

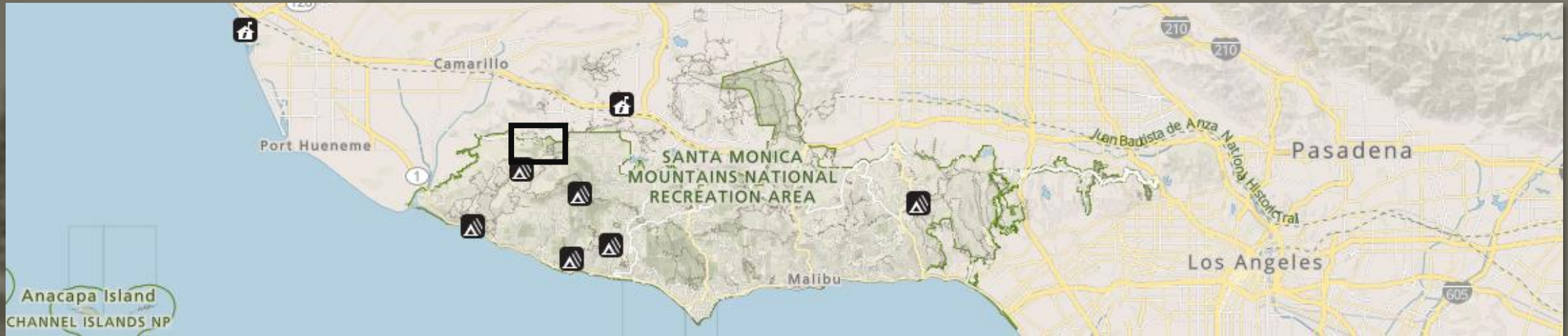
Timed Mowing Santa Monica Mountains National Recreation Area



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Santa Monica Mountains National Recreation Area(NRA)

