



# Demonstration State Forests



Reconsidering the  
"M" in MSP



# DISCLAIMER



The opinions shared in this presentation represent our personal views on the subject of MSP, the state of the rules, our current environment, and in no manner shall be interpreted as the expressed views of the Department.

# Establishment LDSF



- ❧ 1928 USFS inventory cited 41% of forest stocked with timber.
- ❧ 1930 USFS lands traded to State Lands Commission.
- ❧ 1945 LaTour was the first State Forest Enacted by the Legislature.
- ❧ Purchase Price \$100k
- ❧ 1946 Standing Inventory 102 MMBF.
- ❧ Christmas Tree sales by 1967, covered purchase cost.
- ❧ 2006 Standing volume was 197 MMBF

# Establishment MHDSF



- ❧ 1945 MHDSF was the second State Forest Enacted by the Legislature, 3 days after LDSF.
- ❧ Purchase Price \$550k
- ❧ 1946 Standing inventory 93 MMBF
  - ❧ Approximately 50% of the volume was SP,PP,JP
- ❧ 2007 - 76% of the forest volume, excluding OGGS was WF,IC
- ❧ 2012 Standing inventory 163 MMBF

# Understanding FRIF



- ❧ Program has been traditionally self-funded
- ❧ Revenues from timber and biomass are deposited into Forest Resource Improvement Fund (FRIF) account separate from General Fund.
- ❧ Since 2011 Camp Fees also go into FRIF.
- ❧ FRIF may only be expended for the cost of operations associated with demonstration state forests by the department, including restoration activities.
- ❧ JDSF is the primary revenue source of the program.
- ❧ Program success requires JDSF success.

# LaTour DSF Purpose



∞ The primary purpose of LaTour is to demonstrate economical silvicultural practices and promote continuous forest production, demonstrate good forest management practices, provide open space and recreation opportunities, preserve soil, watershed, and wildlife values; and conduct demonstrations and experiments.

# MHDSF Purpose



∞ The primary purpose of Mountain Home is to provide public recreation and demonstrate economical silvicultural practices and promote continuous forest production, demonstrate good forest management practices, provide open space, preserve soil, watershed, and wildlife values; and conduct demonstrations and experiments.

# The State Forest System

🌀 Jackson, Mendocino	48,652
🌀 LaTour, Shasta	9,033
🌀 <b>Big Bend, Shasta</b>	<b>6,982</b>
🌀 Mountain Home, Tulare	5,069
🌀 Boggs Mountain, Lake	3,493
🌀 Soquel, Santa Cruz	2,700
🌀 <b>Bear River/Lake Valley</b>	<b>2,618</b>
Placer/Nevada	
🌀 <b>Cow Creek, Shasta</b>	<b>2,246</b>
🌀 <b>Shingletown, Shasta</b>	<b>2,050</b>
🌀 <b>NF Mokelumne, Amador</b>	<b>1,052</b>
🌀 Las Posadas, Napa	796
🌀 <b>Bear River, Nevada/Placer</b>	<b>267</b>
🌀 Mount Zion, Amador	164
🌀 Ellen Pickett, Trinity	160
🌀 <b>Sawmill, San Bernadino</b>	<b>120</b>

TOTAL 85,135



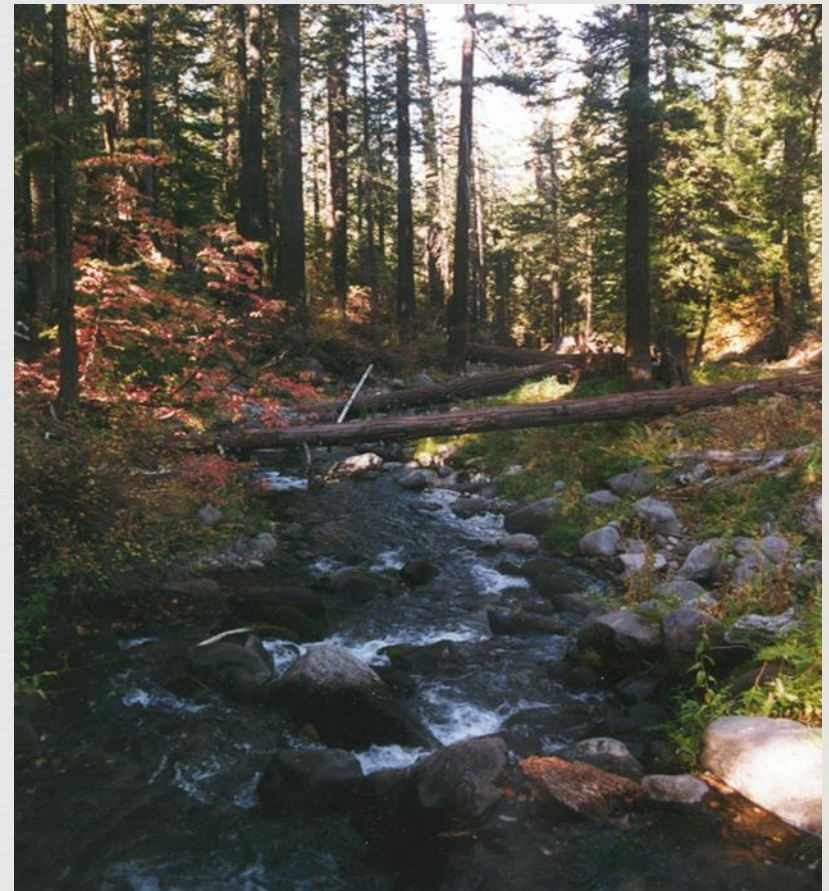
The DSF System is now the 10<sup>th</sup> largest Forest Landowner



