

Post-Fire Monitoring and Recovery

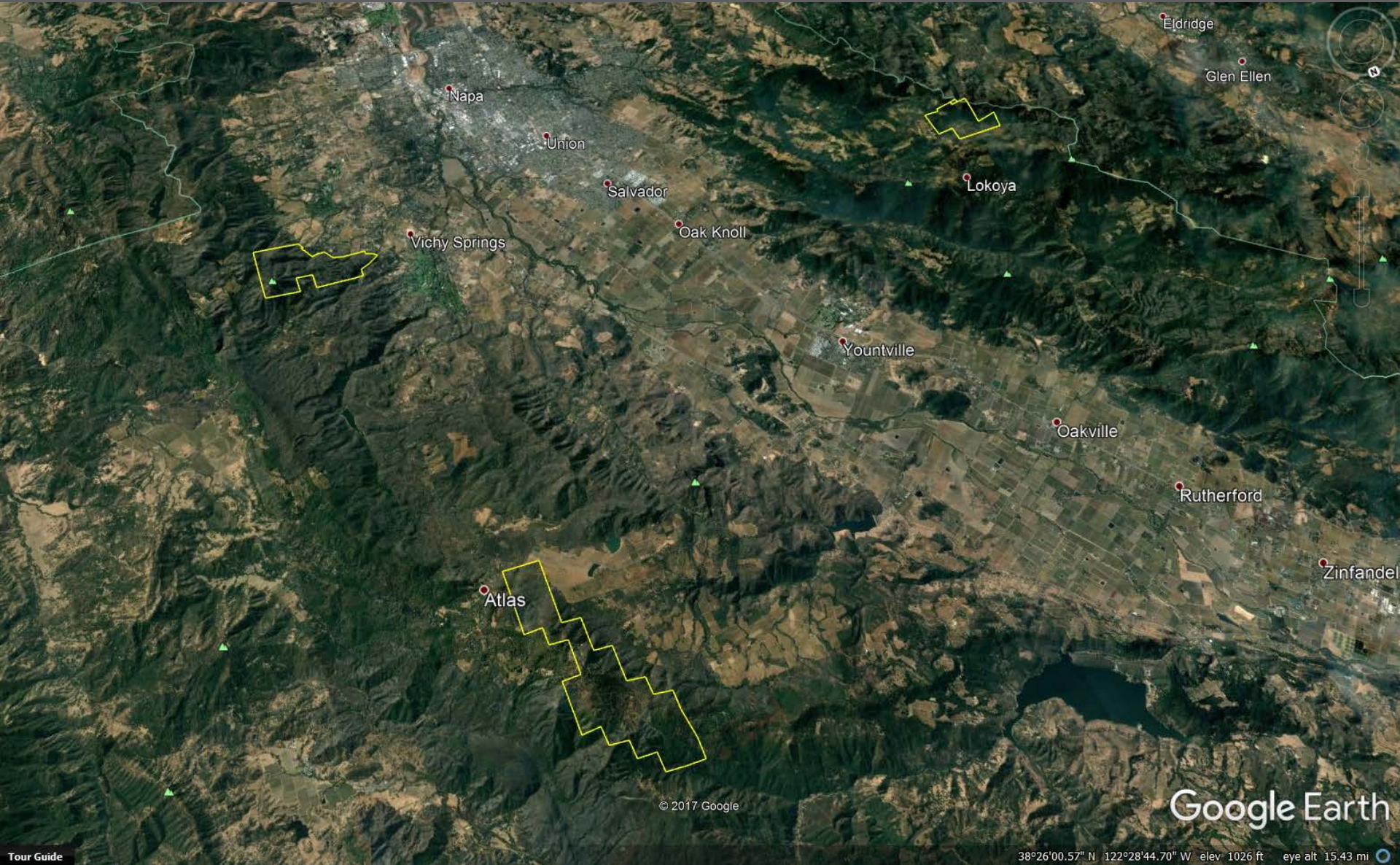


Mike Palladini

Stewardship Program Manager

Overview

Four preserves, ~ 3,400 acres

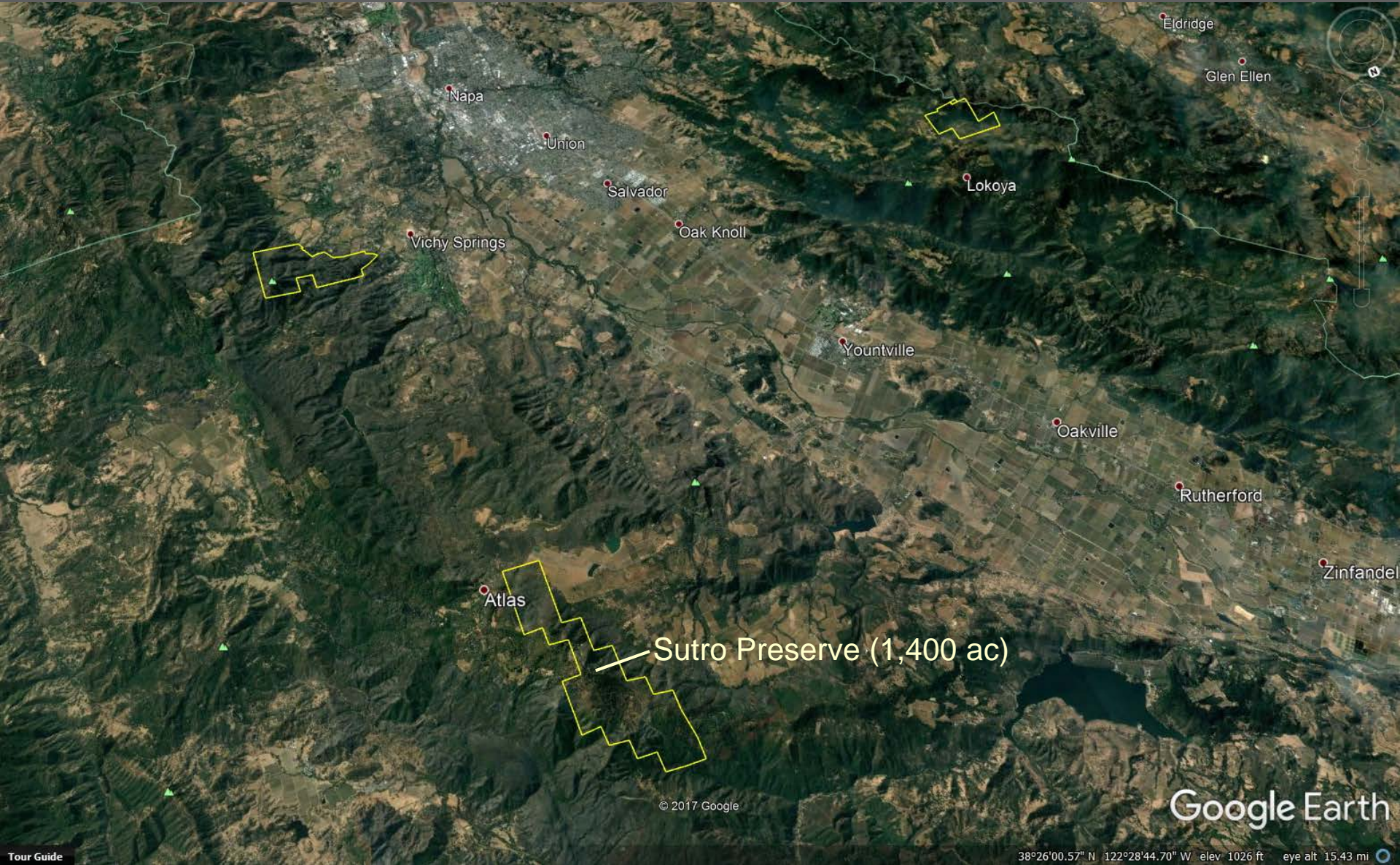


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Google Earth

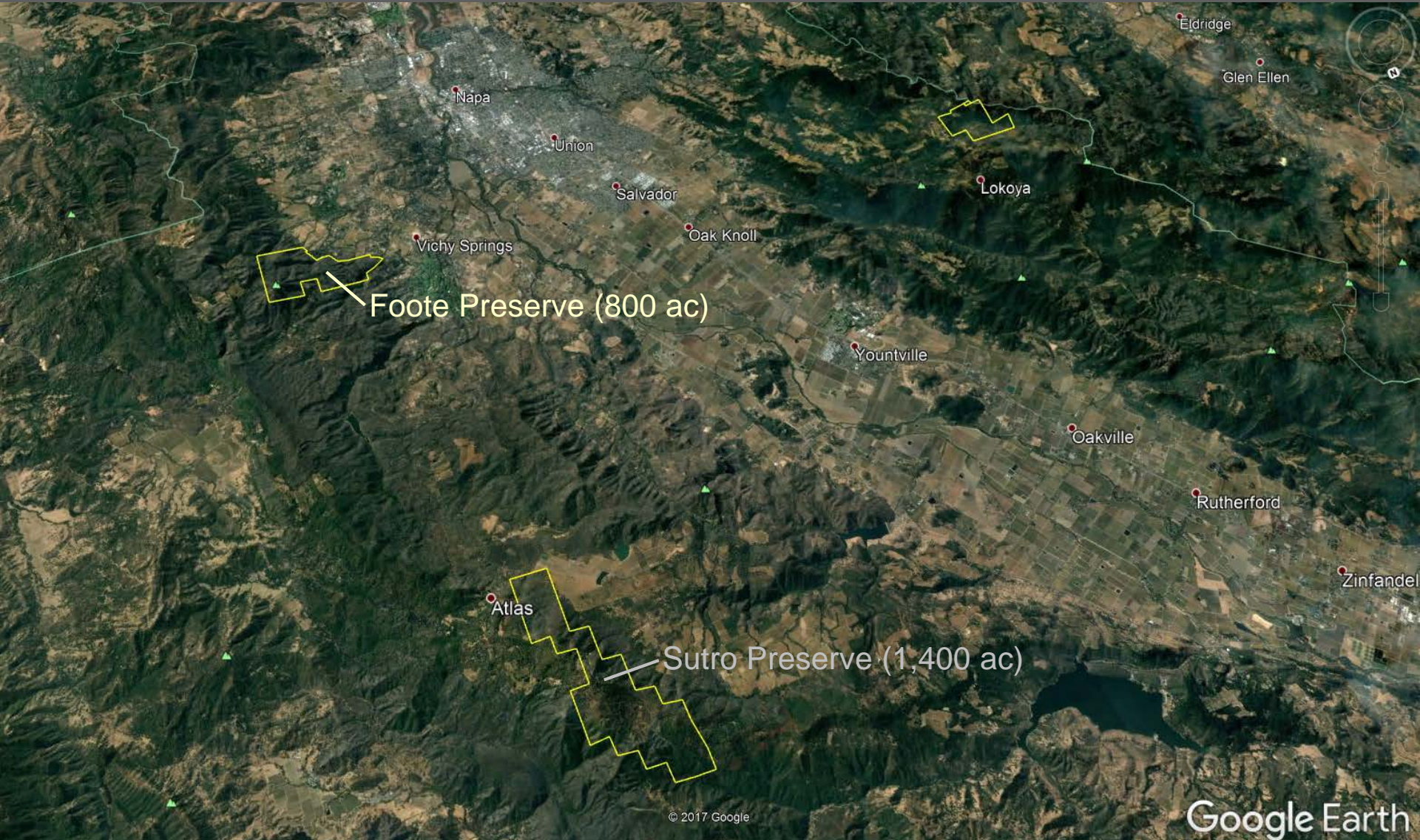
Overview

Four preserves, ~ 3,400 acres



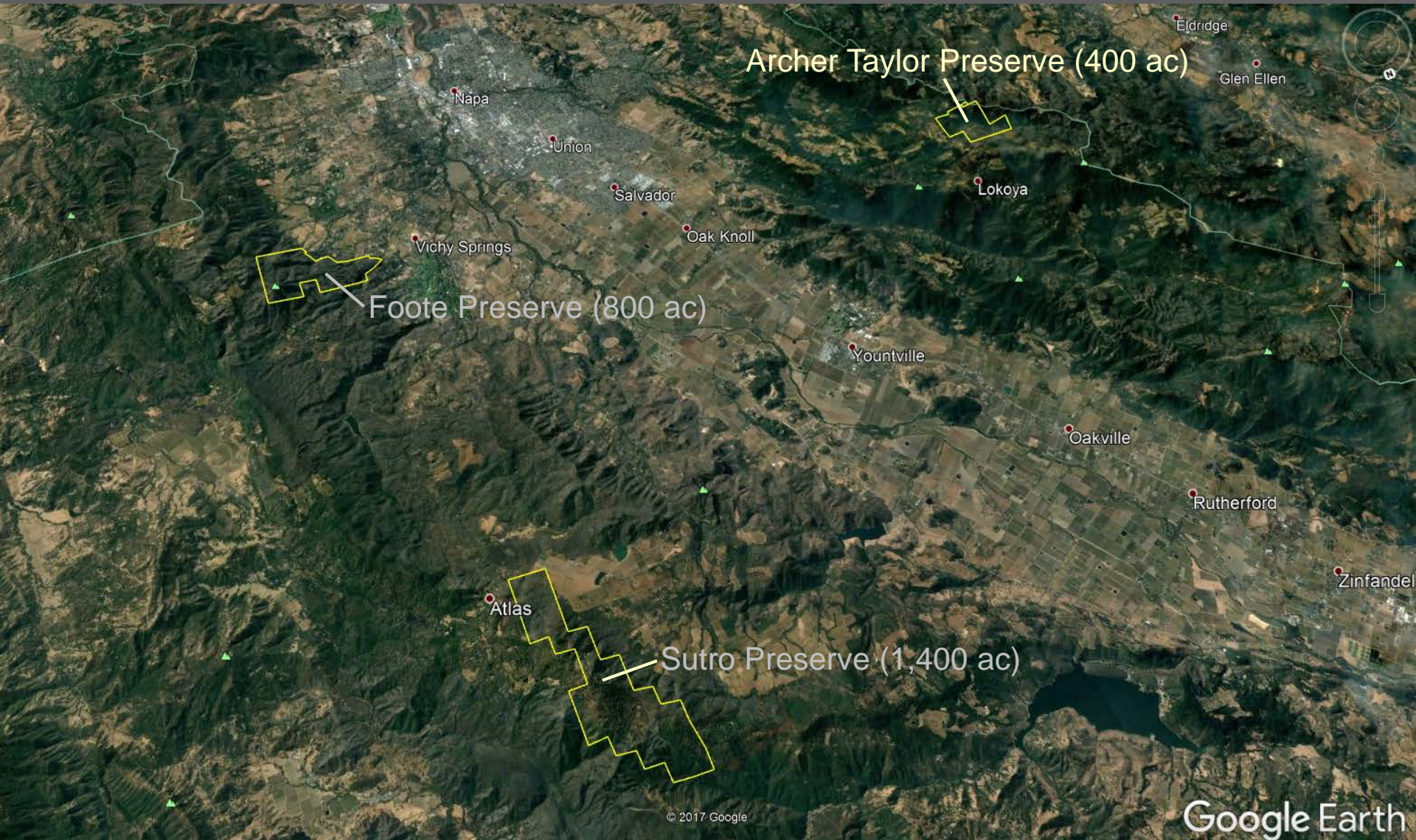
Overview

Four preserves, ~ 3,400 acres



Overview

Four preserves, ~ 3,400 acres



Archer Taylor Preserve (400 ac)

