

WILDFIRE RESILIENCE IN THE SANTA MONICA MOUNTAINS: A Collaborative Approach

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Mountains Recreation &
Conservation Authority



Santa Monica Mountains

National Park Service
U.S. Department of the Interior

Santa Monica Mountains
National Recreation Area



Backbone Trail



- | | | | | |
|------------------------|--------------------|--|---|-----------------------|
| Parking | Restrooms | Backbone Trail (Hikers, Bikers, Equestrians) | Santa Monica Mountains National Recreation Area authorized boundary | National Park Service |
| Campground | Drinking Water | Backbone Trail (Hikers and Equestrians No Bikes Allowed) | Mulholland Scenic Corridor | Other public parkland |
| Backcountry campground | Equestrian Parking | Other trails | | |

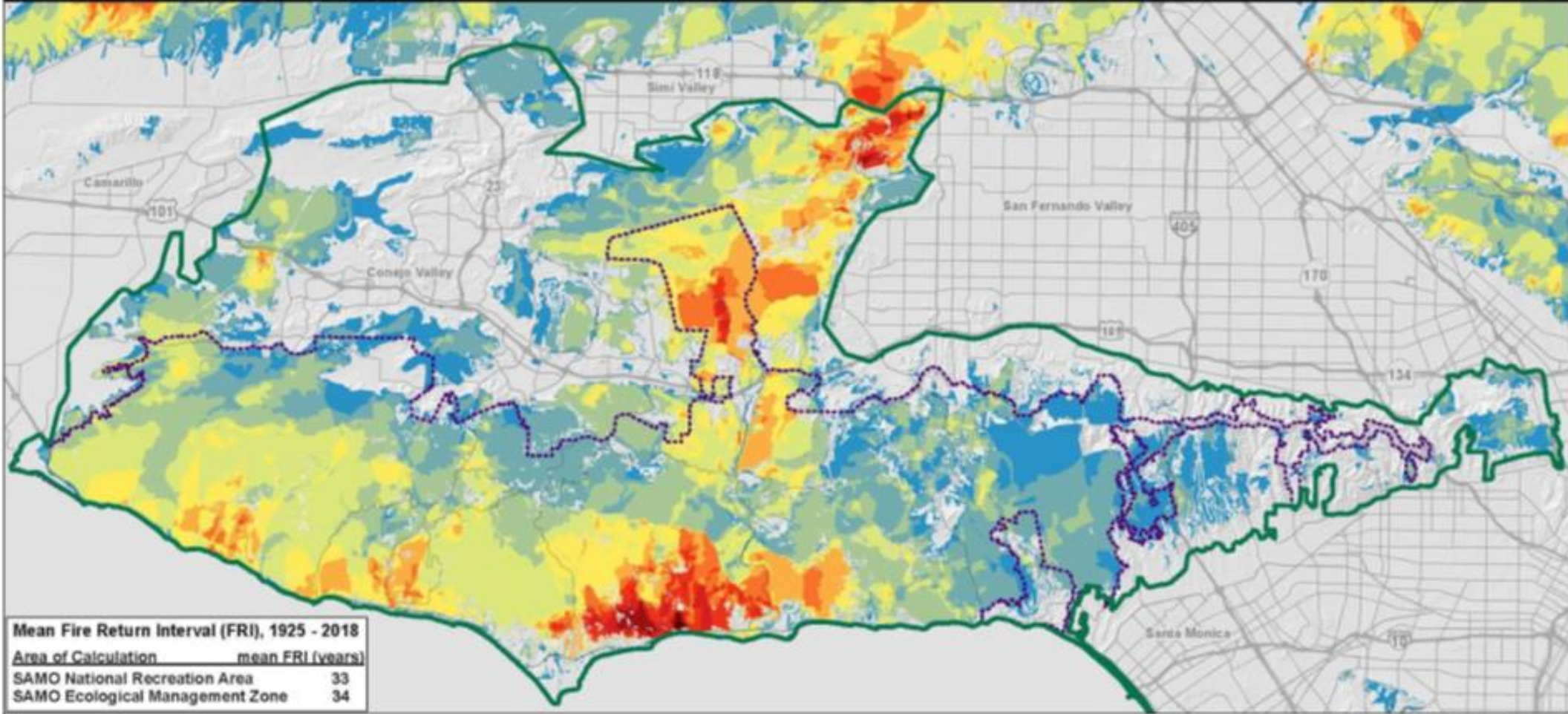
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Fire Frequency and Mean Fire Return Interval (FRI) - fires 1925 - 2018

Santa Monica Mountains National Recreation Area

National Park Service
U. S. Department of the Interior



Mean Fire Return Interval (FRI), 1925 - 2018

Area of Calculation	mean FRI (years)
SAMO National Recreation Area	33
SAMO Ecological Management Zone	34

Map v2 by NPS-SAMO Fire GIS 5/1/2019
Projection: UTM zone 11, NAD83 datum
Scale 1:195,000 1 inch = 3 miles



Wildfire perimeter data from NPS-SAMO, Ventura & Los Angeles County Fire Departments, and CAL FIRE-FRAP databases, current through 2019. Modern urban landscape and unburnable agricultural fields (shown in gray) are masked out of the analysis. Fire frequency is simply the number of fires recorded at a given location. It is highly variable across the landscape. Fire Return Interval (FRI) is calculated as number of years in the record divided by the number of fires recorded, plus one. ($(93/\text{number of fires})+1$). Mean FRI is an area-weighted average of local FRI across a defined area.

