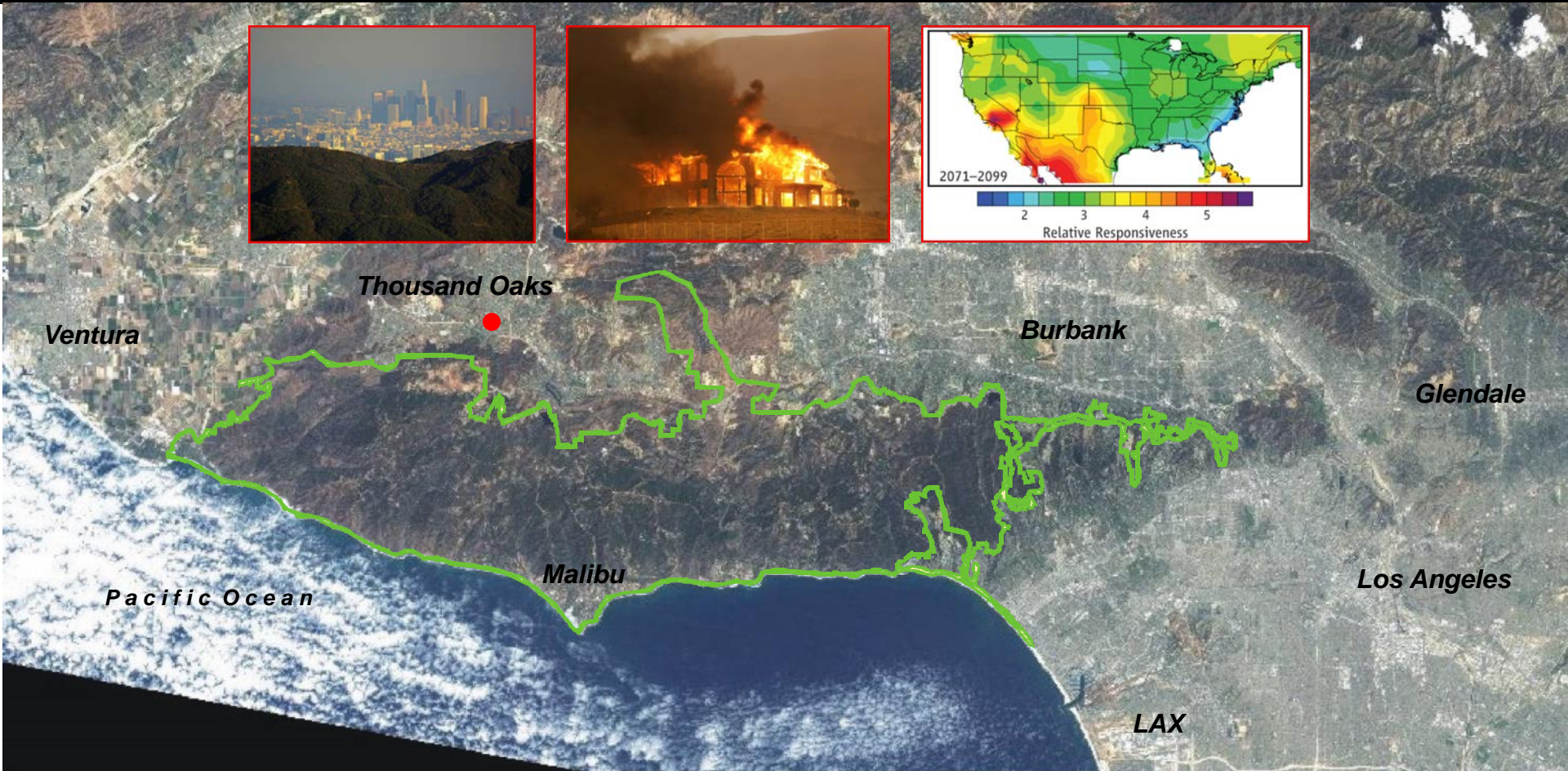


Santa Monica Mountains NRA



Santa Monica Mountains Wildland Fire Resilient Landscape Collaborative

Marti Witter, J Lopez, Mark Mendelsohn, Crystal Anderson, Robert Taylor

Santa Monica Mountains NRA

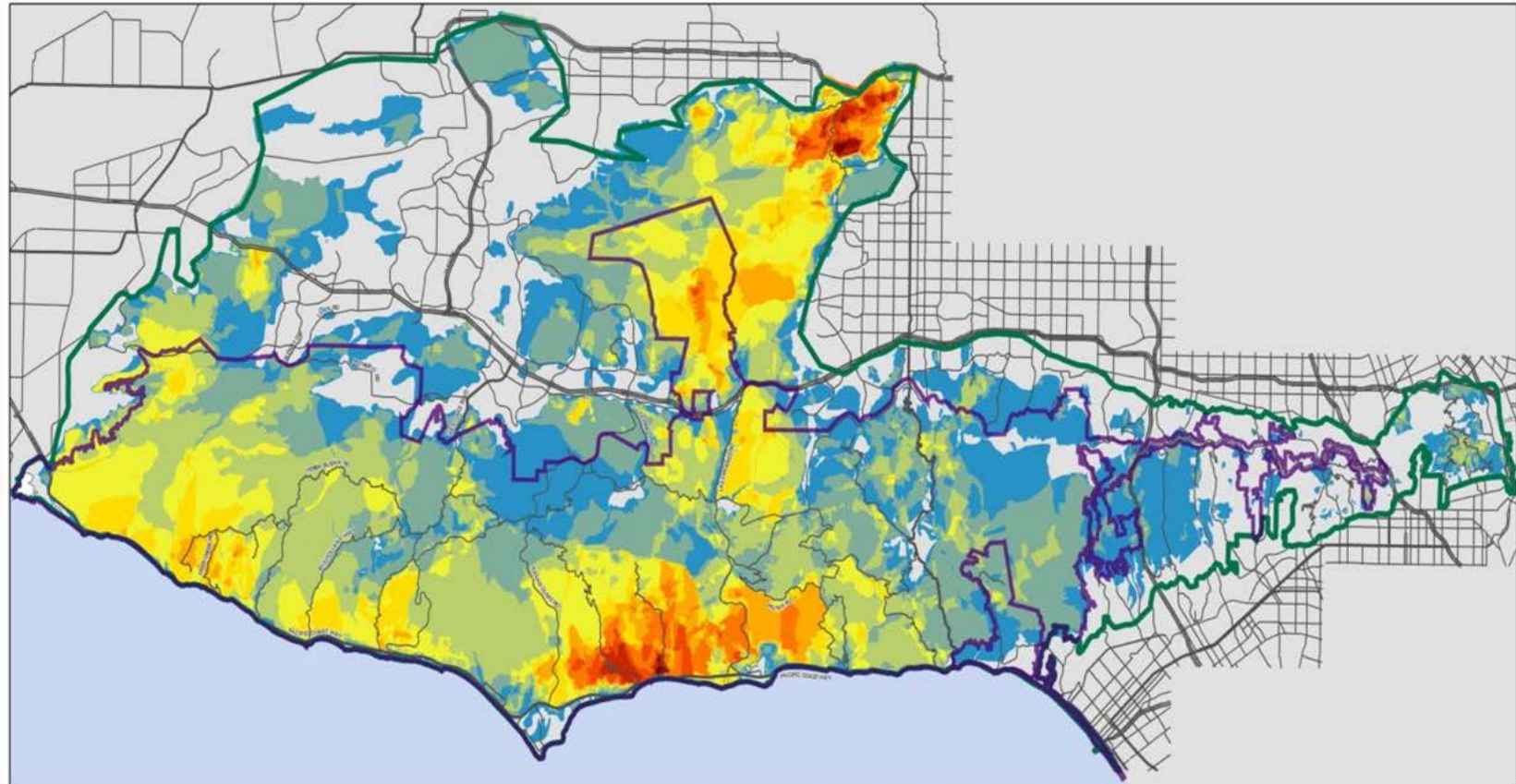
Biodiversity



- 870 native plants, 360 non-native plants
- 450 vertebrate species (mammals, birds, lizards and amphibians, fish)
- 23 threatened or endangered species, 49 candidates

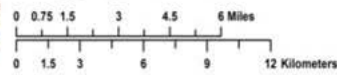


Santa Monica Mountains NRA



Fire frequency in the greater Santa Monica Mountains area

Map by NPS-SAMO Fire GIS, 8/4/2013
Scale 1:185,000 1 inch = 3 miles



Year of last fire based on fire history data from NPS-SAMO and CAL FIRE-FRAP fire history databases, current through 2012.

