

GROWING FORESTS FOR OUR FUTURE

2023 CLFA SPI MSP PRESENTATION

ED MURPHY – RPF 2066

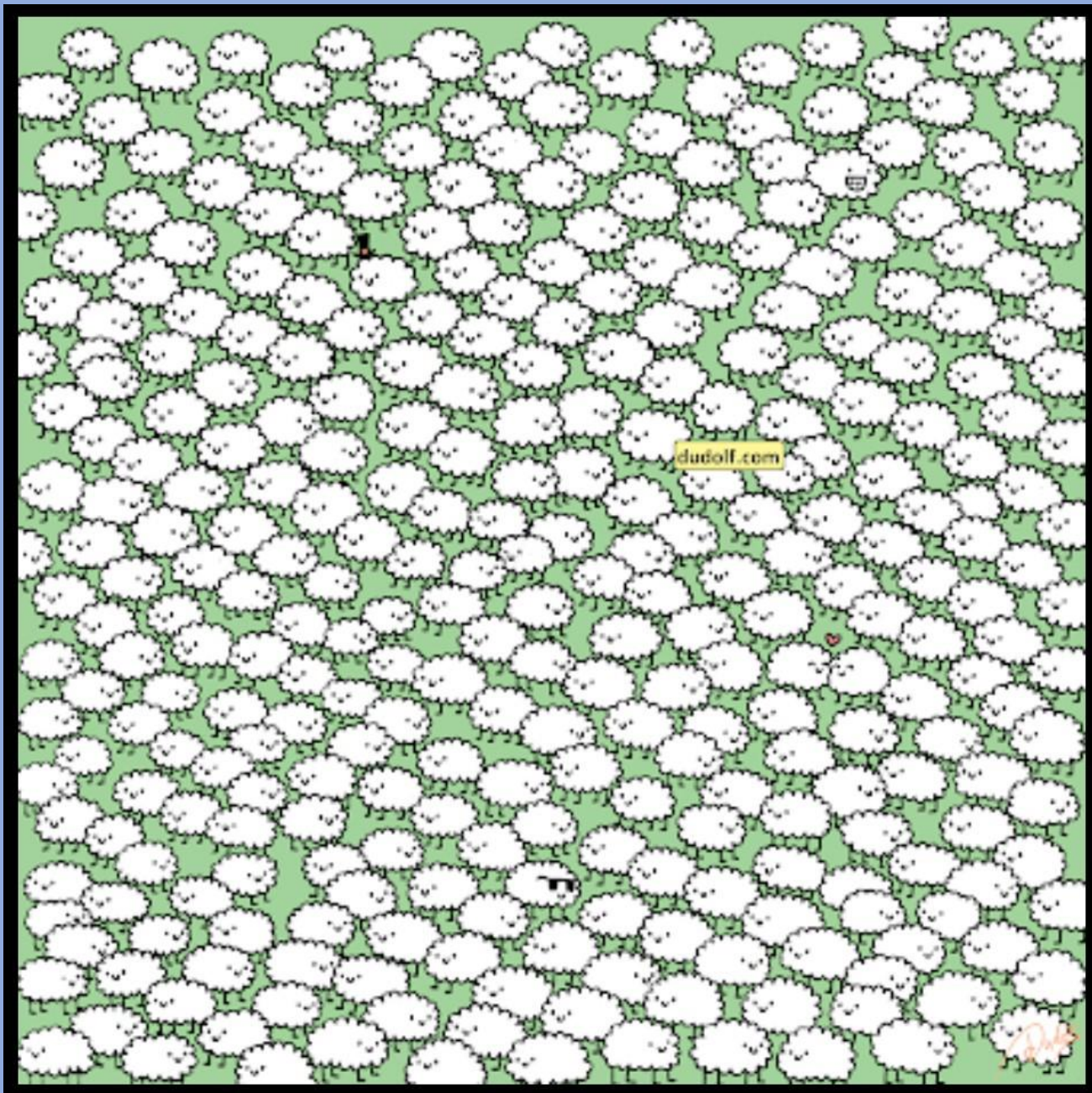


SIERRA
PACIFIC
INDUSTRIES

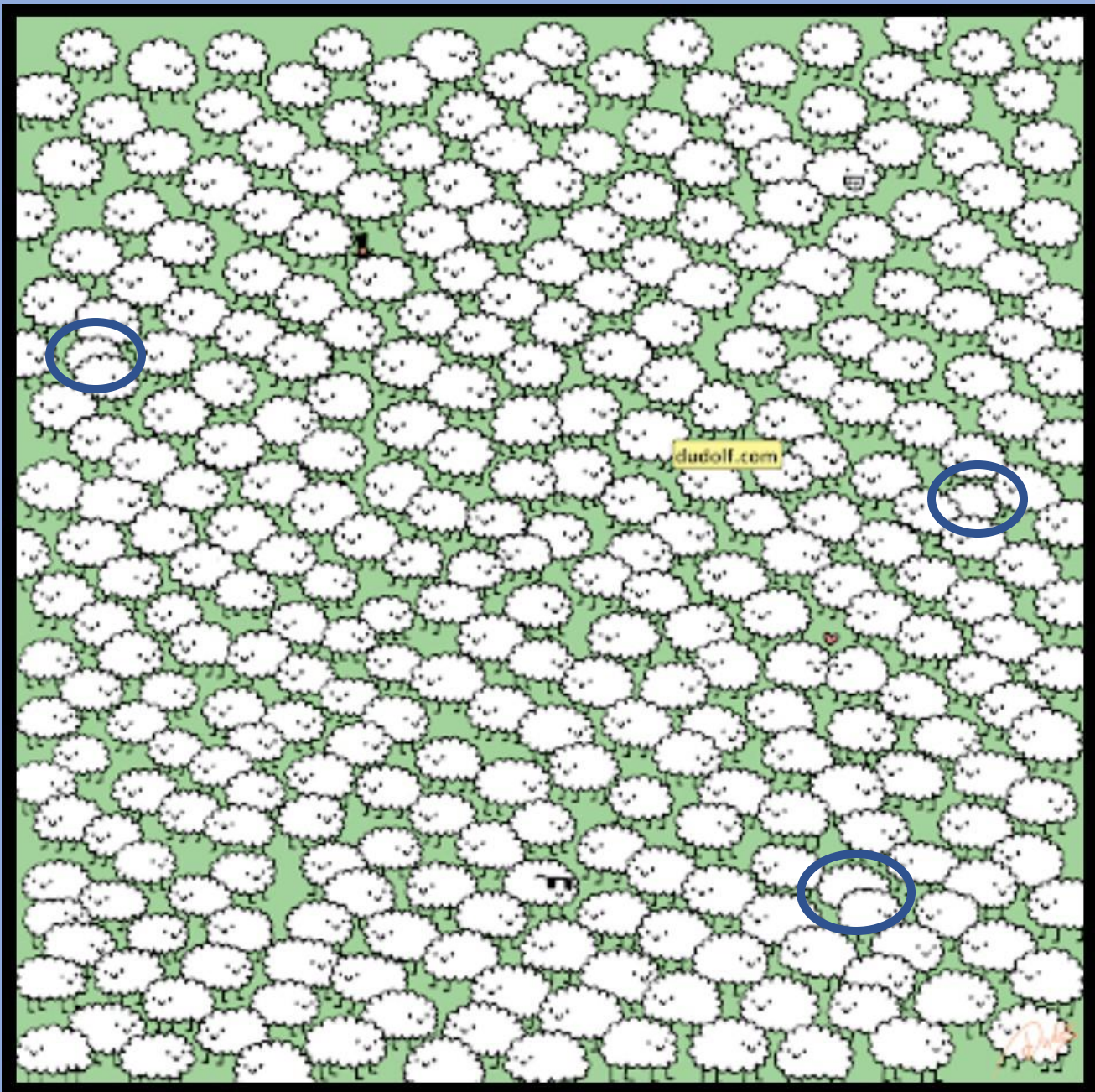


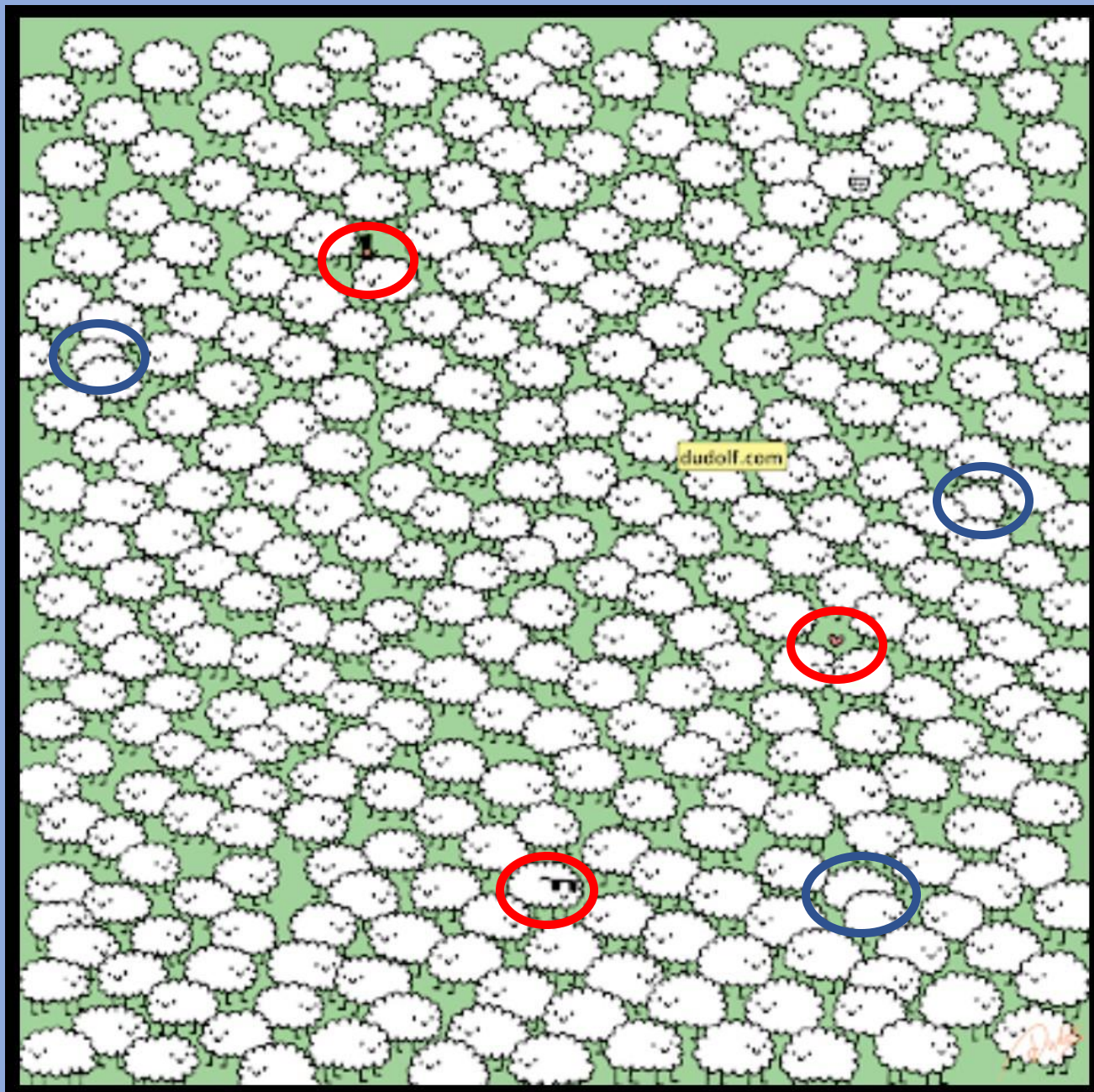
SIERRA
PACIFIC
WINDOWS

Castle Crag, Sierra Pacific Industries Redding District Timberland in foreground



Can you find the three fluffy white clouds in the flock of sheep (1 minute)?





How many of you saw the bird, sunglasses and the tophat?

CLFA 2023 Conference – MSP

- A. History of Political Insanity (MSP) – 1990 to 1992
 - a. Big Green – Prop 128
 - b. Prop 130 - Hal Arbit (5 million)
 - c. Prop 138 – Industry initiative to counter 128 and 130
 - d. Sierra Accord (Vetoed by Gov. Richard Wilson)
 - e. California Accord (killed by Speaker Willie Brown)
 - f. Grand Accord (killed by Speaker Willie Brown)
- B. Moving to an Administrative Solution – Board of Forestry (1992-1994)
 - a. Weak connection between preamble of the FPA
 - b. Authority never been tested in court.
 - i. Generally large landowners felt they could demonstrate MSP. (SFI, FSC, Tree Farm, US Forest Protocol)
 - c. Rules that govern – 3 options
- C. 1999 SPI Demonstration of MSP
 - a. Still operable 24 years and counting.

CLFA 2023 Conference – MSP

- D. 2019 New SPI Demonstration of MSP
 - a. 24 years of practical experience – build on the first one, make it better and more resilient. Define LTSY
 - b. Constraints on Productivity
 - i. Wildfire – modeling stochastic events. (need to fix landscape distribution of habitat forms, early rotations)
 - ii. Wildlife – two 50-year HCPs based upon habitat distributions and protection utilizing the SYP modeling.
 - iii. Adjacency – 10-year planning adjacency (reality of 5 year legal and a practical decadal approach)
 - iv. Water Course Protections and other misc. constraints.
 - v. Fuel Breaks – Yield Impacts
 - vi. Concept of prediction variability. (error bars on the estimate \pm 15% to 20% both up and down) So one would be in compliance as long as you are tracking within the error bars.

Article 1. General Provisions

4511. Title of act.

This chapter shall be known as the **Z'berg-Nejedly Forest Practice Act of 1973.**

4512. Forest resources and Timberlands; utilization, restoration, and protection; legislative findings and declarations.

(a) The Legislature hereby finds and declares that the forest resources and Timberlands of the state are among the most valuable of the natural resources of the state and that there is great concern throughout the state relating to their utilization, restoration, and protection.

(b) The Legislature further finds and declares that the forest resources and Timberlands of the state furnish high-quality timber, recreational opportunities, and aesthetic enjoyment while providing watershed protection and maintaining fisheries and wildlife.

(c) The Legislature thus declares that it is the policy of this state to encourage prudent and responsible forest resource management calculated to serve the public's need for timber and other forest products, while giving consideration to the public's need for watershed protection, fisheries and wildlife, sequestration of carbon dioxide, and recreational opportunities alike in this and future generations.

(d) It is not the intent of the Legislature by the enactment of this chapter to take private property for public use without payment of just compensation in violation of the California and United States Constitutions.

4512.5. Sequestration of carbon dioxide; legislative findings and declarations.

The Legislature finds and declares all of the following:

- (a) State forests play a critical and unique role in the state's carbon balance by sequestering carbon dioxide from the atmosphere and storing it long term as carbon.
- (b) According to the scoping plan adopted by the State Air Resources Board pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code), the state's forests currently are an annual net sequesterer of five million metric tons of carbon dioxide (5MMTCO₂). In fact, the forest sector is the only sector included in the scoping plan that provides a net sequestration of Greenhouse Gas emissions.
