CROP , SPOT, and Carbon Banking

A New Role for Public Lands?

Presented by
Catherine M. Mater
President—Mater Engineering
Senior Fellow – The Pinchot Institute for Conservation
Board Member – Forest Trends
Corvallis, Oregon; Washington, DC
Tel: 541-753-7335 Fx: 541-752-2952
E-mail: catherine@mater.com

We posit the following:

✓***Public lands*** **have a significant role initiating and growing carbon markets**

✓***Public lands in the West*** **are uniquely positioned to pilot carbon registry efforts.**

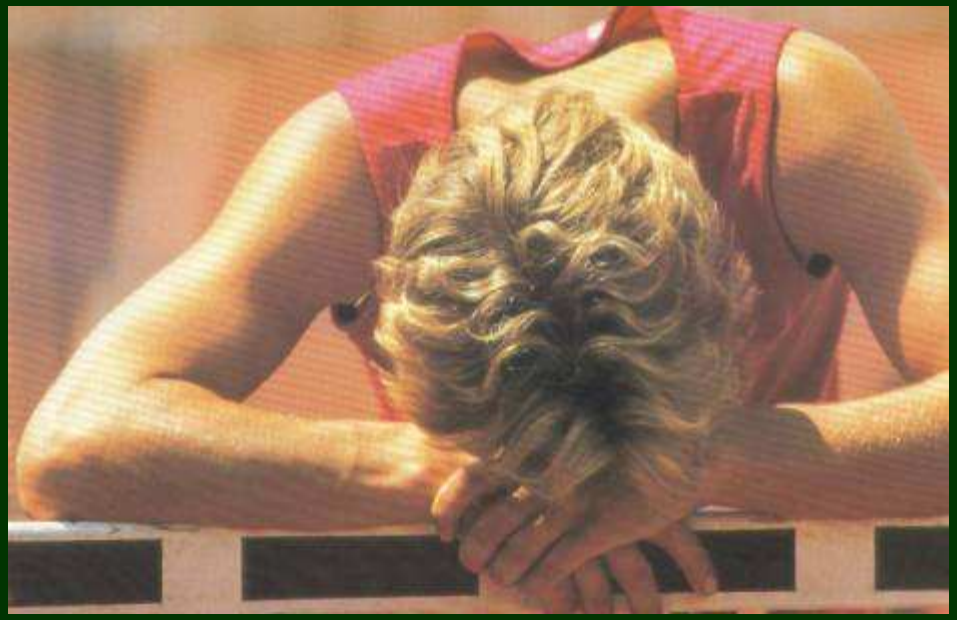
Let's see why . . .

Two new collaborative protocols on public lands:

1) **CROP**: ***C**oordinated **R**esource **O**ffering **P**rotocol*
2) **SPOTS** – ***S**trategic **P**lacement of **T**reatments*

One benchmark opportunity for carbon banking?