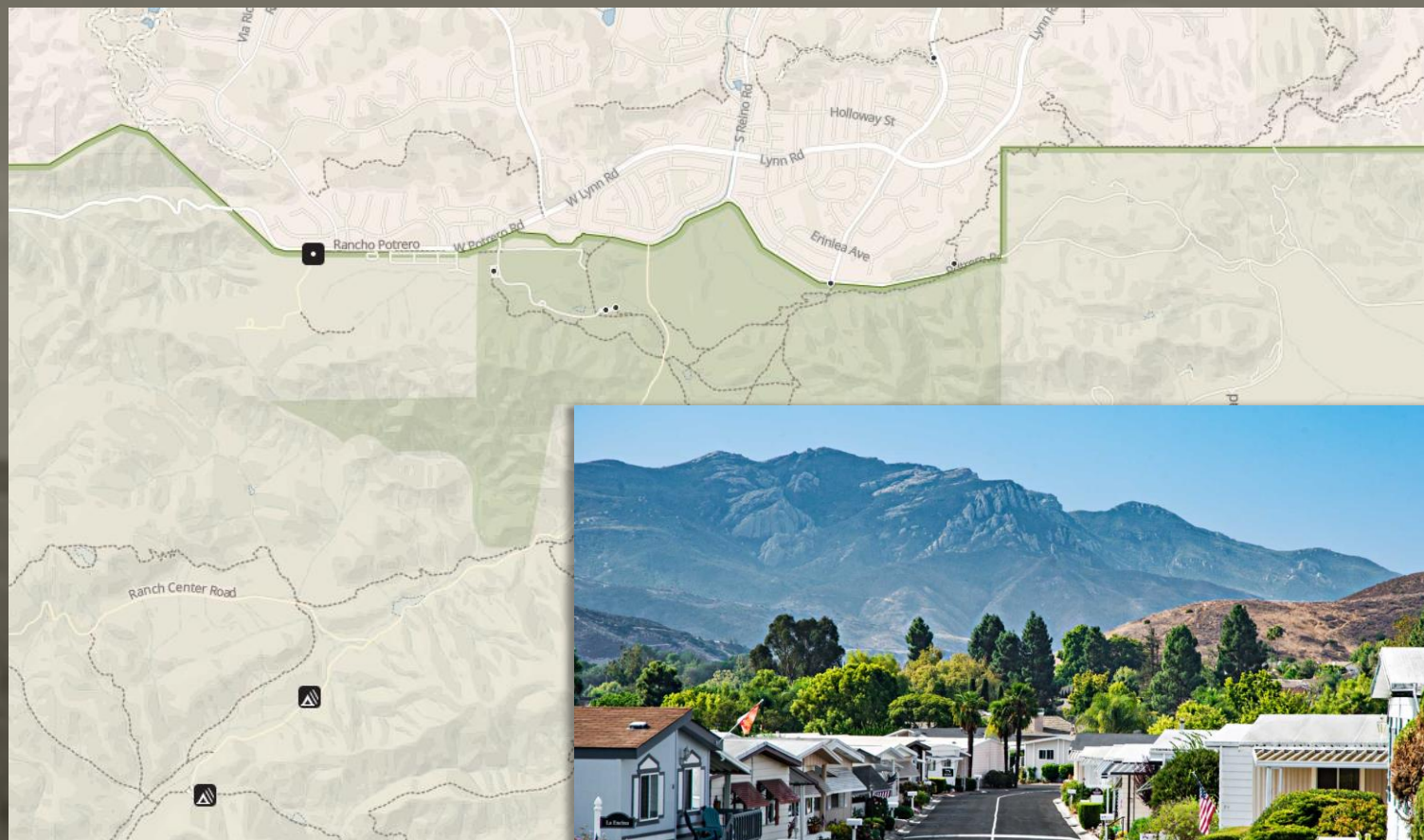


- In Los Angeles & Ventura Counties
- Many Different landowners: National Parks Service (NPS), California State Parks(Cal Parks), Mountains Restoration Conservancy Authority (MRCA), & private property
- Porous borders
- Wildland Urban Interface (WUI)
- Frequency of fires

Santa Monica Mountains (NRA) Rancho Sierra Vista

Rancho Sierra Vista (RSV)

- Western Santa Monica Mountains
- Newbury Park/Thousand Oaks, CA



Site History and Fuel Modification Rancho Sierra Vista

- Heavily degraded during the ranching period
- Invasion of grasslands (flashy fuels)
- Frequency of fire in invaded grasslands
- Ex. Wendy Fire 2019
- Necessity for fuel modification to reduce fuel load (is this the best way)
- Strategic value for fire operations
- Prevent ignition sites for burning into wildland or vis versa into homes
- Done often after seeding of invasives



