

# County of San Diego Department of Parks and Recreation

## Targeted Monitoring Plan

### 2018 Monitoring Results

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Department of Parks and Recreation



# Location of Preserves in the TMP



# 2018 Monitoring Efforts

- Tri-colored Blackbird
- Arroyo Toad
- Burrowing Owl
- Stephens' Kangaroo Rat
- San Diego Cactus Wren
- Vernal Pool/Alkali Playa Habitat
- Rare Plant Species

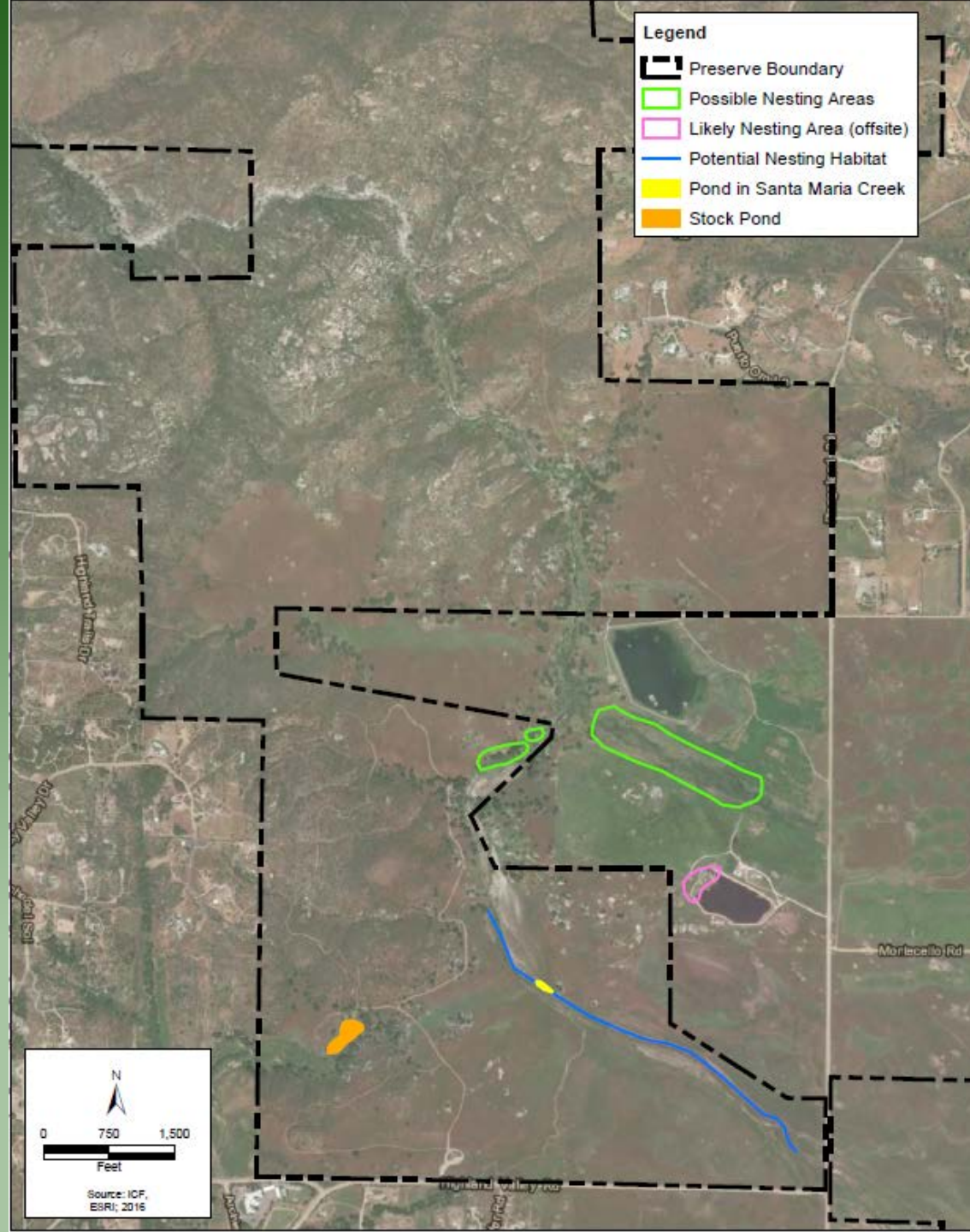




# Tri-Colored Blackbird Monitoring

- In 2017 a flock of 200-300 tri-colored blackbirds was observed near the northern RMWD pond and included adult males and females as well as fledglings
- In 2018 no nesting or foraging tri-colored blackbirds were observed during focused surveys, nor incidentally during other monitoring surveys





# Arroyo Toad Monitoring

- USGS established monitoring reaches for arroyo toad along Santa Maria Creek in Ramona Grasslands Preserve
- Habitat assessment performed to document current conditions
- Any ponded areas were inspected for presence of arroyo toad tadpoles or eggs and presence of invasive non-native animals or plants