The Healthy Forest Restoration Act

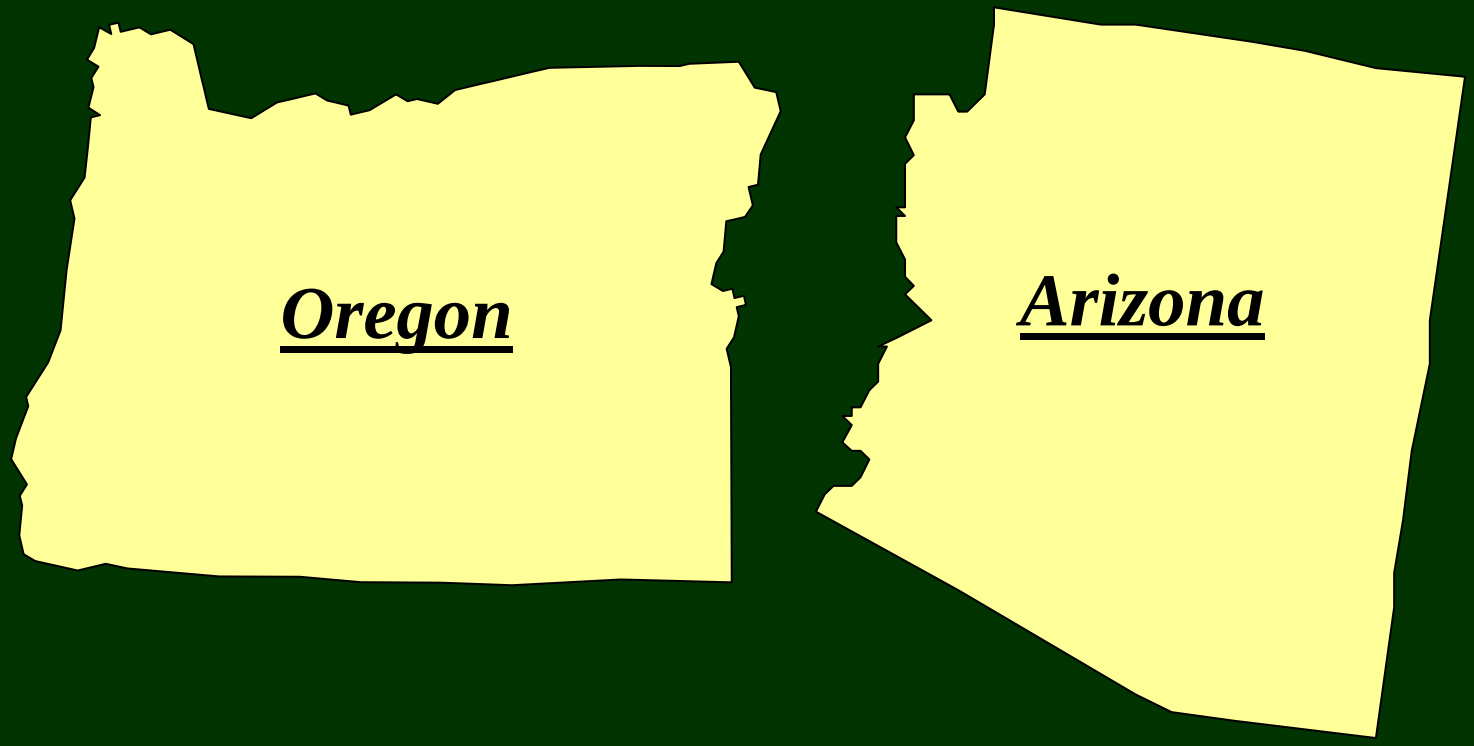


Getting it on the ground

Great! …. now how do we do it???

. . . Let's start with ***CROP***

It began with biomass inventorying ….



What we saw:

- ***No coordination*** **between NF systems in regions**
- ***No coordination*** **between USFS ranger districts**
- ***No coordination*** **with other agencies in region with harvest activity (BLM, state, DOT, etc)**

. . . coupled with biomass-to-energy projects proving *difficult to pencil out without introduction of value-add.*

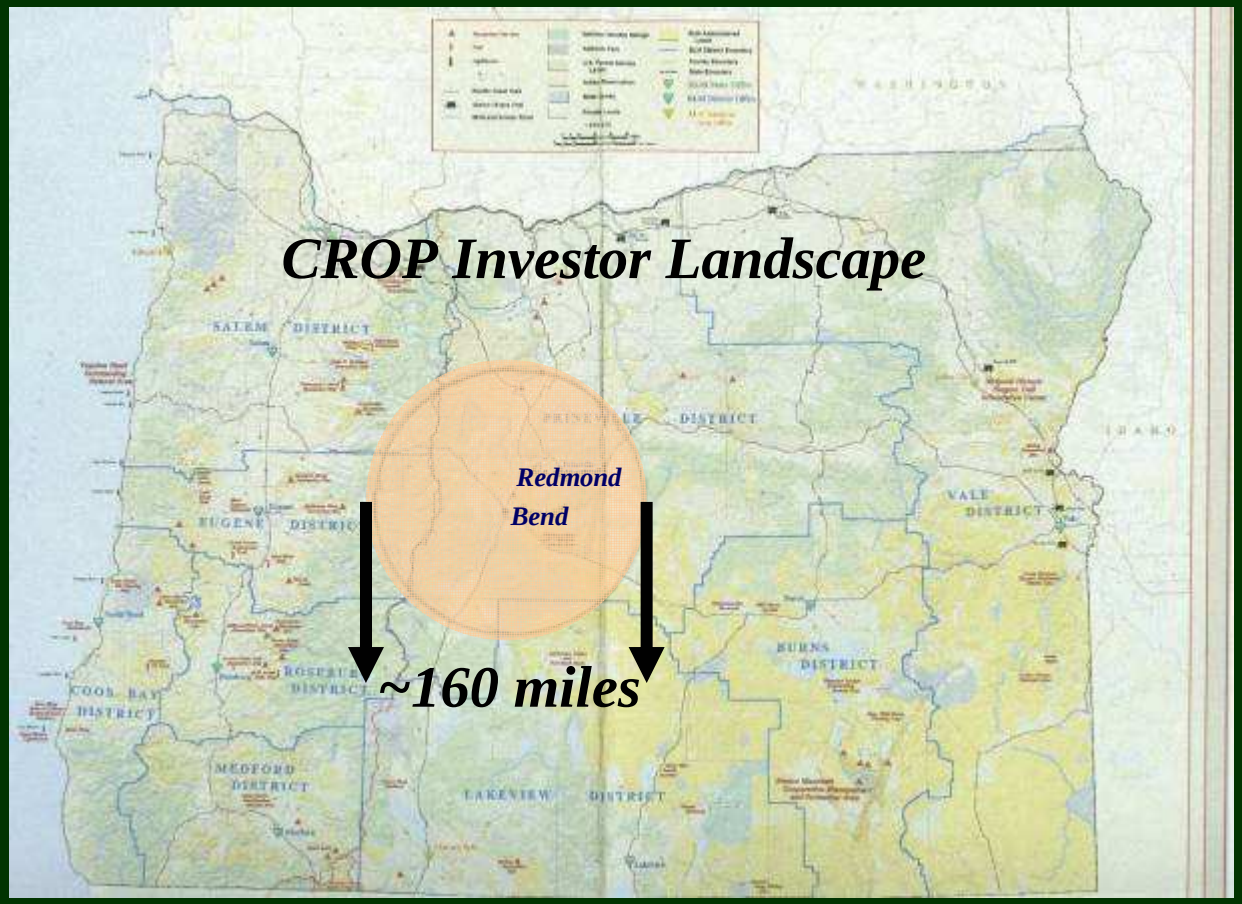
What was clear:

- **Change the dynamics of resource offering in an *investor landscape* *(100-mile radius)* .**
- **. . . where *level supply* and *risk reduction* are perhaps more important than increased volume.**

CROP:

Nation's first benchmark projects in investor landscape *coordination and levelization* of projected resource offering:

- ***Within agencies*** **(i.e. RD's within NF system)**
- ***Between agencies*** **(USFS, BLM, state, Counties, Indian nations, etc.)**


CROP Investor Landscape
Redmond
Bend
~160 miles
SALEM DISTRICT
PRINEVILLE DISTRICT
EUGENE DISTRICT
VALE DISTRICT
BURNS DISTRICT
COOS BAY DISTRICT
MEDFORD DISTRICT
LAKEVIEW DISTRICT

Central Oregon CROP landscape includes:

- 5 National forests
- State lands
- ODOT
- 4 BLM districts
- Warm Springs Indian Nation
- 10 Counties
- Private lands

What was asked for (5-yr. Period):

(inclusive data)

- **Volume (by mmbf; green/dry tons; ccf)w/ conversions**
- **Diameter sizes <4" 4"-7" 7"-9" 9"-12" >12"**
- **Species (12 species evaluated for resource flow)**
- **Harvest "type": fuel load reduction, timber sales, PCT, post and pole**

What Happened Next ?

- ✓ **Central Oregon stakeholder Advisory Council decides CROP a top priority.**
- ✓ **Oregon Governor designates CROP an Oregon Solutions Project.**
- ✓ **CROP Project Team develops *Declaration of Cooperation to implement CROP.***

CROP Declaration of Cooperation Signators

Industry
NW Wood Products Assoc.
Warm Springs Forest Products Ind.

Agency
USFS Region 6
Deschutes National Forest
Ochoco National Forest
Prineville BLM

Government
Governor's Office
OR Economic & Community Devel. Dept.
Oregon Dept. of Energy
OR Dept. of Fish & Wildlife
OR Dept. of Environmental Quality
Oregon Dept. of Forestry

Environmental
Sisters Forest Planning Committee
Sustainable Northwest
OR Natural Resources Council
Friends of the Metolius

Recent Development – CROP in Action!!