# LaTour DSF Facts



- ❧ Elevation – 3,800' -6,740'
- ❧ 9,033 Acres
- ❧ Annual Precipitation – 46"  
(mainly snow)
- ❧ Temperature 0F – 90F
- ❧ Average Standing Volume –  
28 MBF per acre (2020 CFI)
- ❧ Average growth per  
acre/year;  
669.0 Board Feet (2020)



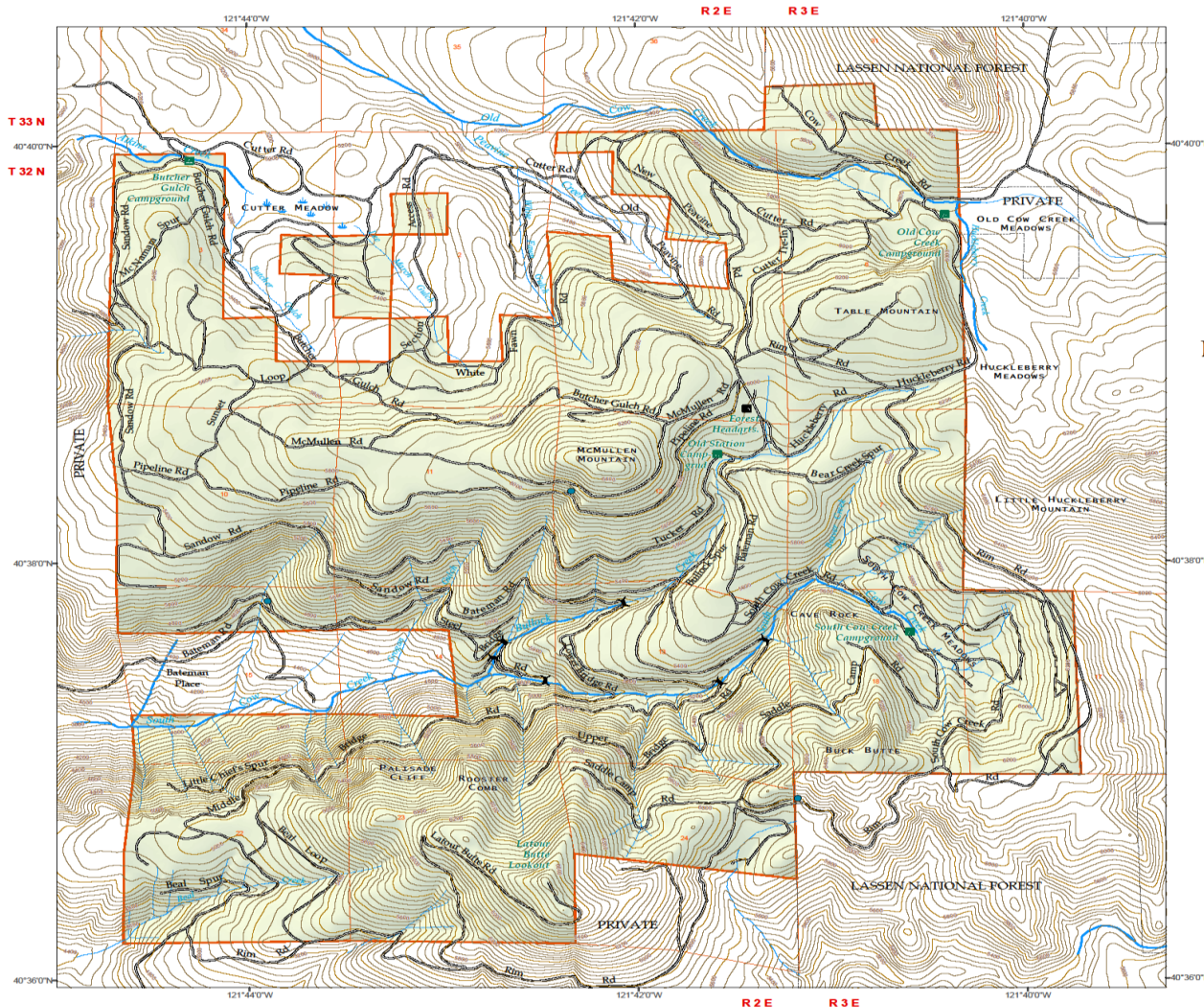
# LDSF Timber Types



- ⌘ High elevation True Fir/Red fir (85%); and
- ⌘ Sierra Mixed Conifer at lower elevations (15%)