Foote Preserve (800 ac)

Sutro Preserve (1,400 ac)

Google Earth

© 2017 Google

38°26'00.57" N 122°28'44.70" W elev 1026 ft eye alt 15.43 mi

Tour Guide

Overview

Four preserves, ~ 3,400 acres



Mark West Springs

Calistoga

Woodleaf

Hill Property (800 ac)

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Google Earth

Visitor Safety, Erosion Prevention



Post-Fire Monitoring



Post-Fire Monitoring

- 84 photo points, 3 preserves, multiple habitats



Post-Fire Monitoring

- 84 photo points, 3 preserves, multiple habitats
- Six time lapse cams



Post-Fire Monitoring

- 84 photo points, 3 preserves, multiple habitats
- Six time lapse cams
- Vegetation plots/transects



Post-Fire Monitoring

- 84 photo points, 3 preserves, multiple habitats
- Six time lapse cams
- Vegetation plots/transects
 - Species richness/abundance



Post-Fire Monitoring

- 84 photo points, 3 preserves, multiple habitats
- Six time lapse cams
- **Vegetation plots/transects**
 - Species richness/abundance
 - Survival - fire obligates, rare species



Post-Fire Monitoring

- 84 photo points, 3 preserves, multiple habitats
- Six time lapse cams
- Vegetation plots/transects
 - Species richness/abundance
 - Survival - fire obligates, rare species
- Re-inventory plant taxa



Post-Fire Monitoring

- 84 photo points, 3 preserves, multiple habitats
- Six time lapse cams
- Vegetation plots/transects
 - Species richness/abundance
 - Survival - fire obligates, rare species
- Re-inventory plant taxa
- Post-fire resampling: avian, veg transects