<u>January 2006</u>: MOU signed with the Warm Springs Indian Nation committing federal agencies to *offer a minimum of 8,000 acres/year (over 20 years) of biomass* in the CROP landscape for:

- **Small log processing**
- **Biomass-to-energy**

Late 2005:

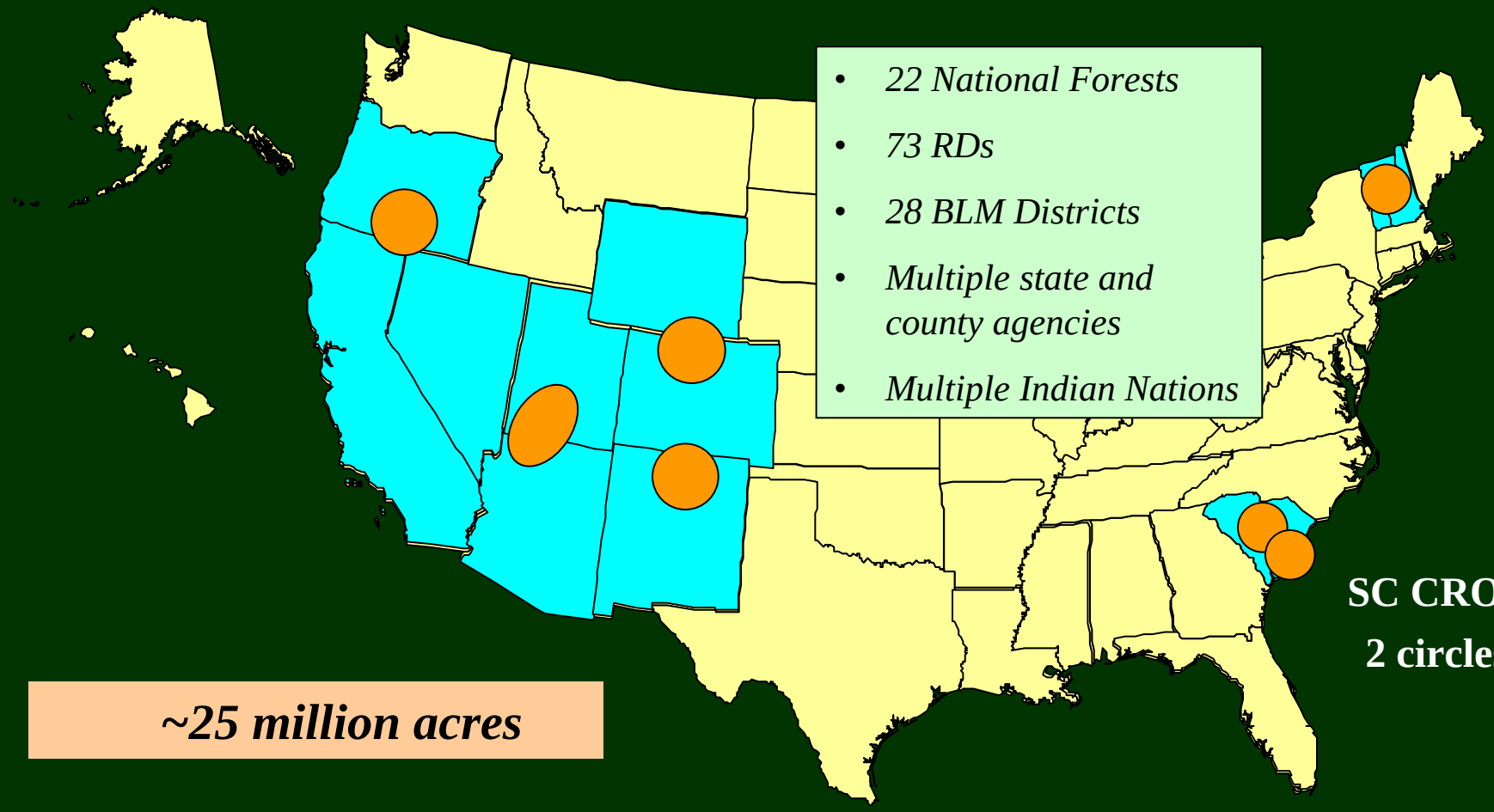
- ***National Strategy Plan*** **for Woody Biomass Utilization**
- ***USDA, DOI, DOE*** **partners**
- **CROP identified as *tool* to implement plan**
- ***Seven CROP pilots initiated*** **across US**

What we now ask for:

Same as before, but this time:

- ✓ ***NEPA phase*** **for each resource offering**
- ✓ ***Road accessibility*** **for each resource offering**

2006 National CROP Pilots



- *22 National Forests*
- *73 RDs*
- *28 BLM Districts*
- *Multiple state and county agencies*
- *Multiple Indian Nations*

