



WESTCARB Annual Business Meeting

Shasta County, CA Afforestation and Fuel Projects

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Anchorage, AK
October 1, 2008



Initial Landowner Outreach

- Initial Stakeholder Meeting
- More than 400 Landowners Contacted
- Scoping Letters Sent to Landowners With 100+ Acres in Priority Areas
- Presentations at Local and Regional Meetings
- Word of Mouth

Let's Talk...

Is there really anything we can do about it?


■ Are we really the cause?

Is it true?

Is it really a problem?

Isn't it natural?

Carbon Sequest...what?

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OK, Maybe I'm Interested... Survey Me!

■ 48 Landowners Interviewed

■ Willingness

■ Cost-sharing

■ Site Conditions

■ Acres

■ Species Preferences

How much will it cost?

What's it going to look like?

■ What is expected from me?

How much can I earn?

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What Sites Can Grow Trees?

- GIS
 - Canopy
 - Elevation
 - Seedzone
 - Soils
 - Slope
 - Accessibility

Next Step... Site Visits



Aerial Photo



LANDOWNER:
EILERS

AERIAL

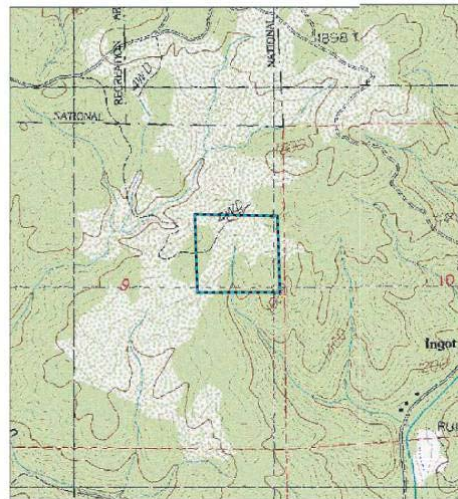
T33N R2W S9

SEED ZONE: 521

1 inch equals 880 feet



Topography



LANDOWNER:
EILERS

TOPO

T33N R2W S9
SEED ZONE: 521
1 inch equals 880 feet

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Soils



LANDOWNER:
EILERS

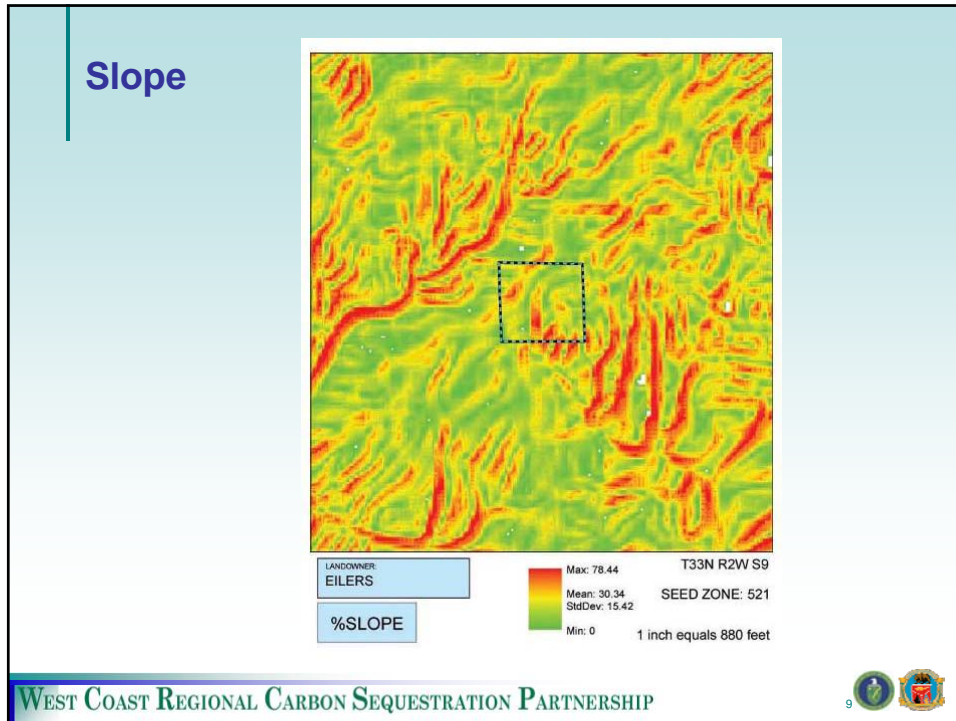
SOIL

T33N R2W S9
SEED ZONE: 521
1 inch equals 880 feet

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Each Landowner is Unique

- Values
- Understanding of Natural Systems
- Concerns
- Goals

NO LOGGING

YOU CAN'T SEE THE ECOLOGICALLY SUSTAINABLE FOREST FOR THE TREES, CAN YOU !!