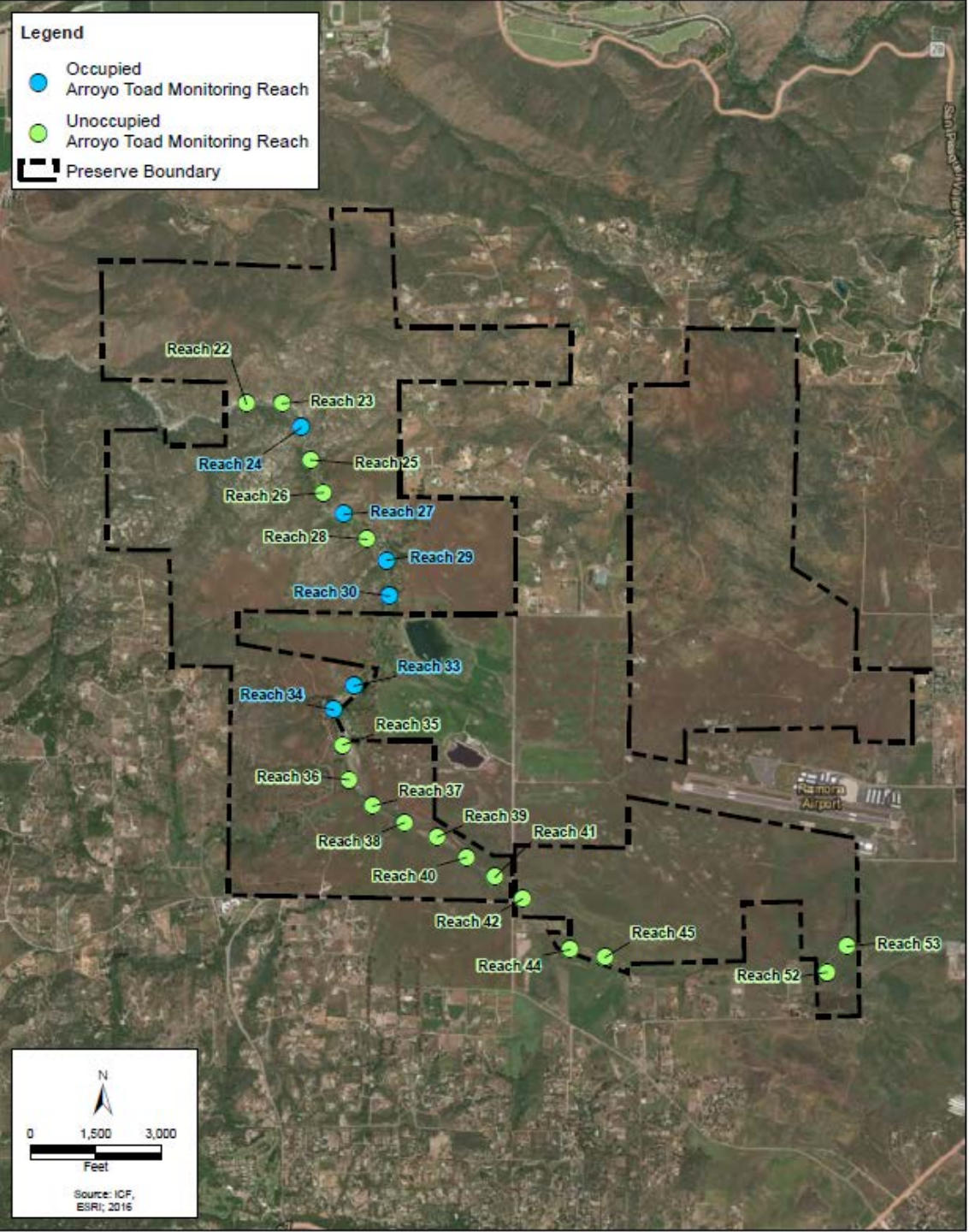
# Arroyo Toad Monitoring Results

- Santa Maria Creek channel and surrounding upland habitat appears to be stable and provides adequate cover for all life stages of ARTO
- During site visits portions of the creek were flowing or ponded and occupied by ARTO tadpoles – between Reaches 24-25, 27-28 and within all Reaches 29-34



**Legend**

- Occupied Arroyo Toad Monitoring Reach
- Unoccupied Arroyo Toad Monitoring Reach
- ▬ Preserve Boundary