Post-Fire Monitoring

Aerial Monitoring

Orthogonal scans



Post-Fire Monitoring

Aerial Monitoring

Orthogonal scans



Post-Fire Monitoring

Aerial Monitoring

Orthogonal scans



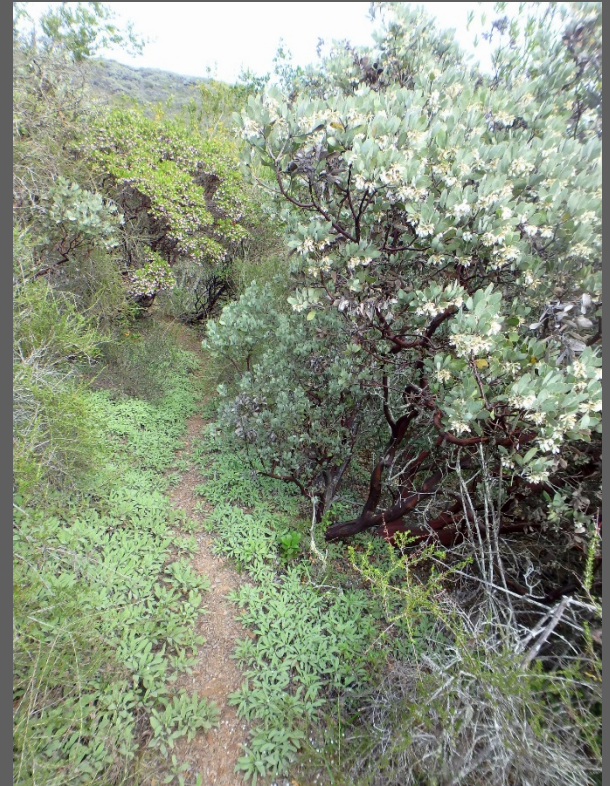
Post-Fire Monitoring

Aerial Monitoring

Aerial Videography

Post-Fire Monitoring

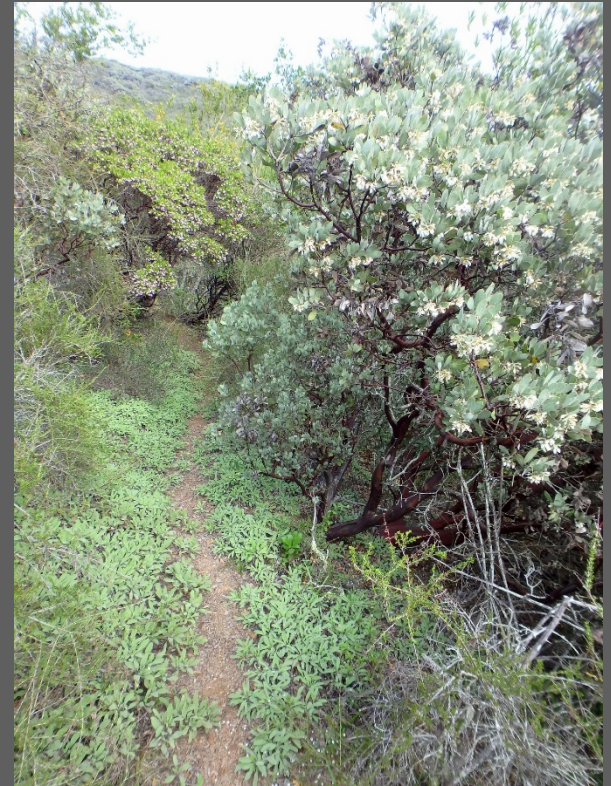
Chaparral Focus



Post-Fire Monitoring

Chaparral Focus

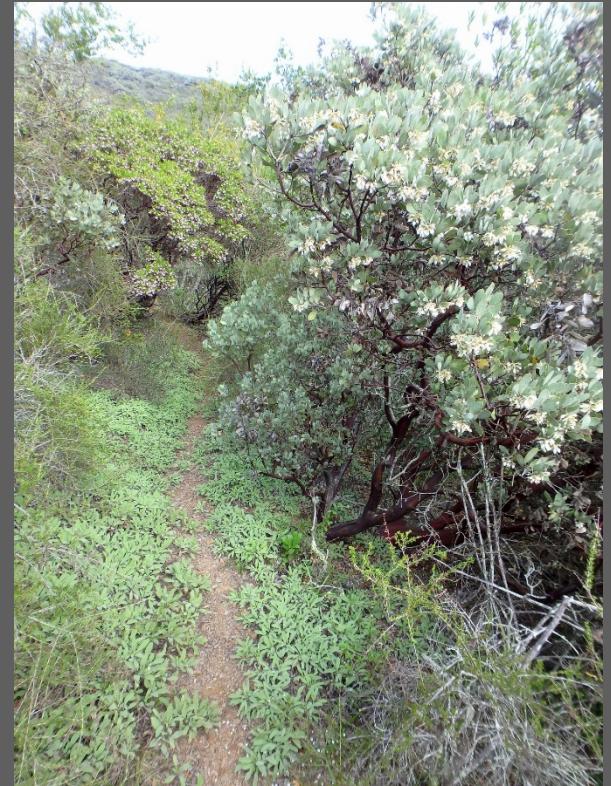
- Shaped by patterns of fire



Post-Fire Monitoring

Chaparral Focus

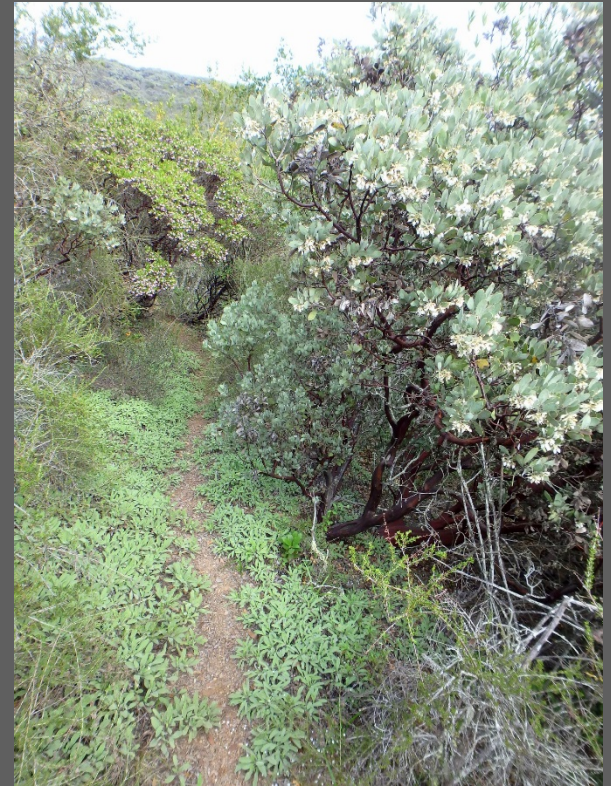
- Shaped by patterns of fire
- Fire obligates (smoke, heat), rare taxa



Post-Fire Monitoring

Chaparral Focus

- Shaped by patterns of fire
- Fire obligates (smoke, heat), rare taxa
- Native-dominated



Fire Response

Fire adapted species

Resprouters...



Arctostaphylos glandulosa

Fire Response

02 May 2018



21 Nov. 2017



Arctostaphylos glandulosa

Fire Response

Fire adapted species

Resprouters...



Arctostaphylos crustacea

Fire Response



Heteromeles arbutifolia

Fire Response

**Obligate
Resprouter**



Heteromeles arbutifolia

Fire Response



Frangula californica

Fire Response



Pickeringia montana

Fire Response



Rhododendron occidentale

Fire Response



Adenostoma fasciculatum

Fire Response



Garrya fremontii

Fire Response



Dendromecon rigida

Fire Response



Lepechinia calycina

Fire Response



Sambucus nigra

Fire Response



Prunus ilicifolia

Fire Response



Corylus cornuta

Fire Response



Rhamnus ilicifolia

Fire Response

Fire adapted species

Obligate Seeders...