- boundary- Santa Monica Mountains National Recreation Area
- Mountain zone (vegetation map extent)
- major roads

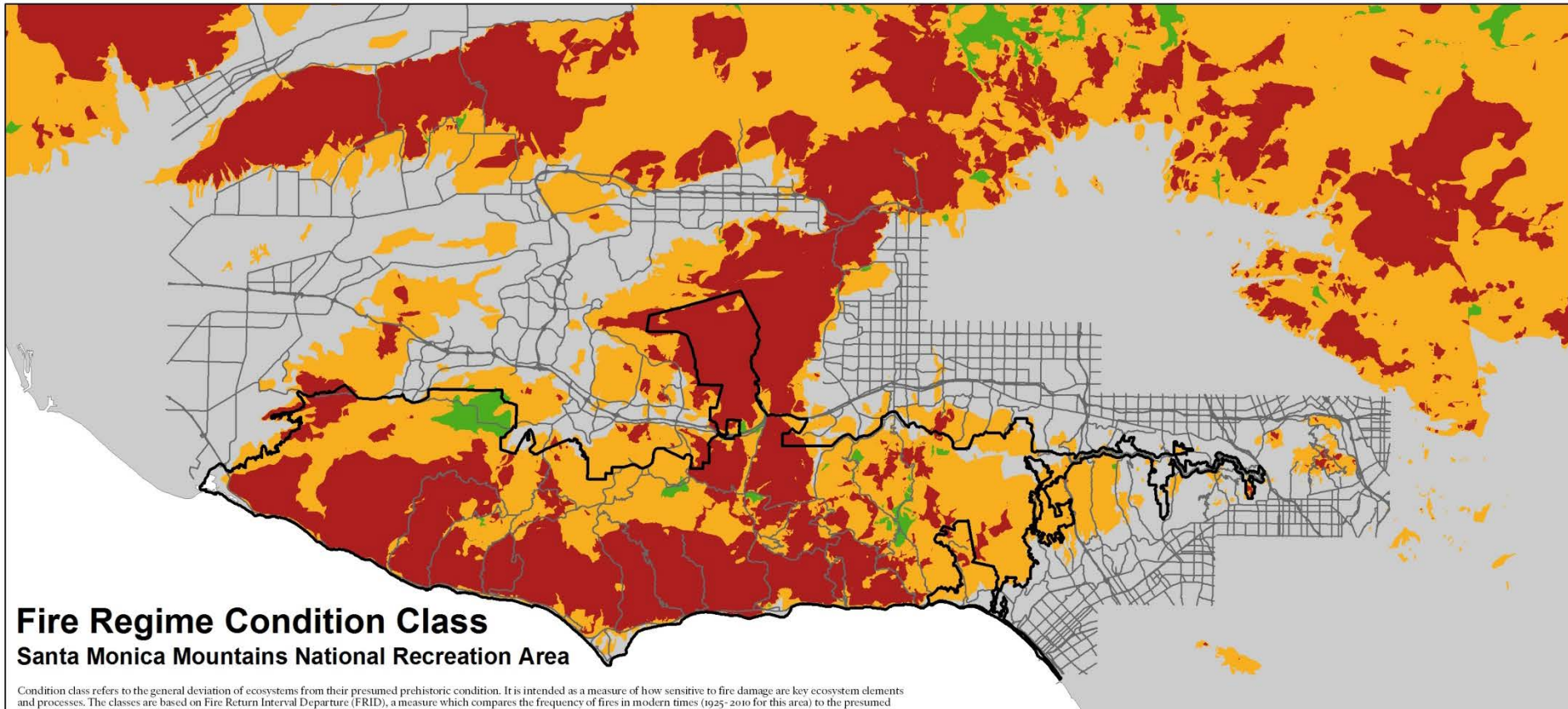
Number of fires (fire frequency, 1925 through 2013)

1 (88 years)	5 (18 years)	9 (10 years)
2 (44 years)	6 (15 years)	10 (9 years)
3 (29 years)	7 (13 years)	11 (8 years)
4 (22 years)	8 (11 years)	

Santa Monica Mountains NRA



The green areas are burning about as often as they're supposed to.

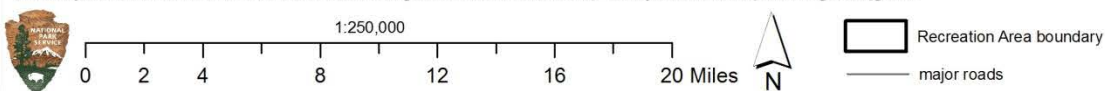


Fire Regime Condition Class Santa Monica Mountains National Recreation Area

Condition class refers to the general deviation of ecosystems from their presumed prehistoric condition. It is intended as a measure of how sensitive to fire damage are key ecosystem elements and processes. The classes are based on Fire Return Interval Departure (FRID), a measure which compares the frequency of fires in modern times (1925-2010 for this area) to the presumed frequency of fires prior to Euroamerican settlement. Historic reference fire return interval here is assumed to be 70 years. Fire history data 1925-2010 from CalFire- FRAP, amended by NPS-SAMO. Prescribed fires were excluded from this analysis.

The Santa Monica Mountains generally experience more wildfire in modern times than they did before settlement. This threatens the ecological sustainability of native species in many areas. Resulting damage will be ongoing without more effective fire prevention.

For more detailed information on methods of calculating FRID and Condition Classes, see: Safford, H.D., K. van de Water, and D. Schmidt. 2011. California Fire Return Interval Departure (FRID) map, 2010 version. USDA Forest Service, Pacific Southwest Region and The Nature Conservancy - CA. <http://www.fs.fed.us/r5/rsi/clearinghouse/rsgis/frid>



Fire Regime Condition Class

- 3 (-67% and beyond departure from historic fire return interval)
- 2 (-33% to -67% departure from historic fire return interval)
- 1 (+33% to -33% departure from historic fire regime interval)

Santa Monica Mountains NRA



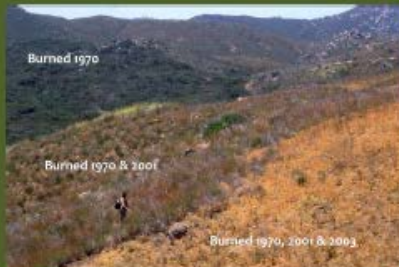
“Large, intense wildfires, between 5,000-25,000 acres occur approximately every 3-7 years in the SMMNRA. With the extensive wildland-urban intermix of homes and natural areas, lives and property are at risk from wildfire. Fire adapted native plant communities are also at risk from short fire return intervals and increased fire frequency due to excessive human ignitions.”

SAMO FMP update June 2016

Santa Monica Mountains NRA

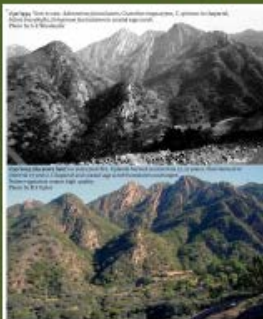


Type Conversion



When fires occur too frequently native shrubs are not able to recover as they do after a single fire. Richard Halsey photographed this location in 2004 to show the vegetation change after three fires in San Diego county: the 1970 Laguna Fire, the 2001 Viejas Fire and the 2003 Cedar Fire. We call the process of change from a native shrubland to a non-native dominated grassland *type conversion*.

These two photo series in the Santa Monica Mountains, created by Robert Taylor, show that shrubland vegetation has been remarkably stable following fires at ~30 year intervals (left photo). It has been type converted by multiple fires at short intervals (right photo).



1930's vegetation type of modern grassland fire monitoring plots

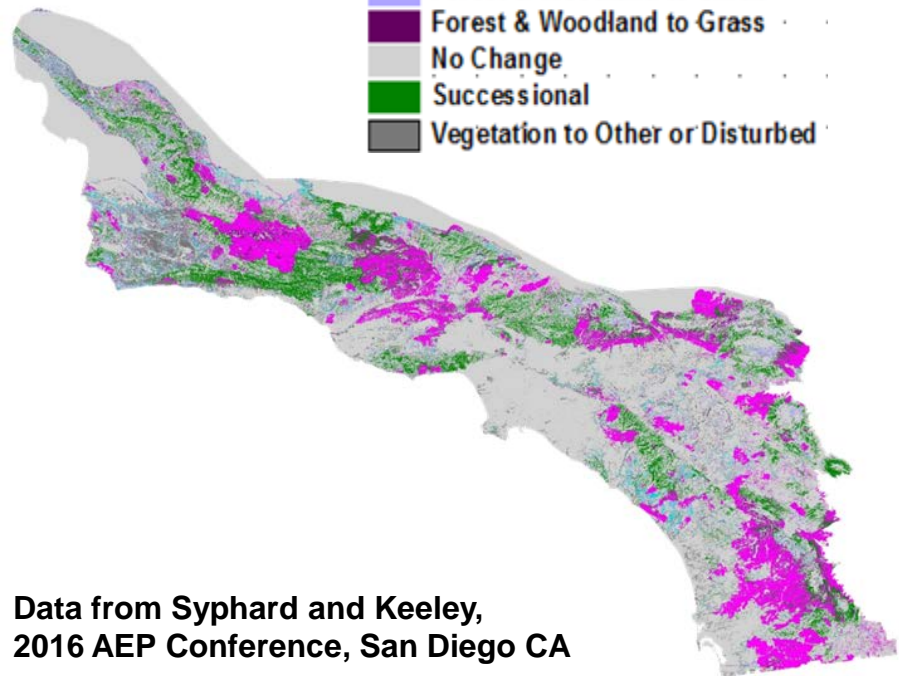
Type conversion leads not only to the loss of shrubs, but also to the loss of the herbs that contribute to species diversity in the Santa Monica Mountains. The upper right photo shows the abundance of herbs normally seen in the first year after a fire in coastal sage scrub. The lower right photo shows their absence in type converted coastal sage scrub after a fire.



