SPI Plan

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Outline

- Who is Sierra Pacific Industries?
- Silviculture
- Life Cycle After Commercial Thinning
- Timber Harvest plan vs Forest Resilience Exemption
- Maps and locations
- Data
- Gain or loss
- Final plan
- Sources

What is SPI (Sierra Pacific Industries)

- What is SPI’s main goal

The main goal of SPI is to manage and produce timber.

- What is SPI’s most used THP

The main timber harvest plan used by SPI is clear cutting and even aged stands.

- How many acres does SPI own and operate on

SPI has a little over 2.4 million acres of forest land in California, Oregon, and Washington.

- How did SPI start

SPI started as a 4th generation family owned forest product company based in Anderson, California

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What is silviculture and why is clearcutting the most preferred method?

Common Methods

What is silviculture

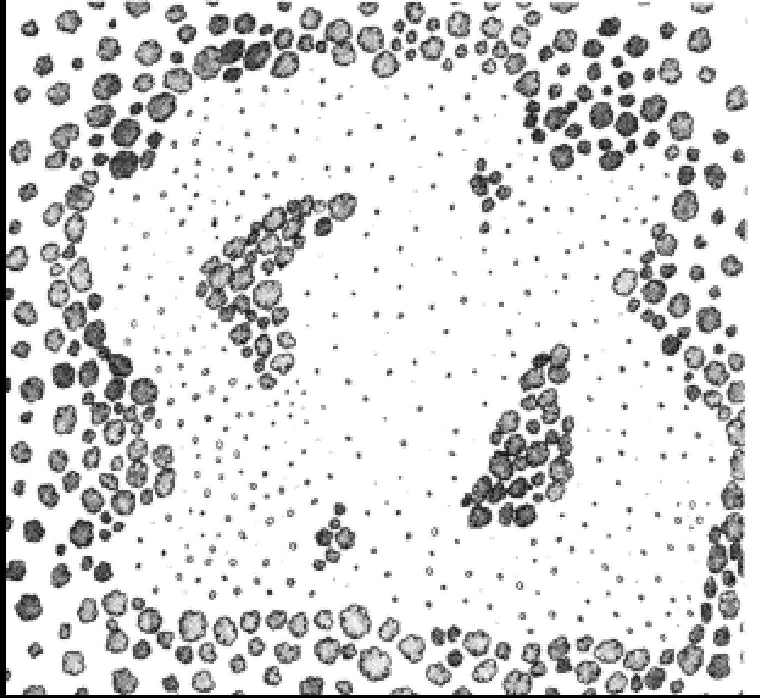
Silviculture is the science and art of tending and growing a forest. Usually there is either uneven management or even management. Even age management is where a large amount of trees are harvested typically 15-20 acres all in one go. Uneven management which more expensive is typically going out into the forest and handpicking trees which ineffective regarding both money and time.

Attribute	Seed Tree	Shelterwood	Clearcut
Ease of establishment of new trees	Varied w/ natural regen; good if planted	Varied w/ natural regen; good if planted	Good
Site Prep Needed?	Usually	Usually	Usually
$$ invested	Moderate	Moderate	High
Short term disturbance	Mod to high	Mod to high	High
Long-term disturbance	Low	Low	Low
Roads needed	Moderate	Moderate	Moderate
Utilized in CA?	Seldom	Seldom	Often
Control of growth factors (spacing)	Good if planted	Good if planted	Good

Clearcutting

Clearcutting is the sudden logging method in which a certain area is all cleared or cut in one go. Some benefits of clearcutting are:

- Minimal disturbance
- Disease or insect control
- Controlling conditions for trees to grow such as space and species
- Can be used in pair with shelterwood to not disturb wildlife habitats



Example of clearcutting with Islands for Wildlife habitats.

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What is the life cycle of a plantation?

- Site Prep:

-Till soil

- Planting

-300 trees per acre

-RPF determines spacing

- Year 1-7 Monitoring

-Checked annually for survival

- Year 7 Pre Commercial Thin

-Half trees removed for spacing

- 7-25 Monitoring
- 25-35 Commercial thin

-Half trees removed again

- 60-70 Second commercial thin/Harvest

-All trees taken or some left to grow bigger

Affect of thinning on growth rings:

-Growth rings are thicker, showing the tree is able to thrive again.