- (c) The scoping plan proposes to maintain the current 5MMTCO₂ annual sequestration rate through 2020 by implementing "sustainable management practices," which include potential changes to existing forest practices and land use regulations.
- (d) There is increasing evidence that climate change has and will continue to stress forest ecosystems, which underscores the importance of proactively managing forests so that they can adapt to these stressors and remain a net sequesterer of carbon dioxide.
- (e) The Board, the Department, and the State Air Resources Board should strive to go beyond the status quo sequestration rate and ensure that their policies and regulations reflect the unique role forests play in combating climate change.

4513. Timberlands; creation and maintenance of system of regulation and use; legislative intent.

It is the intent of the Legislature to create and maintain an effective and comprehensive system of regulation and use of all Timberlands so as to ensure both of the following:

- (a) Where feasible, the productivity of Timberlands is restored, enhanced, and maintained.
- (b) The goal of maximum sustained production of high-quality timber products is achieved while giving consideration to values relating to sequestration of carbon dioxide, recreation, watershed, wildlife, range and forage, fisheries, regional economic vitality, employment, and aesthetic enjoyment.


913.10, 933.10, 953.10 Timberland Productivity, Sustained Forestry Planning, Addendum

The goal of this section is to restore, enhance and maintain the productivity of the state's Timberlands, where feasible.

- (a) Where feasible, the productivity of Timberlands shall be maintained on a site-specific basis by
 - 1) Meeting the stocking standards of the selected silvicultural or regeneration method, or that level of stocking above the minimum that will achieve long term sustained yield (LTSY) that is proposed in 913.11 a or b.
 - 2) Proposing and implementing an appropriate silvicultural system and regeneration method for the site,
 - 3) Protecting the soil resource and its ability to grow commercial tree and provide sustainable associated forest values.
- (b) Timberland productivity is restored by mitigating the adverse effects of catastrophic events or previous land use activities in order to improve the site capacity to grow for harvest commercial tree species and provide forest values.
- (c) Timberland productivity is enhanced by such means as planting, thinning, stand manipulation, Stream channel improvement, or other techniques that will lead to increased tree growth and yield, accumulation of growing stock and production of associated forest values.
- (d) Measures implemented to mitigate or avoid adverse environmental Impacts of timber harvesting contribute to restoration and enhancement of Timberland productivity. **Plan submitters are encouraged, but not required,** to undertake additional measures to restore and enhance Timberland productivity. CAL FIRE may advise plan submitters of measures which could be undertaken **at the plan submitters' option** to further restore and enhance Timberland productivity.
- (e) **This section does not impose any additional obligation on owners of Timberlands where wildfires, insects, disease, wind, flood, or other blight caused by an act of nature reduces stocking levels below any applicable stocking requirements.**

913.11, 933.11, 953.11 Maximum Sustained Production of High Quality Timber Products

The goal of this section is to achieve Maximum Sustained Production of High Quality Timber Products (MSP). MSP is achieved by meeting the requirements of either (a) or (b) or (c) in a THP, SYP, NTMP, or WFMP, or as otherwise provided in Article 6.8, Subchapter 7, Subchapter 7, Chapter 4, Division 1.5, Title 14 of the California Code of Regulations.