N  
0 1,500 3,000  
Feet  
Source: ICF, ESRI, 2016

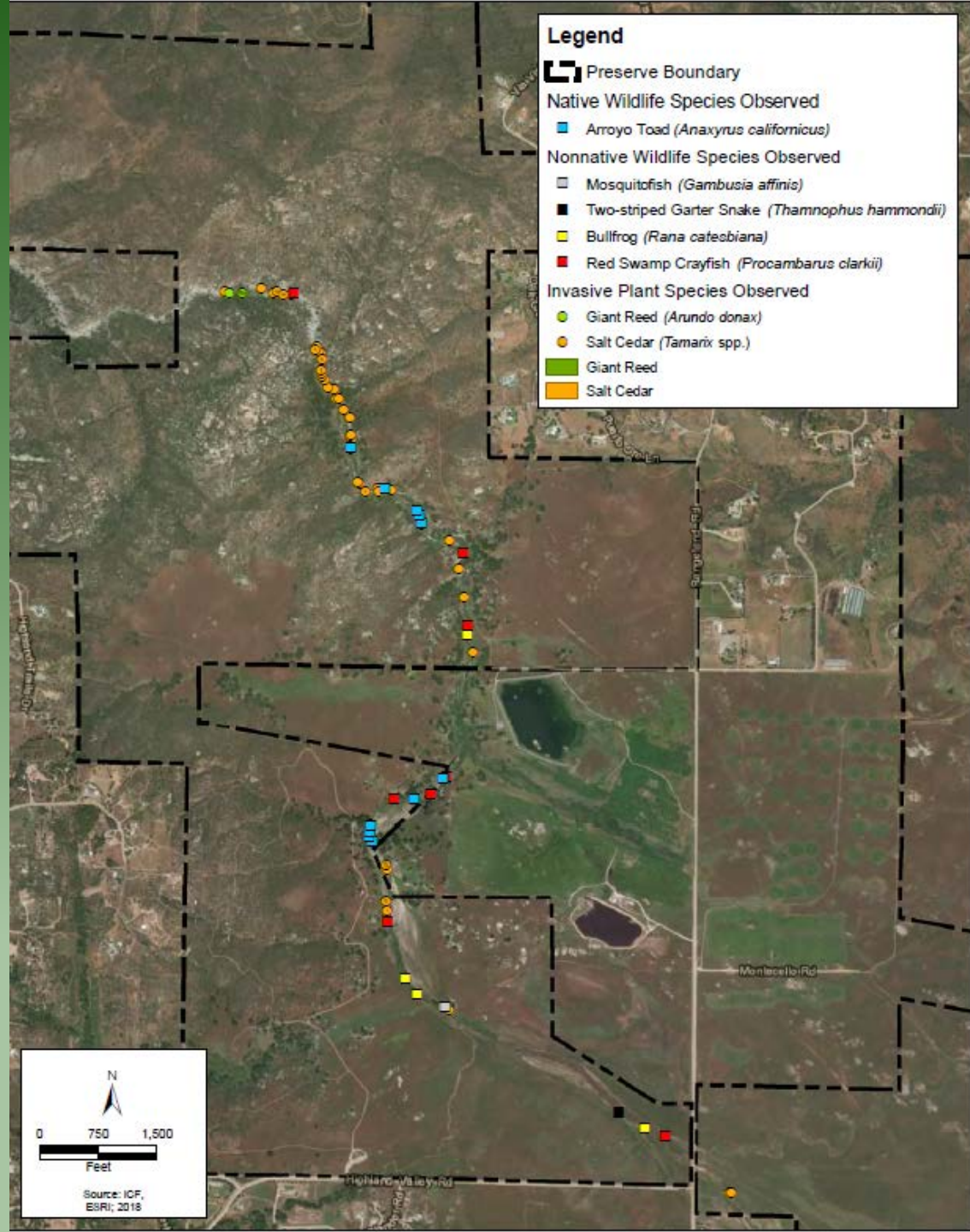




# Threats to Arroyo Toad

- Bullfrog, mosquitofish, crayfish, and catfish
- Small patches of saltcedar and giant reed
- Azolla observed in areas inhabited by arroyo toad





- Legend**
- Preserve Boundary
  - Native Wildlife Species Observed**
    - Arroyo Toad (*Anaxyrus californicus*)
  - Nonnative Wildlife Species Observed**
    - Mosquitofish (*Gambusia affinis*)
    - Two-striped Garter Snake (*Thamnophus hammondi*)
    - Bullfrog (*Rana catesbeiana*)
    - Red Swamp Crayfish (*Procambarus clarkii*)
  - Invasive Plant Species Observed**
    - Giant Reed (*Arundo donax*)
    - Salt Cedar (*Tamarix* spp.)

