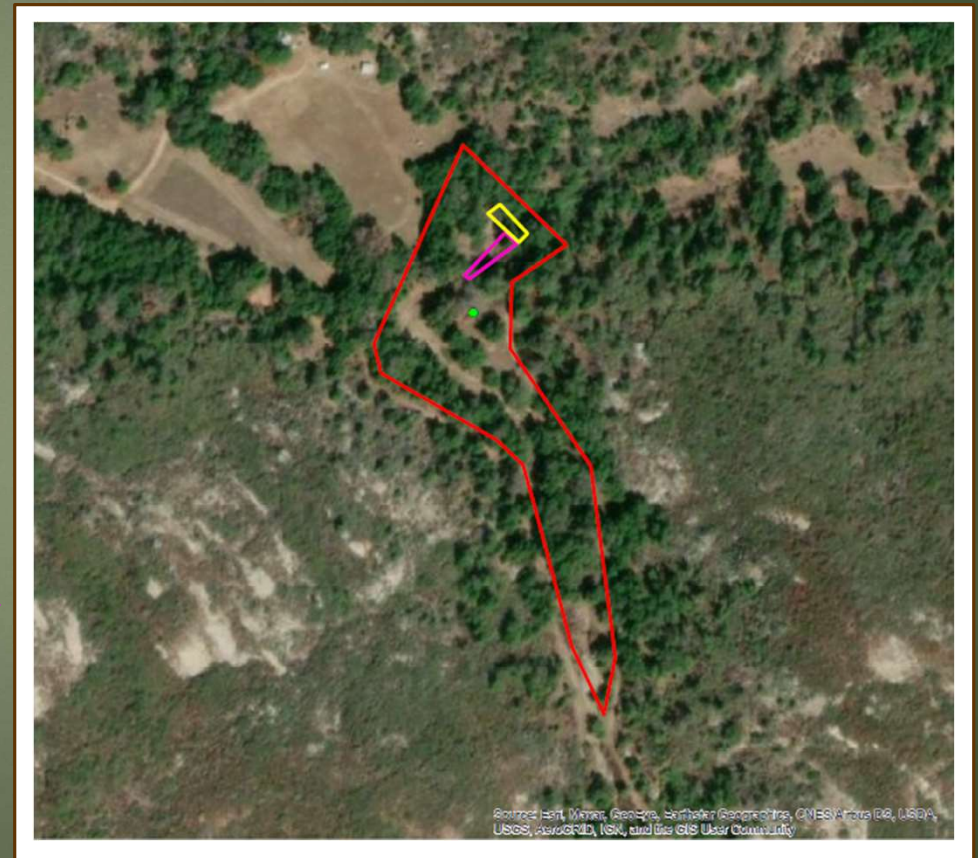


United States Department of Agriculture
Natural Resources Conservation Service

\$35,000 – NRCS

Objectives:

- 1) Indigenous Stewardship
Methods Evaluation
- 2) Fencing (10 meters off water) —
- 3) Restore Riparian Forest Buffer —
- 4) Brush Management —

