

Camera Station Monitoring for Sensitive Resources

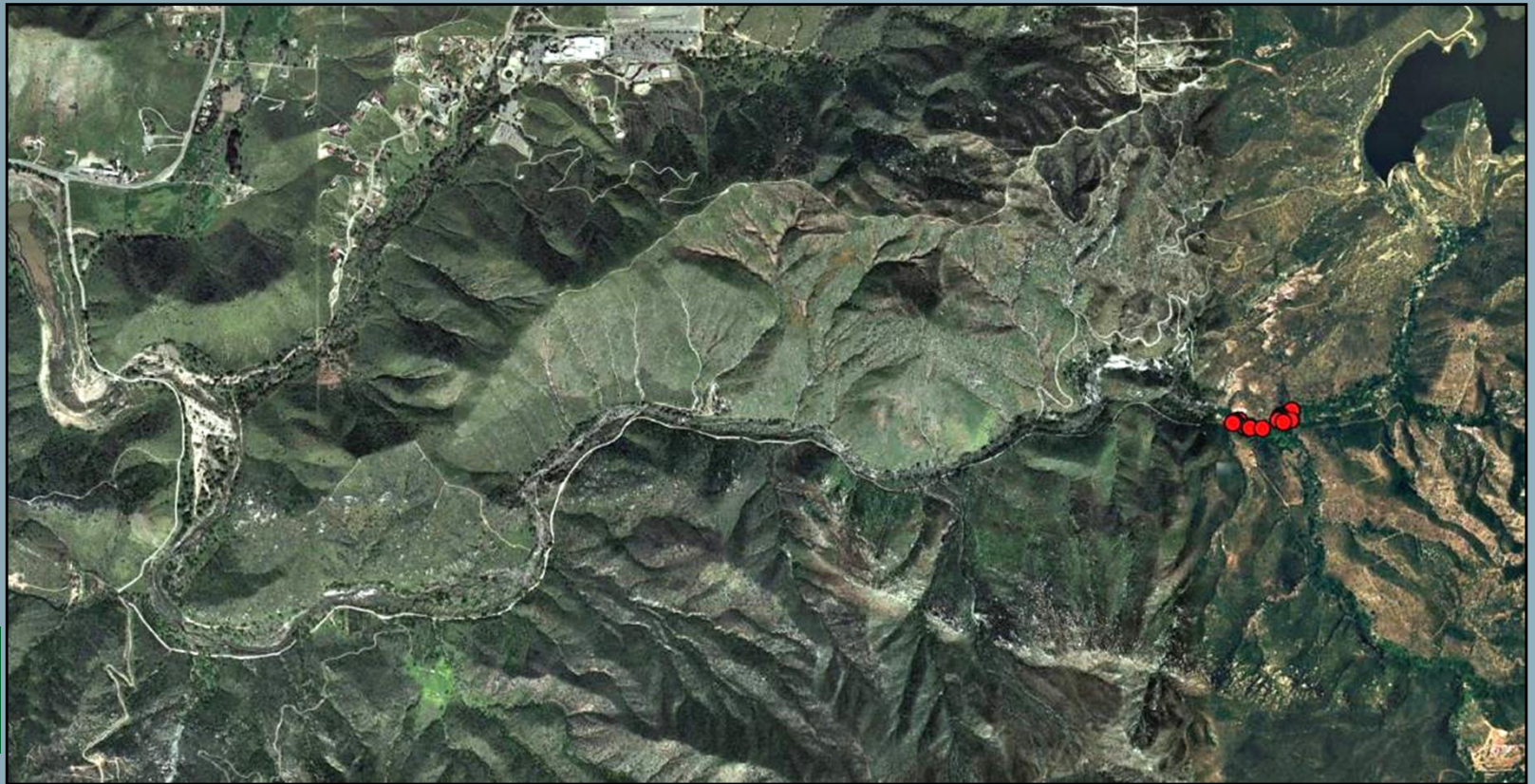
Pond turtle restoration in San Diego

- I. Background
- II. Monitoring success
- III. Monitoring for reinvasion



--Sycuan Peak Ecological Reserve--

- **Headstarting pond turtles and nonnatives removal**
- **CDFW Reserve—Restricted access and multi-agency collaboration**
- **Discrete ponds—Easier for trapping and exotics control**
- **Ideal for testing nonnatives species management as a strategy**



Nonnative species removal

- Species removed include:

- American bullfrog, African clawed frog, green sunfish, largemouth bass, red swamp crayfish



- Wild recruitment detected in 6 of 8 years since restoration began-Youngest pond turtles detected in MSCP region in 15 years



Western Pond Turtle Monitoring

- Monitoring activity and habitat use:

2018-08-16 6:00:00 PM

0 28°C



- Monitoring for recruitment:



Invasive Species and Disturbance Monitoring

- Monitoring for nonnative aquatic species re-invasion:

2016-05-25 10:00:00 PM T



- Monitoring for disturbance at the resource:



RECON001

RECONYX



RECON001

Invasive Species and Disturbance Monitoring

- Monitoring for nonnative aquatic species re-invasion:

2015-10-30 11:30:00 PM T

11°C



RECON001

Incidental/ResourceMonitoring

- Monitoring activity of other native species at the resource:



Western Pond Turtle Monitoring

- Turtles, crayfish, and bullfrogs can move too slowly to trigger motion sensors, need to use time lapse
- We detect juvenile pond turtles with cameras before they are captured in traps
- We detect bullfrogs with cameras before we hear or see them during visual encounter surveys
- We can detect preferred basking and foraging habitat with minimal disturbance

Proctor Valley Spring Monitoring

- I. Background and objectives
- II. Methods
- III. Results



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Proctor Valley Spring Monitoring

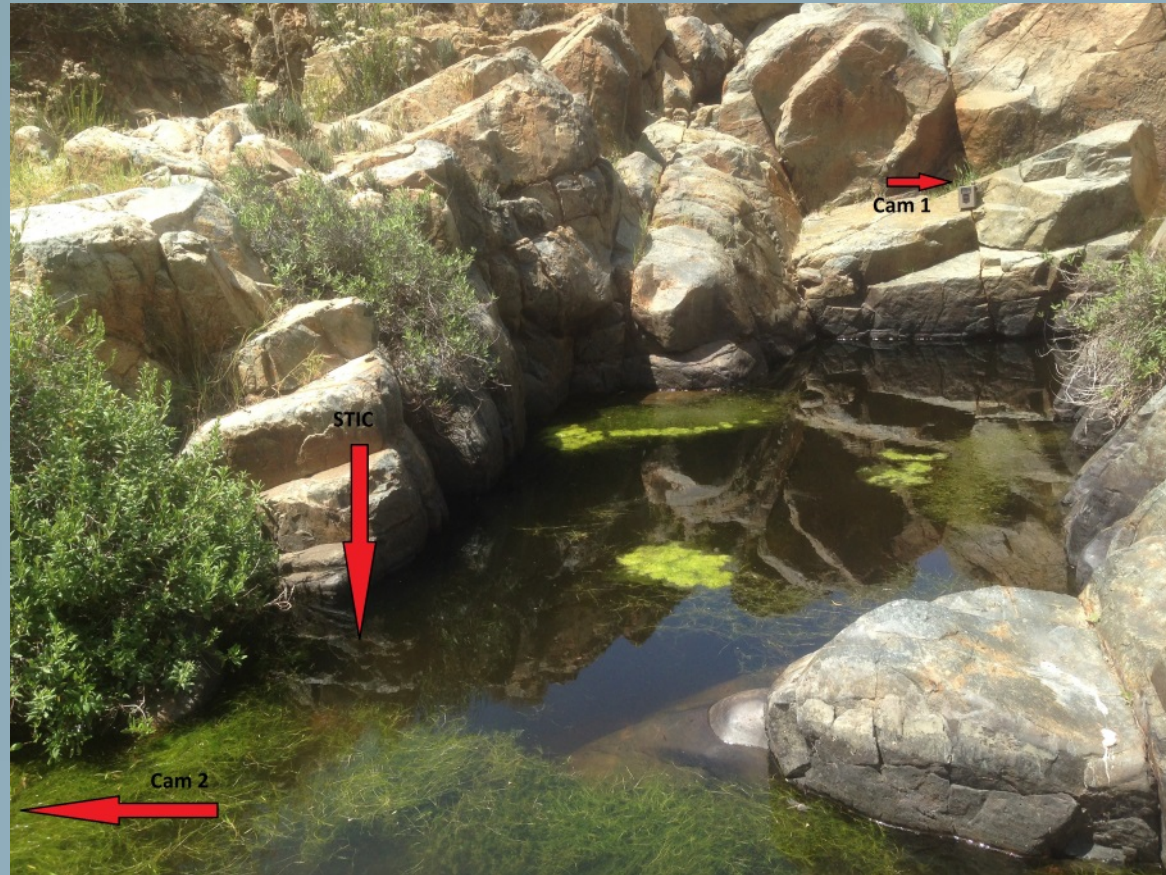
Background and objectives

- Initially investigating relationship between surface water duration and native vs nonnative amphibians and invertebrates
- Identified as a permanent resource-rare in the area
- Cameras added to identify use by wildlife and humans



Proctor Valley Spring Monitoring Methods

- Two motion sensitive cameras, one each at lower and upper ends of pond
- 4/15/2016 to 12/29/2016
- 4/15/2016 to 10/02/2017



Proctor Valley Spring Monitoring Results

Type	Total Observations
Bird	3362
Human	4
Lizard	1
Med/Lg Mammal	715
Mouse/Rat	20
Grand Total	4102



Proctor Valley Spring Monitoring Results

Type	Total Observations
Mourning Dove	2,400
Towhee	187
Raven	104
Red-tailed hawk	27
Barn owl	25
Great horned owl	17



Proctor Valley Spring Monitoring

Results



Type	Total Observations
Coyote	319
Mule deer	220
Cottontail/Jackrabbit	56/14
Domestic dog	49
Bobcat	19
Domestic cat	1



Resource Monitoring

- We can get observations of several different taxonomic groups with minimal disturbance
- We can determine if resource is being used by native or nonnative species or both
- We can gather data on baseline conditions prior to management action

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