Poster by Marti Wittar, SAMO Fire Ecologist, May 2010

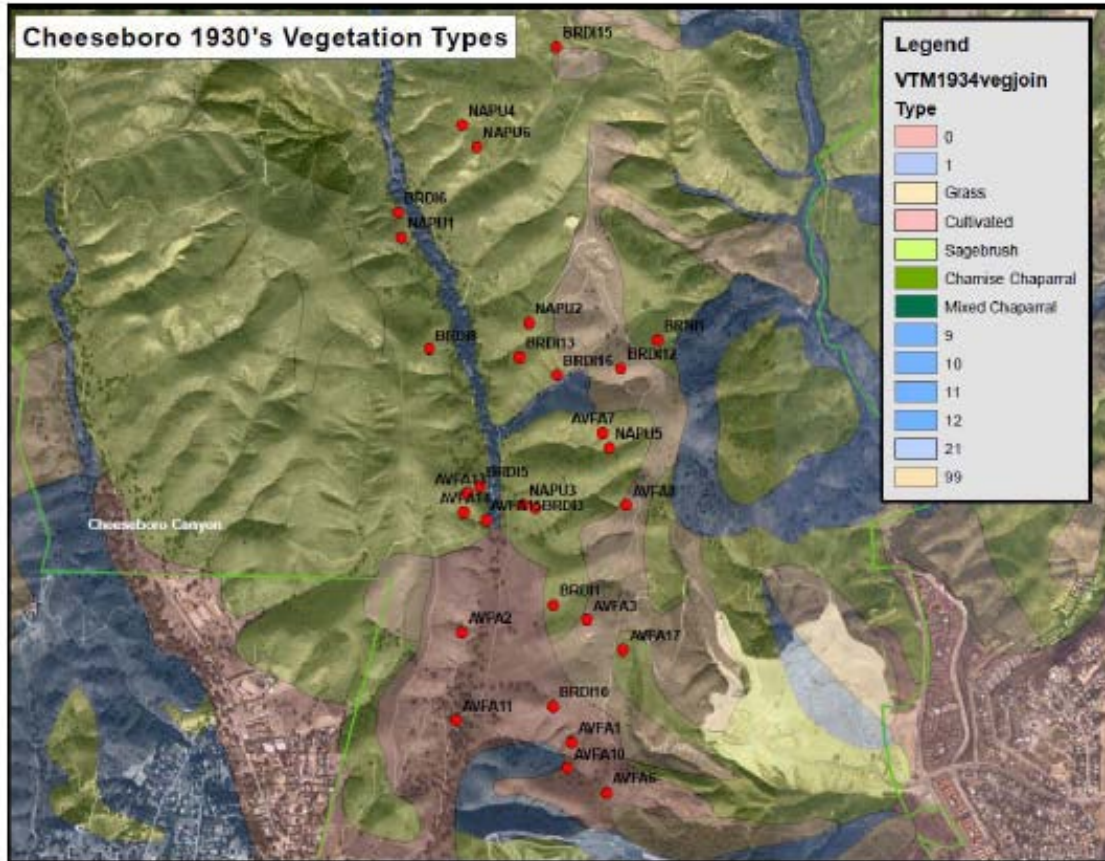
Regional type conversion from native shrubland to exotic grassland in the 20th century

- Shrub to Grass
- Forest & Woodland to Shrub
- Forest & Woodland to Grass
- No Change
- Successional
- Vegetation to Other or Disturbed

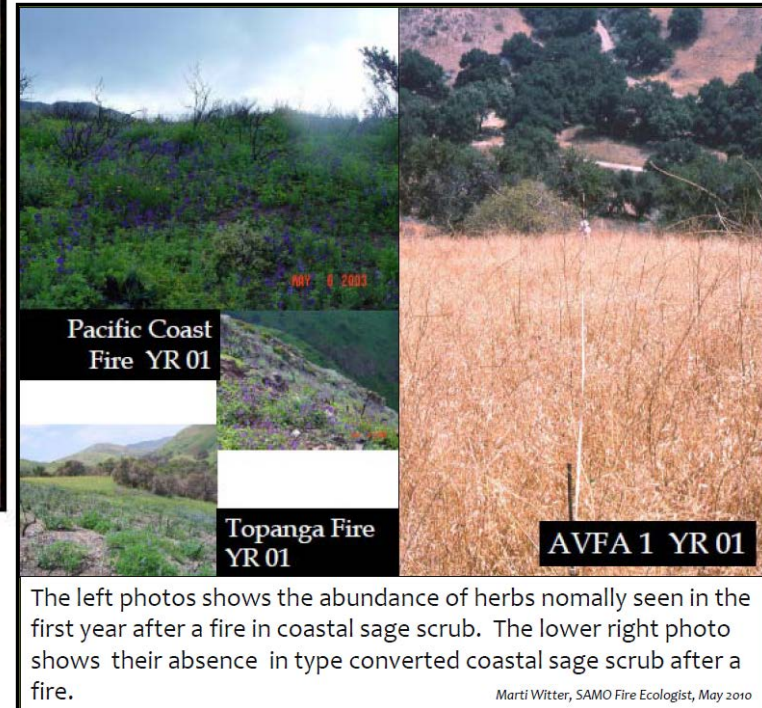


Data from Syphard and Keeley, 2016 AEP Conference, San Diego CA

Santa Monica Mountains NRA



Loss of postfire annuals in type converted grasslands



Santa Monica Mountains NRA



Santa Monica Mountains, CA, Stephen D. Davis

- Loss of FREE ecosystem services
- Create annual maintenance costs forever into future
- Increase fire hazard (flashy annual fuels)

Ecosystem Services

Values provided at no cost in energy inputs costs to society

- Fixes carbon (removes CO₂)
- Protects water quality
- Holds up our slopes
- Reduces erosion and stream sedimentation
- Provides native plant and wildlife habitat

Social Values

- Aesthetic enjoyment
- Recreation
- Economic benefit
- DNA information bank of evolutionary history and adaptation

Santa Monica Mountains NRA



Why have there continued to be increased fire losses with each decade since the Bel Air Fire in 1961?



October 25, 2003

1970

1980

1990

2000

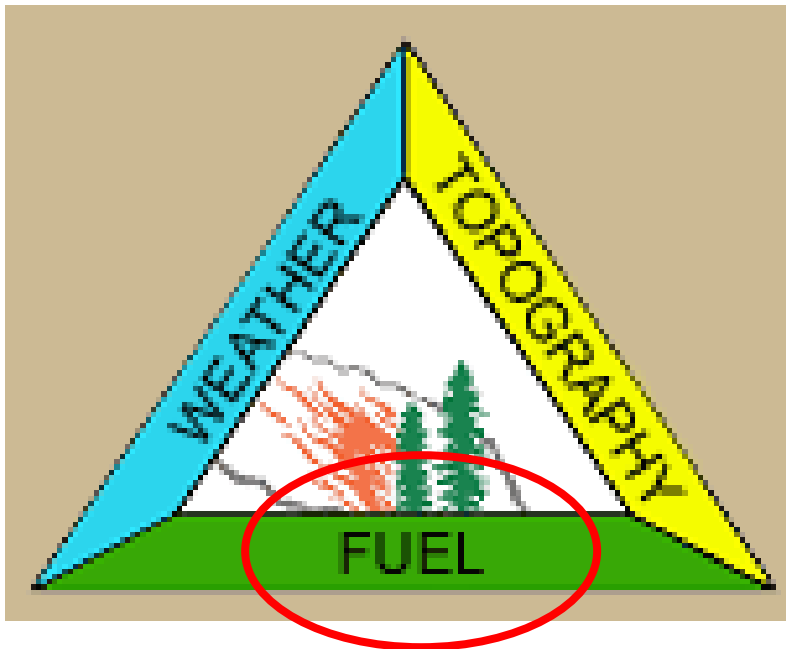
2010

2017

Santa Monica Mountains NRA



Fire BEHAVIOR Triangle



- Reduce Biomass
- Change Arrangement

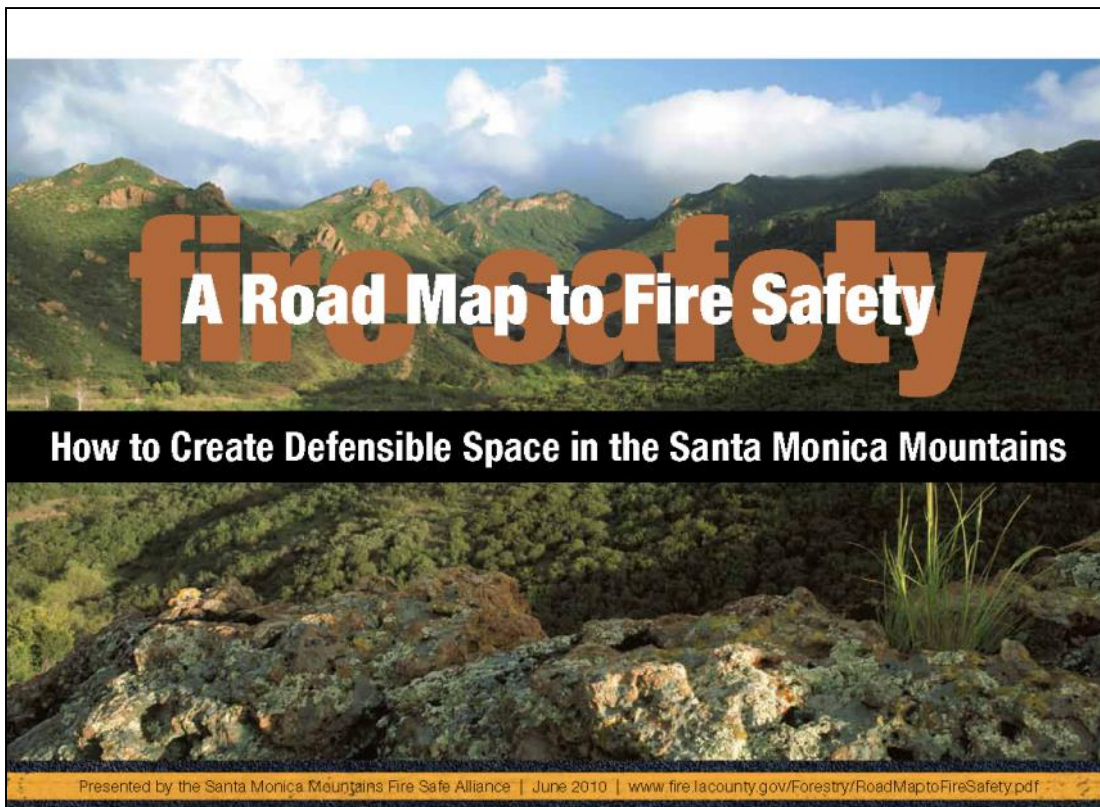
Santa Monica Mountains NRA



The Santa Monica Mountains Fire Safe Alliance was formed to *protect communities and preserve the natural resources* of the Santa Monica Mountains

The mission of the Santa Monica Mountains Fire Safe Alliance, a collaboration of related public agencies, departments, and communities, is to find solutions and resources for property owners and land managers to improve stewardship in the wildland urban interface.