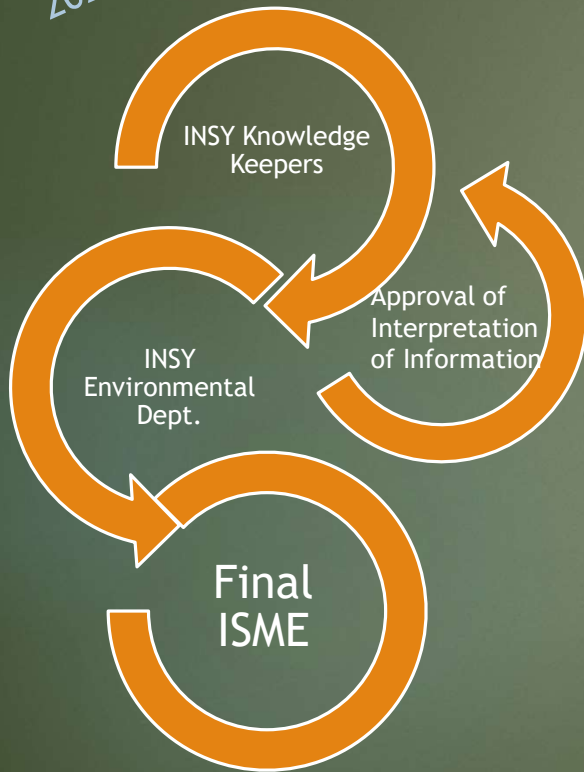


□ Conservation Evaluation Monitoring Activity (CEMA)

Indigenous Stewardship Methods Evaluation (ISME)

An evaluation of land uses, capabilities, and limitations with respect to Indigenous Stewardship Methods (ISM) that informs the conservation planning process

Started Spring
2024



❖ Identify Qualified Individual

- INSY requested QI to consist of a group of Tribal Members

❖ Introduction

- Data and information sovereignty
- Introduction to the focus area
- Field Questions
- Open Discussion

❖ Site Walk

- Identified flora for cultural significance
- Language
- Possible cultural burn sites
- Note-taking and mapping

❖ Document Review

- Read the CEMA and provide feedback
- Sign document upon approval

a'yau	Willow	Cuttings	Medicinal / Ceremonial	
Ku'pal	Blue Elderberry	Seed/Cuttings	Ripe fruit is edible but only once ripe.	
Ich'ta	Sumac	Cuttings/ Transplant	Fibers/ Baskets <i>Irritant to some people with allergies</i>	
Samaay	Yarrow	Seed	Stop blood wounds pain relief, fever and blood issues of all kinds	
Quai'usch	Deergrass	Harvest in Fall	Fibers	
kmaay or milly	Deer Tongue Dudleya	Plant slope, rocky	Thirst, good for gums, boiled root for lungs	
Quanaay	Juncus	Seed/ Transplant	Fibers	

QIs helped to developed a list of culturally significant plants.