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Timber Harvest Plan vs Exemption Plan

- Long time to make
- Many long drawn out steps
- More money put into making and approving the plan
- Covers more acres included into the plan
- Plan stays good for longer (7 years)

- Small process to making and approving the plan
- Covers a smaller amount of acres in the plan
- Plan is only food for one year after it has been approved
- Gives you more flexibility when deciding how to approach your harvest situation.

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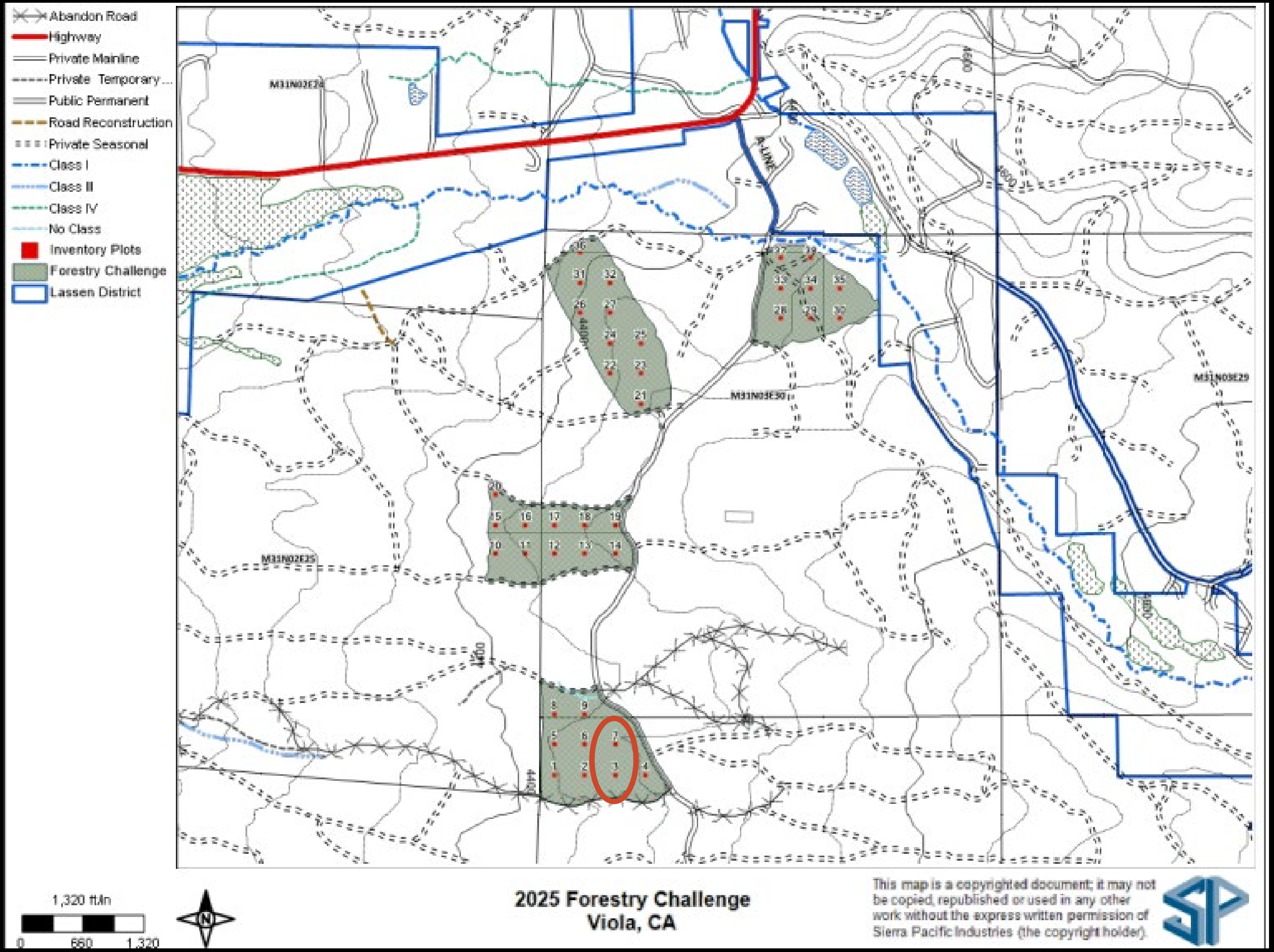
Maps and locations of SPI land



- The land our plots (3 and 7) were on.