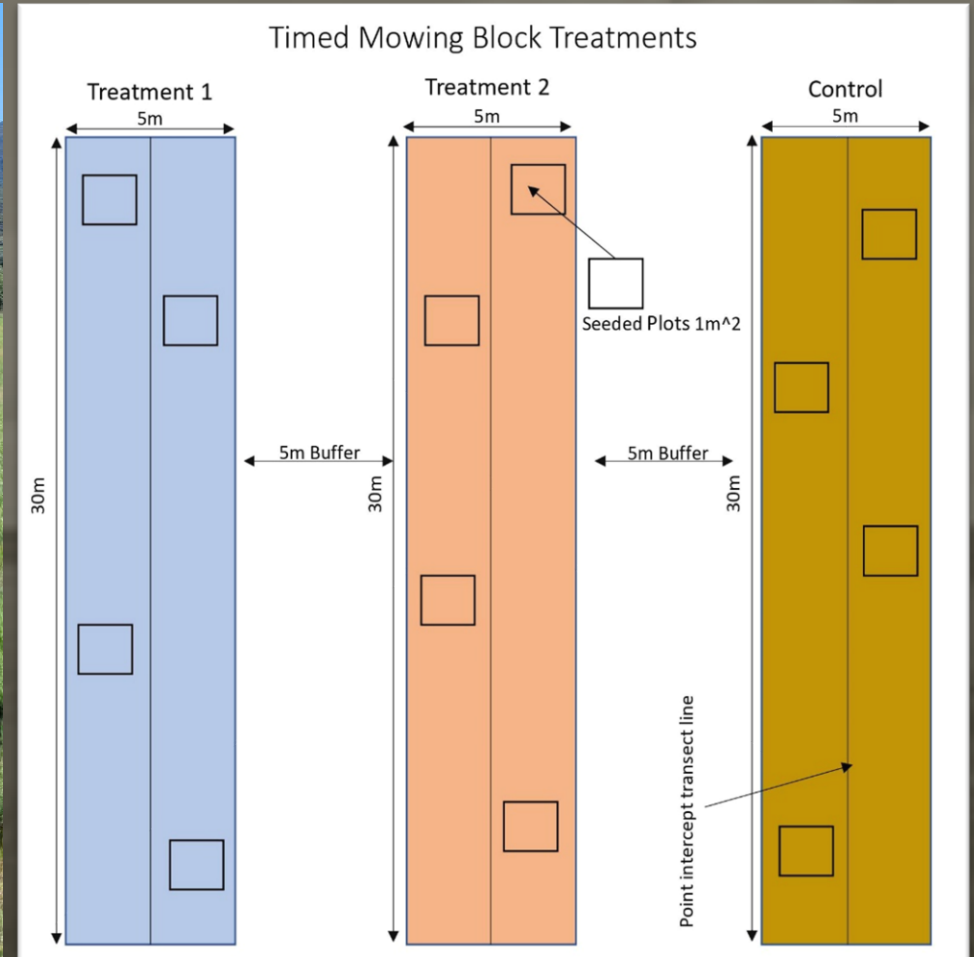
Timed Mowing Fuel Modification Zones

- Done to reduce the fuel load of the fuel modification zones
- Reducing thatch layer
- Provide more bare ground
- Mowed more frequently to prevent nonnative grasses and forbs from setting seed
- Reduce seed bank of non-natives
- Provide space for native species to reestablish



Larger Study At Rancho Sierra Vista and Cheseboro Canyon

- Testing at Rancho Sierra Vista(80 Acres) and Cheseboro Canyon (40 Acres)
- Two Treatments: Treatment 1 early mowing before seed vs Treatment 2 mowing near to seed production
- Does mowing earlier make a decrliable difference
- How many times does mowing need to occur before the plant has exhausted its ability to grow
- What mower deck height works best
- Does seeding in conjunction with mowing work



Species Make Up of Invaded Grassland Rancho Sierra Vista

Native Species	Non-native Species
<i>Croton setigerus</i>	Annual Grasses (<i>Bromus</i> & <i>Avena</i>)
<i>Deinandra fasciculata</i>	<i>Hirschfeldia incana</i>
<i>Asclepias fascicularis</i>	<i>Carduus pycnocephalus</i>
<i>Layia platyglossa</i>	<i>Vicia villosa</i>
<i>Ambrosia psilostachya</i>	<i>Raphanus raphanistrum</i>
<i>Stephanomeria virgata</i>	<i>Sonchus asper</i>
<i>Trichostema lanceolatum</i>	<i>Erodium moschatum</i>
<i>Lupinus bicolor</i>	<i>Centaurea melitensis</i>
<i>Stipa pulchra</i>	<i>Foeniculum vulgare</i>
<i>Baccharis pilularis</i>	<i>Phalaris aquatica</i>
<i>Calandrinia ciliata</i>	<i>Salsola australis</i>
<i>Layia platyglossa</i>	<i>Silybum marianum</i>
	<i>Lactuca serriola</i>
	<i>Erodium cicutarium</i>