Map: Lipay Nation of Santa Ysabel

Tract 2, San Diego County, CA



Mapping

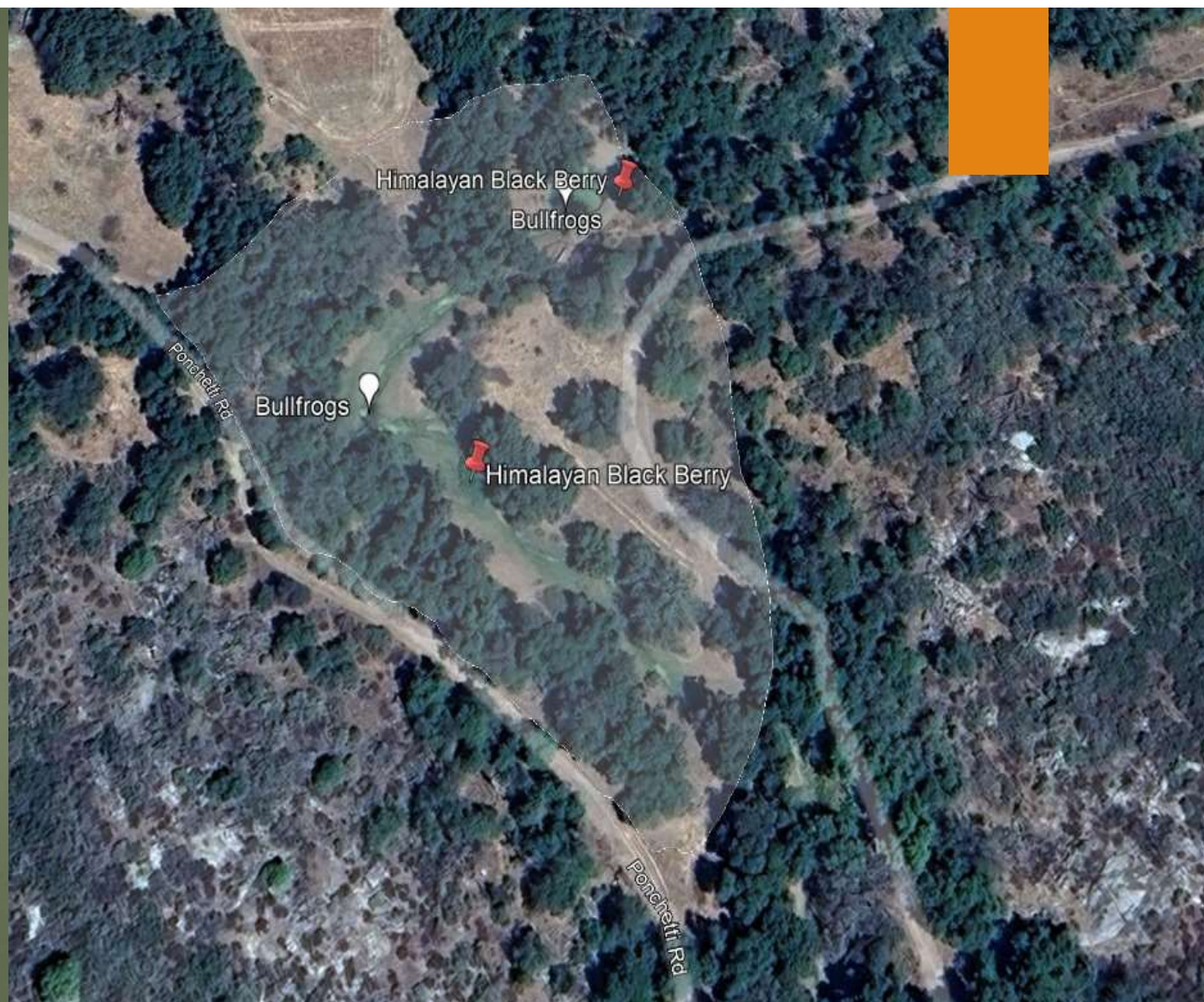
- 1) Recommended restoring flora.
- 2) Areas needing invasive species removal.
- 3) Future burn sites

CEMA COMPLETED:
February 2025

Mitigate Invasive Flora Species

► Strategies

- Mechanical Removal of blackberry.
- Bi-annual removal of new growth to limit succession.
- Plant willows to shade out new growth.