N

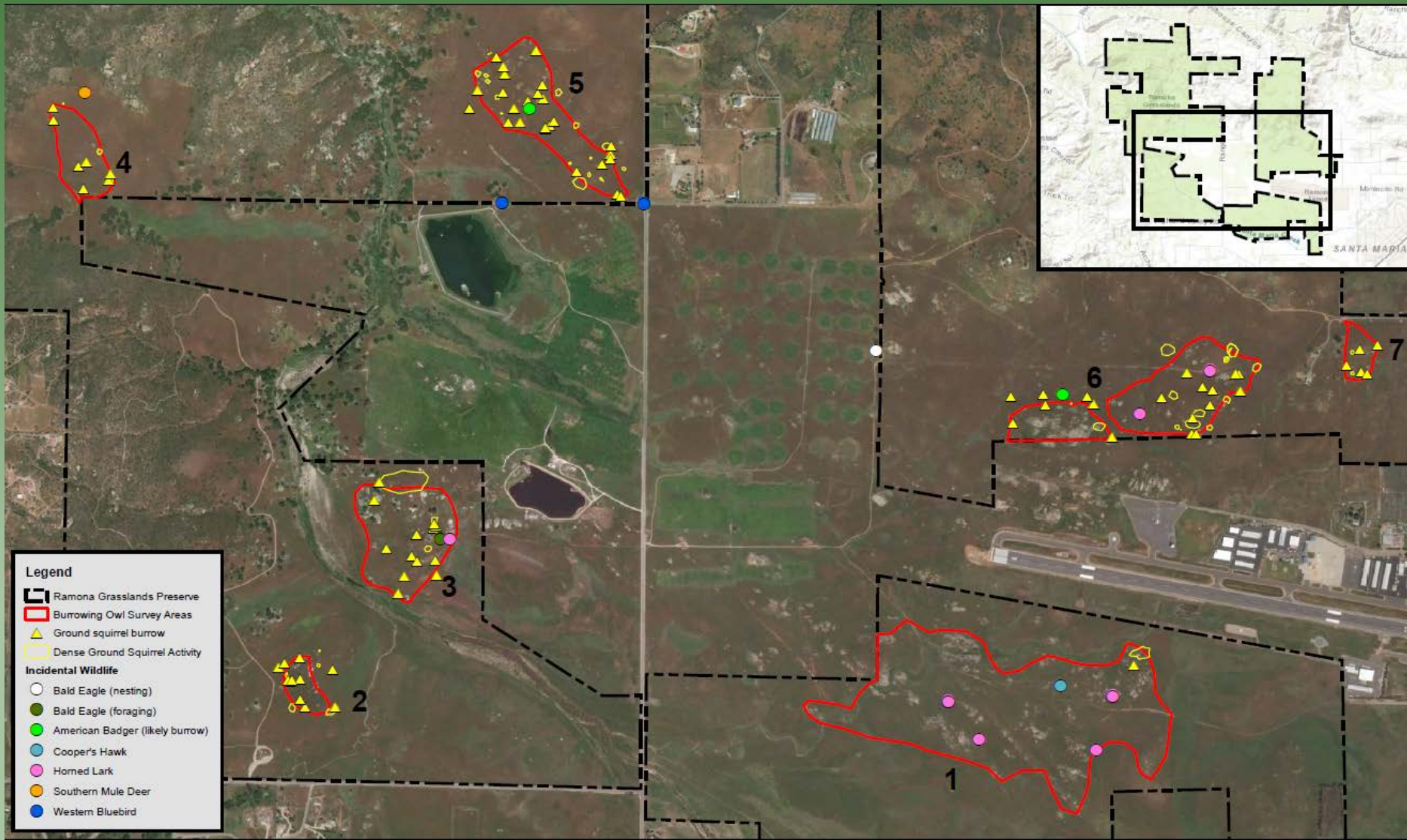
0 750 1,500

Feet

Source: ICF, ESRI, 2018

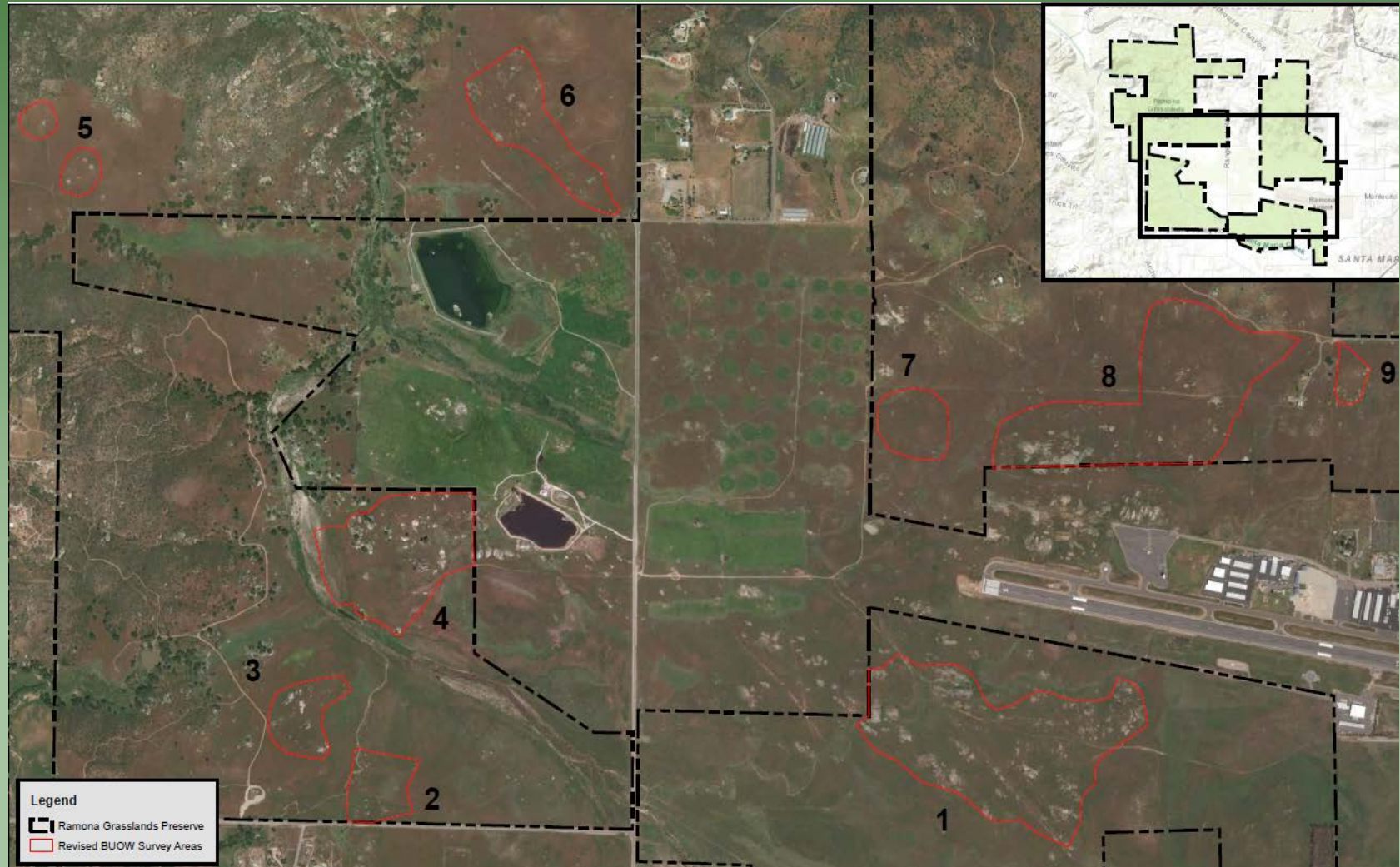


# Burrowing Owl Monitoring





# Adaptive Management Recommendations for Burrowing Owl



# Stephens' Kangaroo Rat Monitoring

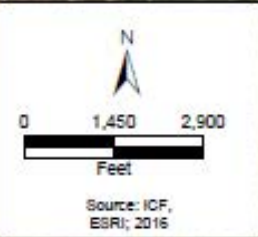
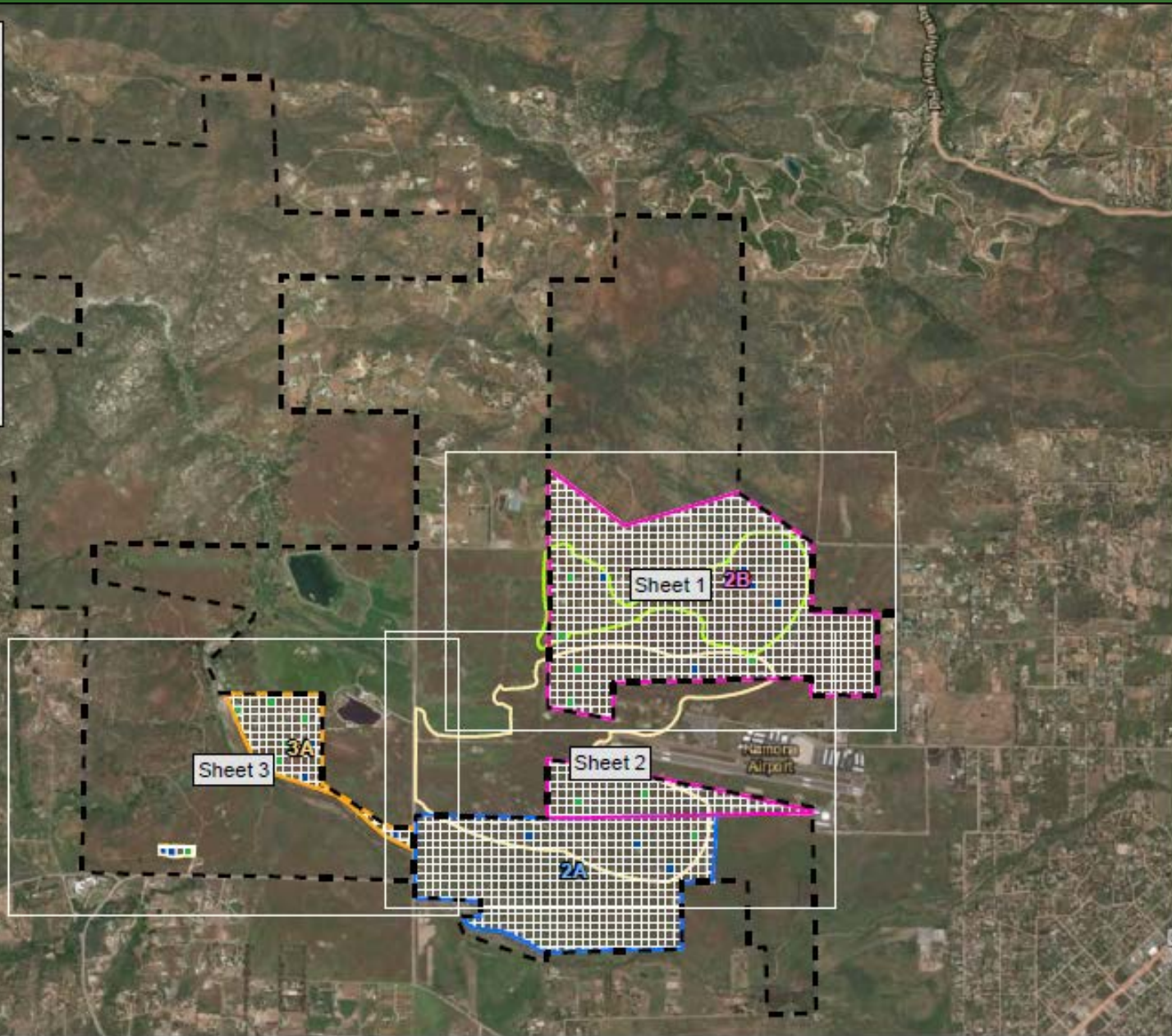
- Habitat assessment of the 28 plots established during the 2016 SKR monitoring effort
- Kangaroo rat sign (burrows, tracks, dust bathing sites, scat and runways)
- Percent cover of open ground and vegetation