Reference: Safford & Van de Water. 2014. Using Fire Return Interval Departure (FRID) Analysis to Map Spatial and Temporal Changes in Fire Frequency on National Forest Lands in California. USDA Forest Service Research

Santa Monica Mountains National Recreation Area
 Ecological Management Zone

Number of Fires 1925-2018 (and Fire Return Intervals)

0 (>94 yrs)	4 (24 yrs)	8 (13 yrs)
1 (94 yrs)	5 (20 yrs)	9 (11 yrs)
2 (48 yrs)	6 (17 yrs)	10 (10 yrs)
3 (32 yrs)	7 (14 yrs)	11 (9.5 yrs)
		12 (9 yrs)

- **COOPERATIVE MANAGEMENT AGREEMENT**
 - among the
 - **NATIONAL PARK SERVICE**
 - and
- **CALIFORNIA DEPARTMENT OF PARKS AND RECREATION**
 - and
 - **SANTA MONICA MOUNTAINS CONSERVANCY**
 - and
 - **MOUNTAINS RECREATION AND CONSERVATION AUTHORITY**
- Efficiency, cost savings, consistency and effectiveness from cooperative operating procedures, planning and management

LAS VIRGENES STRATEGIC FUEL REDUCTION PARTNERSHIPS

May 15 Monday
May 16 Tuesday
May 17th Wednesday
May 18th Thursday

White Oak Ranch

May 22nd Monday
May 23rd Tuesday
May 24th Wednesday
May 25th Thursday

Adobe

Mulholland HWY

Google Earth

FLASHY FUEL REDUCTION: LAS VIRGENES CREEK



NOVEMBER 2018

Dayana Doroteo



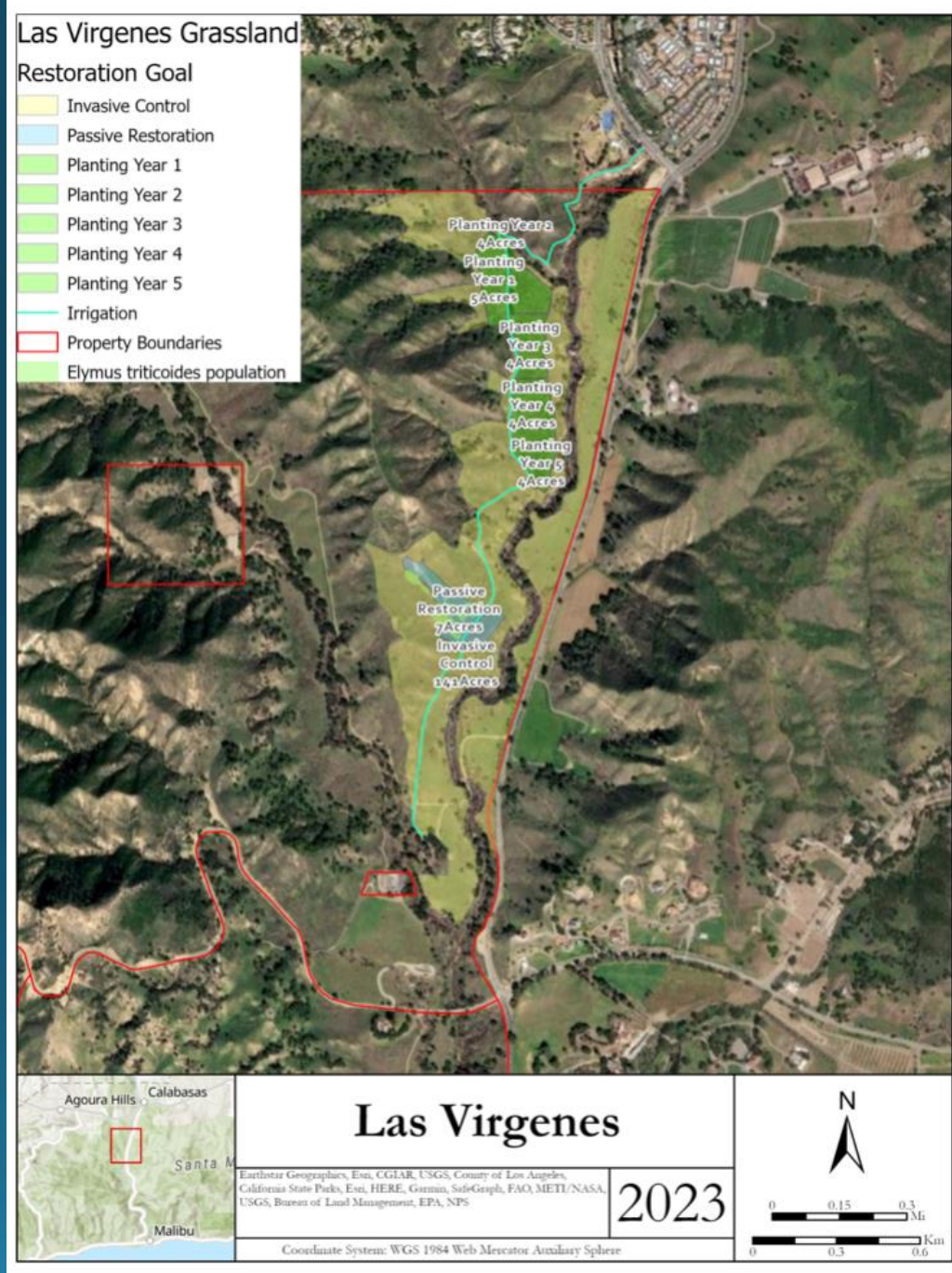
NOVEMBER 2019

Dayana Doroteo