Challenges





Propagation

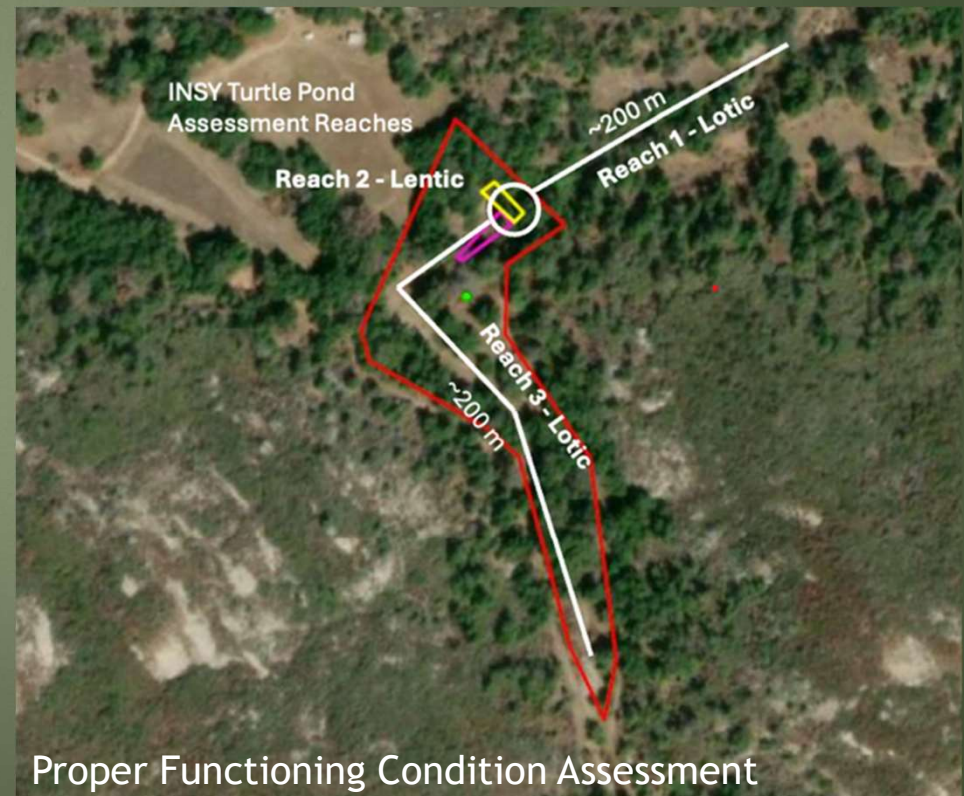


- GPS Mapping of seed collection and cutting sites.
- Tracking of species and propagation strategies.
- Youth engagement

Southwestern Turtle Pond Assessment Management and Monitoring Plan

Assess

- Photos of at least three points (center, upstream, and downstream)
- Regular water sampling for temperature, Specific Conductance (dissolved minerals), dissolved oxygen, pH, ReDox, phycocyanin.
- CRAM Monitoring: Evaluate the Buffer, Hydrology, Topological, and Vegetation



Proper Functioning Condition Assessment

Erosion Control

- ▶ \$20,000 – Partners for Fish and Wildlife Program, USFWS
- ▶ Volunteers
- ▶ Intern Program