Integration of best management practices will create defensible space while protecting wildland. The Alliance will help create safer communities and protect natural areas by involving and educating stakeholders, sharing information, and locating and providing beneficial resources.



Santa Monica Mountains NRA



Santa Monica Mountains Community Wildfire Protection Plan



Santa Monica Mountains Community Wildfire Protection Plan Mutual Agreement Page

The Community Wildfire Protection Plan developed for the Santa Monica Mountain Communities:

- ✓ Was collaboratively developed. Interested parties and federal land management agencies managing land in the vicinity of the Santa Monica Mountains have been consulted.
- ✓ This plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment.
- ✓ This plan recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

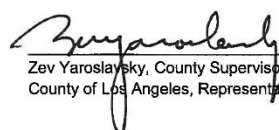
The following entities mutually agree with the contents of this Community Wildfire Protection Plan:



 Daryl L. Oaby, Chief
 County of Los Angeles Fire Department
 Date 05/02/13



 Mark Lorenzen, Chief
 Ventura County Fire Department
 Date 5/24/13



 Zev Yaroslavy, County Supervisor
 County of Los Angeles, Representative 3rd District
 Date 3/25/13



 Linda Parks, County Supervisor
 County of Ventura, Representative 2nd District
 Date 6/3/13

SMMCWPP: From the House Out

Santa Monica Mountains
CWPP Community Meeting 2010
J Lopez, LA County Forestry and Fire Protection



Santa Monica Mountains
Community Wildfire Protection Plan (CWPP)
Community Meetings
and Rules



Santa Monica Mountains Firesafe Alliance

Local Agencies and Fire Organizations

Los Angeles County,

Third Supervisorial District Sheila Kuehl

Los Angeles County Forestry and Fire Department

Santa Monica Mountains Firesafe Alliance

Ventura County Supervisorial District 2

Ventura County Fire Department

City of Malibu, City of Calabasas, City of Agoura Hills

Santa Monica Mountains NRA



Santa Monica Mountains Firesafe Alliance

Land Management Agencies and Conservation

Organizations

National Park Service, California Department of Parks and Recreation, Santa Monica Mountains Conservancy, Mountains Recreation and Conservation Authority, Resource Conservation District of the Santa Monica Mountains, Santa Monica Mountains Fund, Mountains Restorations Trust, Natural Resource Conservation Service, Ventura Co, USFS Angeles National Forest, USFS Los Padres National Forest, Conservation Biology Institute, California Native Plant Society Santa Monica Mountains Chapter, California Chaparral Institute



Santa Monica Mountains Firesafe Alliance

Other SMMFSA Collaborators

Southern California Edison, Las Virgenes Municipal Water District, Los Angeles County Waterworks District No. 29, CalTrans, California Coastal Commission, LA County Agricultural Commission, State Assembly District 50 Richard Bloom, State Senate District 27 Fran Pavley



Santa Monica Mountains Firesafe Alliance

Community Organizations and Fire Safe Councils

North Topanga Cyn Fire Safe Council

Malibu Lake Fire Safe Council

Monte Nido Fire Safe Council

Arson Watch

Topanga Coalition for Emergency

Preparedness

California FireSafe Council



Santa Monica Mountains Firesafe Alliance

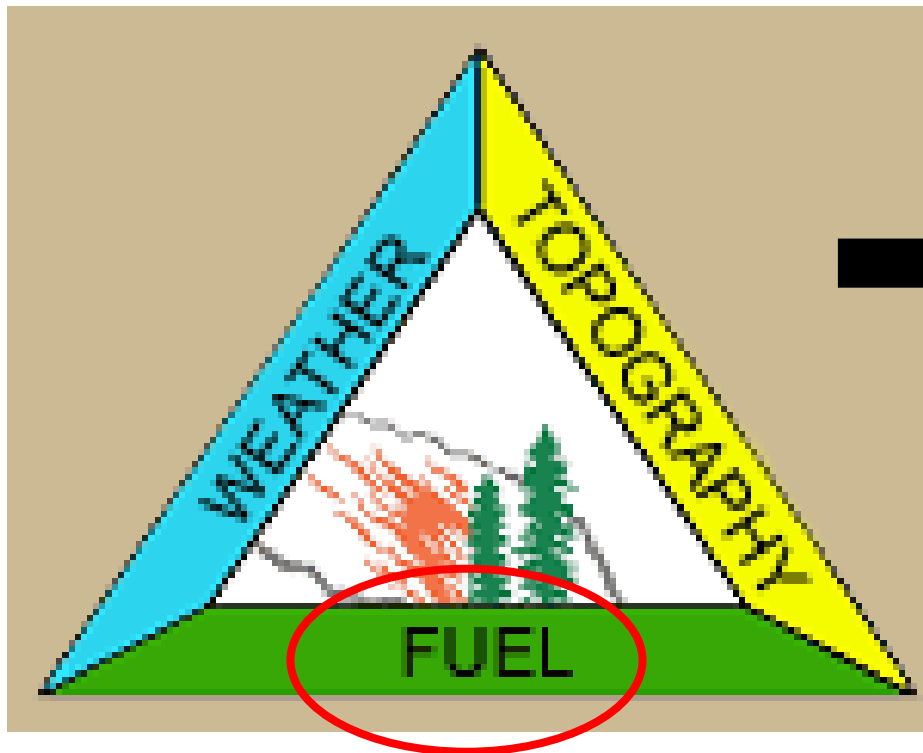
Science Collaborators

USGS Western Ecological Research Center, University of California Cooperative Extension, UCLA Institute of the Environment and the La Kretz Center for Conservation Science, Pepperdine University, USC School of Architecture, California State University Bakersfield, UC Berkeley, California State University Northridge, California State University Channel Islands, Riverside-Corona Resource Conservation District, South Coast Climate Science Alliance, California Fire Science Consortium Central and Southern California

Santa Monica Mountains NRA



Meanwhile, back in Washington.....



Elements of
the Cohesive Strategy



2009

Santa Monica Mountains NRA



The National Strategy

The Final Phase in the Development of the
National Cohesive Wildland Fire Management Strategy



April 2014

The National Cohesive Wildland Fire Management Strategy

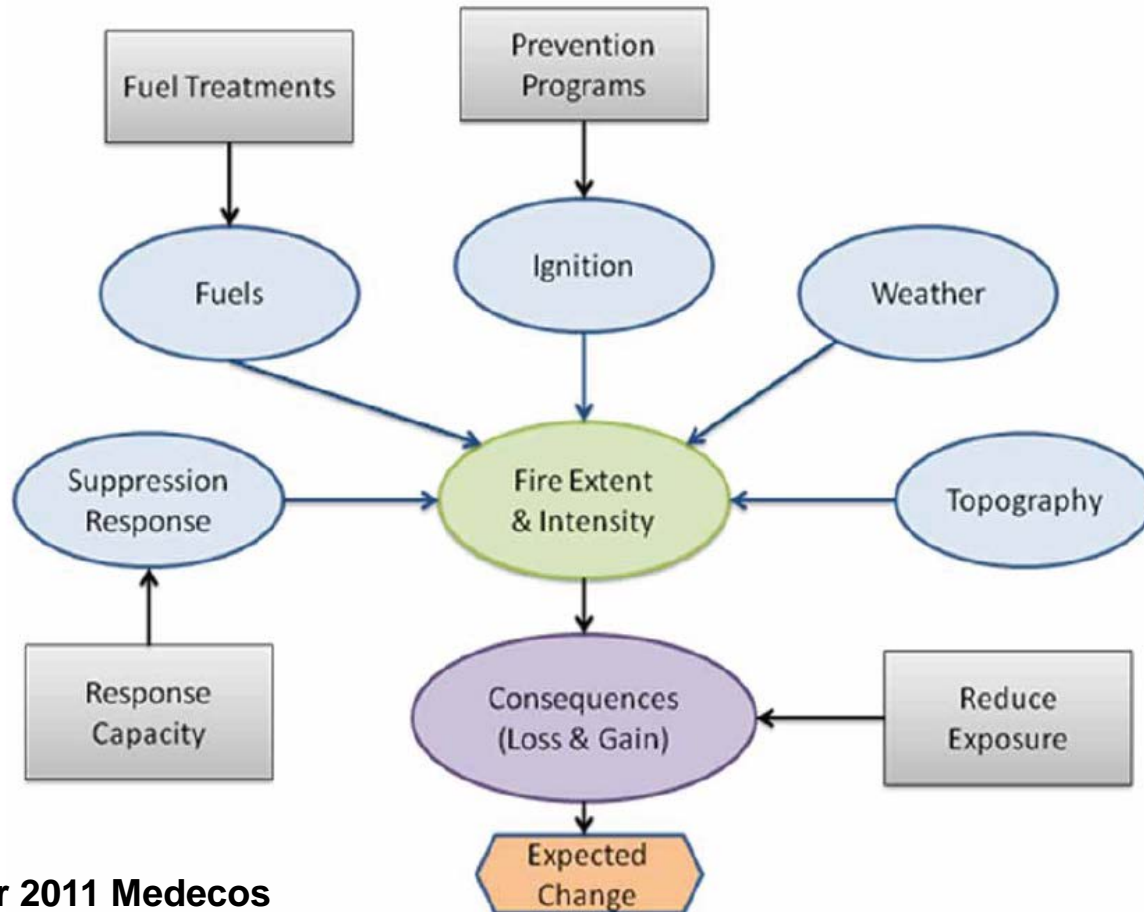
April, 2014

- Restore and maintain resilient landscapes
- Create fire-adapted Communities
- Respond to wildfire