# LaTour DSF

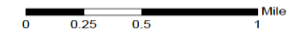


STATE OF CALIFORNIA  
DEPARTMENT OF  
FORESTRY AND FIRE PROTECTION  
THE RESOURCE AGENCY

## LATOUR DEMONSTRATION STATE FOREST

SHASTA COUNTY  
2009

Scale: 1:15,840  
4 inches = 1 mile



- Roads
- X Bridge
- State Forest Headquarters
- Water Tank
- Campground
- 40 foot contour interval
- 200 foot contour interval
- State Forest Ownership
- National Forest boundary



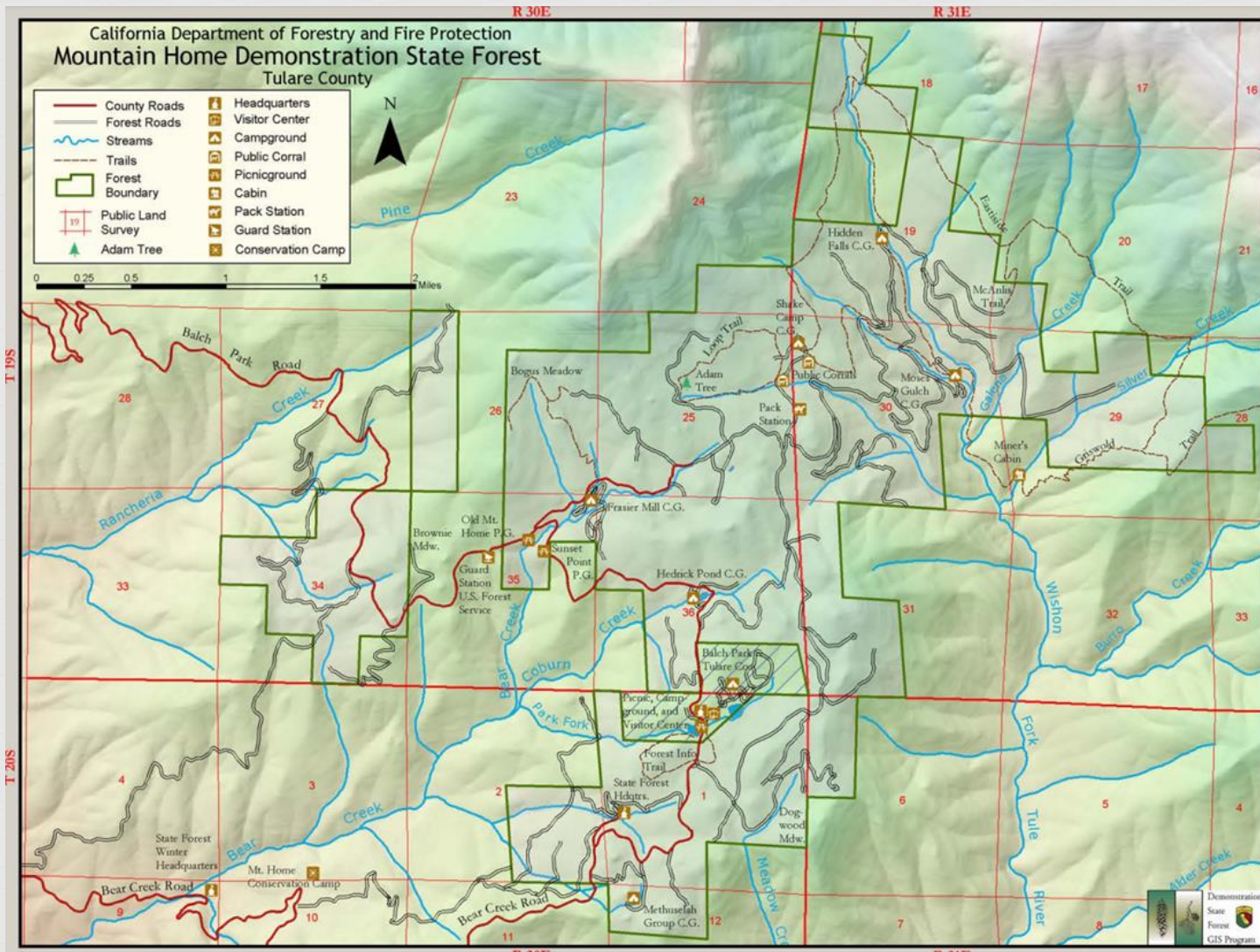
# MHDSF Facts



- ❧ Elevation – 4,800' -7,600'
- ❧ 5,069 Acres
- ❧ Annual Precipitation – 42”  
(mainly snow)
- ❧ Temperature 14F – 78F
- ❧ Average Standing Volume –  
56 MBF per acre (all conifer) .
- ❧ 22 MBF on OGGS
- ❧ Average growth per  
acre/year;  
911 Board Feet (2009)



# MHDSF



# LDSF Forest Operations



- Over 201 MMBF harvested since 1951.
- 2006 Option A placed LTSY at 5.51 MMBF/Y.
- Current Decade's AAC is 3.033 MMBF/Y.
- Last 10 Year Rolling average (2013-22) is 3 MMBF/Y
- Operations are limited by snowmelt and are on borrowed time after Oct 15<sup>th</sup>.