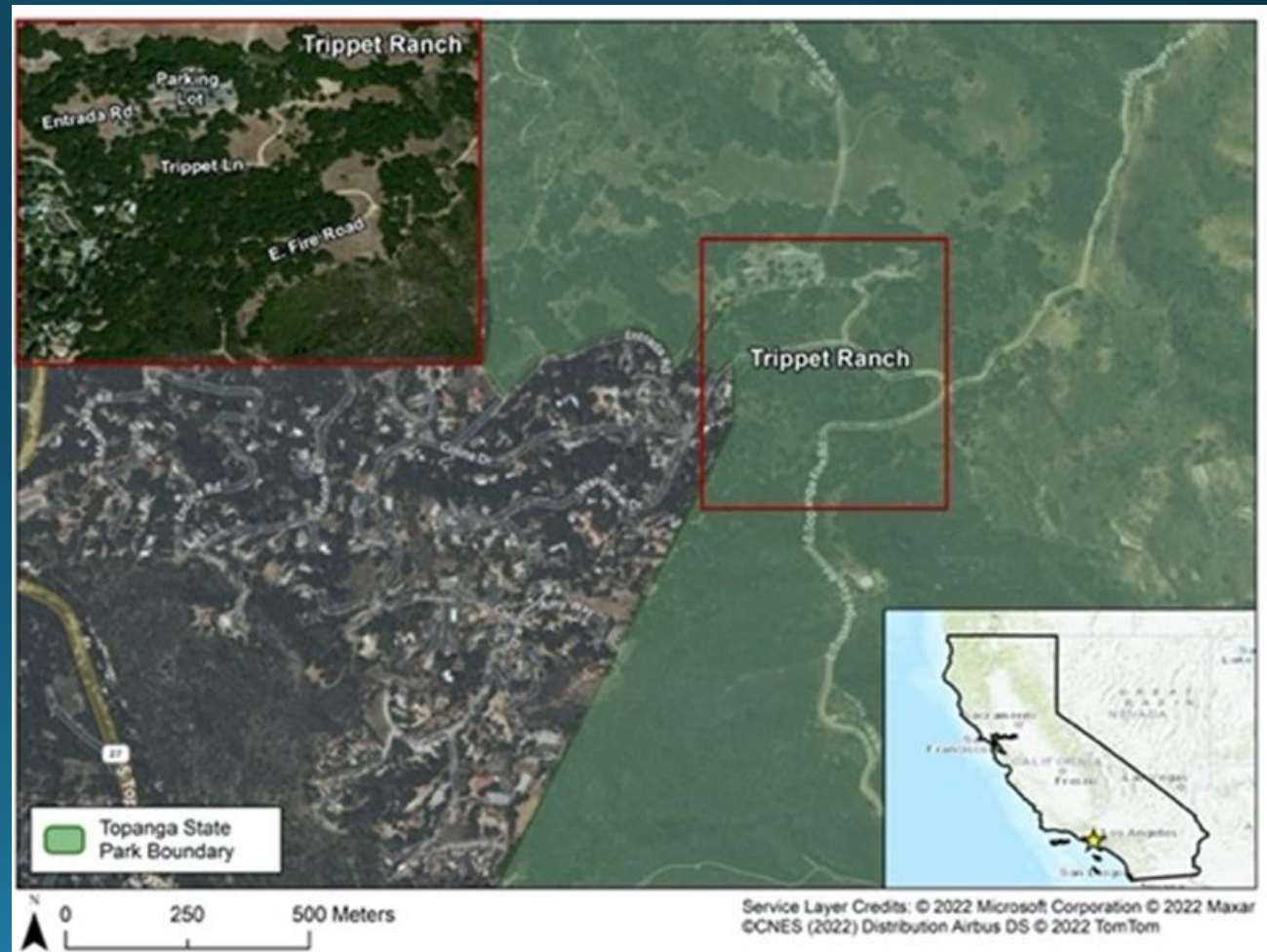
MARCH 2021

Dayana Doroteo

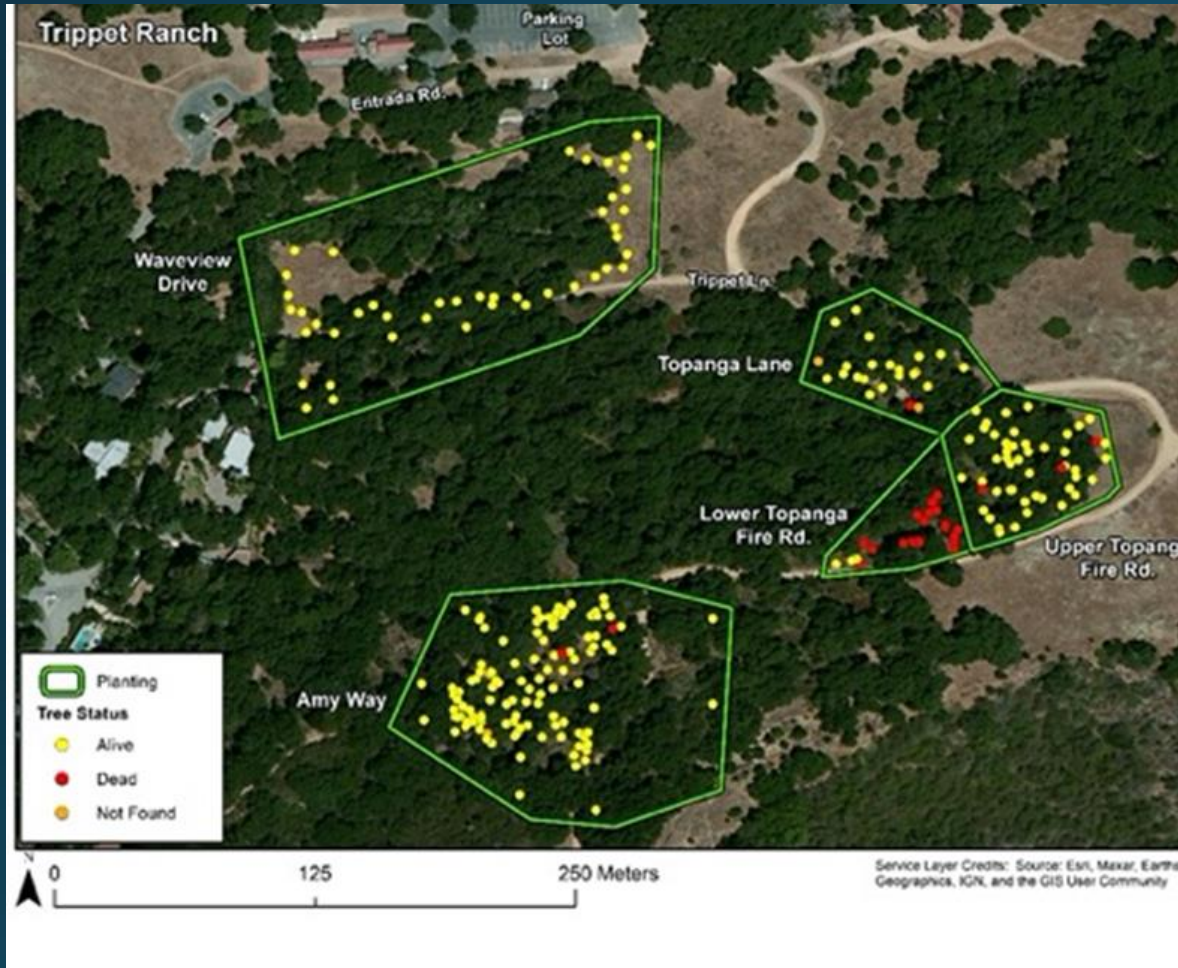


TOPANGA STATE PARK FUEL REDUCTION AND OAK TREE RESTORATION AT WILDLAND URBAN INTERFACE

- Restore 15 acres of oak woodland with high tree mortality
- Reduce dead, downed trees (California Conservation Corps)
- Plant and maintain native trees.



TOPANGA STATE PARK FUEL REDUCTION AND OAK TREE RESTORATION AT WILDLAND URBAN INTERFACE



Wildfire Resilience: Fuel modification permits for residents at WUI

Fuel Modification Recommendations

250 Quadro Vecchio Dr



Legend

- State Park Boundary
- Fuel Mod Zone

3.1

- Remove all non-native vegetation and man-made structures

3.2

- Remove Pampas Grass, Sweet Fennel, Mexican Fan Palm

Noa Rishe

WILDFIRE MANAGEMENT PLAN AND LOCAL OPERATING AGREEMENT

TOPANGA STATE PARK

11,525 ACRES

40% OF BOUNDARIES in
WILDLAND URBAN INTERFACE



WILDFIRE MANAGEMENT PLAN OBJECTIVES

- ◆ Local working agreement between California State Parks and Los Angeles County Fire Department, and the City of Los Angeles Fire Department for all activities related to wildland fires in Topanga State Park.
- ◆ Identify communication protocols.
- ◆ Identify roles and responsibility for all activities related to wildland fires – planning, response, and repair.