Santa Monica Mountains NRA



The National Cohesive Wildland Fire Management Strategy
Is based on a conceptual model of comparative risk assessment to
evaluate management actions that can change wildfire outcomes



GOALS:

**Restore and
Maintain
Resilient
Landscapes**

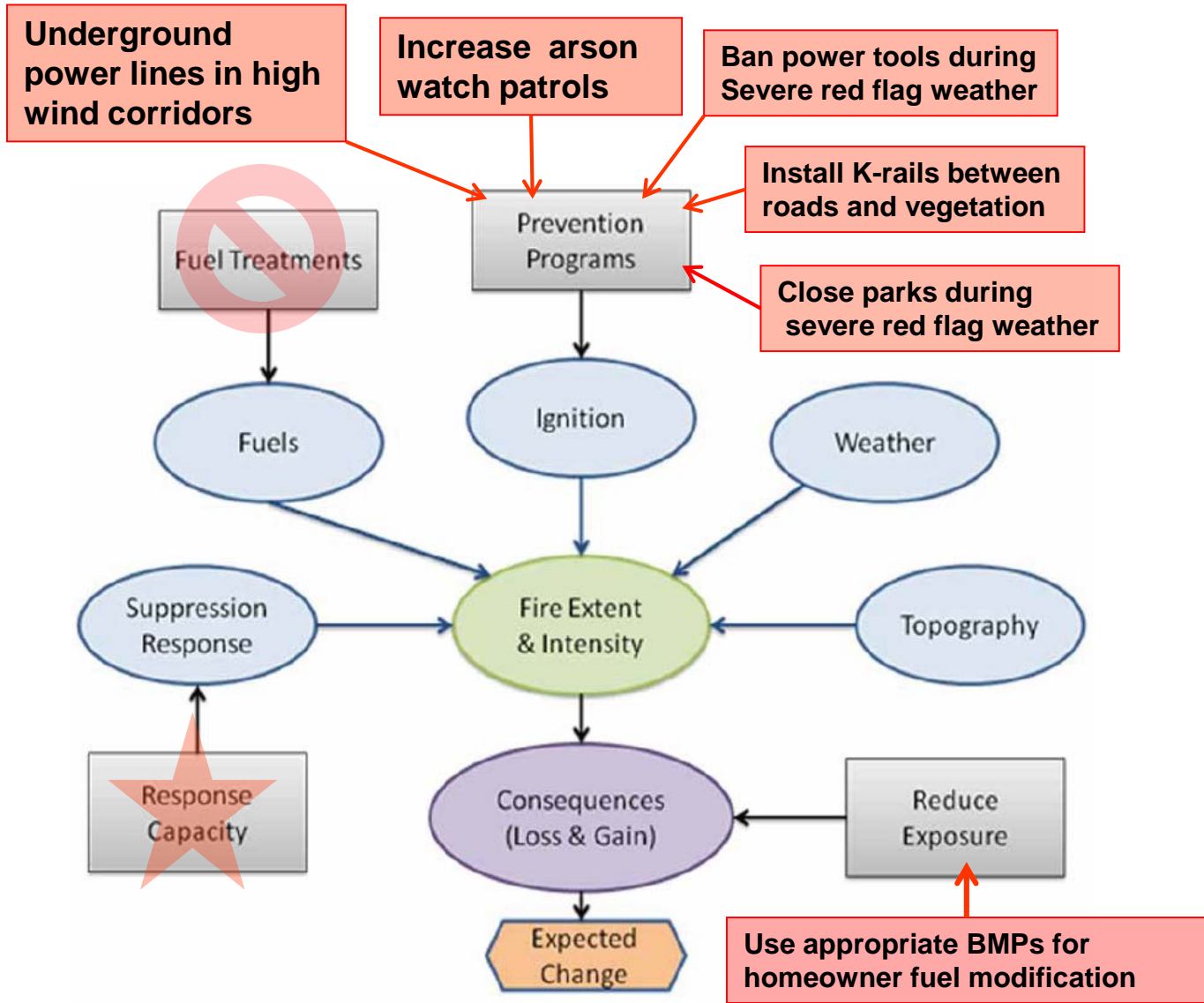
**Create Fire-
Adapted
Communities**

**Respond to
Wildfire**

Santa Monica Mountains NRA



The National Cohesive Wildland Fire Management Strategy



REDUCE AREA BURNED

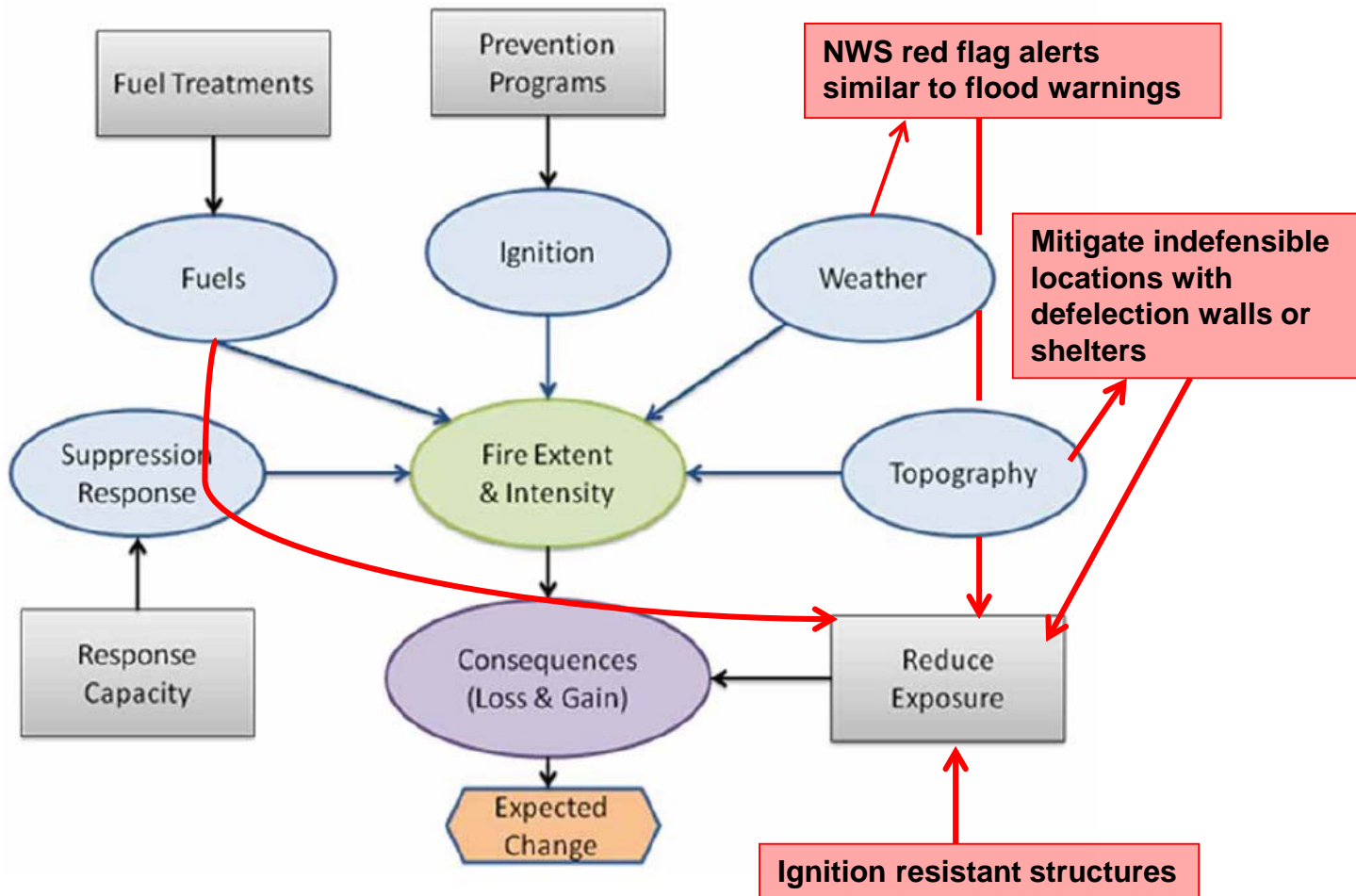
GOALS:

Restore and Maintain Resilient Landscapes

Create Fire-Adapted Communities

Respond to Wildfire

The National Cohesive Wildland Fire Management Strategy



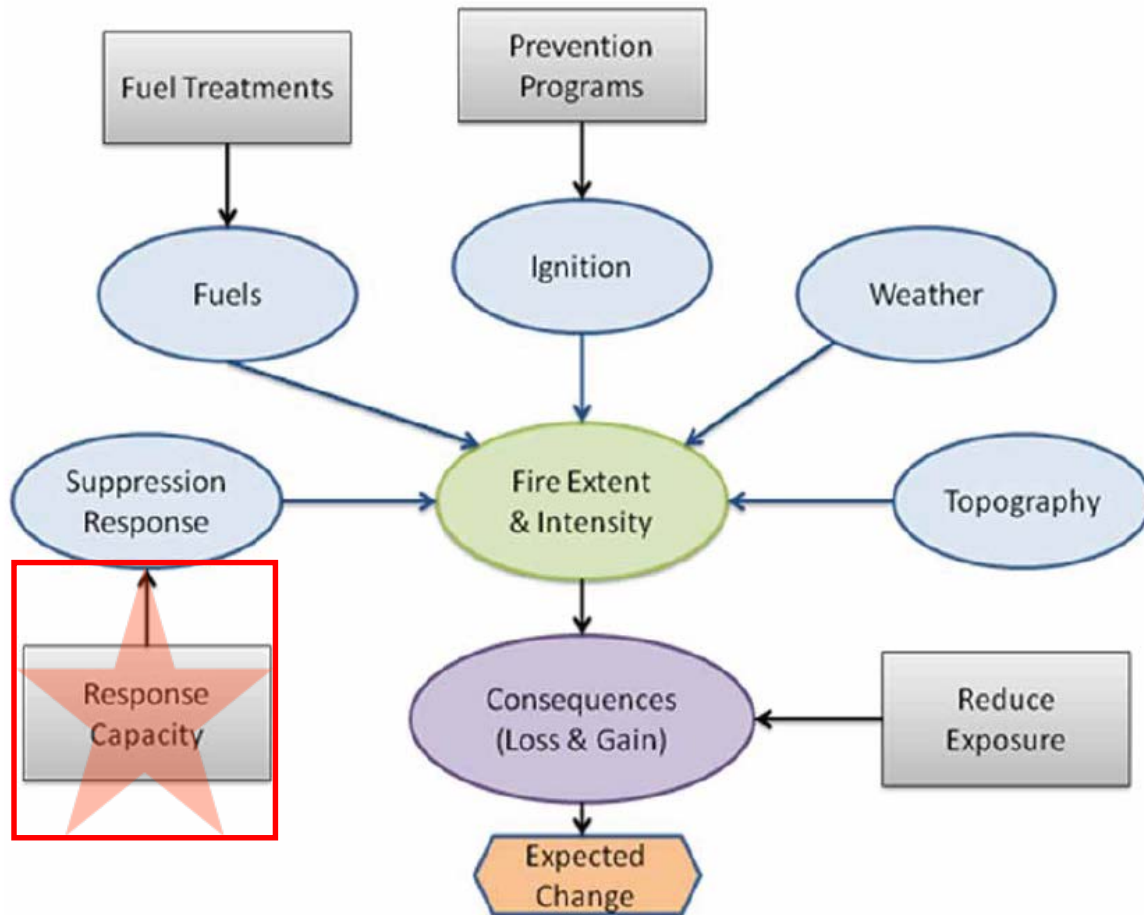
GOALS:

Restore and Maintain Resilient Landscapes

Create Fire-Adapted Communities

Respond to Wildfire

The National Cohesive Wildland Fire Management Strategy



GOALS:

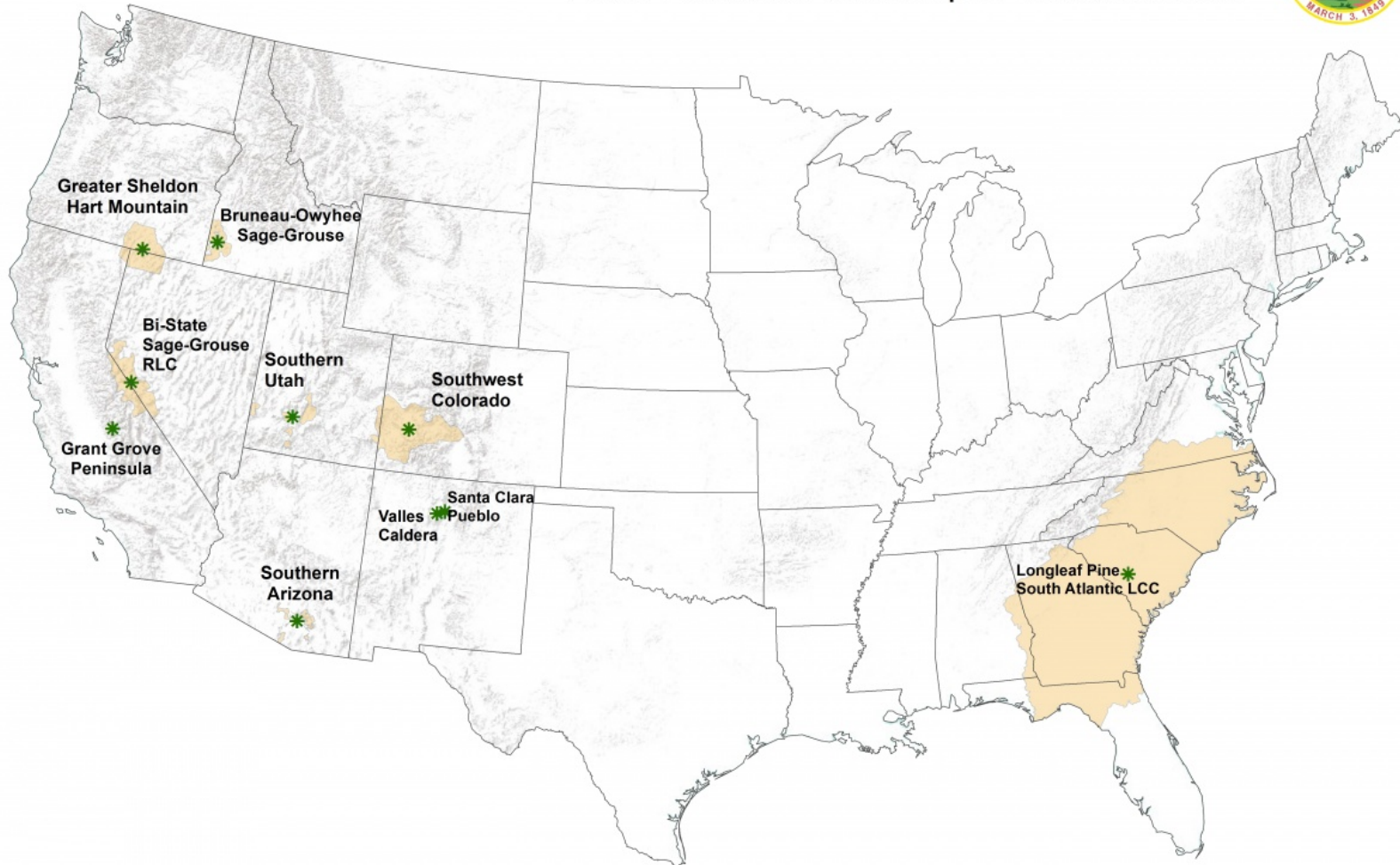
Restore and Maintain Resilient Landscapes

Create Fire-Adapted Communities

Respond to Wildfire

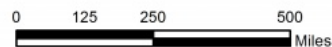
Resilient Landscape Collaboratives

Department of the Interior
2015 Resilient Landscapes Collaboratives



Legend

- * Resilient Landscapes Collaboratives
- Collaborative Area

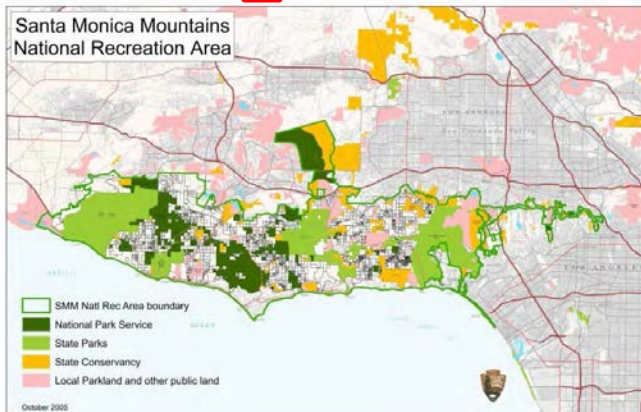
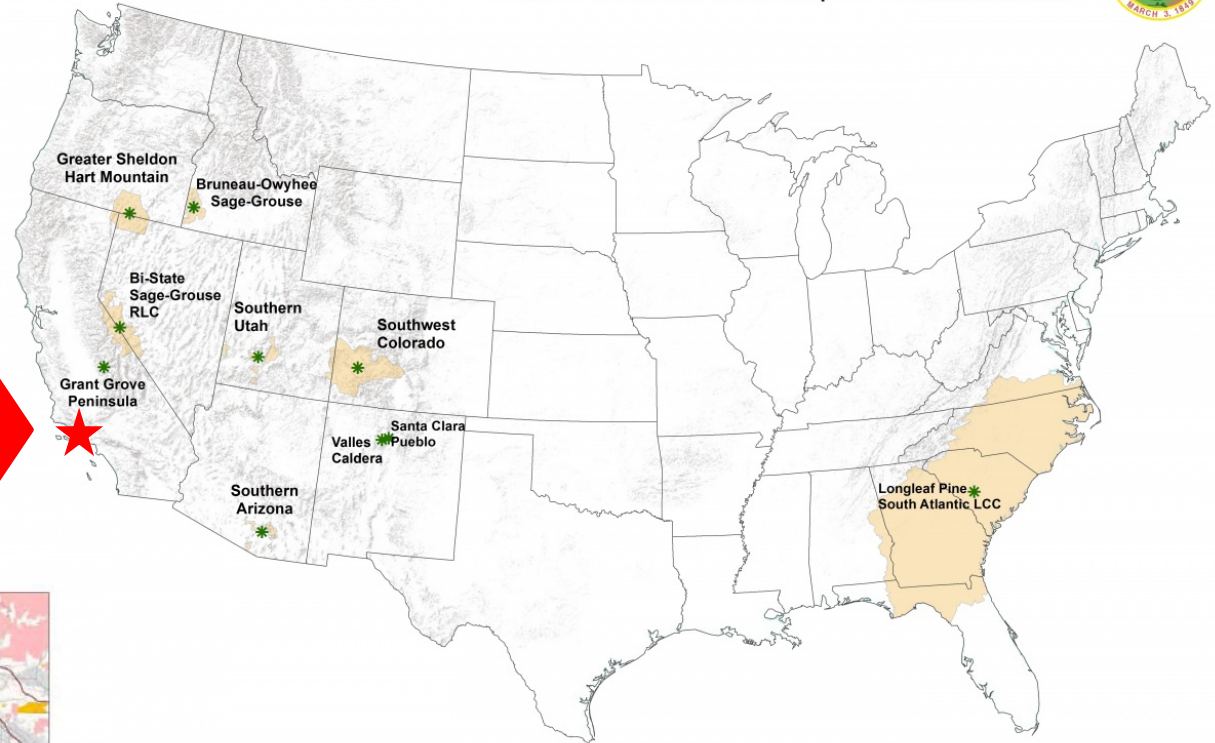


Map Produced by OWF
May 26, 2015

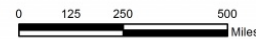


2016 Proposed Resilient Landscape Collaborative for the SMM's

Department of the Interior
2015 Resilient Landscapes Collaboratives



Legend
Resilient Landscapes Collaboratives
Collaborative Area



Map Produced by OWF
May 26, 2015



Vision, Mission, Goals

SMM Wildfire Resilient Landscape Collaborative

VISION

The Santa Monica Mountains survives as a healthy, vibrant, diverse, and productive native landscape where local communities are safe from fewer major wildfires.