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Our Data

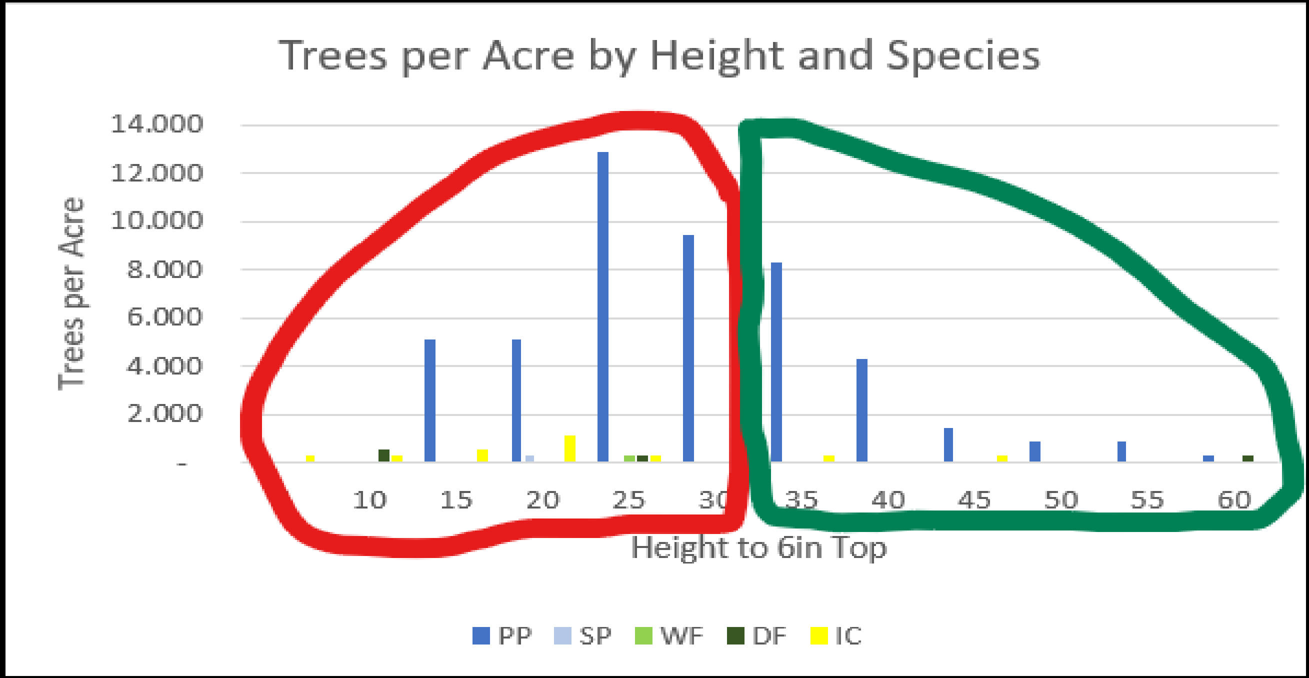
Average DBH = 13.845”

Trees Per Acre = 55

Basal Area Using DBH = 61 square feet per acre

Most Recent 5 Year Growth = 1.4”

Previous 5 Year Growth = 1.8



Red = The trees that can’t be harvested because of size.
Green = The trees that can be harvested.

Data Collection teqniques

- Collected on 1/10 acre plots
- Each 1/10 acre plot we took DBH and height of each tree as well as a core sample from the tree closest to the plot center
- 38 plots were surveyed by different teams
- After all plots were surveyed data was put into a google sheet to add all data together and make table and graphs
- After looking at the collected date and information we were able to put together a plan based off of the numbers