National Association of Forest Industries (NAFI) Cartoon.

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Common Issues Important To Landowners

- Fire Danger
- Privacy
- Government Involvement
- Restrictions



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Landowner Education

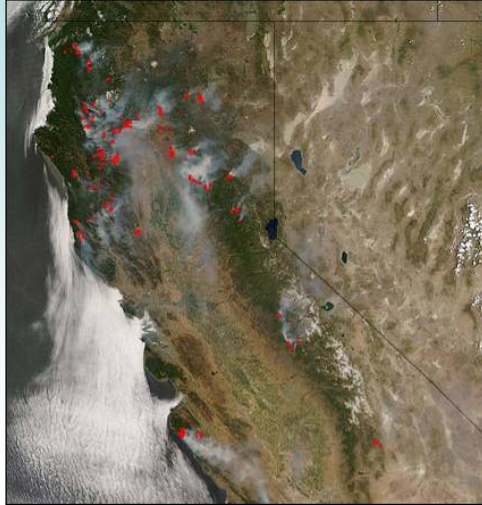
- Climate Change
- Forestry 101
 - Site Conditions
 - Species
 - Site Prep
 - Herbicides
 - Maintenance



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Local – Global Connection



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Increasing Interest

- Biomass/Fire Safety (Maintenance)
- Education
- Reducing Footprint
- Carbon Markets
- Climate Stewardship Partnership

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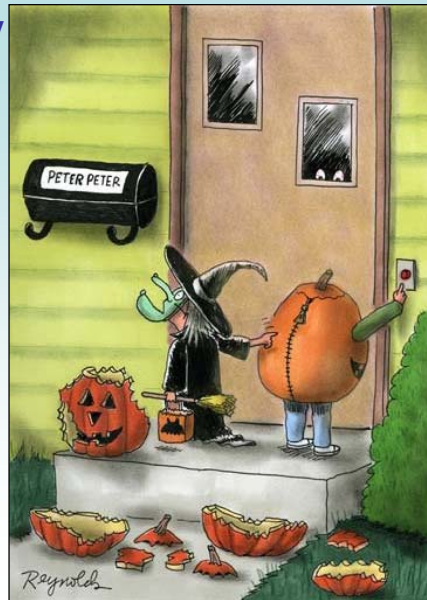
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Ongoing Outreach

- Climate Stewardship Website
www.westernshastarcd.org
- Fairs and Festivals
- Newsletter Articles
- Newspaper Coverage
- Prairie Public PBS documentary
- Natural Resource Conservation Service
Success Story