# LDSF Forest Operations



- ❧ No harvest was conducted in 2018, 2021, & 2022 due to local supply gluts from fire salvage.
- ❧ Locally it was determined that CAL FIRE would not promote logging our green timber, as this would have resulting in a deferment of available mill demand and/or logging capacity away from fire affected landowners.
- ❧ Landowners can find it difficult to meet harvest objectives, when markets are contracted.

# MHDSF

## Forest Operations

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- Over 125 MMBF harvested since 1945.
- 2009 Option A placed LTSY at 4.4 MMBF/Y.
- Harvest operations aligns with high use recreational season.
- Operation since 2012 are drought related salvage.
- Operation since 2020 are fire salvage related.



# Stand density moving forward



- Both LDSF and MHDSF are fulfilling their demonstration/experimental mandates and actively participating as in-woods laboratories supporting the UNR Sierra Nevada Adaptive Management Experiment (AMEX). (Dr. Sarah Bisbing)
- This study applied 3 replicated treatments and controls
  - Transition – 125 sq ft, no fuels treatment
  - Resistance – 75 sq ft, post-harvest fuels treatment
  - Resilience – 75 sq ft (w/group), post-harvest fuels treatment

# Spp. Comp and Diversity



This study includes replicated common garden progeny trials with 5 species from 13 different seed lots from the full longitudinal range of the Sierra Nevada, examining the potential for assisted genetic migration.



# Option (a)'s and DSFs



933.11(c) Is limited to ownership less than 50,000 acres.

DSF program manages over 50,000 when aggregated, but only one Forest is near to 50,000 ac threshold (JSDF). Given original legislative intent for DSFs were to demonstrate to small and medium landowners, it was determined that DSF's would develop 5 Option (a)'s to demonstrate viability on smaller tracts. Specifically recognizing 933.11(a)(2)

*“For purposes of this subsection the sufficiency of information necessary to demonstrate the balance of growth and harvest over time for the assessment area shall be guided by the principles of practicality and reasonableness in light of the size of the ownership and the time since adoption of this section using the best information available.”*

In the past, as an experiment, option “A”s were developed to explore/demonstrate feasibility for smaller ownerships and that technical complexity of modeling could be balanced with cost of preparation. A study reference in 1996, by LDSF put the cost at \$16/ac. (\$30.51, 2023)

# LDSF 2006 Option “A”



Management constraints were identified as:

- ❧ WLPZ for aquatic protection.
- ❧ Retention of potential LSFS attributes such as snags and LWD.
- ❧ Wildlife
- ❧ Regional Economic Role.
- ❧ Recreation
- ❧ Aesthetics
- ❧ Range and Forage (Open Range County)
- ❧ **Catastrophic Forest replacing was not considered.**