SC CROP
2 circles

~25 million acres

Oregon/California CROP: *Lakeview, OR (centerpoint)*

- *3 States*
- *4 National Forests*
- *10 Ranger Districts*
- *8 BLM Districts*
- *9 Counties*
- *State Lands*
- *Indian Lands*
- *Private Lands*

Overall:

Year	Total Volume (817.97 mmbf)	% of 5-yr volume	% change
2006	190.26	24%	–
2007	157.04	19%	-17%
2008	179.87	22%	15%
2009	156.55	19%	-13%
2010	134.25	16%	-14%

Winema-Fremont NF: (327.18 mmbf)

Ranger Districts	5-yr Total (mmbf)	% of 5-yr Total (mmbf)
Chemult	86.41	26%
Chiloquin/Klamath	80.97	25%
Lakeview/Bly	91.02	28%
Silver Lake/Paisley	68.77	21%

Shasta-Trinity NF: (134.75 mmbf)

Ranger Districts	5-yr Total (mmbf)	% of 5-yr Total (mmbf)
Mt. Shasta-McCloud	134.75	100%

Is there a change? *Yes!*

Winema-Fremont NF *	'01-'05 (mmbf)	Thru '09 (mmbf)
White fir	27.9	62.8
Incense cedar	7.07	0
Ponderosa pine	43.1	198.9
White pine	.229	0
Other conifers	7.9	0
Lodgepole pine	12.3	65.4
Total	93.4	327.1

* *Data not available for CA National Forests*

By species:

Species	5-yr total (mmbf)	% of 5-yr total
Ponderosa pine	416.78	51%
White fir	199.57	25%
Lodgepole pine	115.16	14%
Juniper	39.98	5%
Other conifers	14.9	2%
Jeffrey pine	11.8	1%
Douglas fir	8.6	1%
Knobcone pine	4.75	<1%
Incense cedar	4.35	<1%
Sugar pine	2.03	<1%
Total	817.84	

By diameter (all species):

	diameter (mmbf)	*% of total*
<4”	76.99	10%
>4”-7”	169.28	21%
>7”-9”	82.41	10%
>9”-12”	205.34	25%
>12”	283.95	35%

***Rule of thumb**: 30-35 mmbf needed for small log mill.*

56% - small log processing

Portland Katoomba

Diameter sizes to be offered (% of total volume):

	<4”	4”-7”	>7”-9”	>9”-12”	>12”
Ponderosa pine	10%	23%	10%	27%	30%
Lodgepole pine	9	21	12	25	33
White fir	9	17	8	21	45
Juniper	8	12	18	31	31
Other conifers	0	6	7	23	64
Jeffrey pine	14	42	3	14	26
Douglas fir	7	23	17	28	25
Incense cedar	0	11	12	14	57
Knobcone pine	0	11	16	21	53
Sugar pine	0	24	24	26	25

Resource Offering Maps (ROMS):

Here's what you get ***for each species*** *. . .*

- ✓ ***Who*** will supply?
- ✓ ***When*** will supply be offered?
- ✓ ***How much*** will be offered?
- ✓ ***What diameter size*** will it be offered in?
- ✓ Will supply be consistent and ***levelized over time*** to invite purchase and investment?

Ponderosa Pine CROP offering '06 – '10
(416.78 mmbf)

ROM # PP 1.1

PP= ponderosa pine

BLM:
- **A** ***Eagle Lake District (CA)****
- **B** ***Alturas District (CA)***
- C Surprise District (CA)
- D Burns District (OR)
- **E** ***Lakeview District (OR)***