 (a) Where a Sustained Yield Plan (14 CCR § 1091.1) or NTMP, or a WFMP has not been approved for an ownership, MSP will be achieved by:

(1) Producing the yield of timber products specified by the landowner, taking into account biologic and economic factors, while accounting for limits on productivity due to constraints imposed from consideration of other forest values, including but not limited to, recreation, watershed, wildlife, range and forage, fisheries, regional economic vitality, employment and aesthetic enjoyment.


(2) Balancing growth and harvest over time, as explained in the THP for an ownership, within an assessment area set by the Timber Owner or Timberland Owner and agreed to by the Director. 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.

The projected inventory resulting from harvesting over time shall be capable of sustaining the average annual yield achieved during the last decade of the planning horizon. The average annual projected yield over any rolling 10-year period, or over appropriately longer time periods for ownerships which project harvesting at intervals less frequently than once every ten years, shall not exceed the projected long-term sustained yield.

(3) Realizing growth potential as measured by adequate site occupancy by species to be managed and maintained given silvicultural methods selected by the landowner.

(4) Maintaining good stand vigor.

(5) Making provisions for adequate regeneration. At the plan submitter's option, a THP may demonstrate achievement of MSP pursuant to the criteria established in (b) where an SYP has been submitted but not approved.

 (b) Where a SYP, NTMP, or WFMP is submitted for an ownership, an approved SYP, NTMP, or WFMP achieves MSP by providing sustainable harvest yields established by the landowner which will support the production level of those high quality timber products the landowner selects while at the same time:

(1) meeting minimal stocking and basal area standards for the selected silvicultural methods as provided in these Rules as described;

(2) protecting the soil, air, fish and wildlife, water resources and any other public trust resources;

(3) giving consideration to recreation, range and forage, regional economic vitality, employment and aesthetic enjoyment;

(4) balancing growth and harvest over time. The projected inventory resulting from harvesting over time shall be capable of sustaining the average annual yield achieved during the last decade of the planning horizon. The average annual projected yield over any rolling 10-year period, or over appropriately longer time periods for ownerships which project harvesting at intervals less frequently than once every ten years, shall not exceed the projected long-term sustained yield. A THP which relies upon and is found to be consistent with an approved SYP shall be deemed adequate to achieve MSP.

 (c) In a THP, NTMP, or WFMP, MSP is achieved by:

(1) For evenage management, meeting the minimum stand age standards of 14 CCR § 913.1(a)(1), meeting minimum stocking and basal area standards for the selected silvicultural methods as contained in these Rules only with group A species, and protecting the soil, air, fish and wildlife, water resources and other public trust resources through the application of these Rules; or

(2) For unevenaged management, meeting minimum stocking and basal area standards for the selected silvicultural methods as contained in these Rules, and protecting the soil, air, fish and wildlife, water resources and other public trust resources through the application of these Rules.

(3) For intermediate treatments and special prescriptions, complying with the stocking requirements of the individual treatment or prescription.

(4) Timberland ownerships totaling 50,000 acres or less may use subsection (c) to show MSP.

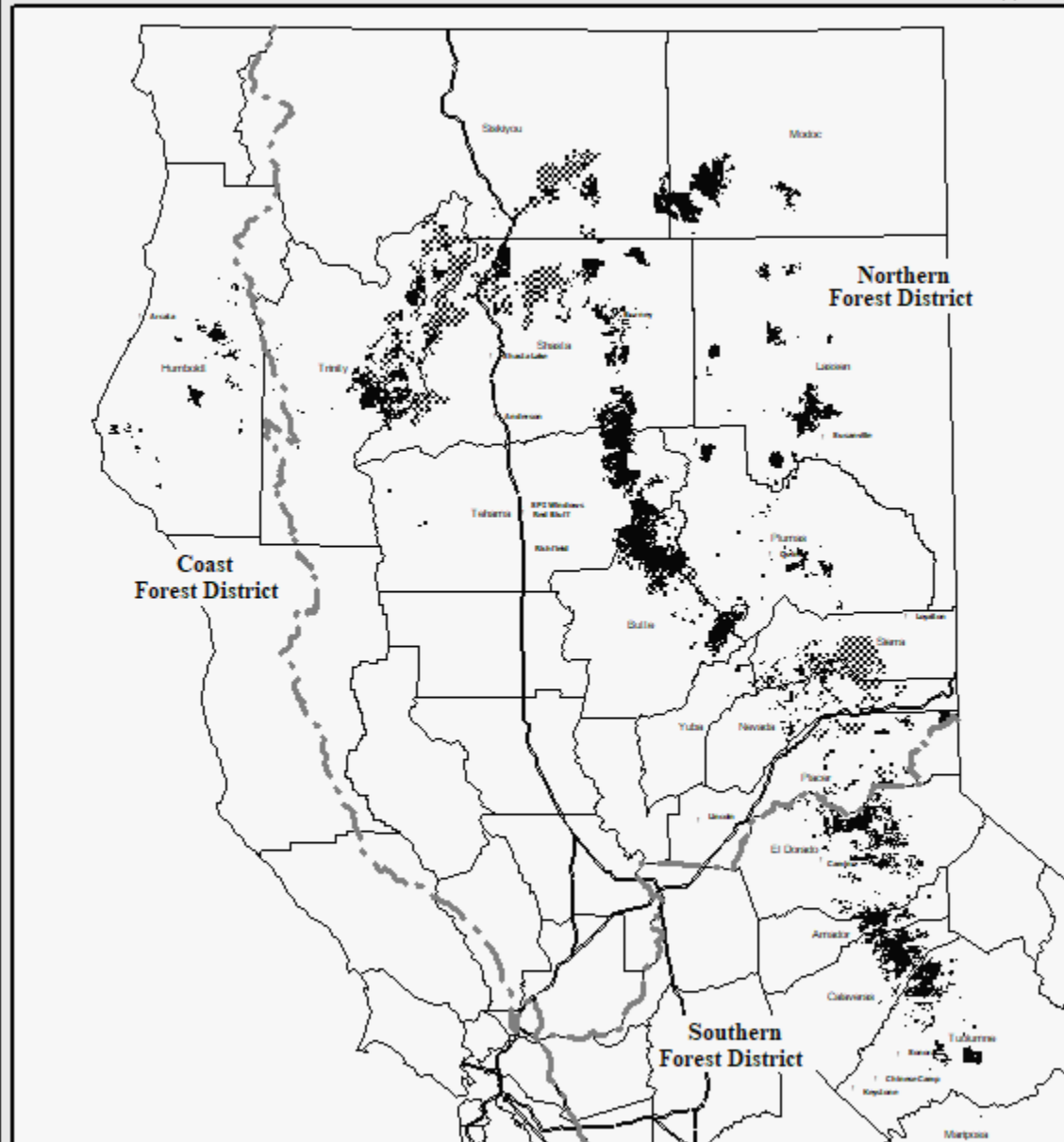
(5) Timberland ownerships of 50,000 acres or more may use subsection (c) through December 31, 1999. Thereafter they may use subsection (c) if an SYP or demonstration of achievement of MSP pursuant to 14 CCR § 913.11(a) [933.11(a), 953.11(a)] has been filed with the department and has not been returned unfiled or approved.

(6) For scattered parcels on Timberland ownerships of 50,000 acres or more, subsection (c) may be used to show MSP.

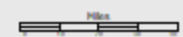
Long Term Sustained Yield means the average annual growth sustainable by the inventory predicted at the end of a 100 year planning period.