WILDFIRE MANAGEMENT PLAN OBJECTIVES

- ◆ Identify staging areas, access points, and potential control lines.
- ◆ Inform the Fire Department of park policy and sensitive park resources and fire management objectives.
- ◆ Identify avoidance areas, and avoidance and minimization measures.
- ◆ Identify fire exclusion zones.
- ◆ Identify repair standards and constraints.

TOPANGA STATE PARK WILDFIRE MANAGEMENT PLAN: PRIMARY GOALS FOR FUEL MANAGEMENT

- Reduce invasive plant species
- Support valuable native habitat
- Assist in fast emergency response
- Protect important facilities, cultural and natural resources.

TOPANGA STATE PARK WILDFIRE MANAGEMENT PLAN: PRIMARY FUEL MANAGEMENT GOALS

- Reduce invasive flashy fuels.
- Restore native oak woodlands with planting and seeding.
- Restore native grasslands with invasive plant removal.
- Protect sensitive riparian habitat by removing invasive species.
- Support neighboring landowners by providing neighboring landowners a path to obtain fuel modification permits.
- Create defensible space around Park structures, day use areas, and historical resources.
- Maintain fire roads and access points with regular maintenance and brush clearance.

TOPANGA STATE PARK WILDFIRE MANAGEMENT PLAN:

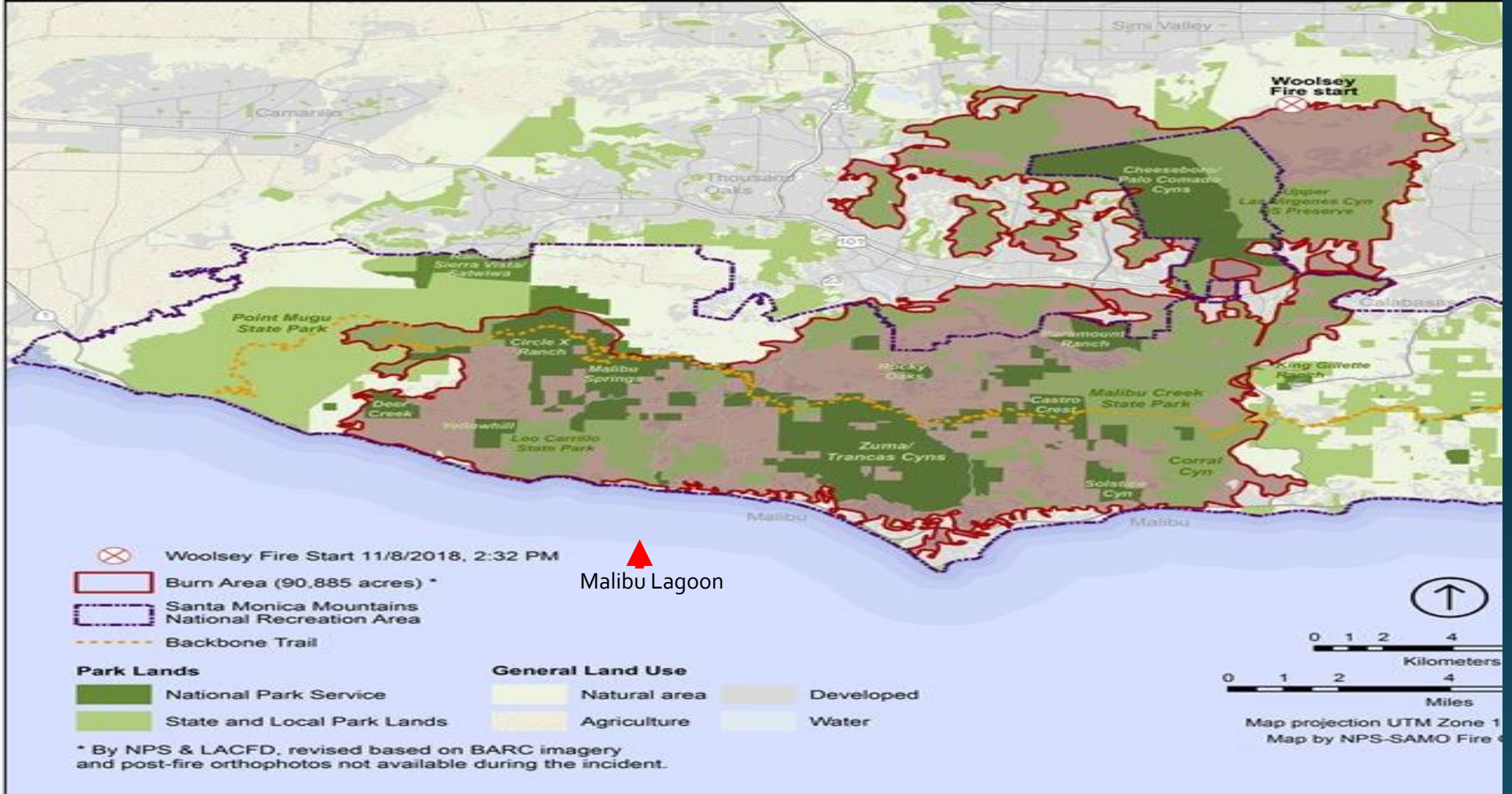
To reduce the spread of invasive species, first responders should take the following measures where possible:

Suppression:

- Use high pressure type sprayers to clean equipment prior to assigning equipment to the incident command
- All vehicles should be pressure washed, including wheels and undercarriage, before entering state parks.
- All vehicles that must go through an invasive species zone must be pressure washed, including wheels and undercarriage, immediately after exiting the infestation.
- All helicopter pick ups should be staged on concrete or tarped areas to reduce the risk of seed dispersal.