Outreach Summary

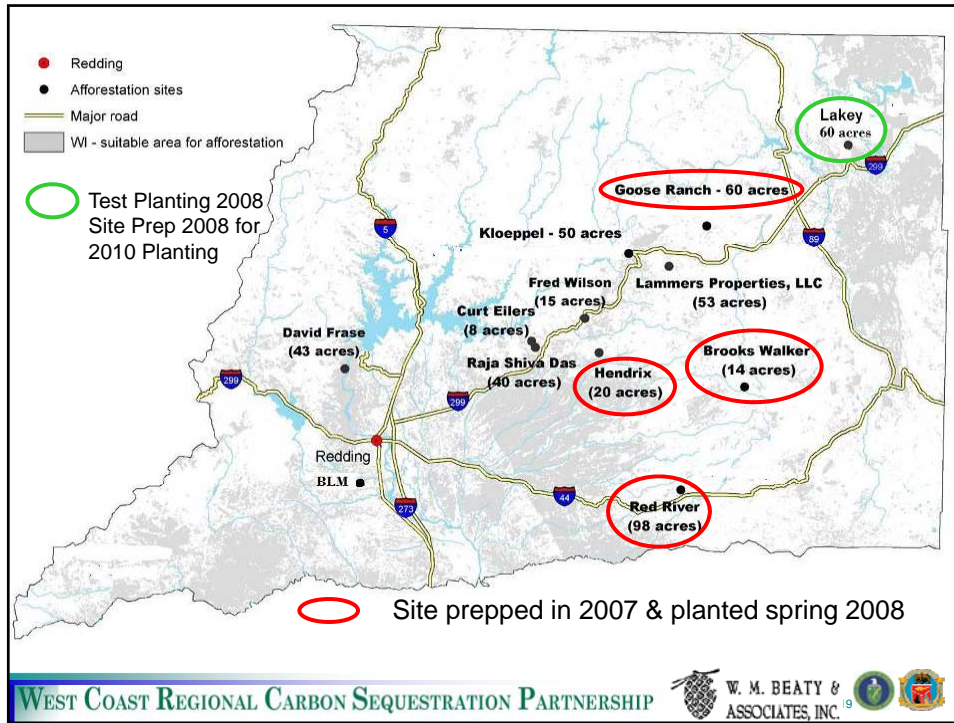


Afforestation in Phase II: current status

- 17 site-specific planting plans developed
 - Acres, soils, seed zone, site class, precipitation, current vegetation; step-by-step plan for site prep, planting, chemical and mechanical treatments; estimated costs including WESTCARB and landowner portions
- 11 projects totaling 461 acres are in progress, with landowner agreements signed (One additional project in negotiation with BLM)
- Site preparation & planting completed on 4 projects
- Site prep completed on 5 projects in 2008 for planting in 2009
- Site prep in progress on 2 projects for planting in 2009 & 2010

BASIC AFFORESTATION STEPS (Sequential)

1. Fall 1st Year: Collect cones & process seed (or purchase seed) of desired species from appropriate zone and elevation
2. Winter 1st Year: Contract w/ Nursery to grow seedlings
3. Summer 2nd Year: Mechanical and/or Chemical Treatments to Prepare Site for Planting (Site Prep)
4. Fall/Winter 2nd Year: Burn piles (if necessary)
5. Winter 2nd Year: Lift & Package Seedlings & Transport to Cold Storage Facility
6. Spring 3rd Year: Plant Seedlings
7. Spring 3rd Year: Install Seedling protectors (if needed)
8. 3rd - 6th Years: Follow up release spray to control competing vegetation



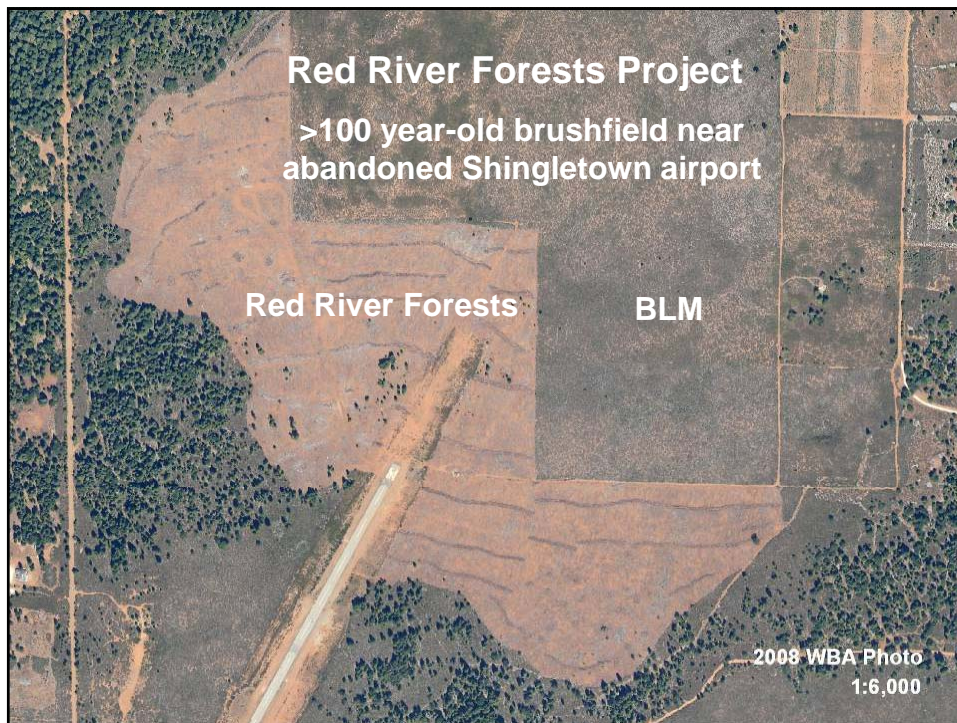
2008 Planting - Climatic Conditions During 1st Year of Seedling Establishment (>90% survival)