Sierra Pacific Industries

California Forestland Ownership



— Forest District ○ SPI Facility ■ SPI Ownership



F

Sierra Pacific Industries
Option A Demonstration
of Maximum Sustainable Production

for all lands managed by

Sierra Pacific Industries

in

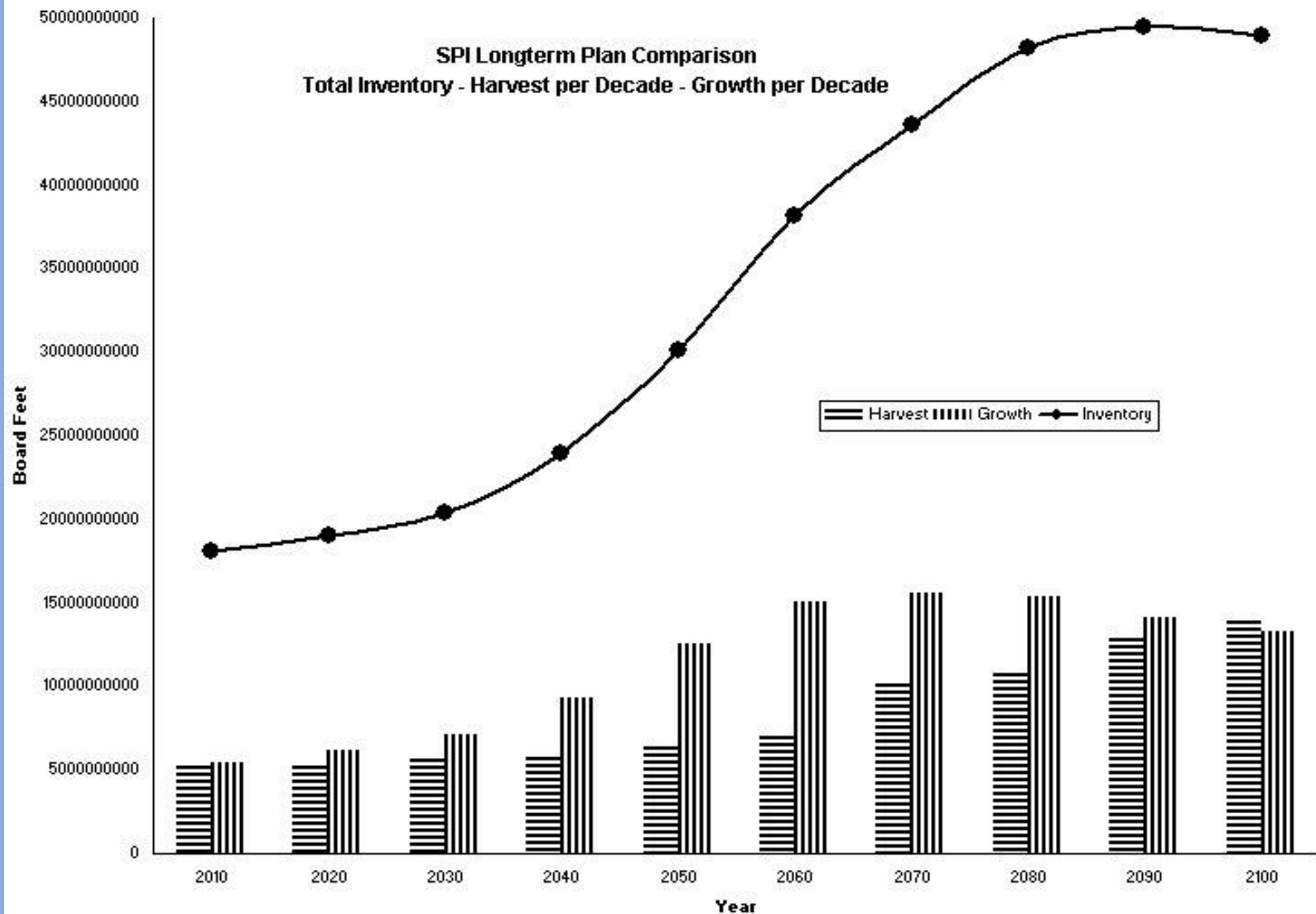
The Northern State Forest District

January 1, 1999

PREPARED BY:


Edward C. Murphy
RPF #2086

SPI Longterm Plan Comparison Total Inventory - Harvest per Decade - Growth per Decade



Achievement of Maximum Sustained Production Report

For TAA: Combined SPI All California Forest Districts

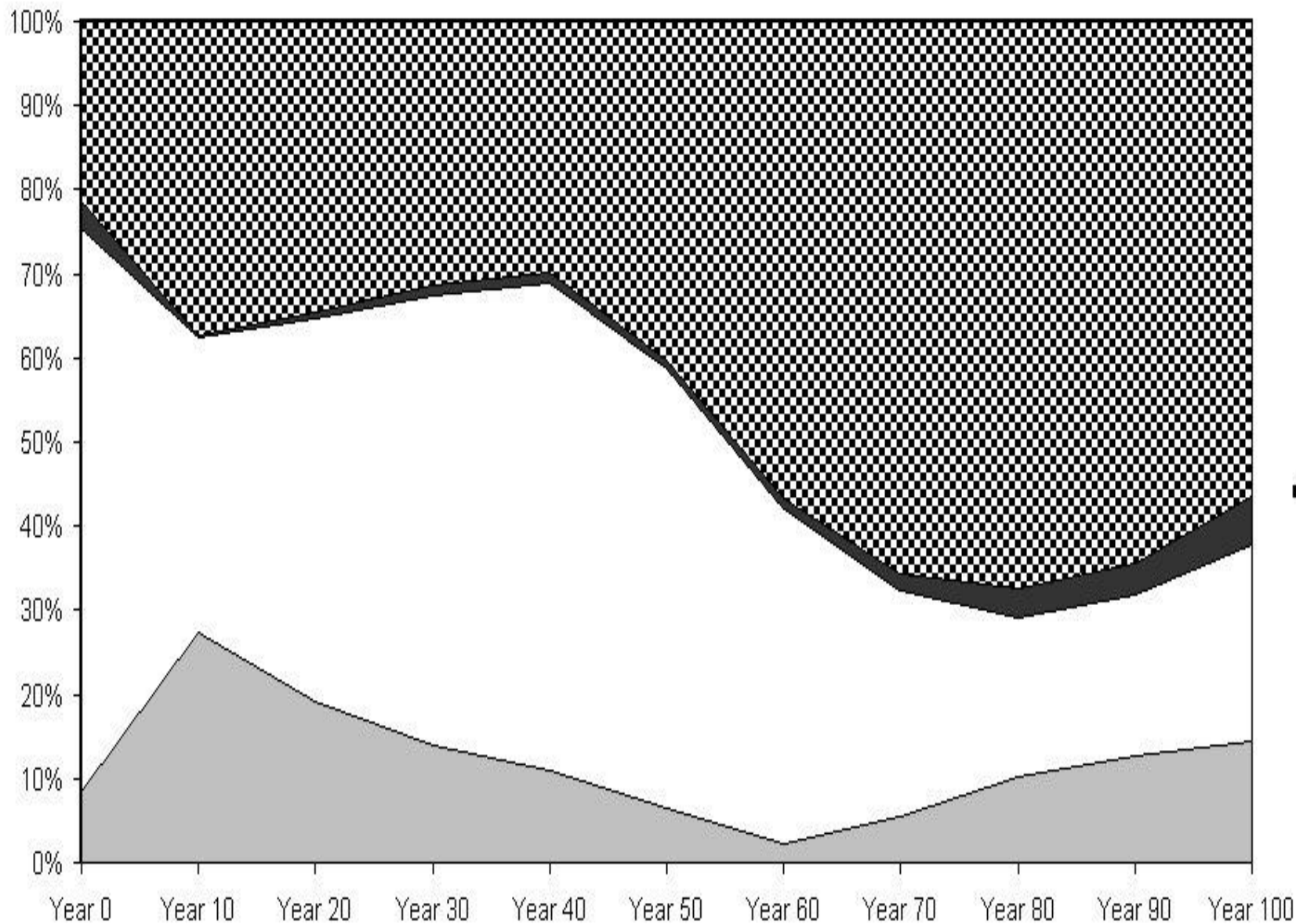
	2,002	scenarios				
	1,439,350.95	acres (Non forest acres omitted)				
		Board Feet Scribner				
	Beginning	Harvest	Residual	Total	Ending	Growth
Years	Inventory	Volume	Inventory	Growth	Inventory	bf/ac/yr
0 - 10	17,822,123,342	5,223,087,694	12,599,035,649	5,460,411,126	18,059,446,775	379
10 - 20	18,059,446,775	5,232,931,676	12,826,515,099	6,163,877,866	18,990,392,965	428
20 - 30	18,990,392,965	5,685,778,802	13,304,614,163	7,073,725,610	20,378,339,772	491
30 - 40	20,378,339,772	5,706,865,303	14,671,474,469	9,290,844,461	23,962,318,931	645
40 - 50	23,962,318,931	6,331,666,935	17,630,651,995	12,511,294,421	30,141,946,416	869
50 - 60	30,141,946,416	7,049,037,970	23,092,908,446	15,103,106,506	38,196,014,951	1049
60 - 70	38,196,014,951	10,150,878,450	28,045,136,501	15,545,282,479	43,590,418,981	1080
70 - 80	43,590,418,981	10,729,309,132	32,861,109,849	15,411,797,591	48,272,907,440	1071
80 - 90	48,272,907,440	12,917,332,527	35,355,574,913	14,149,892,255	49,505,467,167	983
90 - 100	49,505,467,167	13,915,398,644	35,590,068,523	13,324,333,648	48,914,402,172	926
Totals		82,942,287,134		114,034,565,963		