### Legend

- Preserve Boundary
- SKR Management Area 1
- SKR Management Area 2
- SKR Management Area 3
- Grazing Management Unit 2A
- Grazing Management Unit 2B
- Grazing Management Unit 3A
- 50m Grid
- Winter 2017-2018 Sample Plots
- Occupied
- Not Occupied



# Stephens' Kangaroo Rat Monitoring Results

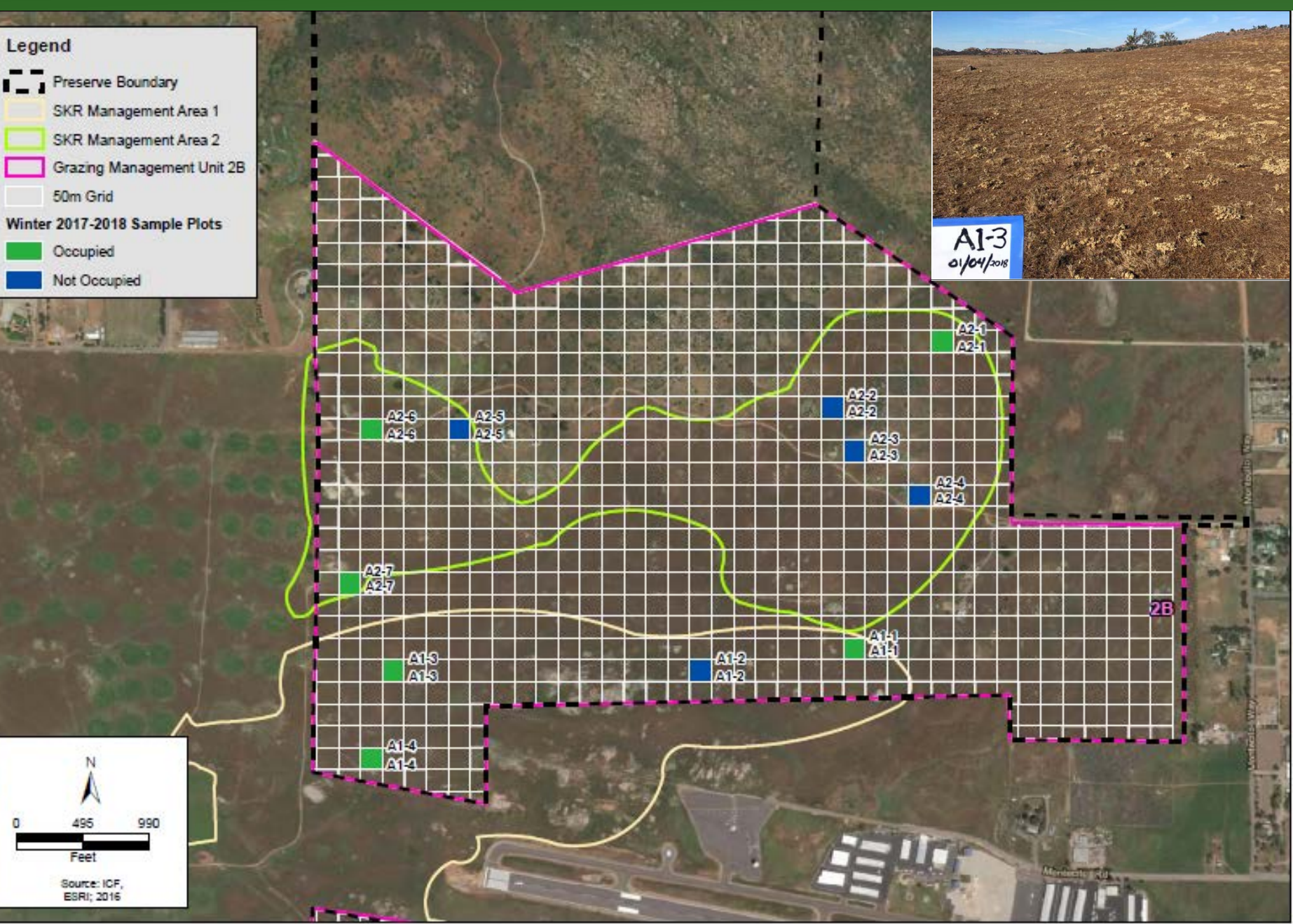
- Sample plot conditions appeared similar in the winter of 2017-2018 season to the conditions reported in 2016
- Even with active grazing much of the lowland grasslands exhibited a lack of bare ground and/or high obstruction factors
- Obstructions consisted of a thick litter layer comprised mainly of Erodium