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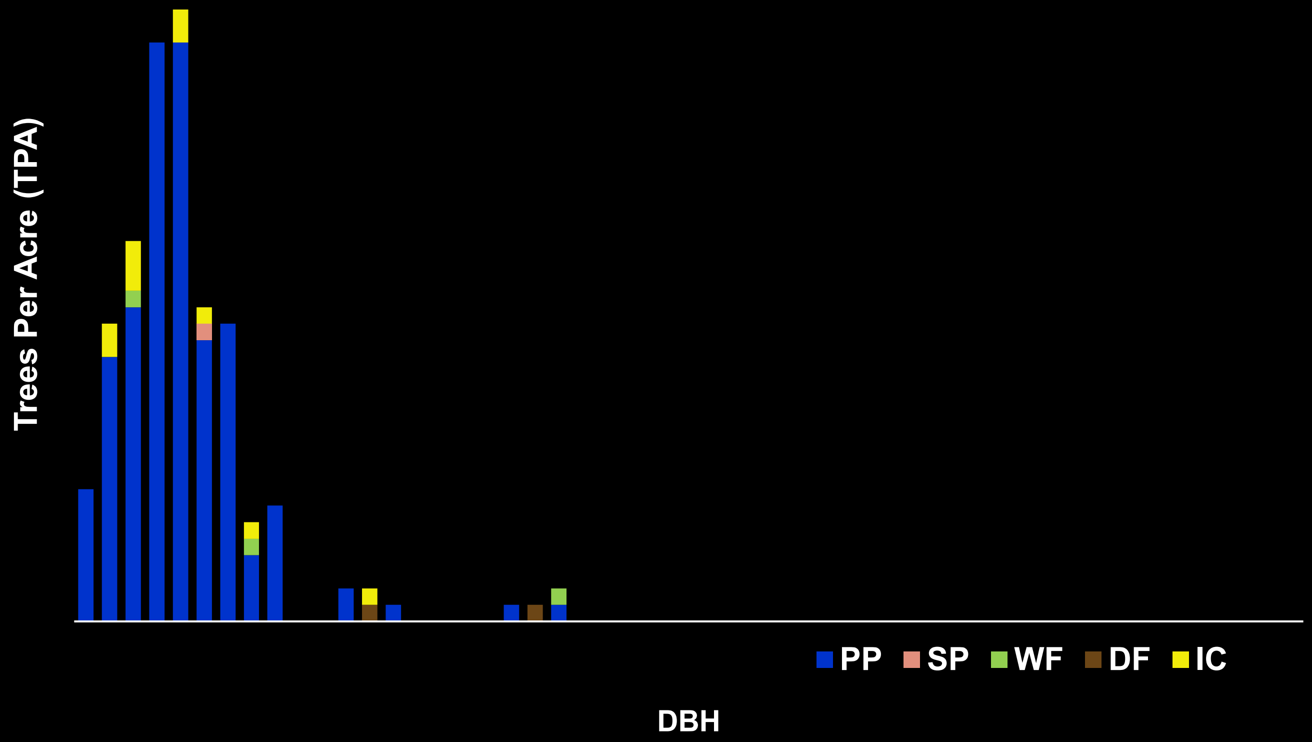
Gain or Loss

We first started by finding the BF per tree which was 12 BF per tree we then found the BF per acre by multiplying 12 by 55 trees (which was the average on our data for trees per acre which was 660 BF per acre.

We then multiplied .660 MBF by $400 dollars to find the dollar amount of profit per acre and we got 198 dollars per acre.

For figuring out the final amount per acre as shown of the table we subtracted both the logging and hauling costs by the profit number and got -$122 per acre. All this data goes to show that if we did thin now, not only will we not get anything but, we are losing money per acre.



Expenses per acre	
$198 per acre in profit =	198
$-210 for logging =	$-12
-110 for logging =	-122
Final Result =	-$122 per acre

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Final Plan (Reasons to not thin)

Because of factors such as how little the canopies are touching and how little board feet there is. It is best advised to not conduct a commercial thin.

The data showed that the average diameter is 13.845” which one is against forestry practices but also produces no money for SPI due to the lack of board footage per acre which is 600 BF per acre and the basal area of a acre is not up to the standards of California.

Final Opinion (Solution)

Our prediction is that by 2035 the trees diameter will increase to 18.534 which will be thinnable by California standards. Our Advice to SPI currently is to monitor brush levels and fire safety regarding the tree farm and to put as little money and effort onto the property to keep expenses down, until the trees have grown Then revaluate for a Exception plan which all parties would benefit from.

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Sources

Frank Barron

Crane Mills

- “I would wait 5-10 years”

- “I don’t have enough trees or basal areas to thin right now, at least on an economic basis or the California law”

Dean Lofthus

General Manager for Fruit Grower co.

- “I do think the longer you let it grow the more flexibility you have in your choices”

“Let the numbers speak”

Thank you!