■ Early Seral

□ Small Tree

■ Open Tree

▣ Large Tree





DEPARTMENT OF FORESTRY AND FIRE PROTECTION
NORTHERN REGION HEADQUARTERS-REDDING
8105 Airport Road
Redding, CA 96002
(530) 224-2445
Website: www.fire.ca.gov



August 4, 2014

Mr. Ed Murphy
Sierra Pacific Industries
P O BOX 496014
Redding, CA 960049-6014

RE: SPI Option 'a' Conformance

Dear Mr. Murphy:

CAL FIRE has completed review of data submitted following the first decade of harvest under the following option 'a' documents:

- Sierra Pacific Industries Coast Forest District option 'a' submitted under THP 1-01-139-HUM
- Sierra Pacific Industries Northern Forest District option 'a' submitted under THP 2-97-359-SHA
- Sierra Pacific Industries Southern Forest District Option 'a' submitted under THP 4-98-038-ELD

Data associated with 'Allowed' or 'Planned' (volume and silviculture acres) were in agreement with the data that Sierra Pacific Industries submitted circa 2000-2002. The single exception was rehab acres for the Coast Option A where SPI reported that 1,124 acres were "planned" but CAL FIRE data showed zero acres completed.

What was reviewed:

1. Inventory Strata Summary;
2. Inventory, Harvest and Growth Projections by FP District;
3. Inventory and harvest diameter distribution projections;
4. Ownership and FP District level silviculture projections;
5. Constraint on productivity acres;
6. Plantation projection summary tables.

CAL FIRE has determined that Sierra Pacific Industries is in conformance with the three option 'a' documents noted above.

Sincerely,

Michael J. Bacca, RPF #2236
Forester III, Cascade, Sierra & Southern Regions
Forest Practice Manager



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July 12, 2019

Ed Murphy
Sierra Pacific Industries
PO Box 498014
Redding, CA 96049

RE: Coast, Southern and Northern Forest District Option "a" Review

Dear Ed:

CAL FIRE has been conducting a monitoring audit on Option "a" plans for approximately 2 ½ years from the date of this letter. During this audit, CAL FIRE conducted a field review of SPI lands in the Southern District in 2017 after your company provided us mapping information and silvicultural breakdowns on lands impacted by the drought. After conducting the field review CAL FIRE had additional questions concerning all of SPI's Option "a" plans (Coast, Southern and Northern Districts). The five additional questions were:

- Accounting of all areas affected by fire or insects where the stand type changed and no harvest occurred
- Current standing inventory
- Current standing inventory at this point as compared to the original Option "a" projections
- How does the impact of the fires and insects affect the yield stream trajectory
- Update on the current plantation status, specifically if they were meeting the growth targets established in the Option "a"

During a meeting with you and other representatives from SPI on January 23, 2019, and a follow up meeting on May 7, 2019, you provided a confidential package of information concerning the five additional questions we asked. In recognition that the company ownership has evolved over the years making some direct comparisons difficult, you did provide adequate responses to smooth out the variabilities between the original Option "a" analysis and the current condition of the larger land ownership.

We have determined that your self-reported numbers are in agreement with the information we have on file in our office. Based on the self-reported figures you provided the Department, we feel that you are currently in compliance with your SPI Coast, Southern and Northern Option "a" documents. It is important to note that we have not conducted any independent field verification of these numbers, nor have we sought to independently verify this information using outside sources such as the CDTFA or our

FPGIS layers, but did conduct a field audit on the impacts of the drought mortality in 2017 as noted above.

If you have any questions, please call me at (530) 224-2481.

Sincerely,



John Ramaley, RPF #2504
Forester III, Cascade, Sierra & Southern Regions
Forest Practice Manager
CAL FIRE
California Department of Forestry and Fire Protection
6105 Airport Road
Redding, CA. 96002
Phone (530) 224-2481
Fax (530) 224-4841
Cell (530) 941-7179
john.ramaley@fire.ca.gov

CC:
CAL FIRE - Helge Eng, Dennis Hall, Eric Huff, Chris Maranto, Kevin Kiniery, Dominik Schwab

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D. 2019 New SPI Demonstration of MSP

a. 24 years of practical experience – build on the first one, make it better and more resilient. Define LTSY appropriately.

b. Constraints on Productivity

i. Wildfire – modeling stochastic events. (need to fix landscape distribution of habitat forms, early rotations)

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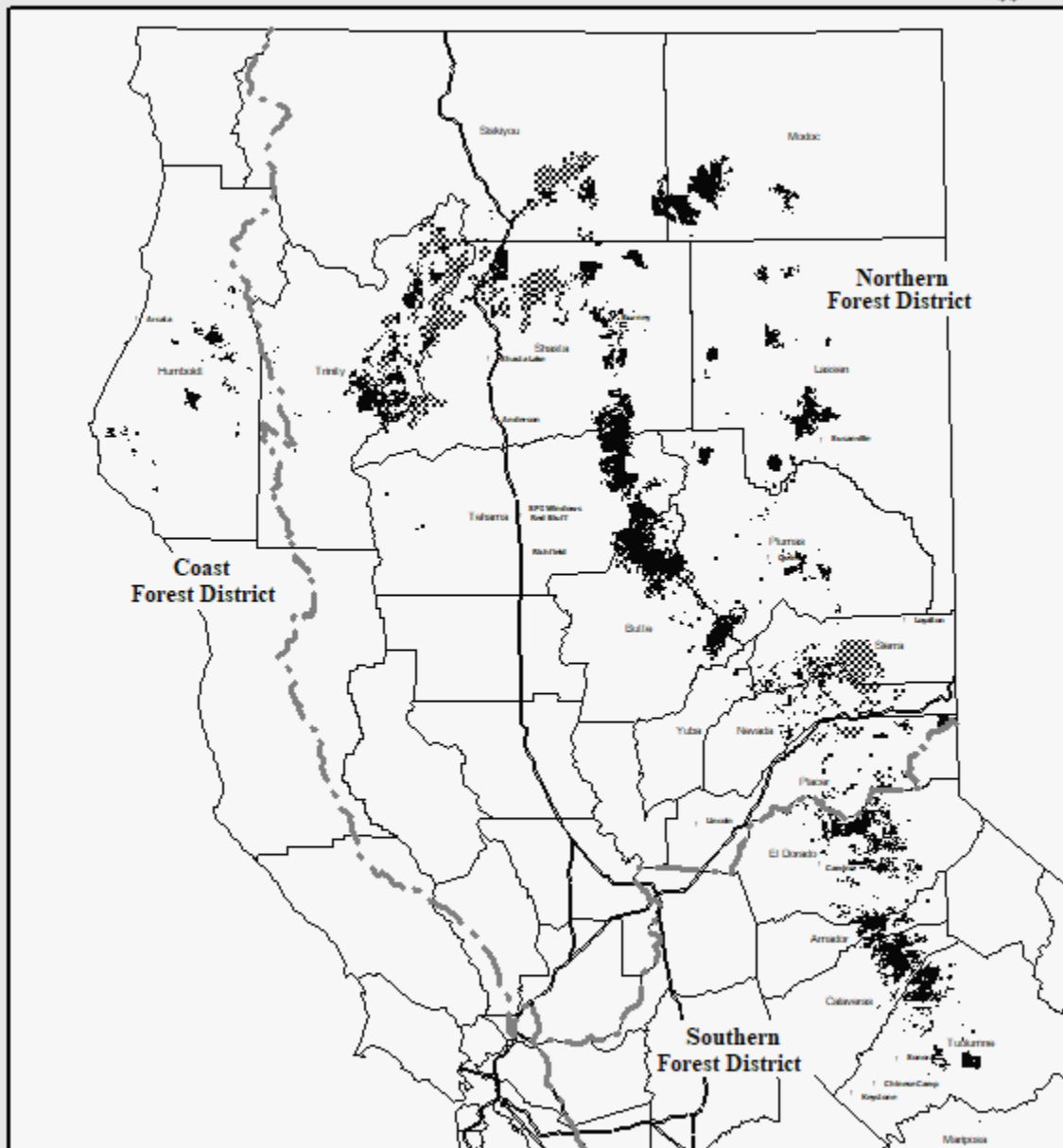
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Long Term Sustained Yield (LTSY) means the average annual growth sustainable by the inventory predicted at the end of a 100-year planning period, LTSY is that yield which results from producing the timber products specified by the landowner.

A corollary is as long as LTSY is higher than the starting harvest level, you probably can maintain the social license to continue to harvest.