OR - DOF:
- **F** ***DOF***

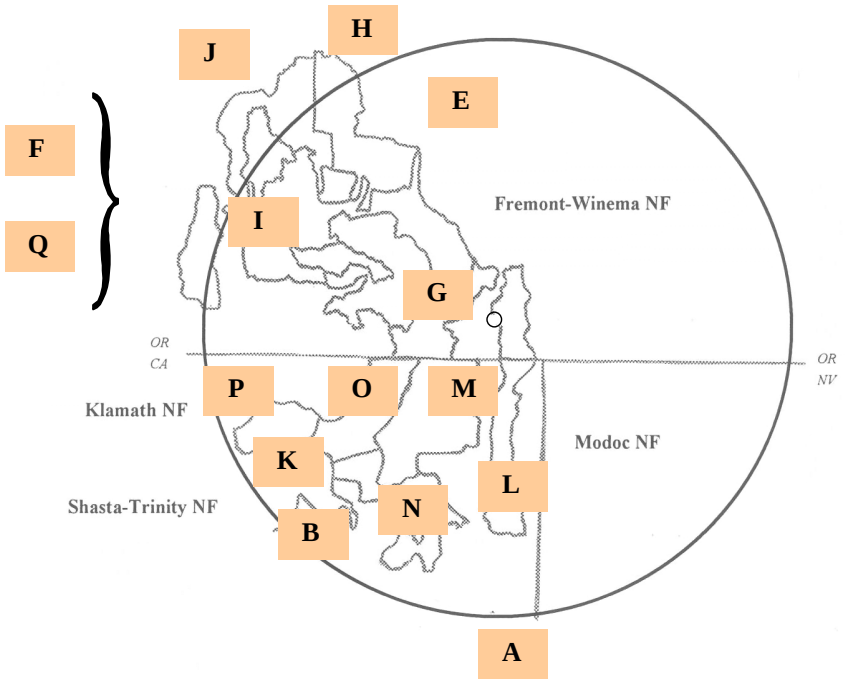
Fremont-Winema NF:
- **G** ***Lakeview/Bly RDs***
- **H** ***Silver Lake/Paisley RDs***
- **I** ***Chiloquin/Klamath RDs***
- **J** ***Chemult RD***

Shasta-Trinity NF:
- **K** ***Shasta-McCloud Mgt. Unit***

Modoc NF:
- **L** ***Warner Mtn. RD***
- **M** ***Devils Garden RD***
- **N** ***Big Valley RD***
- **O** ***Doublehead RD***

Klamath NF:
- **P** ***Goosenest RD***

OR - DSL:
- **Q** ***DSL***



*italics/bold = species offering in CROP

Portland Katoomba

***Oregon: Ponderosa Pine* CROP offering '06 – '10**
(407.16 mmbf)

ROM # PP.1

Fremont-Winema NF: 4 RDs – 49%
(198.90 mmbf)

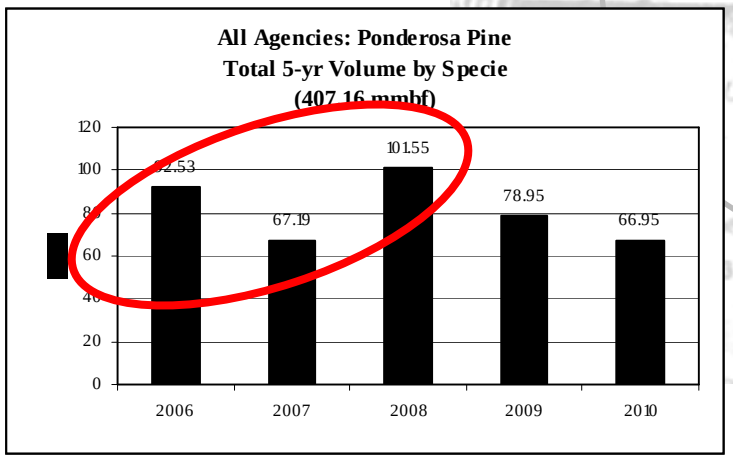
Klamath NF: 1 RD – 10%
(40.75 mmbf)

CA-BLM: 2 districts – <1%
(1.76 mmbf)

OR-BLM: 1 district – 6%
(25.39 mmbf)

Shasta-Trinity NF: 1 RD – 11%
(44.35 mmbf)

Modoc NF: 4 RDs – 24%
(96.03 mmbf)



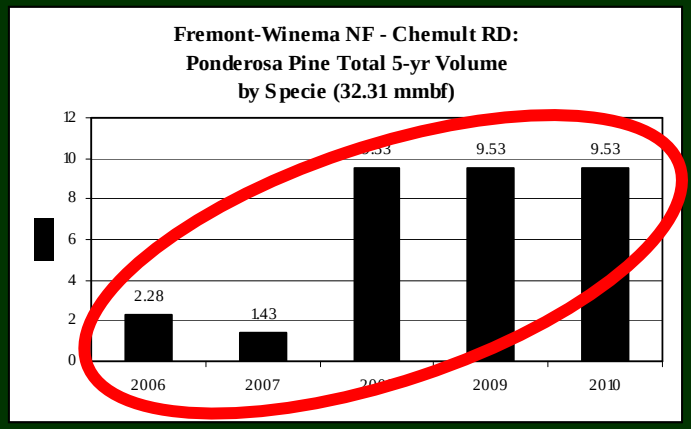
By diameter:

- **11% = <4" (44 mmbf)**
- **24% = >4"– 7" (97 mmbf)**
- **10% = >7" – 9" (40 mmbf)**
- **27% = >9" – 12" (111 mmbf)**
- **28% = >12" (115 mmbf)**

Ponderosa Pine: Fremont-Winema NF – 4 RDs – annual offerings

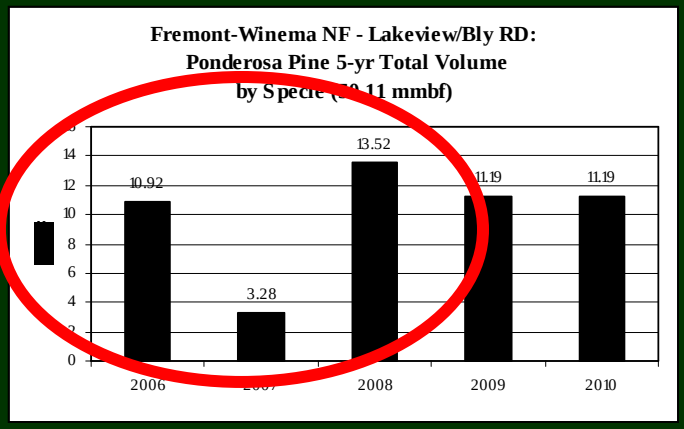
Chemult RD

8%



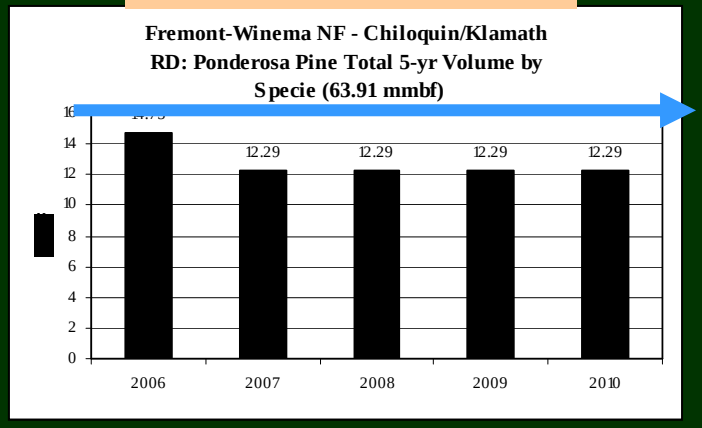
Lakeview/Bly RD

12%



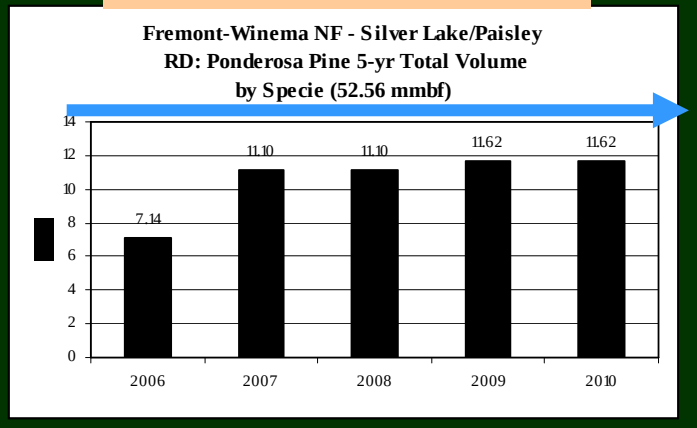
Chiloquin/Klamath RD

16%



Silver Lake/Paisley RD

13%



Portland Katoomba

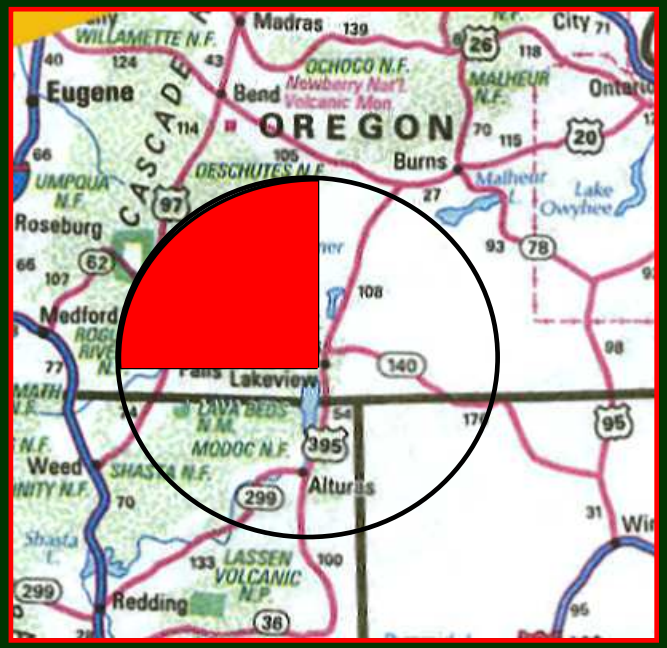
Levelized supply for all species?