# MHDSF 2009 Option “A”

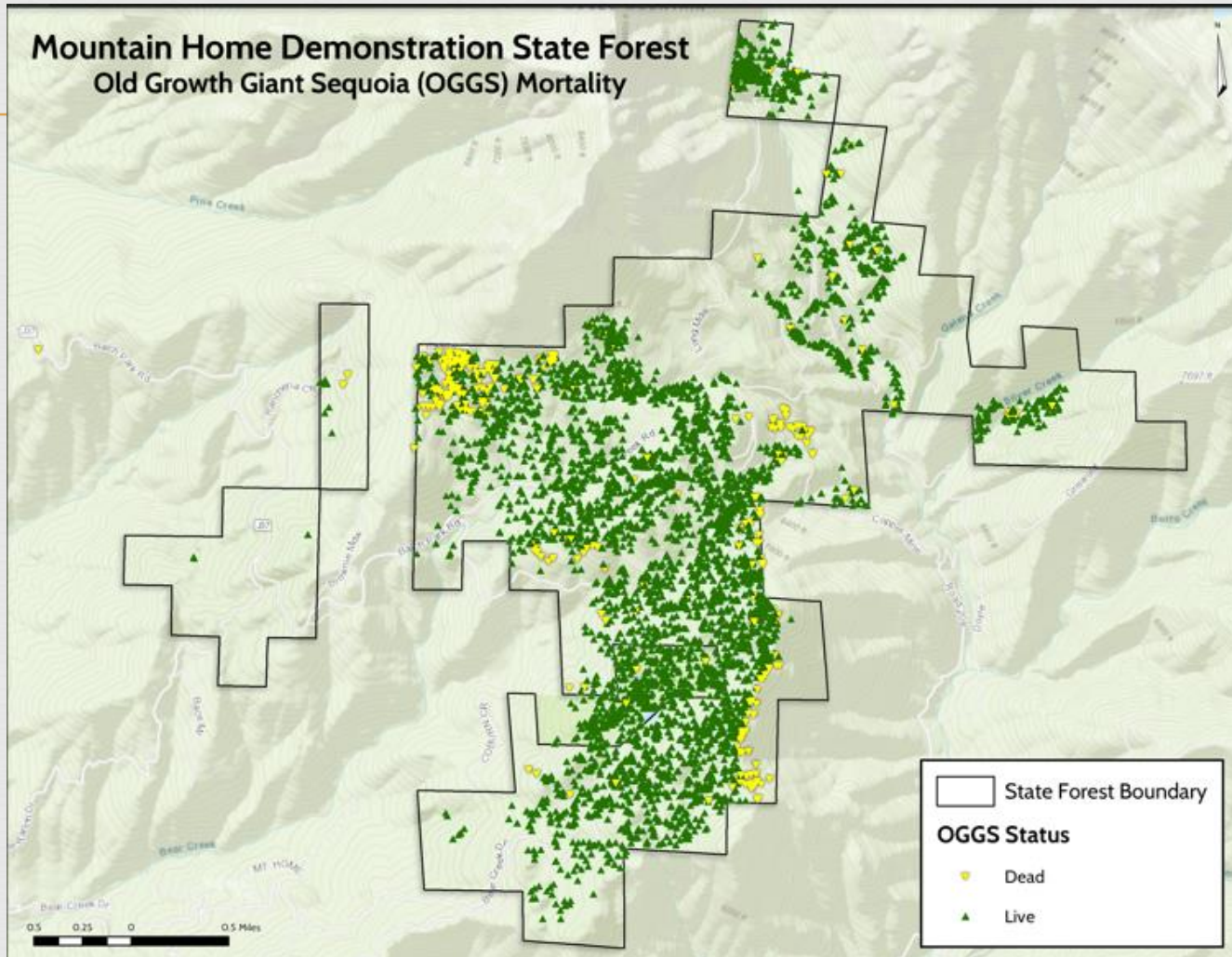


Management constraints were identified as:

- ❧ WLPZ for aquatic protection.
- ❧ Aesthetics - Visual Buffers - Recreation
- ❧ Retention of ALL OGGS.

❧ Drought, Fire, and Adjacency were not considered.

# MHDSF OGGS



# Older DSF Option (a)'s through a 2023 lens

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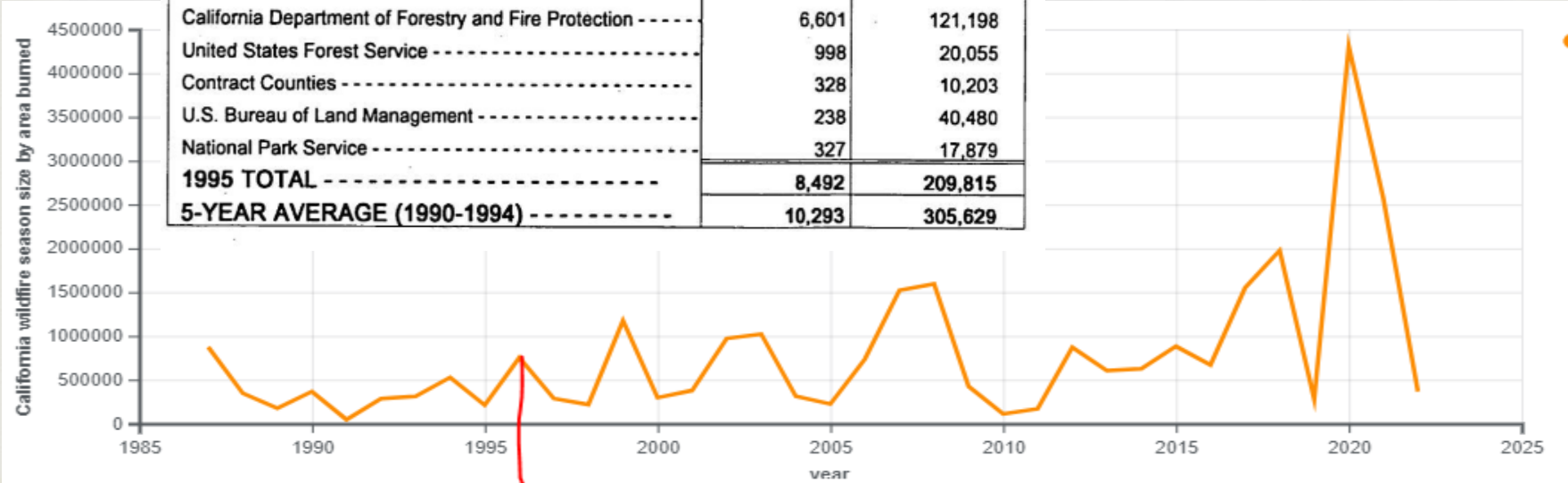
- Recent fire activity has demonstrated the potential to cover 30,000 acres in a 24 hour burn period, eliminating or significantly adversely effecting **recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment.** This additionally affects long run **regional economic vitality and employment.**
- Option(c) restocking standards have been changed to promote lower stand densities.
- Uneven-aged retention standards have been changed, eliminating the seed tree stocking standards (9 -18's), most landowners still retain more than 75 sq ft .