Sierra Pacific Industries

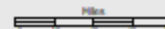
California Forestland Ownership



— Forest District

○ SI Facility

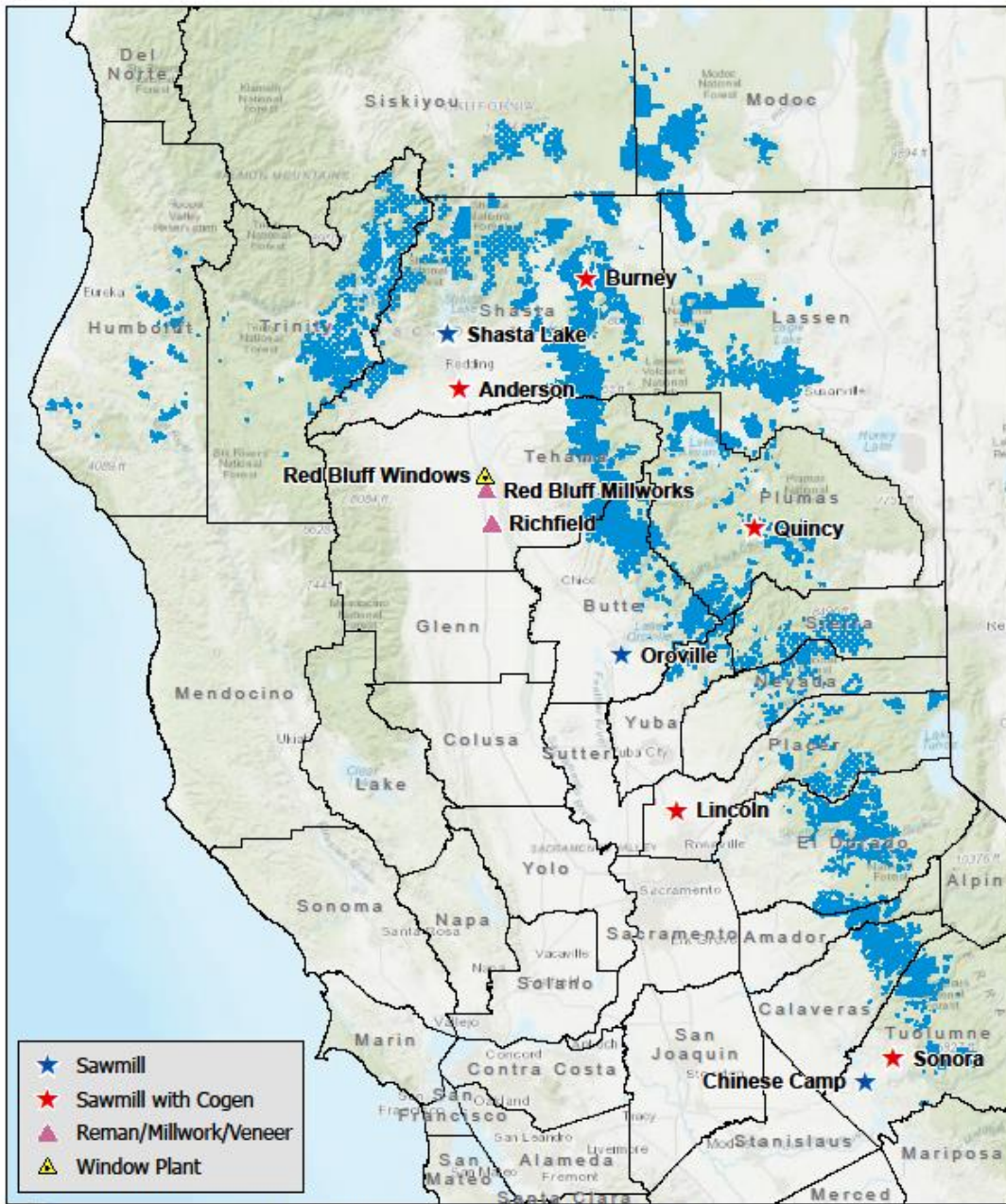
■ SI Ownership



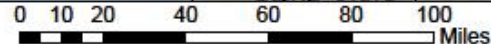
F



Sierra Pacific Industries - California Properties



- ★ Sawmill
- ★ Sawmill with Cogen
- ▲ Reman/Millwork/Veneer
- ▲ Window Plant



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July 12, 2019

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RE: Coast, Southern and Northern Forest District Option "a" Review

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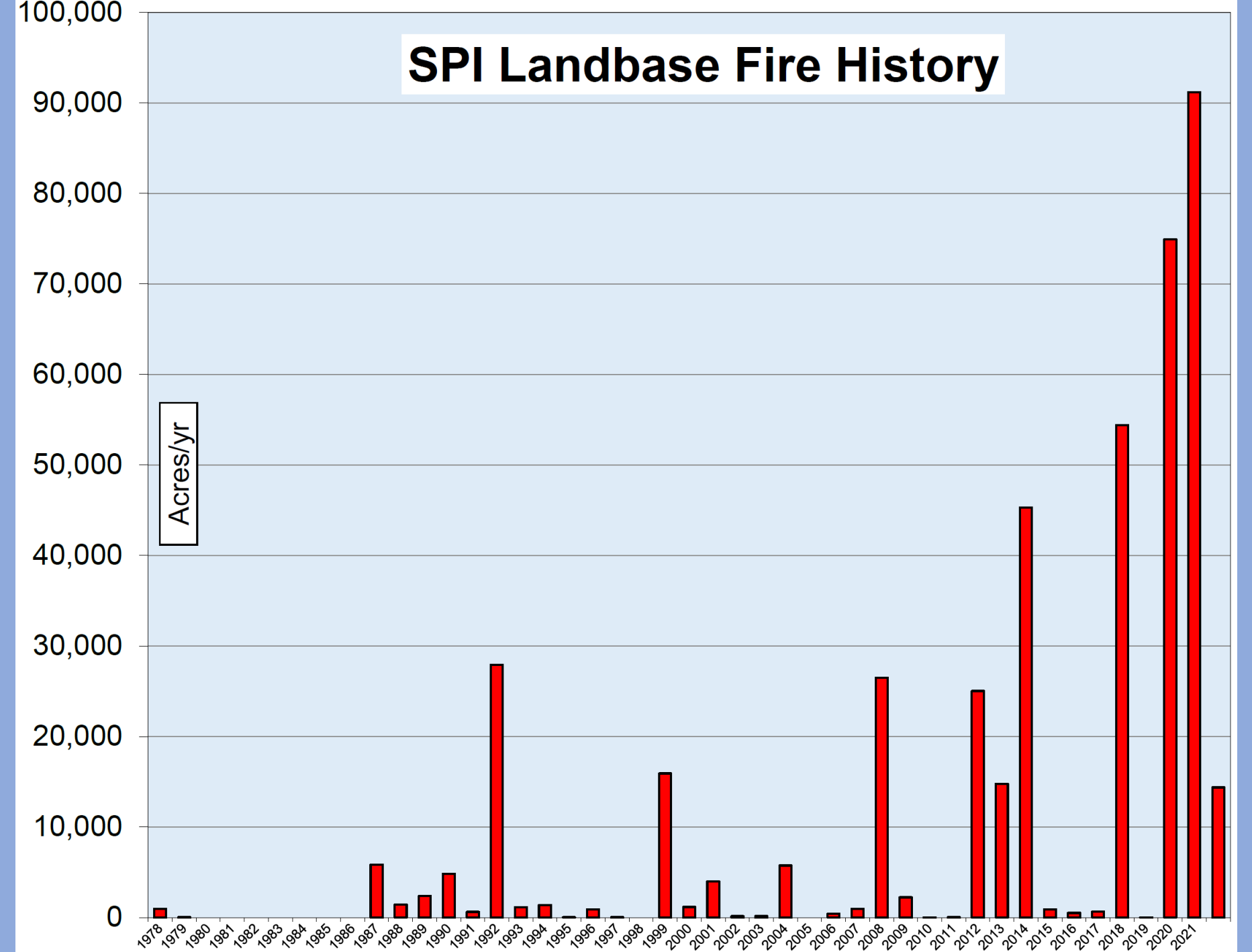
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- Accounting of all areas affected by fire or insects where the stand type changed and no harvest occurred
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SPI Landbase Fire History

Acres/yr



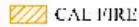

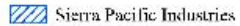
As wildfire severity has increased, Sierra Pacific Industries has recognized the need for management actions to help reduce forest resource losses to fire. This response is underway in the form of a Vegetation Management Program (VMP) which consists of thinning and reduction of fuels:

- fuel break network of strategically placed shaded fuelbreaks along roads and ridgelines
- fuels reduction projects in areas identified as high-risk or important for wildfire control
- continued vegetation management on previously treated fuelbreaks and treatment areas

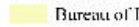
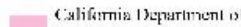
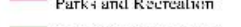
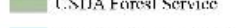
These treatments are represented within the Sustained Yield Plan as fuel harvests occurring every 20 years and modeled by thinning to 50 BAF. The VMP program began in the first half of the decade and as it continues to be implemented is expected to reduce fuel continuity while increasing ability to control wildland fire across the ownership. The intended objective of the VMP is to reduce losses to wildland fire moving forward, particularly by reducing the likelihood of catastrophic wildfire. This active planning and implementation therefore suggest that the recent 20-year trend will be reversed and more conservative allowances for wildfire constraints on Sustained Yield are defensible.