Woolsey Fire

Santa Monica Mountains National Recreation Area



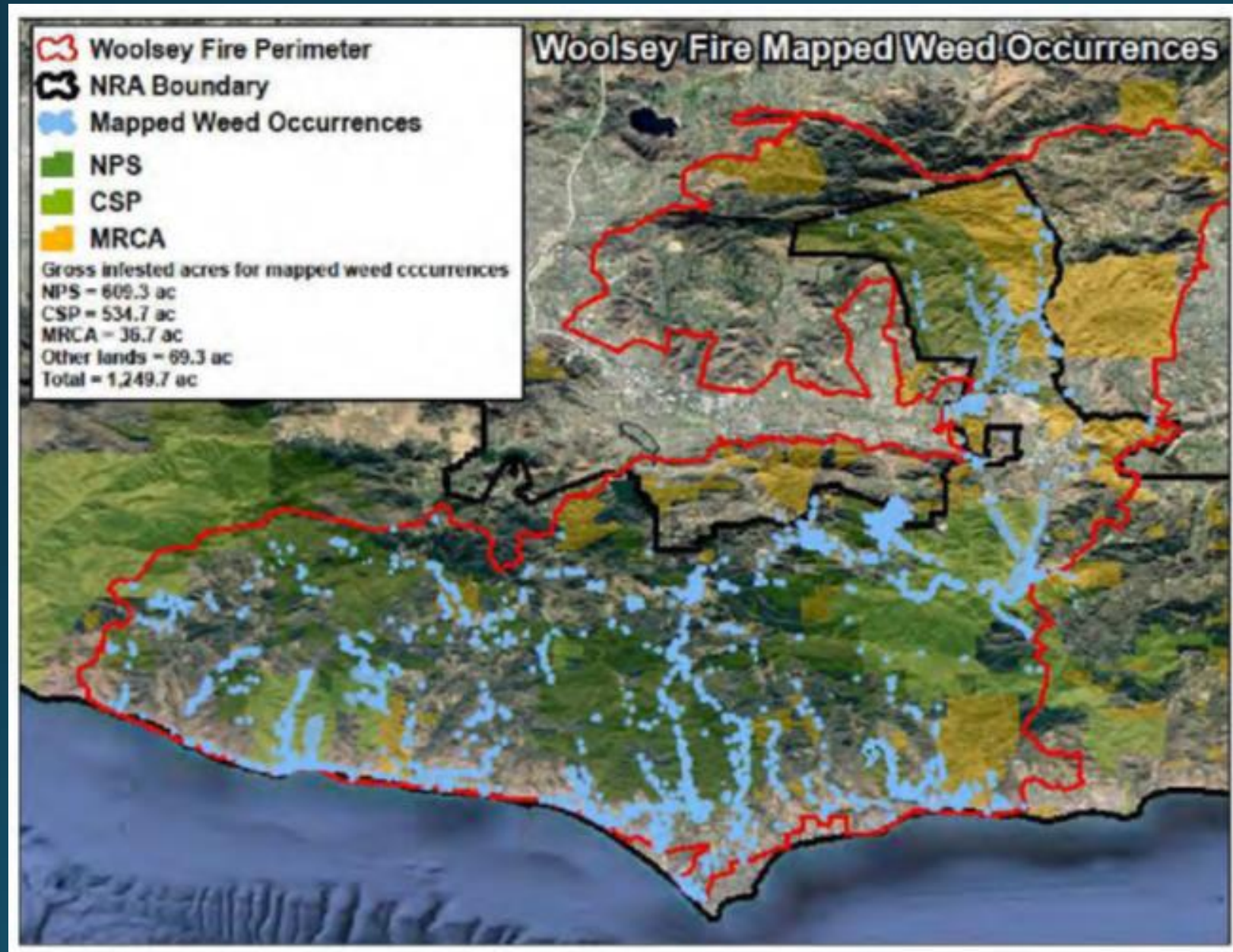
BURN AREA EMERGENCY RESPONSE PLAN

DECEMBER 6, 2018



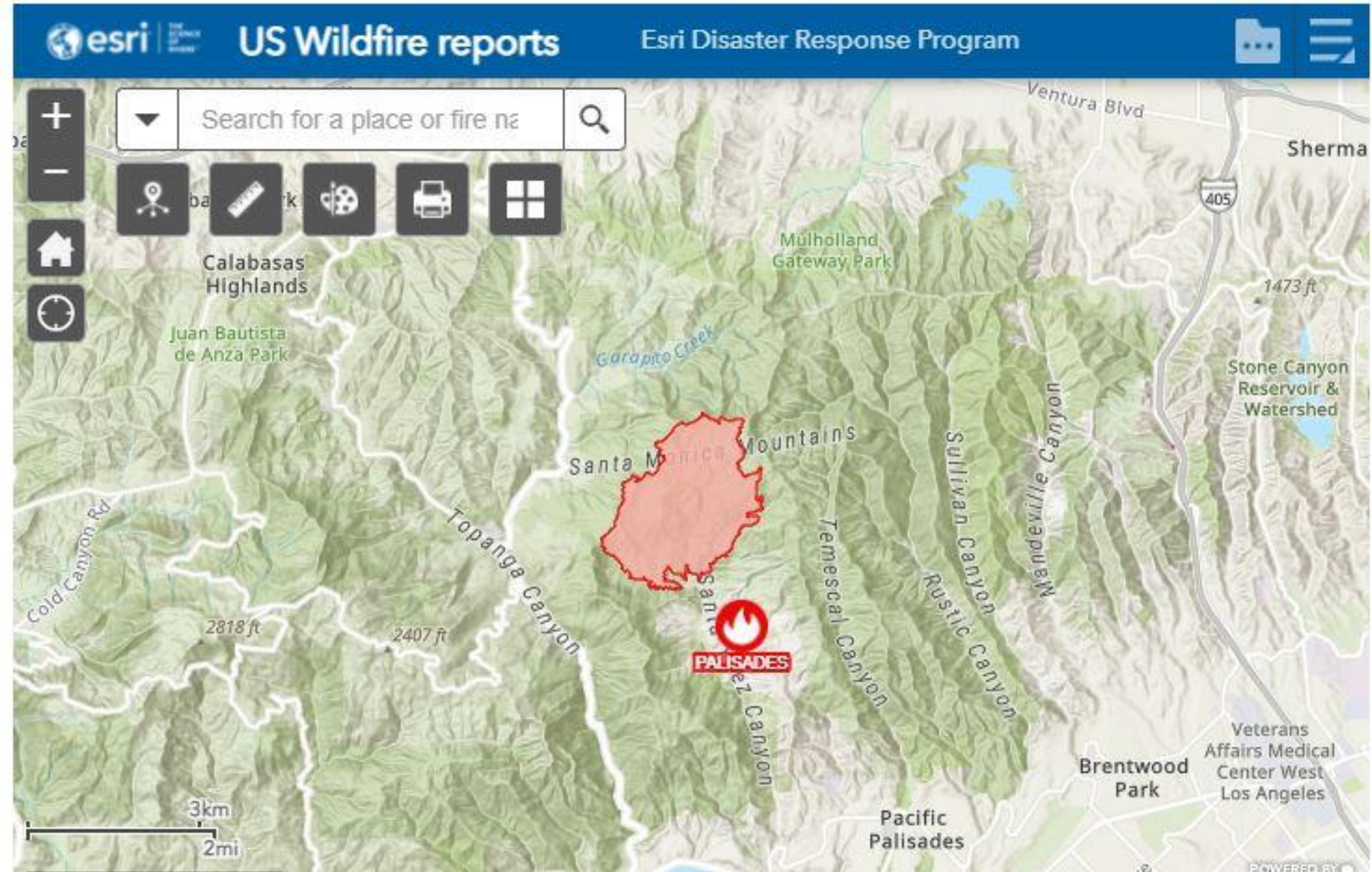
- 375 non-native plant species in Santa Monica Mountains zone
- 108 rated by Cal-IPC as “invasive plants that threaten wildlands”.
- 25 rated as highly invasive and ecologically damaging by local agencies.
- Selection of these species was based on:
 - High level of invasiveness in the Santa Monica Mountains.
 - Ability to survive fire and quickly re-sprout and set seed and/or their ability to quickly germinate from a persistent seed bank
 - Potential to overrun sensitive habitats (riparian, coastal sage scrub, perennial grassland, and rare coastal dune).