Fire Response





10 NOV 2017





28 NOV 2017



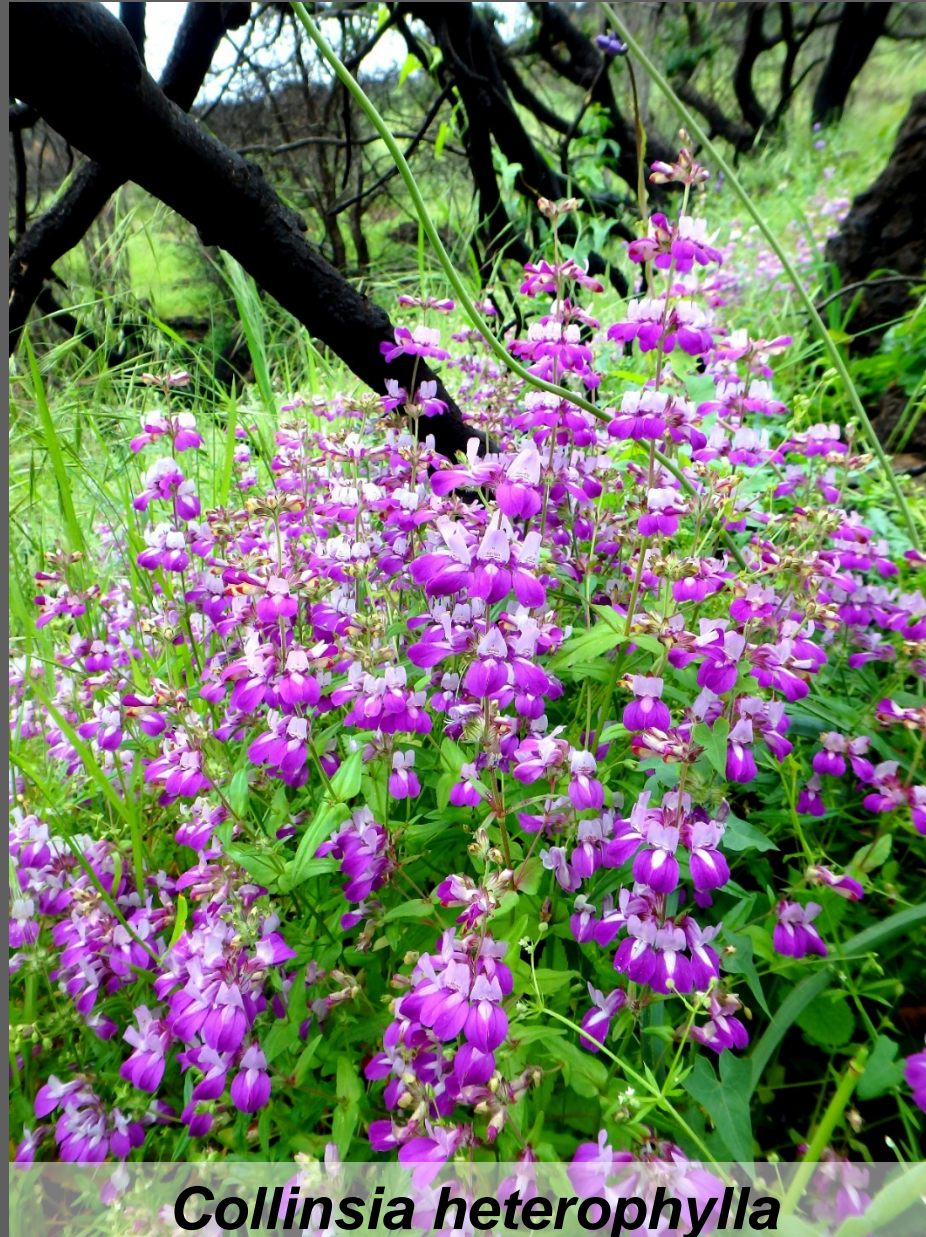
28 NOV 2017



28 APR 2018

Fire Response

Forbs...



Collinsia heterophylla

Fire Response



Fritillaria affinis

Fire Response



Calochortus superbus

Fire Response



Iris macrosiphon

Fire Response



Delphinium nudicaule

Fire Response



Cynoglossum grande

Fire Response



Leptosiphon parviflorus

Fire Response



Castilleja foliolosa

Fire Following Species

Fire Opportunists



Triteleia lugens

Fire Following Species

Fire Opportunists

- Present in low numbers or vegetative only



Triteleia lugens

Fire Following Species

Fire Opportunists

- Present in low numbers or vegetative only
- Increase numbers, flower, contribute to seedbank quickly post-fire



Triteleia lugens

Fire Following Species

Fire Opportunists...



Chlorogalum pomeridianum

Fire Following Species

Fire Opportunists...



Lomatium repostum

Fire Following Species

Fire Opportunists...



Fire Following Species

Fire Opportunists...



Lomatium repostum

Fire Following Species

Fire Opportunists...



List 1B2

Hesperolinon bicarpellatum

Fire Following Species

Fire Opportunists...

- Rare plant: List 1B2



List 1B2

Hesperolinon bicarpellatum

Fire Following Species

Fire Opportunists...

- Rare plant: List 1B2
- Strict serpentine endemic



Hesperolinon bicarpellatum

Fire Following Species

Fire Opportunists...

- Rare plant: List 1B2
- Strict serpentine endemic
- On volcanics post-fire



List 1B2

Hesperolinon bicarpellatum

Fire Following Species

Fire Opportunists...

Rare plant: List 4



Triteleia lugens

Fire Following Species

Fire Opportunists...



Eschscholzia caespitosa

Fire Following Species

Fire Opportunists...



Eschscholzia caespitosa

Fire Following Species

Fire Opportunists...



Calochortus amabilis

Fire Following Species

Fire Opportunists...



Calochortus amabilis

Fire Following Species

Fire Opportunists...



Polygala californica

Fire Following Species

Fire Opportunists...



Helianthella californica

Fire Following Species

Fire Opportunists...



Fritillaria recurva

Fire Following Species

Fire Opportunists...



Rosa spithamea

Fire Following Species

Fire Opportunists...



Arnica discoidea

Fire Following Species

Fire Opportunists...



Collomia heterophylla

Fire Following Species

Fire Opportunists...



Calystegia purpurata

Fire Following Species

Fire Opportunists...



Calystegia purpurata

Fire Following Species

Fire Opportunists...