Project	Elev.	Date Planted	Precip. Sept-June		Precip. March-June		
			Normal	2007/08	Normal	2008	% of Normal
Hendrix	2,300'	March 7	52.75"	34.08"	16.17	2.29	14.2%
RRFP	3,880	April 1	47.63"	30.60"	15.07"	2.91"	19.3%
Goose Ranch	3,900'	April 3	50.97"	43.13"	15.77"	3.59"	22.8%
BW et al	5,500'	June 5	48.64"	32.68"	16.26"	2.68"	16.5%
Lakey (Test)	3,400'	Mar. 20	20.03"	13.89"	6.74"	1.99"	29.5%
	3,800'		19.85"	12.96"	6.67"	1.59"	23.8%


PPT Data from: PRISM Group, Oregon State University, <http://www.prismclimate.org>, created 23 Sep 2008

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Red River Forests Project




Ponderosa pine seedling planted spring 2008 on Red River Project
Photo taken 9/10/08 near the end of a long dry summer

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Reservoir – “Lake Margaret”

Goose Ranch Project

1992 Fountain Fire
Whitethorn brush @
3,600' elevation



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Goose Ranch Project – Sept 2008

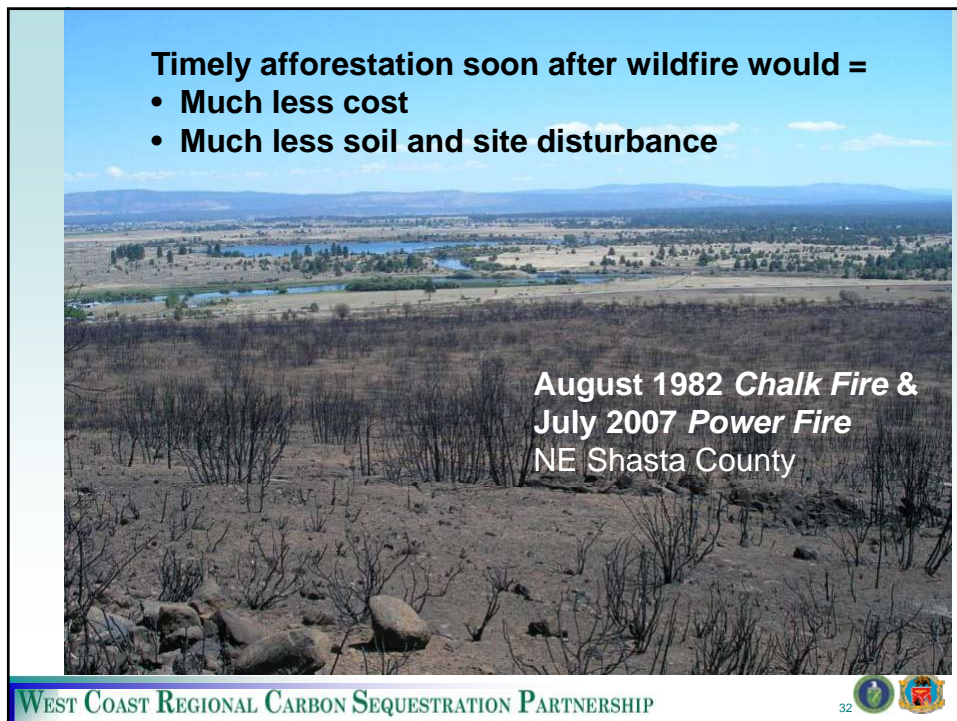
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Table Mtn. Brushfield Project @ 5,500'