# Unforetold Future



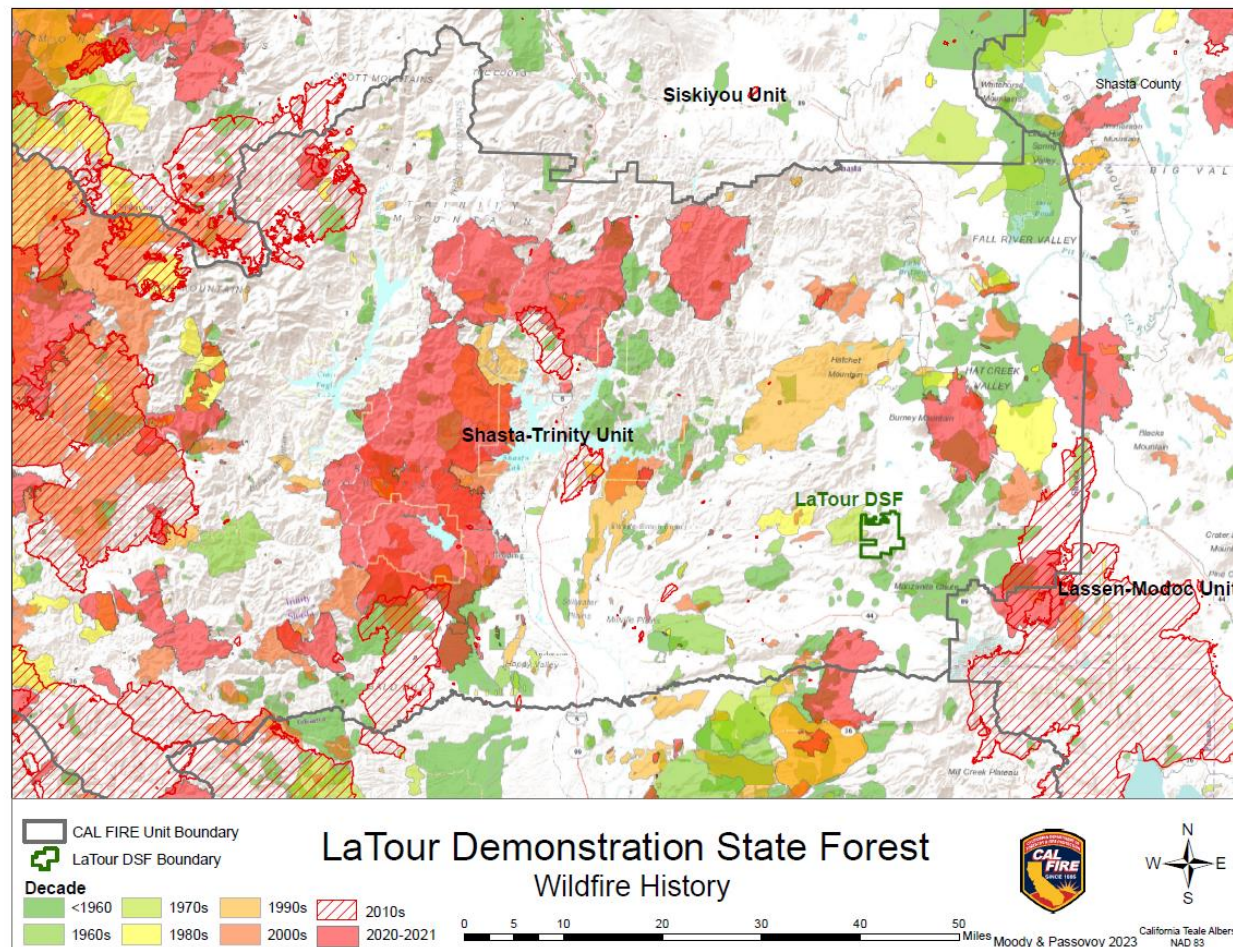
In 1996, rule making, reasonably assumed that forest replacement fire could be absent as a consideration for a 100-year planning horizon.