Fuel Treatments around Arnold and Calaveras Big Trees State Park - Calaveras and Tuolumne Counties, CA



Existing Fuel Reduction Treatments

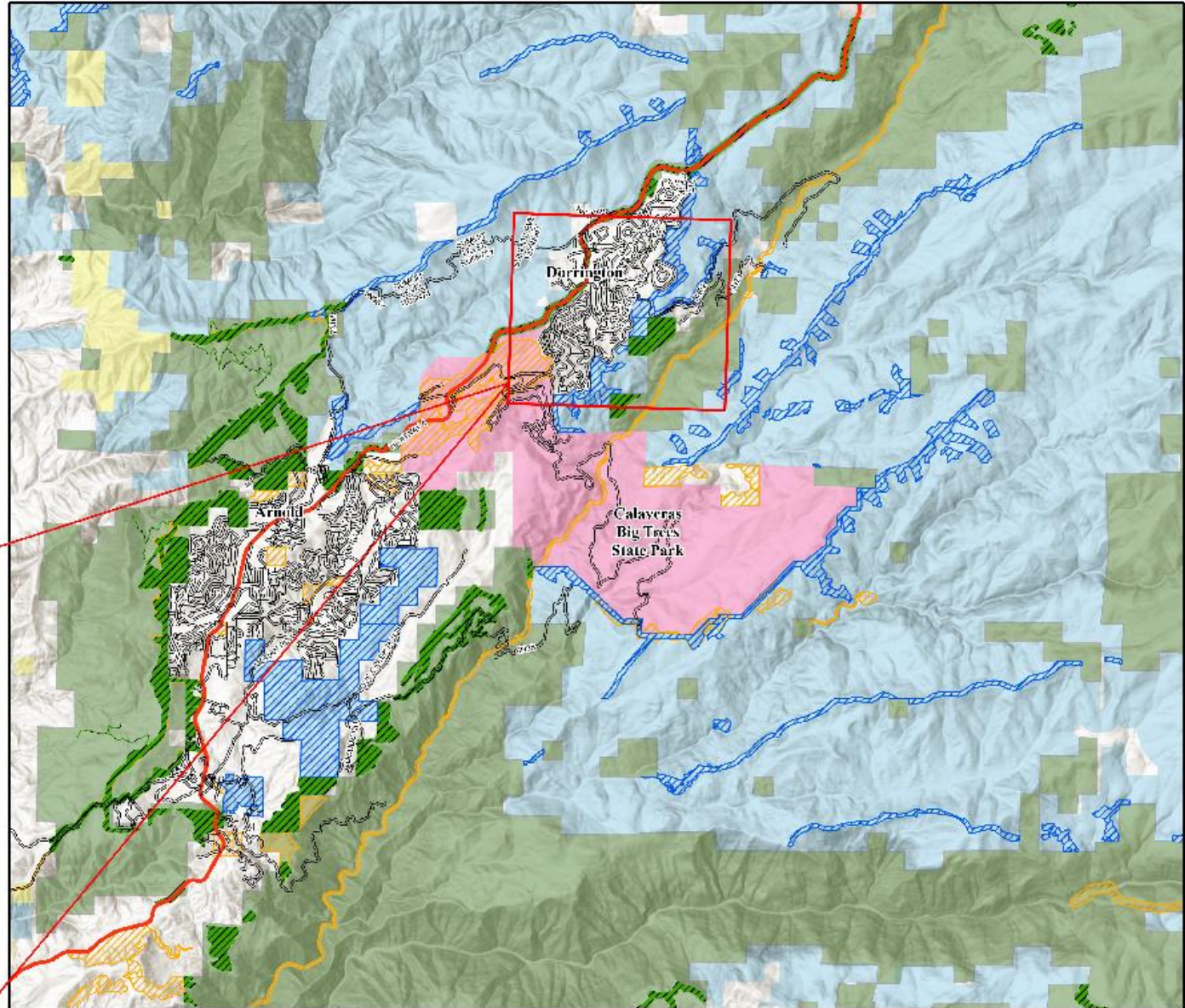
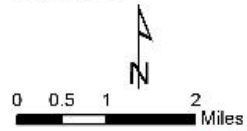
-  CAL FIRE
-  USFS
-  Sierra Pacific Industries

Ownership

-  Bureau of Land Management
-  California Department of Parks and Recreation
-  USDA Forest Service
-  Sierra Pacific Industries

Roads

-  Highway
-  Mainline Rd



Love Creek Fuel Break - Arnold, California

Before

After

Love Creek Fuel Break - Arnold,
Fuelbreak in WUI

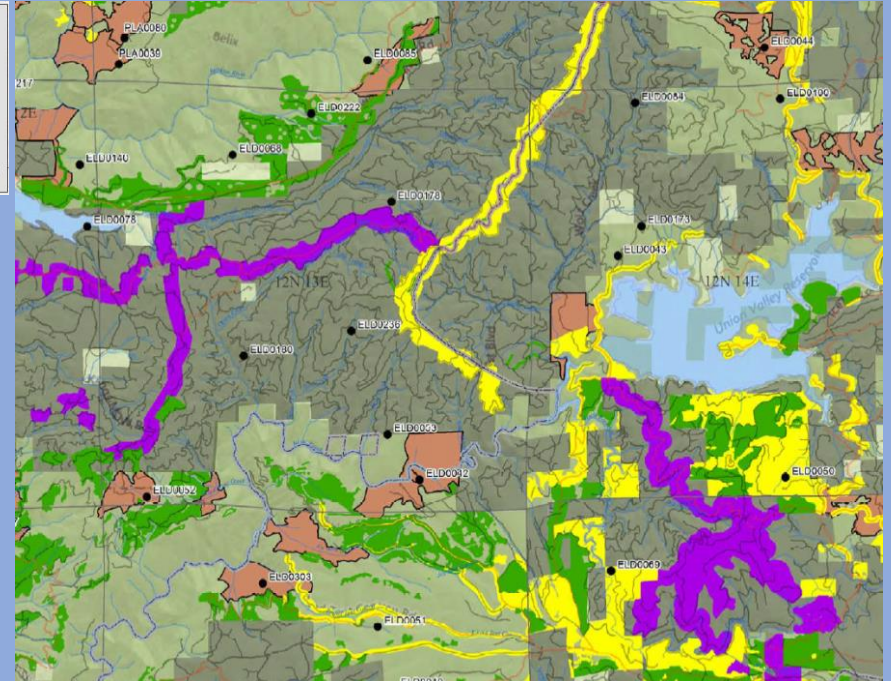
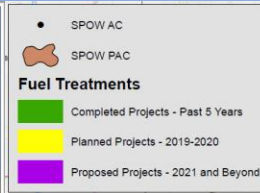
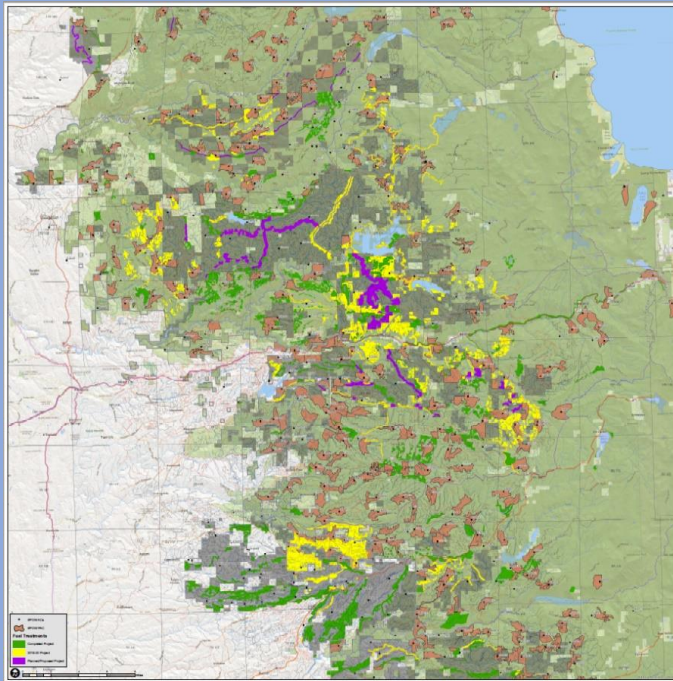