2005 NAIP Photo
1:2,500





**Lakey Project on Power Fire
Test Planting - March 20, 2008**



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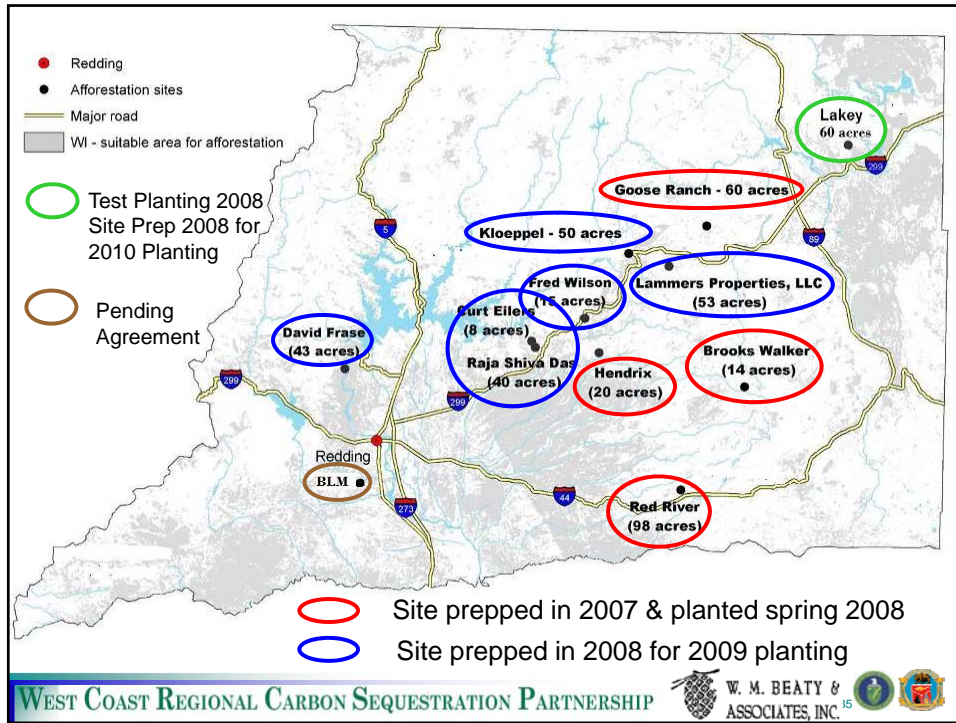