Timed mowed area July 2022, Full of *Deinandra fasciculata*

Species Found During Transects

Rancho Sierra Vista

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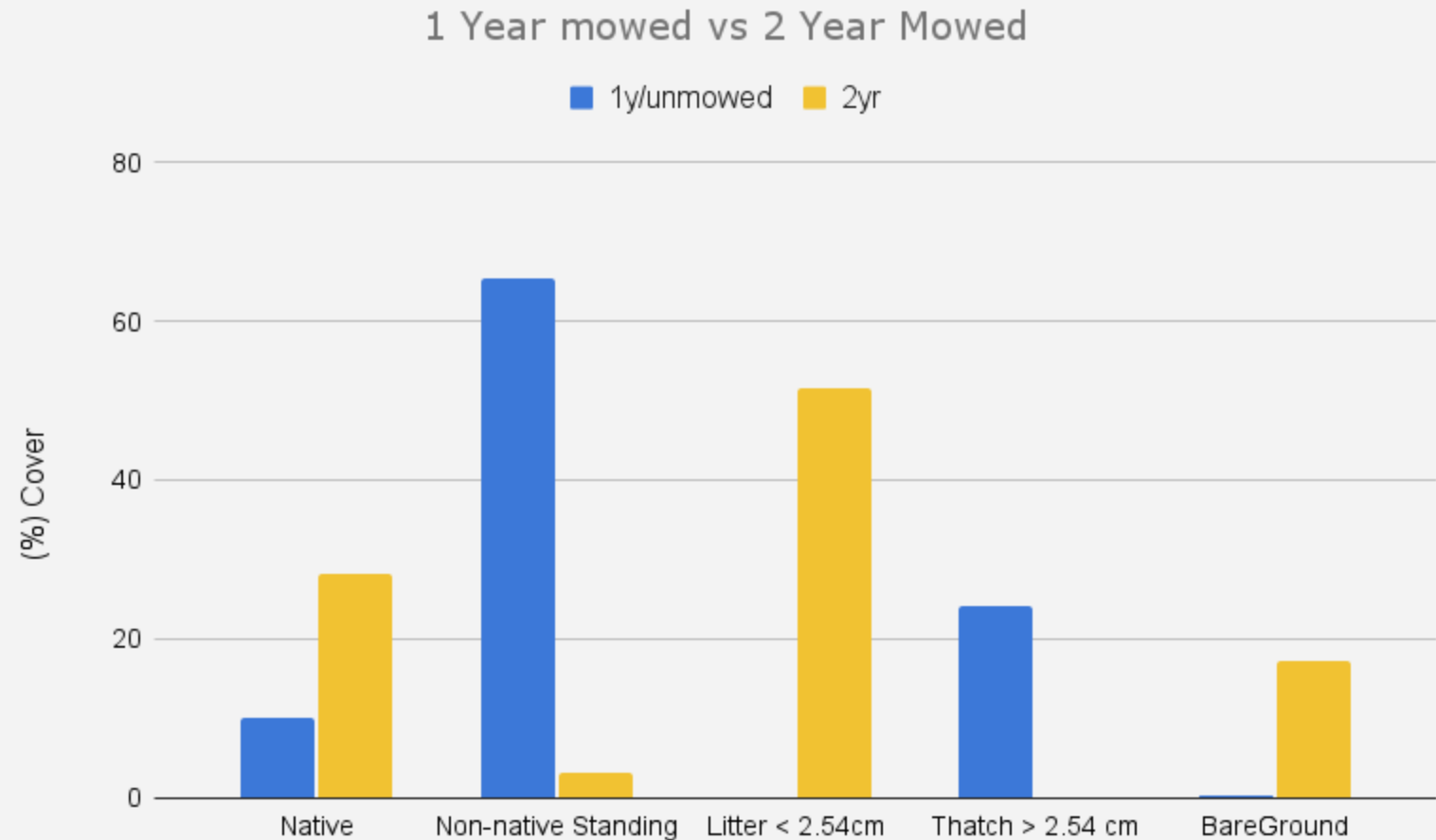
- Five, 50 meter transects run outside study to capture larger picture of timed mowing effects over longer time period
- Point intercept every 10cm along 50m transects



Mowed and un-mowed July 2022

Preliminary Results 50m Transects

- Native cover in 1 year/un-mowed 10.15%
- Native Cover in 2 year mowed 28.15%
- Almost all of the bare ground and light litter are in 2 year mowed
- 1 year mowed/un-mowed had all of the thatch and almost all the standing non-native cover



Results at Rancho Sierra Vista



1 Year Treatment Left, Un-mowed Control Right

- More bare ground, more native cover, litter < 2.54cm



2 Year Mowed Left, Un-mowed Right

- More bare ground, more native cover, litter < 2.54cm

Management Implications



- Reduce the cover of non-native grasses
- Reduce the fuel load and fire risk
- Replace non-native grasses and forbs with native annuals and herbaceous perennials
- Serve as a model for managing invasive grasslands beyond simply mowing seasonally
- Replicable in similar conditions throughout Santa Monica Mountains and Southern California

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