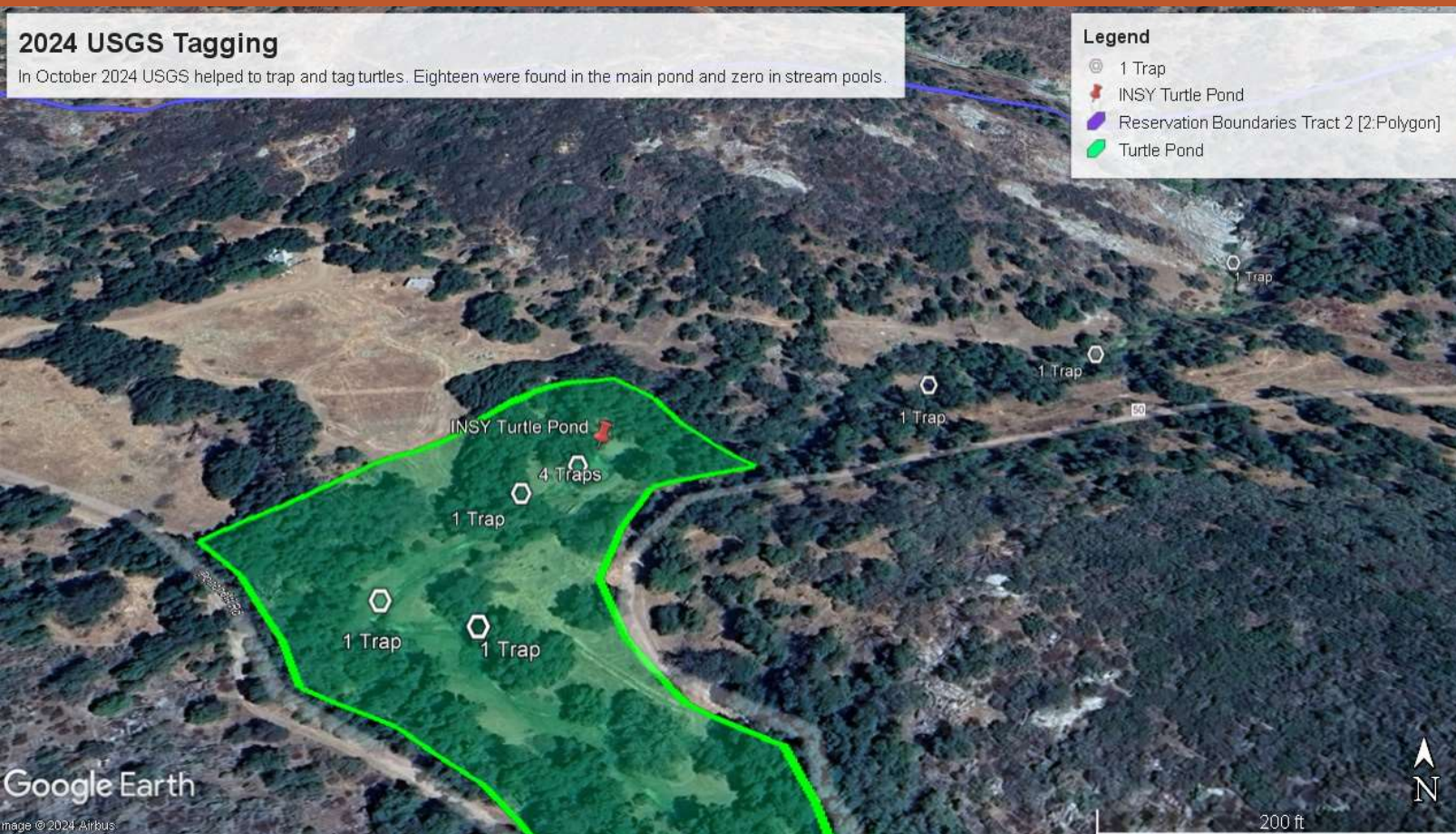




Turtle Tagging: 2024

2024 USGS Tagging

In October 2024 USGS helped to trap and tag turtles. Eighteen were found in the main pond and zero in stream pools.



- 2- Green Treefrog, *Hyla cinerea*



- 4- Bull Frog, *Rana Catesbeiana*



- 4- Baja CA Treefrog, *Pseudacris hypochondriaca hypochondriaca*

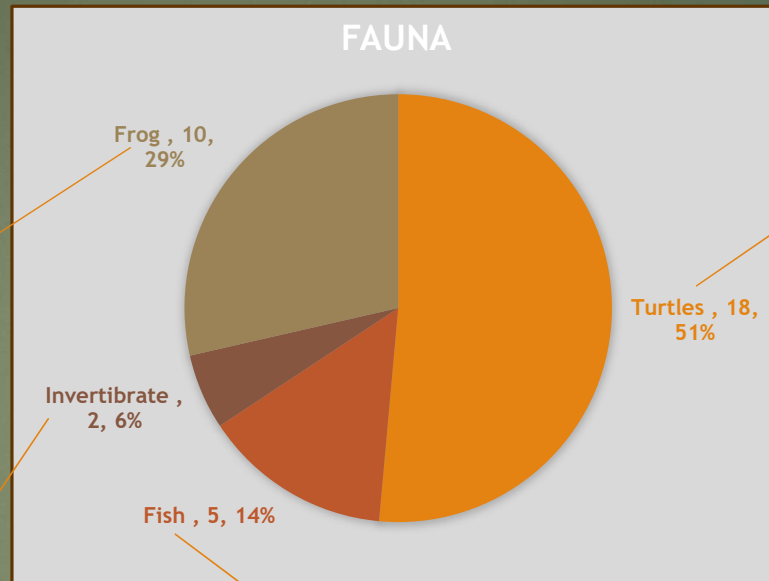


- 1- Toe biter (large water beetle)
- 1- Odonate larvae (dragonfly or damselfly)