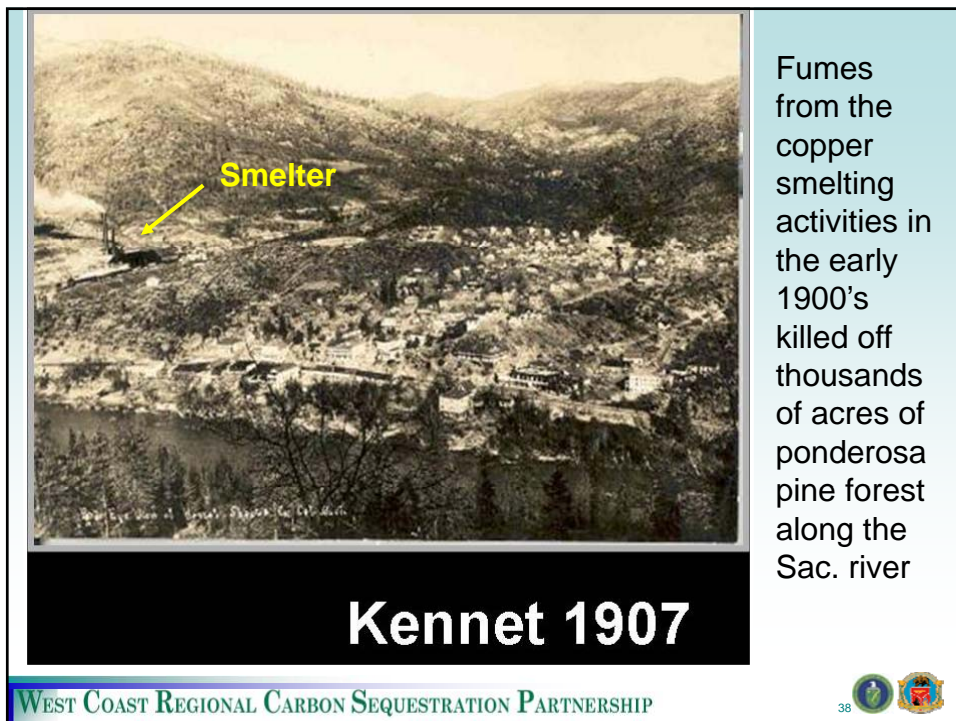
September 20, 2008

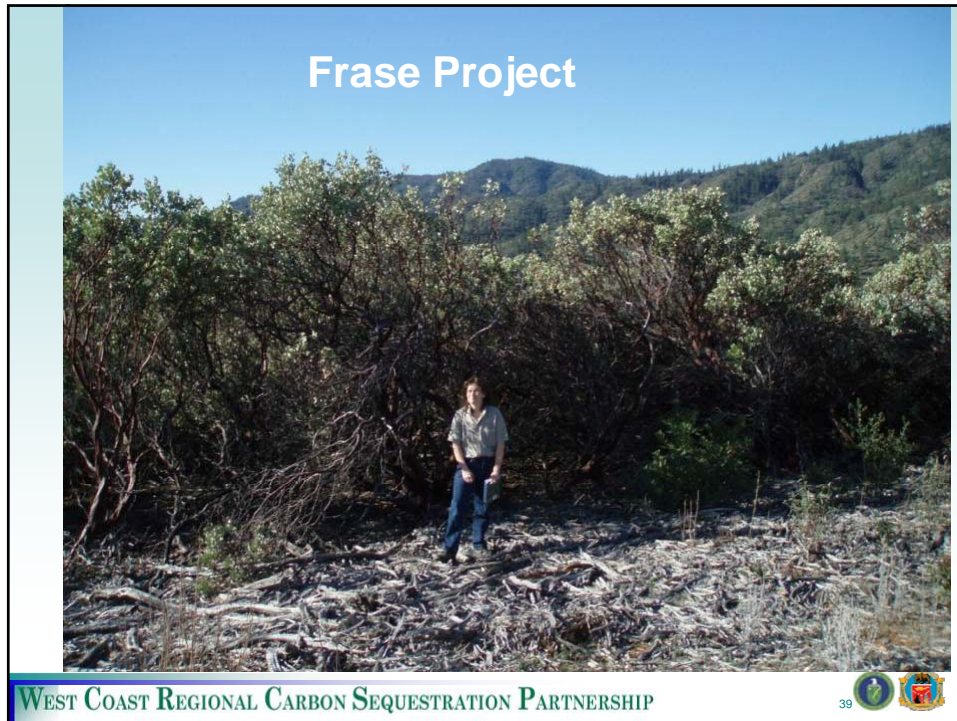
Lakey Project Test Planting

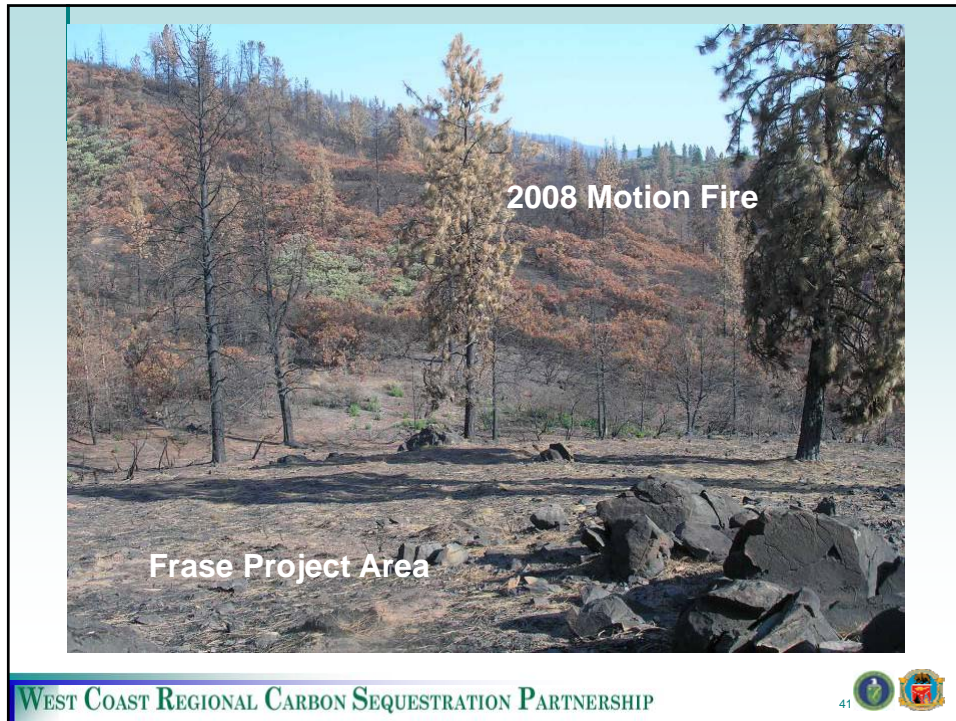
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Lammers Project