MISSION

To work collaboratively across jurisdictions to manage fire for landscape and human resilience. Landscape resilience and resistance will maintain native biodiversity, maximize carbon storage, maintain slope stability and hydrologic function, and limit vegetation type conversion from shrublands to annual grasslands. Human resilience will progress towards fire-adapted communities, those that minimize their exposure to destructive wildfire, including use of land use planning, defensible space, fire-resistant building design, evacuation routes, education, and appropriate suppression responses.

Vision, Mission, Goals

continued

GOALS

Reduce wildfire ignitions

Reduce the wildfire threat to values at risk in the Santa Monica Mountains.

Balance wildfire mitigation strategies with long-term sustainability of natural resources.

Provide for fire safe communities.

Strategic Plan

Foster effective collaboration.

Objectives	Tactics	Metrics	YEAR
Create sustainable organizational structure	Provide for a long-term project coordinator and participation by agencies and organizations that have a shared mission whose participation will transcend changes in personnel	Social network analysis among organizations and projects (NPS)	1-10
Communication is open and regular and information is easily available	Part-time digital media specialist. Monthly operational meetings; Annual Science and Planning meeting; project website kept current, regular social media postings, support content (e.g. newsletters) for collaborating organizations	Participant counts as a % of at risk households (NPS)	1-10

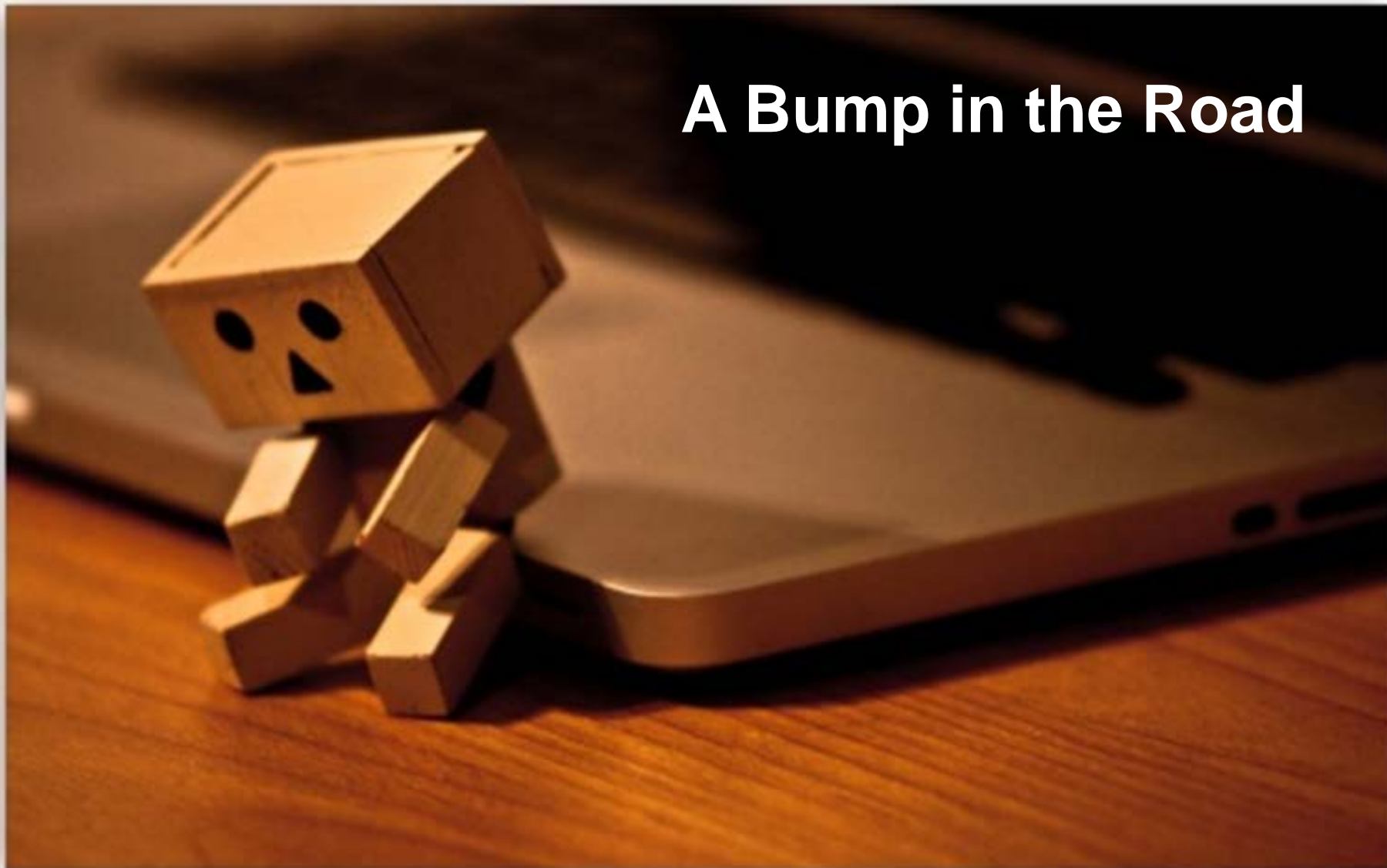
Reduce wildfire ignitions.

Objectives	Tactics	Metrics	YEAR
Quantify ignition patterns to delineate areas of highest risk and management priority	Create a series of probability maps reflecting cause, timing, and location of ignitions that result in the most frequent and largest fires, in the most ecologically sensitive areas, as well as those fires most likely to result in house destruction	Fine scale ignition probability maps customized by cause of ignition as well as integrated across all ignition sources, each with assigned management priority values (SMMWFRLC)	1-3
Improve ignition reporting system to account for missing historical information and to prevent future issues with incomplete data	Investigate and identify cause of ignition for the 30-40% of historical fires classified as "miscellaneous" or "unknown." Use this information to refine ignition classification system to account for less-common causes that result in substantial area burned, and update ignition probability maps to reflect complete data	Updated historical ignition database and probability maps with complete (>95%) information on cause of fire (VCFD, LACoFD, NPS)	1-3

Santa Monica Mountains NRA



A Bump in the Road



Santa Monica Mountains NRA



- Spring, 2016
 - SMM WFRL proposal submitted
- Fall, 2016
 - Proposal recommended for funding
- November 8, 2016
 - Unexpected election results, realignment of priorities for US Department of Interior
- May 4, 2017
 - Congress passes budget without WFRLC program