**Legend**

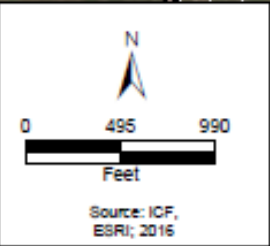
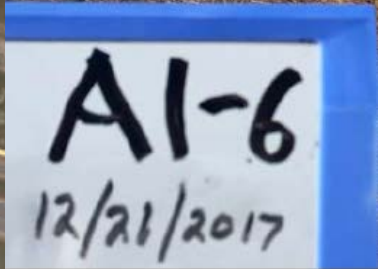
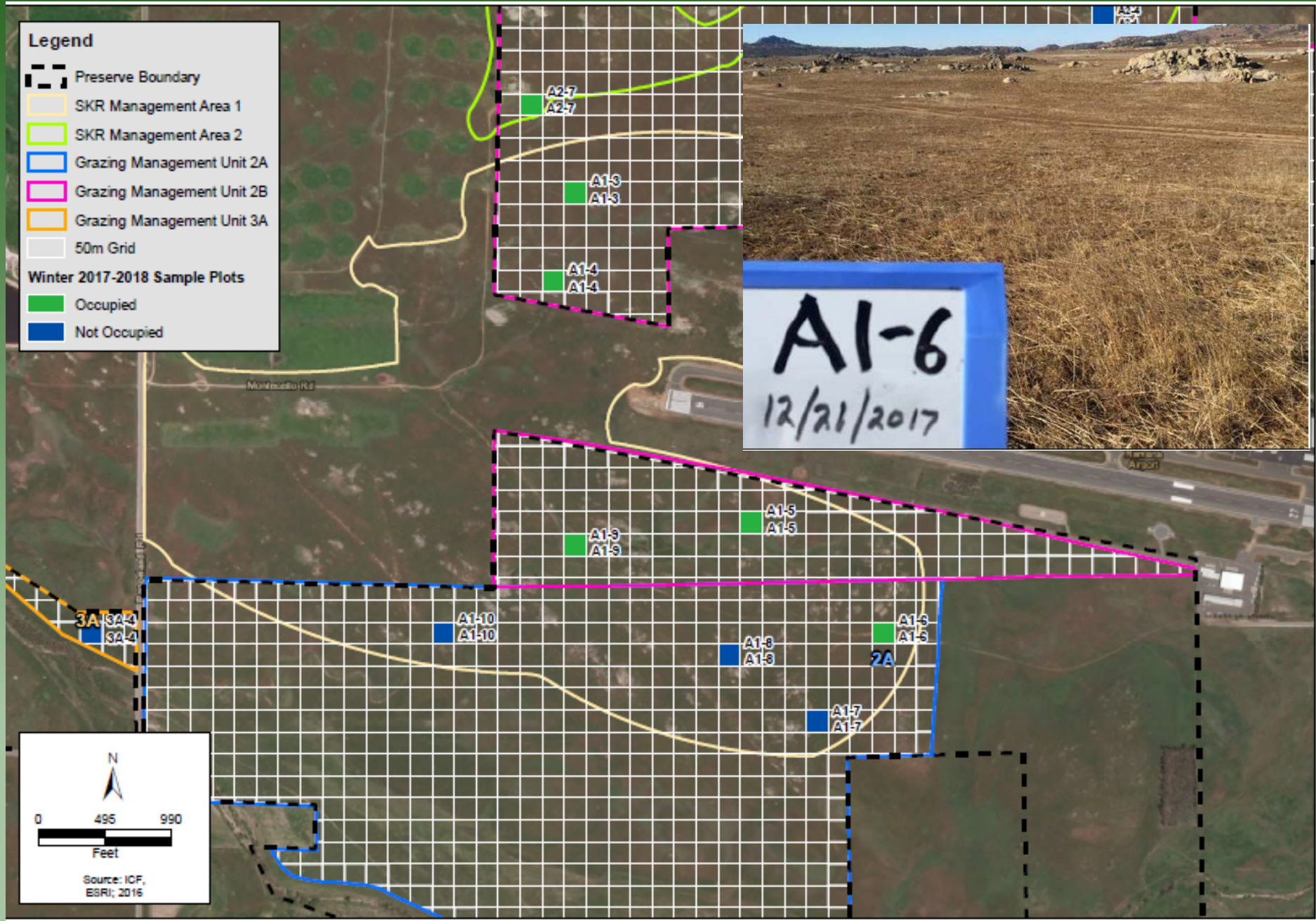
- Preserve Boundary
- SKR Management Area 1
- SKR Management Area 2
- Grazing Management Unit 2B
- 50m Grid
- Winter 2017-2018 Sample Plots**
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**Legend**

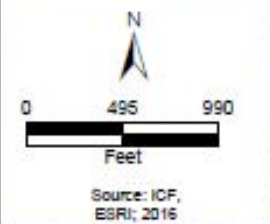
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### Legend

- Preserve Boundary
- SKR Management Area 1
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A3-5 A3-2 A3-1  
A3-3 A3-4 A3-1

3A-8 3A-8 3A  
3A-7 3A-7 3A-1 3A-1  
3A-6 3A-6 3A-2 3A-2  
3A-5 3A-5  
3A-3 3A-3

3A-4 3A-4

2A

# Cactus Wren Monitoring

- Avian point count stations established
- Cactus restoration areas and other large cactus inspected for presence of cactus wren nests
- Photo-monitoring was conducted at photo-points established within each cactus restoration area in 2011
- Threats assessment