BURN AREA EMERGENCY RESPONSE PLAN



Palisades Fire 1,022 acres

Palisades Topanga State Park Fire Map May 2021







Megan Edic



Megan Edic

EARLY DETECTION RAPID RESPONSE

Johnson Grass *Sorghum halepense*

Cornflower *Centaurea cyanus*

Corn poppy *Papaver rhoeas*

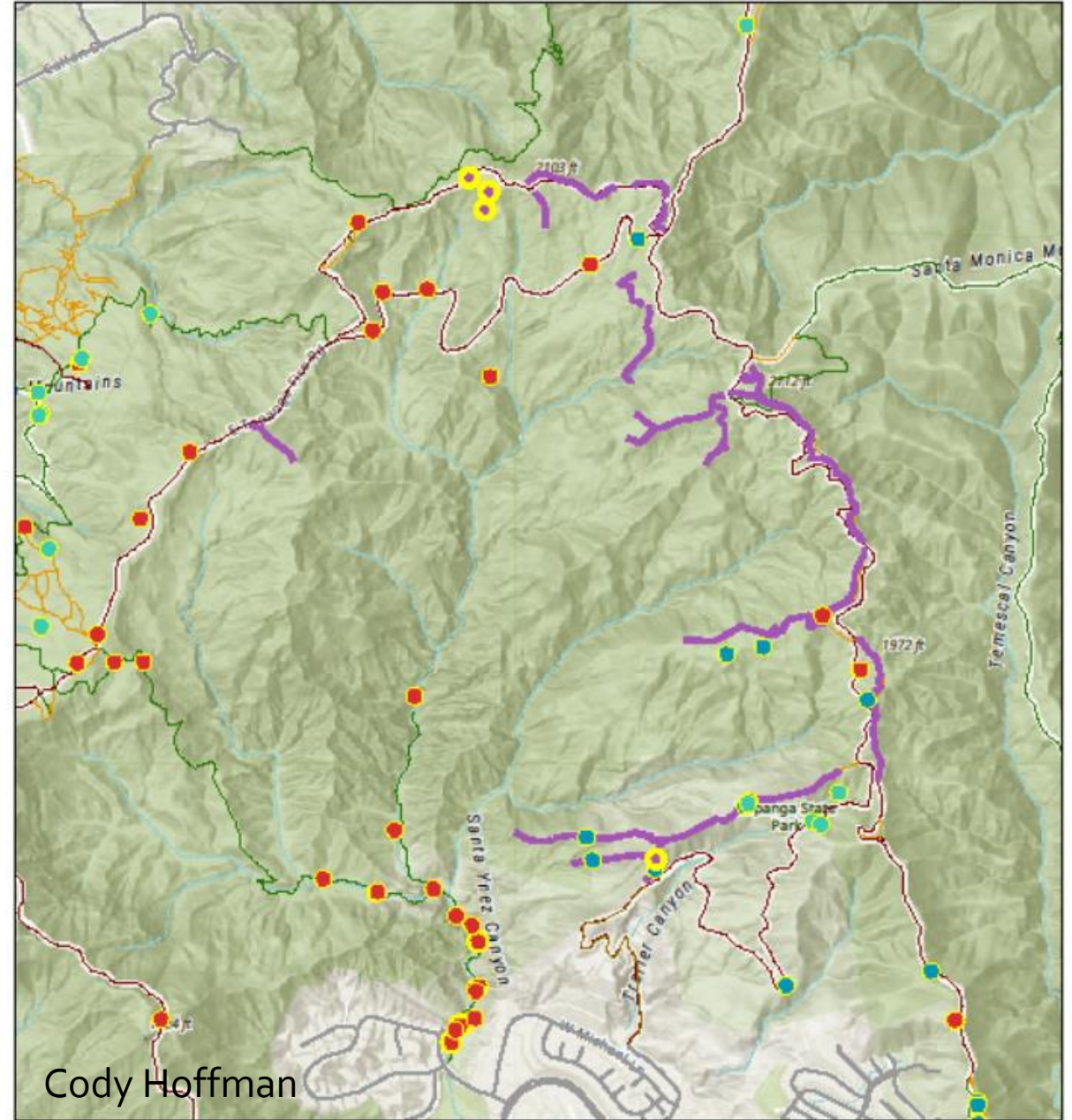
Tree tobacco *Nicotiana glauca*

Castor bean *Ricinus communis*



Cody Hoffman

Palisades Dozer Lines and Plant Surveys



Cody Hoffman

DOZER LINE REPAIR



NATIONAL FISH AND WILDLIFE FOUNDATION GRANT SANTA MONICA MOUNTAINS WOOLSEY FIRE RECOVERY AND ADAPTION PROGRAM

Project Leads:

- Deanne DiPietro, M.A., Conservation Biology Institute (Project Manager)
- Clark Stevens, Resource Conservation District of the Santa Monica Mountains (Co-Lead)
- Dr. Marti Witter, Fire Ecologist, National Park Service, Santa Monica Mountains National Recreation Area (Co-Lead)

Project Partners:

- Conservation Biology Institute
- Resource Conservation District of the Santa Monica Mountains
- Santa Monica Mountains Conservancy
- California State Parks, Angeles District
- North Topanga Canyon Fire Safe Council (NTCFSC)
- National Park Service, Santa Monica Mountains National Recreation Area
- UCLA La Kretz Center for Conservation Science
- University of California, Los Angeles
- Wildlands Conservation Science



Weed mapping and strategic treatment plan

Map 25 priority weed species

invasive plant management plan, & GIS data management system.

Outcomes/Benefits: An updated weed map with a GIS data management system and plan

Weed Treatment

Continue ongoing efforts to control and limit spread of target weeds

Community Outreach Plan for weed treatment control on private properties

Develop plan to contact homeowners with problem species on their properties and engage them in proactive treatment in managing their properties.

Outcomes/Benefits: Weed control by home owners reduces source populations.