Under Burning Maintenance of Fuelbreak Around Calaveras Big Tree State Park

Completed Fuelbreak Industrial Timberland



Entire Sierra Nevada Mapped & Planned for Fuel Break System



Pictures of completed fuel breaks







Under-burning – Calaveras Big Trees State Park Perimeter











Under-burning – Calaveras Big Trees State Park Perimeter



Under-burning – Calaveras Big Trees State Park Perimeter

Over the period 2001 to 2021 we only summed acres of existing plantations burned. This figure was - .2% of existing plantation acres in the ownership were burned annually. This equates to roughly 1% of ownership being burnt in a 5-year planning period. Plantations are expected to provide lower concentrations of fuel and provide better conditions for wildfire control because of intensive management for growing space and competition reduction. The loss of existing plantation acres has a larger impact on MAI when compared to the rehabilitation of mixed-age acres. The net result of fire losses on plantations is a decrease in overall growth. However, fire rehabilitation on mixed-age stands would result in a net increase in overall growth following site preparation and replanting with desired seed stock and those activities' subsequent site improvements. We assumed that within any given planning period, 1% of ownership characterized by its status as an existing plantation would be constrained by fires consuming plantation acres. This acreage could occur sporadically throughout the ownership. Predicting where a fire will originate /burn on a managed landscape is impossible with any level of certainty. Because of this, **an area of 1% of total ownership acres comprised of plantation units was selected to be non-producing throughout the duration of the project.** In total, 22,646 acres (**19,822 acres** with no protection tag) were modeled as showing no volume growth for the 100 years.

This 1% figure is informed by:

- analysis showing historically, .2% of ownership (comprised of plantation acres) is constrained on average per year
- the intention of the plan to convert mixed-age lands to even-age management, thus reducing concentration of the heaviest fuel loads
- the recent and ongoing efforts to establish shaded fuelbreaks across the ownership
- the improved capability of fire suppression within plantations as a result of management for optimal growing space and competition reduction

Crop tree yields in fuel treatments and shaded fuel breaks, if we reduce density in existing plantation to only the crop trees post PCT, we would have 65 TPA and those individual trees will grow faster at this wider spacing, but we would forgo a commercial thin in our normal plantation management. We estimate that to be a maximum 15% reduction in total yield over the plantation rotation. Our estimate of the fully built out network of fuel breaks is 5-6% of our lands and a net reduction of 15% on 6% of the land is roughly .9% of total yield from the total lands due to shaded fuel break and fuel reductions. These efforts could easily replace that lost growth due to their impact on the overall acreage of plantations being burned.

CLFA 2023 Conference – MSP

D. 2019 New SPI Demonstration of MSP

a. 24 years of practical experience – build on the first one, make it better and more resilient. Define LTSY

b. Constraints on Productivity

i. Wildfire – modeling stochastic events. (need to fix landscape distribution of habitat forms, early rotations)

ii. Wildlife – two 50-year HCPs based upon habitat distributions and protection utilizing the SYP modeling.

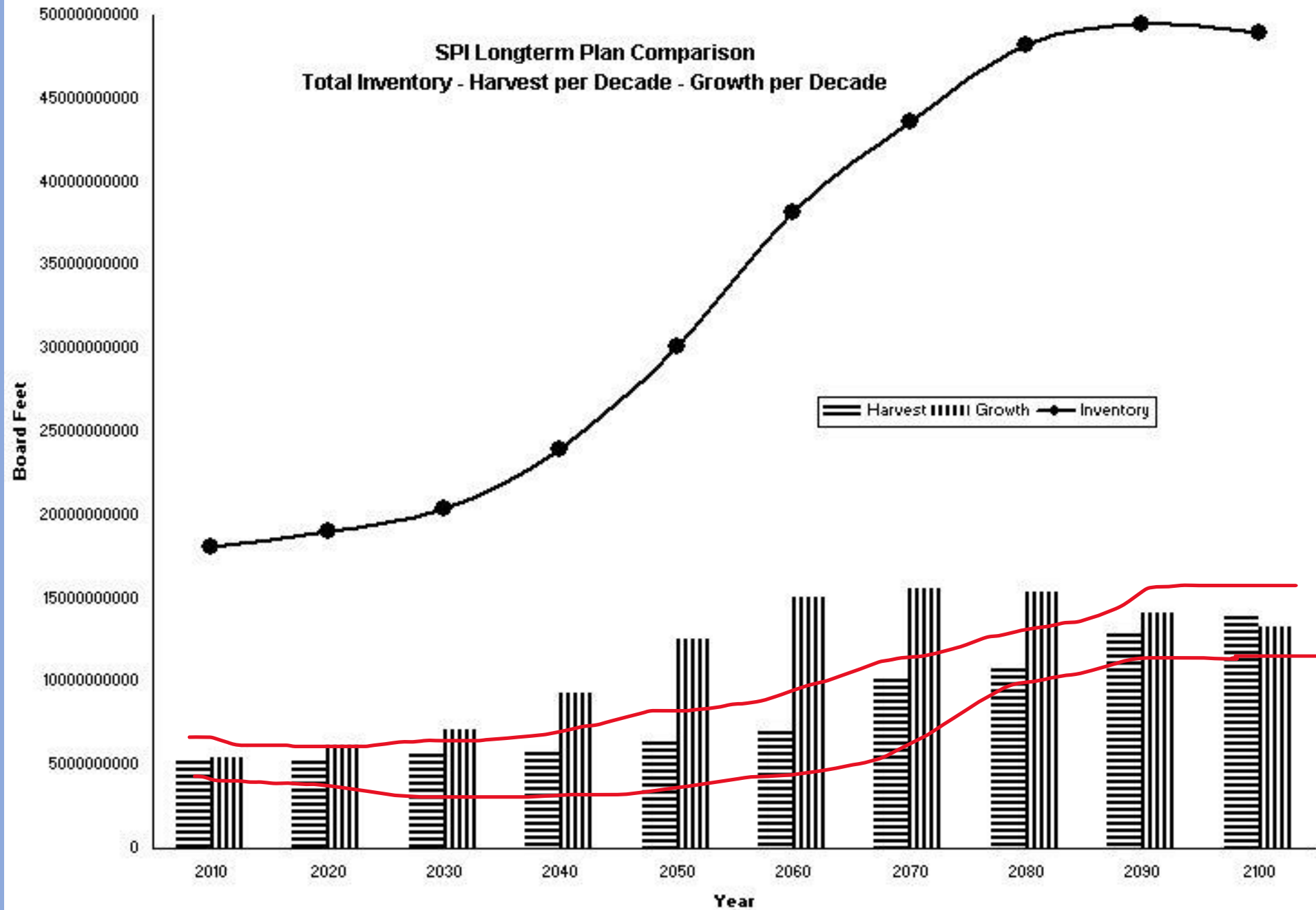
iii. Adjacency – 10-year planning adjacency (reality of 5 year legal and a practical decadal approach)

iv. Water Course Protections and other misc. constraints.

v. Fuel Breaks – Yield Impacts

vi. Concept of prediction variability. (error bars on the estimate \pm 15% to 20% both up and down) So one would be in compliance as long as you are tracking within the error bars.

SPI Longterm Plan Comparison Total Inventory - Harvest per Decade - Growth per Decade



Achievement of Maximum Sustained Production Report

For TAA: Combined SPI All California Forest Districts

	2,002	scenarios				
	1,439,350.95	acres (Non forest acres omitted)				
		Board Feet Scribner				
	Beginning	Harvest	Residual	Total	Ending	Growth
Years	Inventory	Volume	Inventory	Growth	Inventory	bf/ac/yr
0 - 10	17,822,123,342	5,223,087,694	12,599,035,649	5,460,411,126	18,059,446,775	379
10 - 20	18,059,446,775	5,232,931,676	12,826,515,099	6,163,877,866	18,990,392,965	428
20 - 30	18,990,392,965	5,685,778,802	13,304,614,163	7,073,725,610	20,378,339,772	491
30 - 40	20,378,339,772	5,706,865,303	14,671,474,469	9,290,844,461	23,962,318,931	645
40 - 50	23,962,318,931	6,331,666,935	17,630,651,995	12,511,294,421	30,141,946,416	869
50 - 60	30,141,946,416	7,049,037,970	23,092,908,446	15,103,106,506	38,196,014,951	1049
60 - 70	38,196,014,951	10,150,878,450	28,045,136,501	15,545,282,479	43,590,418,981	1080
70 - 80	43,590,418,981	10,729,309,132	32,861,109,849	15,411,797,591	48,272,907,440	1071
80 - 90	48,272,907,440	12,917,332,527	35,355,574,913	14,149,892,255	49,505,467,167	983
90 - 100	49,505,467,167	13,915,398,644	35,590,068,523	13,324,333,648	48,914,402,172	926
Totals		82,942,287,134		114,034,565,963		