Dendromecon rigida

Fire Following Species

Fire Opportunists...



Dendromecon rigida

Fire Following Species

Fire Opportunists...



Toxicoscordion fremontii

Fire Following Species

34 fire obligates in County



Papaver californicum

Fire Following Species

34 fire obligates in County

- Absent for long periods



Papaver californicum

Fire Following Species

34 fire obligates in County

- Absent for long periods
- Seed coat, seedbed prep



Papaver californicum

Fire Following Species

34 fire obligates in County

- Absent for long periods
- Seed coat, seedbed prep
- 1-2 years post-fire only



Papaver californicum

Fire Following Species

34 fire obligates in County

- Absent for long periods
- Seed coat, seedbed prep
- 1-2 years post-fire only
- Primarily annual forbs



Papaver californicum

Fire Following Species

- 2nd Napa Co. record



Papaver californicum, Foote Preserve

Fire Following Species

- 2nd Napa Co. record
- 1st record: 1913



Papaver californicum, Foote Preserve

Fire Following Species

- 2nd Napa Co. record
- 1st record: 1913
- 53 years in seedbank



Papaver californicum, Foote Preserve

Fire Following Species



Emmenanthe penduliflora

Fire Following Species



Emmenanthe penduliflora

Fire Following Species



Antirrhinum kelloggii

Fire Following Species



Geranium carolinianum

Fire Following Species



Caulanthus lasiophyllus

Fire Following Species



Phacelia nemoralis

Fire Following Species



Fire Following Species



Nuttallanthus texanus

Fire Following Species



Phacelia suaveolens

Fire Following Species



Funaria hygrometrica

Fire Following Species



Sidalcea hickmanii ssp. *napensis*

Fire Following Species

- List 1B1



Sidalcea hickmanii ssp. napensis

Fire Following Species

- List 1B1
- Restricted to Napa/So. Mayacamas Ranges



Sidalcea hickmanii ssp. napensis

Fire Following Species

- List 1B1
- Restricted to Napa/So. Mayacamas Ranges
- Previous Mt George populations: 5-10 plants



Sidalcea hickmanii ssp. napensis

Fire Following Species

- List 1B1
- Restricted to Napa/So. Mayacamas Ranges
- Previous Mt George populations: 5-10 plants
- Post-fire population, Foote Preserve: ~ 20ac



Sidalcea hickmanii ssp. napensis

Fire Following Species



Sidalcea hickmanii ssp. napensis

Fire Following Species

Ceanothus purpureus



Fire Following Species

Ceanothus purpureus

- Rare plant: List 1B2



Fire Following Species

Ceanothus purpureus

- Rare plant: List 1B2
- Largest known population



Fire Following Species

Ceanothus purpureus

- Rare plant: List 1B2
- Largest known population
- Fire obligate seeder



Fire Following Species

Ceanothus purpureus

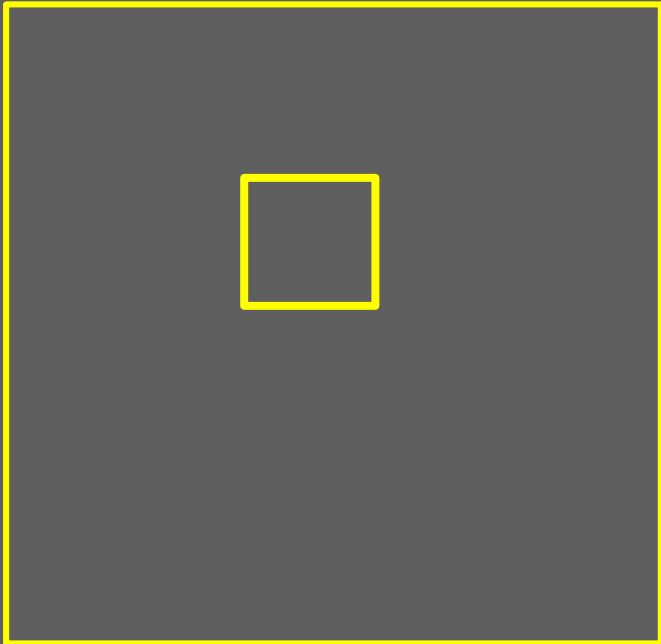
- Rare plant: List 1B2
- Largest known population
- Fire obligate seeder
- Population declining



Fire Following Species

Ceanothus purpureus

- Rare plant: List 1B2
- Largest known population
- Fire obligate seeder
- Population declining



Fire Following Species



***Ceanothus purpureus*, Foote Preserve, 12 March**

Wildlife



Wildlife



Questions?