PRIORITIZATION CRITERIA

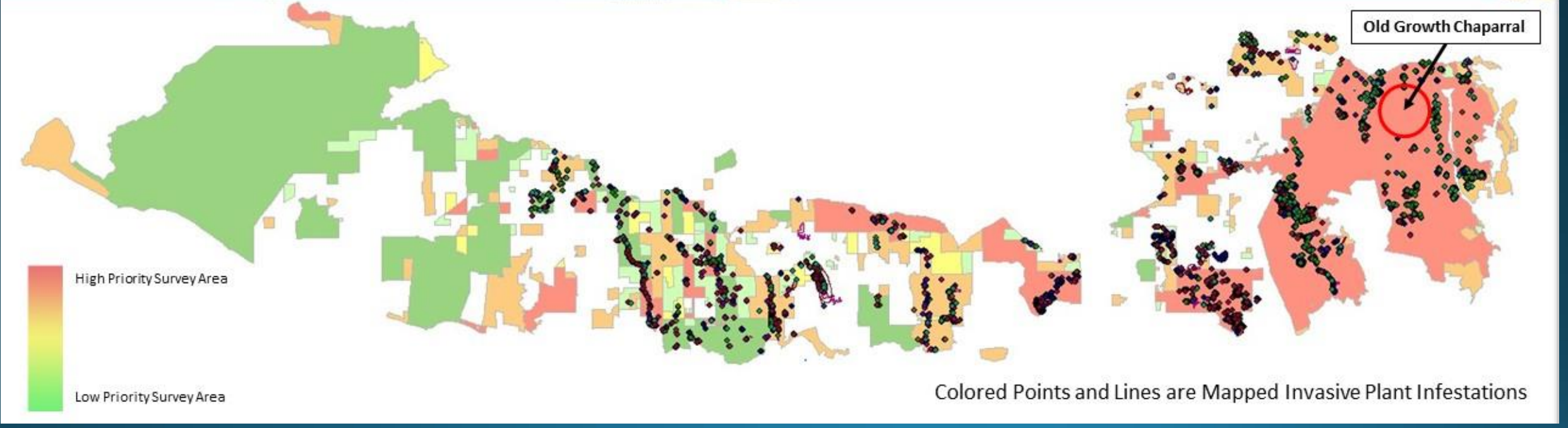
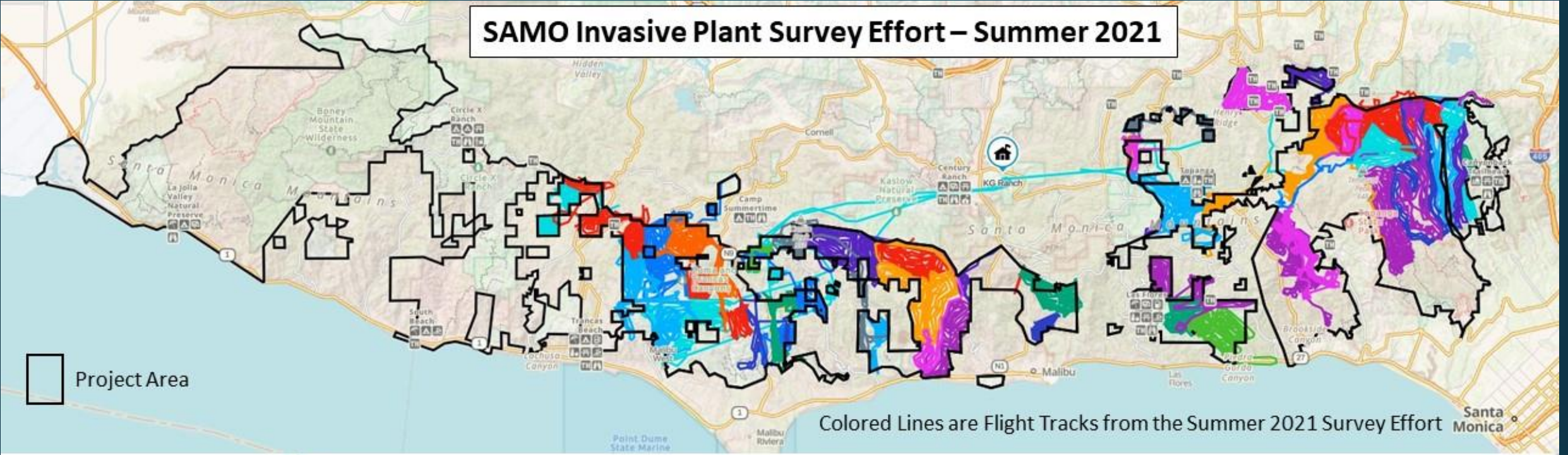
Hazard Metric	Invasive Plant Characteristic	Weed Control Priority Score	Notes
Probability of ignition	Flammability		Identify high an ignition sites for weed control
High	High	3	
Medium	High, Medium	2	
Low	High, Med, Low	1	
Probability of large fire	Post-fire invader or contributes to ecosystem type-conversion		Identify sites with potential for large fires, to control weeds that could lead to type conversion
High	High	3	
Medium	High, Medium	2	
Low	High, Med, Low	1	
Probability of vegetation type conversion	Contributes to ecosystem type-conversion		Identify sites likely to experience type conversion
High	High	3	
Medium	High, Medium	2	
Low	High, Med, Low	1	
Human Community Vulnerability to Wildfire (Structure Loss Probability)	Flammability		Identify vulnerable neighborhoods to control adjacent weeds/flashy fuels
Very High or High	High	3	
Moderate	High, Medium	2	
Low	High, Med, Low	1	



Morgan Ball and Katrina Olthof



SAMO Invasive Plant Survey Effort – Summer 2021



QUESTIONS?



Mountains Recreation & Conservation Authority