Brush has been “plucked” by excavator into windrows in preparation for grinding into hogfuel & transport to co-gen plant

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SOME LESSONS LEARNED (OR RE-CONFIRMED)

- Must have a good plan & the commitment of all “partners” to follow through with the timely implementation of each sequential step over a multi-year project.
- Quality control and oversight at each step is critical to success.
- Using good seed from a location that is adaptable to the site is important. Since conifer seed crops for many species are very sporadic, it is important to have access to a well supplied and diversified seed bank.
- Good quality nursery stock and quality control during the storage, handling and planting of seedlings is critical to success.
- Control of competing vegetation during seedling establishment phase of plantation is critical to success.
- Cannot rely on “normal” or above normal rainfall patterns in any one year for successful establishment of young seedlings. Must do all of the above in order to successfully establish a new forest under harsher than average conditions.
- Management of projects must be flexible to adjust for unforeseen challenges (e.g. loss of site prep equipment and/or operators to fighting wildfires etc.)
- Timely reforestation after wildfire before the brush becomes well established will significantly reduce costs as well as impacts to soils and environment.
- Must be flexible in scheduling activities based upon climatic and site conditions and not necessarily stick to pre-determined specific calendar dates.

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Important Lesson for Reforestation in interior Calif.:
EARLY WEED CONTROL IS CRITICALLY IMPORTANT

15 years after Wildfire destroyed forest

Planted + weed control

Planted & no weed control

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15 YEAR-OLD PLANTATION
Established after wildfire in Northeastern California

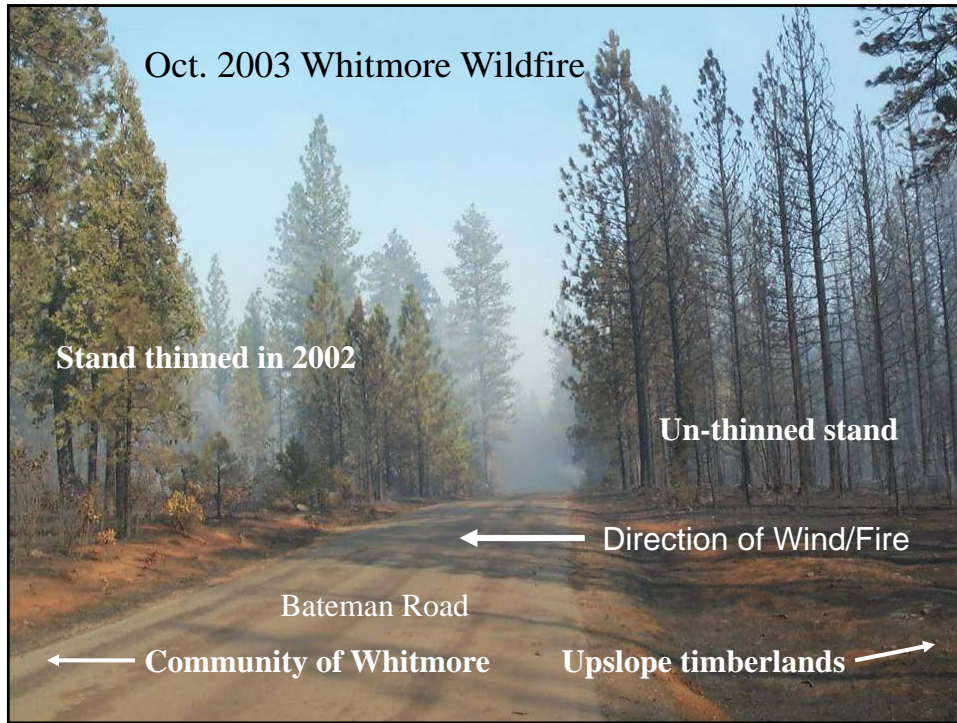
Both areas were planted after the same wildfire but:

NO WEED CONTROL **WEED CONTROL**



BLM plantation w/ no weed control Private plantation w/ weed control

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Davis Mtn. Biomass

HH Shaded Fuelbreak Biomass

We know that woodfuel chips from thinning offset the use of fossil fuels for generating electricity & thinning greatly reduces the extent and damage from wildfires. We have numerous examples but how can we measure the value?

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