DIRECT PROTECTION AREA OF:	WILDFIRES	ACRES BURNED
California Department of Forestry and Fire Protection -----	6,601	121,198
United States Forest Service -----	998	20,055
Contract Counties -----	328	10,203
U.S. Bureau of Land Management -----	238	40,480
National Park Service -----	327	17,879
<b>1995 TOTAL -----</b>	<b>8,492</b>	<b>209,815</b>
<b>5-YEAR AVERAGE (1990-1994) -----</b>	<b>10,293</b>	<b>305,629</b>

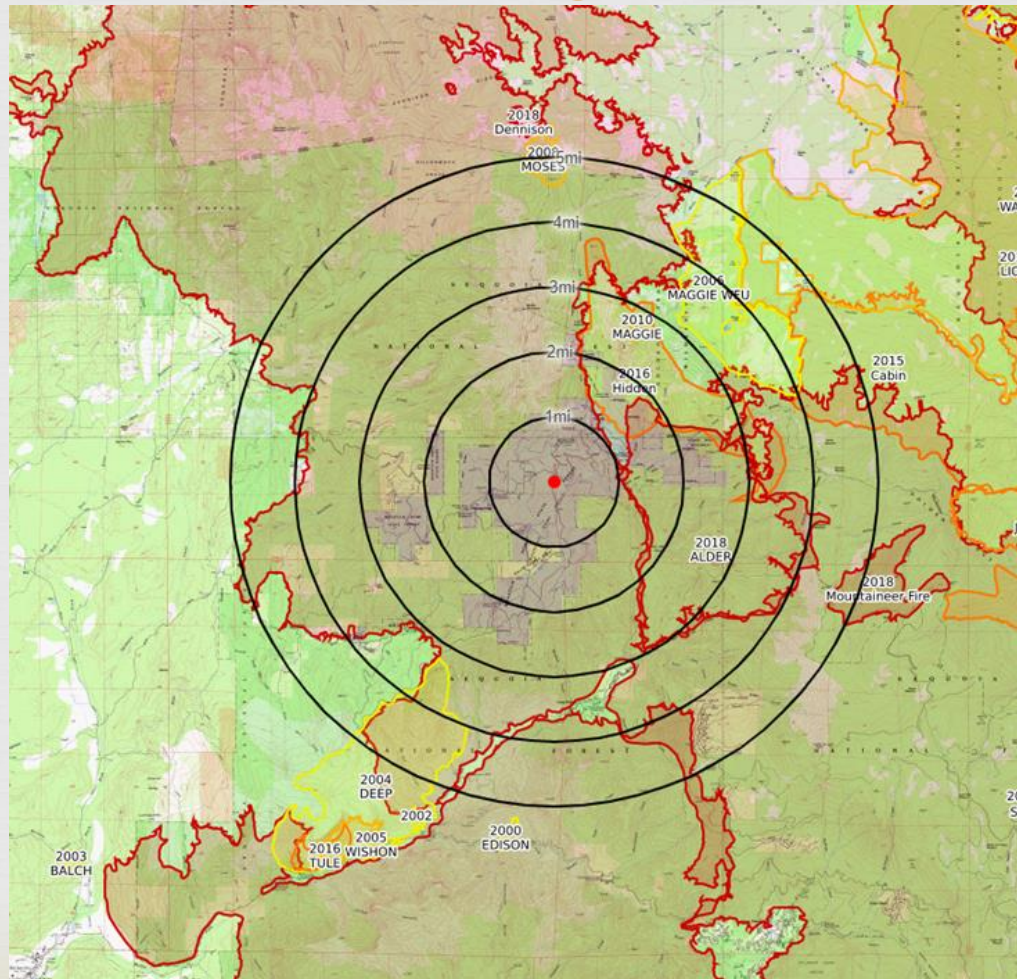




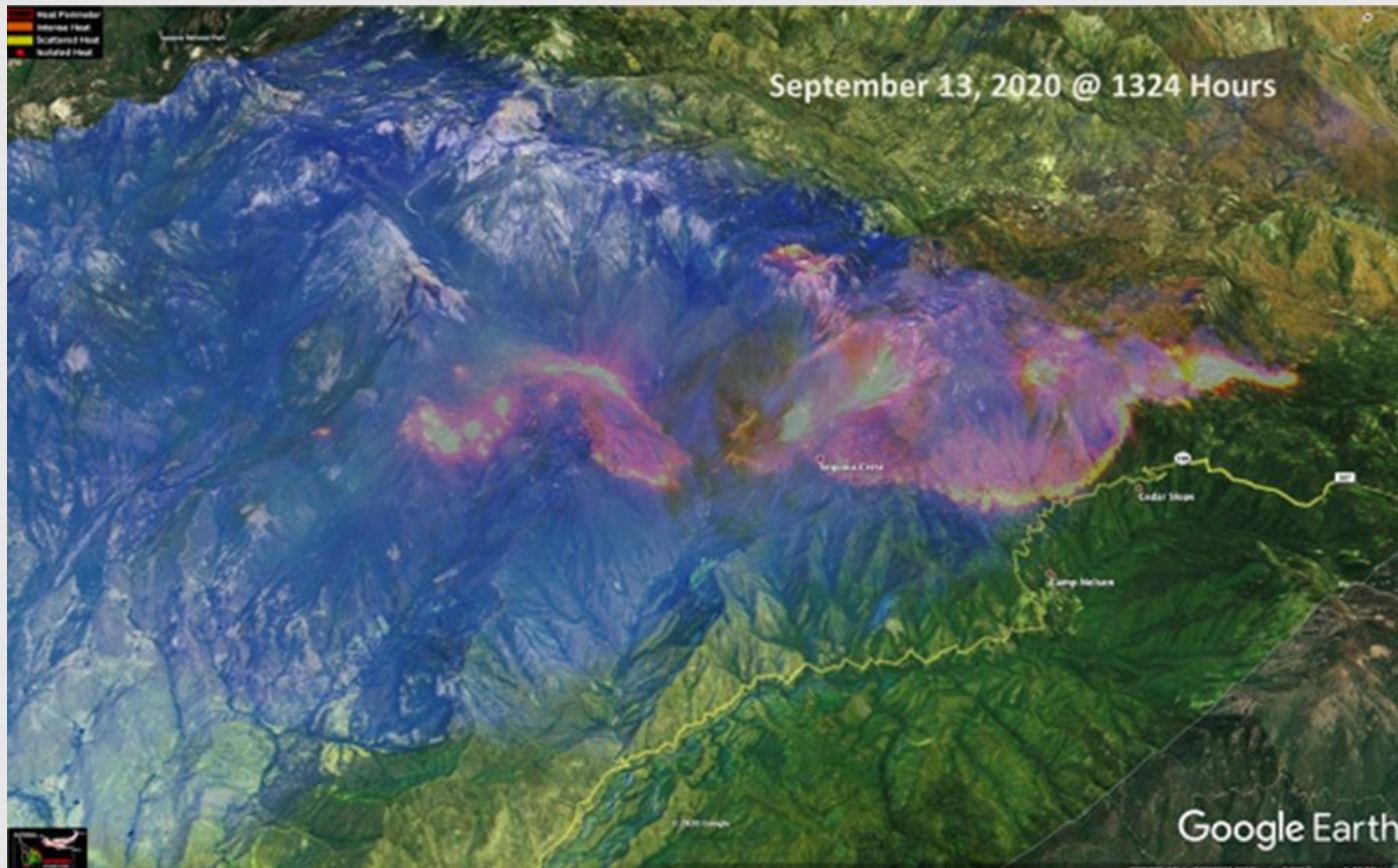
# Historic Fires in Shasta Co.



# Historic Fires near MHDSF.



# Adjacency defined



# Looking back at 1996 MSP



MSP as practiced in CA is constrained by stocking standards and/or post harvest retention, not production levels.

The biggest issue that TO/TLO's get to determine is rotation age divergent from (c) if preferred.

Other decisions like point count and retained basal areas are dictated by the silviculture rules.

The MSP is really SP in the sense of providing regulatory assurance that forest cover will be maintained into the future.

Uneven age practitioners always maintain stocking post harvest, which may negate the need to demonstrate MSP.

# Consideration for future



- ❧ New Option “A”s will likely be required to address CEQA considerations for wildfire hazard and risk, as currently required in THPs.
- ❧ Achieving Maximum volume, on interior climates, may put other forest values at high probability risk of catastrophic loss. Counter to LO conservation objectives and/or FPR intent.