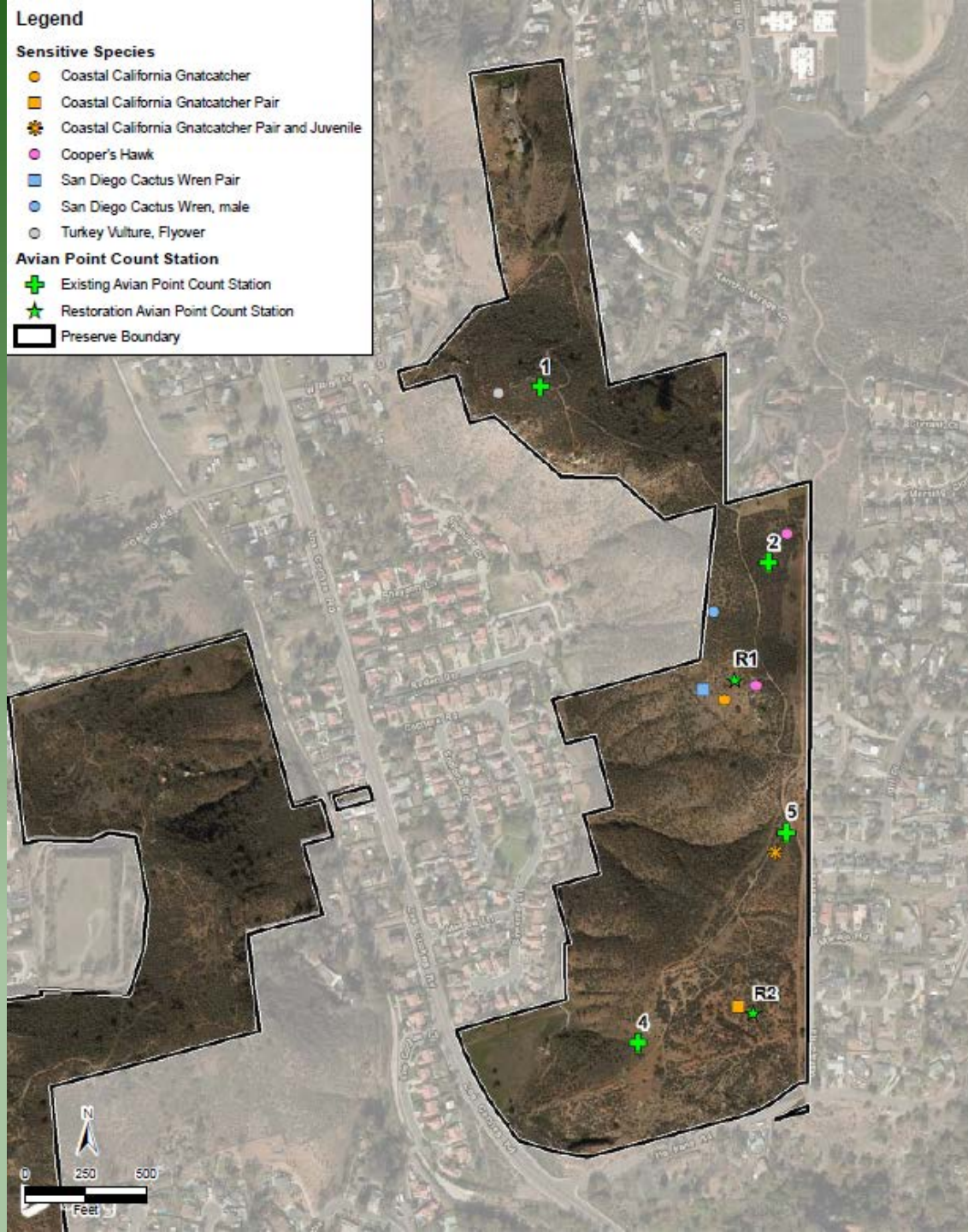
## Legend

### Sensitive Species

- Coastal California Gnatcatcher
- Coastal California Gnatcatcher Pair
- ✱ Coastal California Gnatcatcher Pair and Juvenile
- Cooper's Hawk
- San Diego Cactus Wren Pair
- San Diego Cactus Wren, male
- Turkey Vulture, Flyover

### Avian Point Count Station

- ✚ Existing Avian Point Count Station
- ★ Restoration Avian Point Count Station
- ▭ Preserve Boundary



# Cactus Wren Monitoring

- Cactus wren observed foraging on Preserve
- No cactus wren nests observed on-site
- Photo monitoring determined northern and southern cactus restoration areas are in good condition
- Native and non-native plants growing among cactus patches potentially creating ladders for predators to access potential nesting sites







2016 July



2018 July



2016 July



2018 July



# Qualitative Monitoring of Vernal Pools

- Inspections for water quality, edge effects, invasive non-native plant species, topographic disturbance, vernal pool indicator plant species, and target sensitive plant and animal species
- Photographs were taken at the permanent photo-points established at each pool in 2016







# Qualitative Monitoring Results

- Woolly marbles, flowering quill wort, hairy clover, water pygmyweed, and prairie plantain
- Southern tarplant and graceful tarplant were observed in the surveyed pools
- Invasive non-native plants also observed
  - red-beaked filaree, wild barley, perennial ryegrass, grass poly, and brass buttons



# Rare Plant Species Monitored in 2018

- San Diego thornmint
- San Miguel savory
- Variegated dudleya
- Willowy monardella





# 2018 Rare Plant Species Monitoring

15 sensitive plant monitoring plots were monitored within the TMP Preserves in 2018

- Ten monitoring plots for San Diego thornmint within Sycamore Canyon/Goodan Ranch Preserve
- Two monitoring plots for San Miguel savory within Boulder Oaks Preserve
- One monitoring plot for variegated dudleya within Lusardi Creek Preserve
- One monitoring plot for variegated dudleya within Sycamore Canyon/Goodan Ranch Preserve
- One monitoring plot for willowy monardella within Sycamore Canyon/Goodan Ranch Preserve