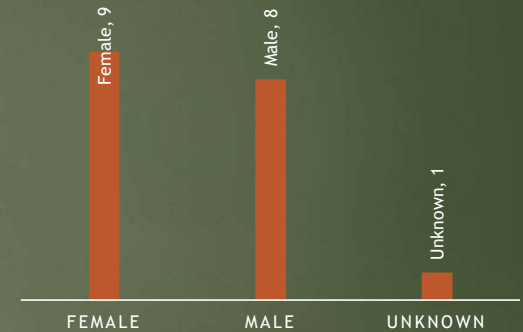
- 1- Red-eared Sunfish, *Lepomis microlophus* (the first one in USGS Fisher Lab database)



- 4- Largemouth bass, *Micropterus salmoides*



- 18- Southwestern Pond Turtle, *Actinemys pallida*







Abnormal
Plastron
Growth

Brush Management



Started February 2026

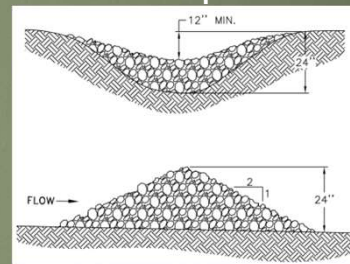


Management
Approval: January
2026

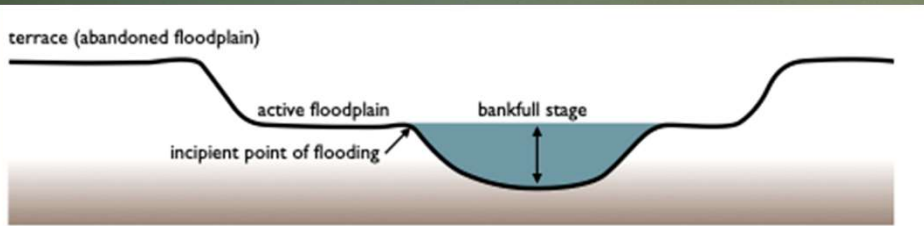
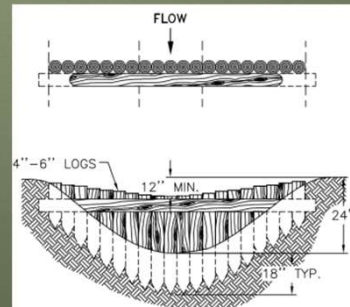
Check Damns Vs Dredging



Attempt 1



Revised Attempt



Next Steps

- ▶ Fencing
- ▶ Seasonal Grazing:
 - ▶ Allow for 1 full season w/o
 - ▶ Fall: Use Mule Fat and Willow as indicator plants
 - ▶ Spring: Bank erosion/Grass stubble height
- ▶ MOU with ranchers
- ▶ Brush Management
- ▶ Riparian Restoration planting





Thank you!

QUESTIONS?

Resources

- ▶ U.S. Fish and Wildlife Service. (2023). Species status assessment report for the northwestern pond turtle (*Actinemys marmorata*) and southwestern pond turtle (*Actinemys pallida*), Version 1.1, April 2023. U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, Ventura, California.
- ▶ Feng, T., Zhou, H., Qiu, Z., Kang, Y (2022). Impacts of demographic and environmental stochasticity on population dynamics with cooperative effects. *Mathematical Biosciences*. (353).
<https://doi.org/10.1016/j.mbs.2022.108910>.
- ▶ Gregory, K. M., Darst, C., Lantz, S.M., Powelson, K., McGowan. C. P. (2024). Effects of drought, invasive species, and habitat loss on future extinction risk of two species of imperiled freshwater turtle. *Climate Change Ecology*. (7)1-9. <https://doi.org/10.1016/j.ecochg.2023.100078>.