Santa Monica Mountains NRA



How to move forward

Stable organization

Point of contact

Leadership

Inspiration

Imagination

Science

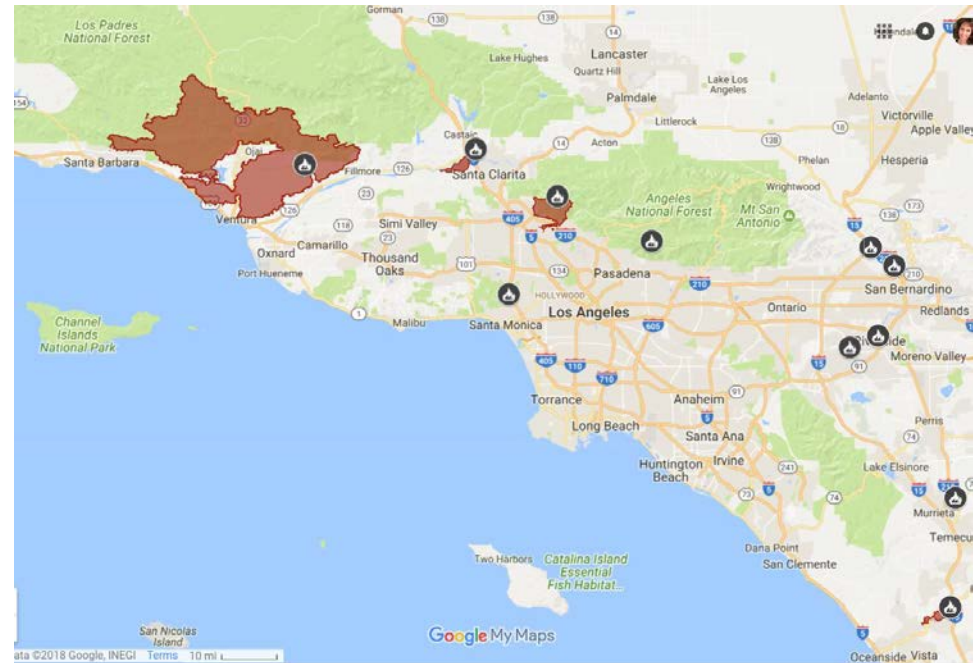
Compelling narrative



Santa Monica Mountains NRA



**Time and fire
wait for no man**



Santa Monica Mountains NRA

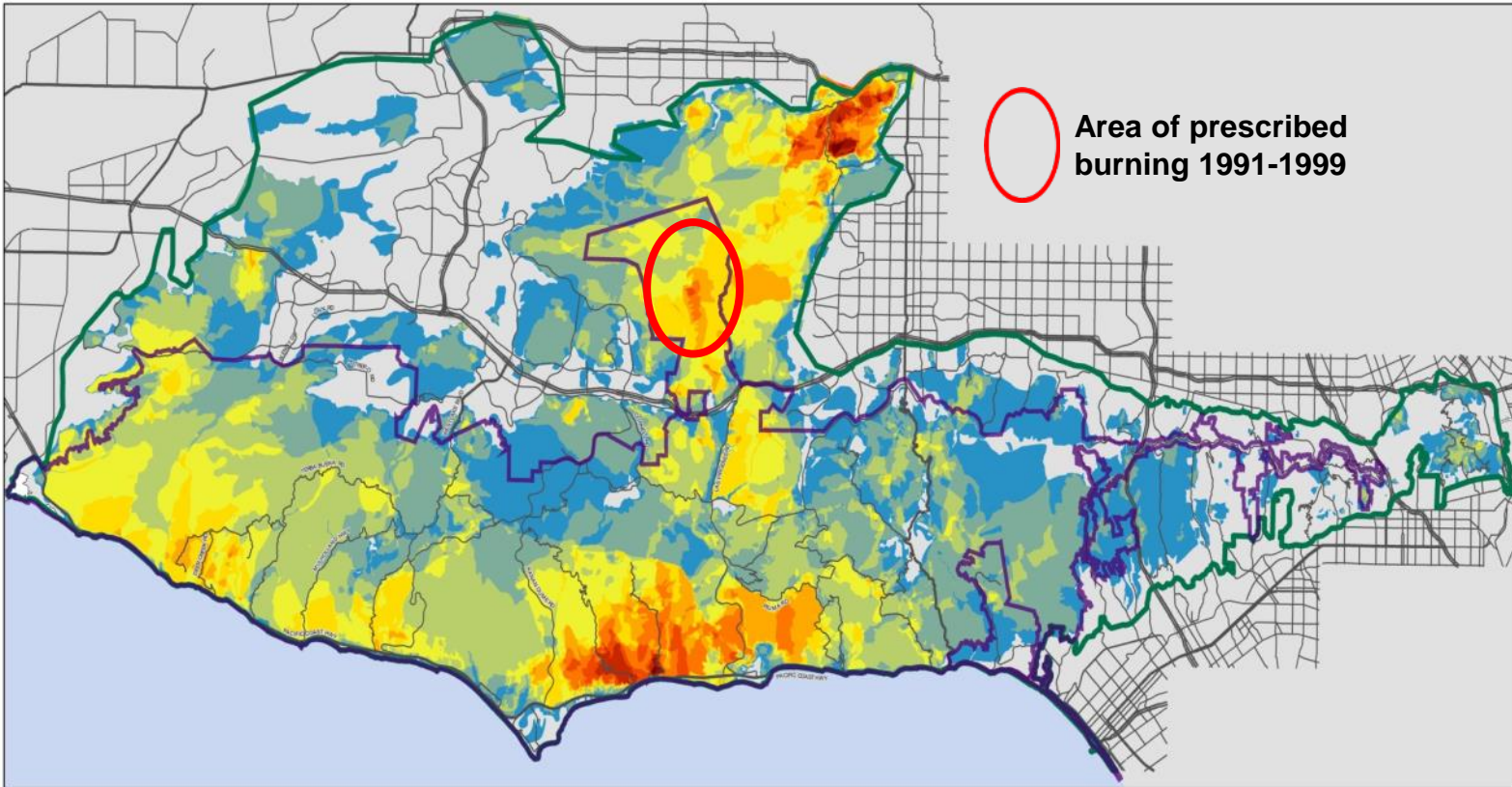


Time and drought 2012-2016 2014-2016 Shrub Dieback



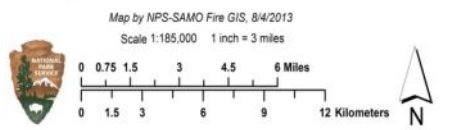
Using remote sensing AVIRIS data 110,183 acres were classified as “alive” in 2013 (not including annual grasslands). In 2016 only 77,840 acres were classified as “alive”. Pixels for 32,343 acres of trees and shrubs (29%) were classified with dieback by 2016. SMMRCD & NASA DEVELOP TECHNICAL REPORT December, 2017 Santa Monica Mountains Ecological Forecasting II

Future Role for Prescribed Burning?



Area of prescribed burning 1991-1999

Fire frequency in the greater Santa Monica Mountains area



Year of last fire based on fire history data from NPS-SAMO and CAL FIRE-FRAP fire history databases, current through 2012.

- boundary- Santa Monica Mountains National Recreation Area
- Mountain zone (vegetation map extent)
- major roads

Number of fires (fire frequency, 1925 through 2013)

1 (88 years)	5 (18 years)	9 (10 years)
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4 (22 years)	8 (11 years)	

Map name: SAMO\rehistory\FireFreq\spring05022013_11x17.mxd, Aug 4, 2013 robert_c_baylor@nps.gov

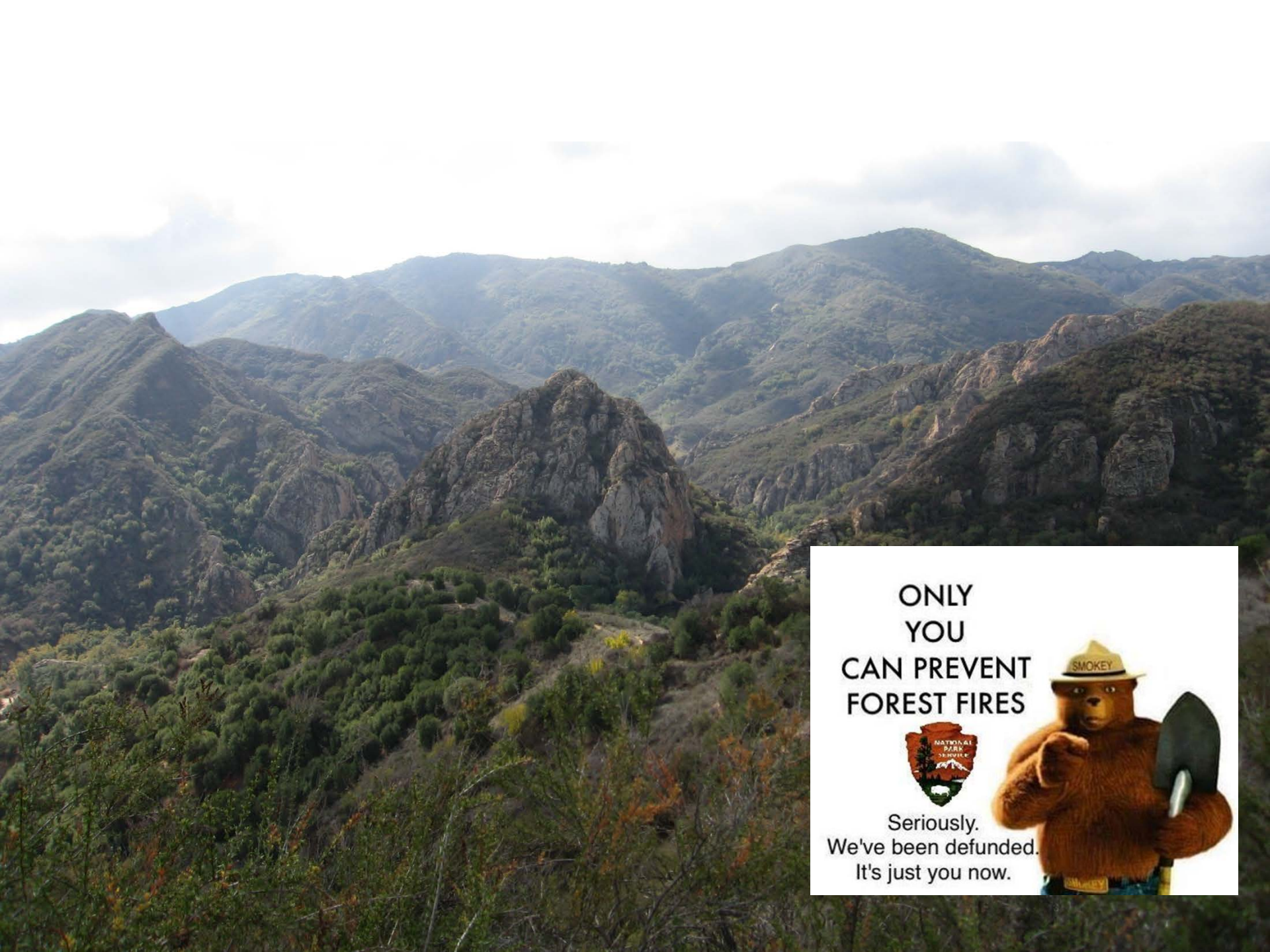
Topanga Fire June 29, 2017

29 acres



- Hwy 23 major cross mountain route to Santa Monica and west LA
- 1000's daily commuters
- Closed three times for 2, 2, and 12 days





ONLY
YOU
CAN PREVENT
FOREST FIRES



Seriously.
We've been defunded.
It's just you now.



ONLY
YOU
CAN PREVENT
~~WILD~~ FOREST FIRES



Seriously.
We've been defunded.
It's just you now.