# San Diego thornmint

- Within the plots a total of 5,525 plants were detected
- Overall the habitat of San Diego thornmint is under heavy invasion from purple false brome and other non-native grasses

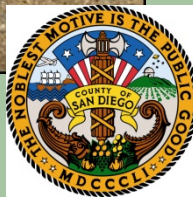






# San Miguel Savory

- A total of 75 plants were detected within the 2 monitoring plots at Boulder Oaks Preserve
- Population of San Miguel savory appears stable and to be doing well
- Weed cover was extremely low in the monitoring plots and no immediate threats were detected





Date & Time: Thu Oct 19 13:02:44 PDT 2017  
Position: 33.21541821 38.50099  
Altitude: 604.0  
Datum: WGS-84  
Azimuth Bearing: 022.14221 0001mils True  
Elevation Angle: 105.8  
Horizon Angle: 000.0  
Zoom: 22  
BOCLOCHE2



2017

Date & Time: Tue May 15 09:55:10 PDT 2018  
Position: 33.2151739 -117.6921997  
Altitude: 168.0  
Datum: WGS-84  
Azimuth Bearing: 000.14136 0071mils True  
Elevation Angle: 23.5  
Horizon Angle: 000.0  
Zoom: 17  
PP10

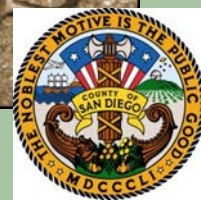


2018



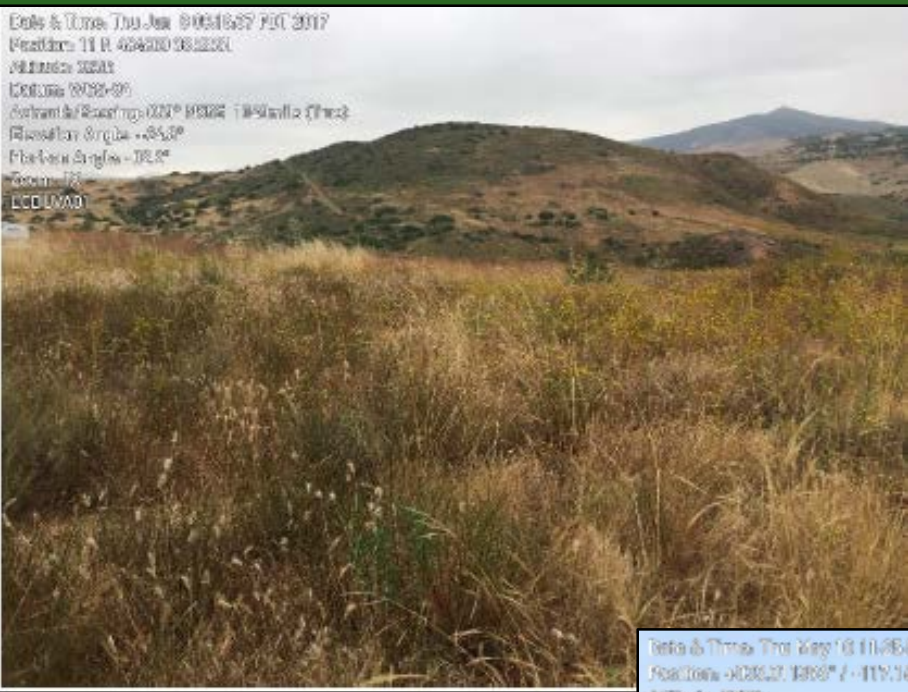
# Variegated Dudleya

- Two plots were monitored, one at Lusardi Creek Preserve and one at Sycamore Canyon/Goodan Ranch Preserve
- 140 variegated dudleya plants were detected in the plot at Lusardi Creek Preserve- all flowering
- 63 variegated dudleya plants were detected in the plot at Sycamore Canyon/Goodan Ranch Preserve
- Treatment of purple false brome at Lusardi Creek Preserve occurred during 2018 monitoring season





Date & Time: Thu Jan 09 09:16:27 PST 2017  
Position: 11 N. 454420 0812201  
Altitude: 2223  
Camera: WCC-05  
Azimuth/Heading: 327° 43' 00" 335° (True)  
Elevation Angle: -85.3°  
Horizon Angle: -08.5°  
Zoom: 1x  
ECC010A0



# 2017 Lusardi Creek Preserve

Date & Time: Thu May 18 11:46:28 PDT 2018  
Position: 40262.1898° / -117.16291°  
Altitude: 2078  
Camera: WCC-05  
Azimuth/Heading: 150° 52' 00" 335° (True)  
Elevation Angle: -18.4°  
Horizon Angle: 011.6°  
Zoom: 1x  
southeast



# 2018 Lusardi Creek Preserve





2017 Sycamore/Goodan

2018 Sycamore/  
Goodan





# Willowy Monardella

- 63 willowy monardella plants were detected within the plots at Sycamore Canyon/Goodan Ranch Preserve— almost all in fruiting stage
- The population of willowy monardella appears to be doing well with minor weed management required



Date & Time: Fri Jun 09 11:52:18 PDT 2017  
Location: 11.816252, -116.974122  
Altitude: 772R  
Datum: WGS-84  
Azimuth/Bearing: 245° 56'W 4373mils (True)  
Elevation Angle: +12.6°  
Horizon Angle: +04.1°  
Zoom: 1X



2017

Date & Time: Fri Jul 13 09:57:07 PDT 2018  
Location: 4032.916252° / -116.974122°  
Altitude: 772R  
Datum: WGS-84  
Azimuth/Bearing: 192° 51'W 3413mils (True)  
Elevation Angle: -17.2°  
Horizon Angle: -06.0°  
Zoom: 1X  
Willow Monardella



2018





# 2019 Monitoring

- San Diego thornmint
- San Miguel savory
- Variegated dudleya
- Willowy monardella
- Encinitas baccharis
- Arroyo toad
- Tri-colored blackbird
- Burrowing owl
- Cactus Wren
- Vernal Pool/Alkali Playa



# Thank You

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