# Consideration for future



- ❧ Current TPA at 125-point count, reduces planting costs and may provide some level of future fire resiliency/resistance in inter tree canopy fire transmission.
- ❧ Expected saving in planting and SDM could be applied to increased veg and fuels management.
- ❧ Wider spacing on treated ground should/may provide greater individual trees sizes, volumes, fire resiliency, and forest value stability.

# Closing Thoughts



- ❧ Assumes that “Maximum Sustained Yield” is possible. But offers only a prescriptive definition.
- ❧ Maximization equations provide only 1 outcome if constraints (FPRs) are held equal.
- ❧ Option (c) against all scales of ownership inherently covers 933.11 (a)(1)(3)(4) &(5).
- ❧ Can 933.11 (a)(2) really be predicted/modeled with any certainty.
- ❧ 100-year modelling assume values and regulatory constraints are constant in the planning horizon.
- ❧ Small and medium LO's will continue to utilized 933.11(c).

# Closing Thoughts



- ❧ Considering our current conditions, re-evaluation of the concept of MSP, as currently defined, may be warranted.
- ❧ In light of uncertainty, does the burden of an Option (a) document provide the intended public benefit?
- ❧ Many would agree that volume production could be considered a private decision. LO/TLO's need only demonstrate the sustained Maintenance of the public trust values.
- ❧ It's not 1996.



# Questions