(R = relatively)

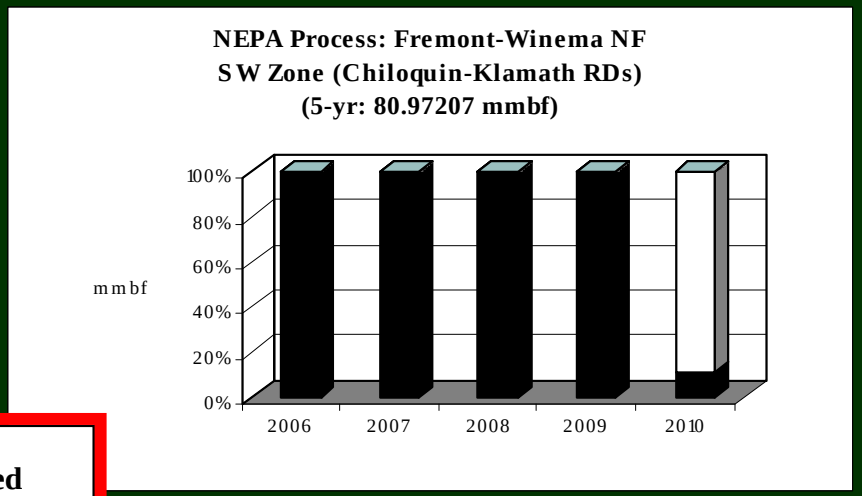
	Levelized supply over 5 years ?		
	yes	*no*	*mmbf/yr*
Ponderosa pine		✓	from 68 mmbf to 104 mmbf; 10-30 mmbf annual variations
Douglas fir		✓	from 3 mmbf to .72 mmbf; declining volume
Other conifers		✓	from .6 mmbf to 5.7 mmbf/yr
White fir	R		from 30-50 mmbf, but only one dramatic variation
Jeffrey pine	✓		from 1.7 to 2.8 mmbf, but fairly level over time
Juniper		✓	from 3 mmbf to 11 mmbf variation/yr
Lodgepole pine	R		from 20-29 mmbf/yr
Sugar pine		✓	from .85 to .10 mmbf; declining
Knobcone pine		✓	only offered 2 years
Incense cedar		✓	from 2.1 to .12 mmbf

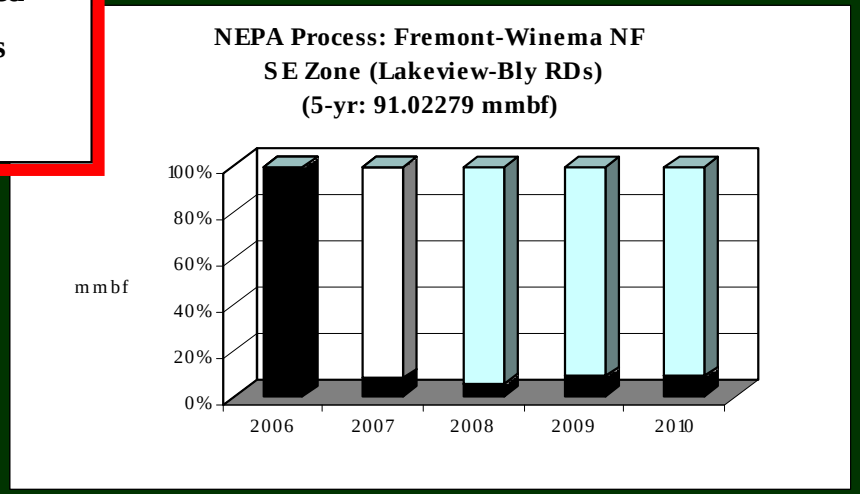
Oregon CROP: *NW Quadrant*

NEPA Status/Supplier



- not started
- just started
- in process
- approved





But . . . what we don't know is important!

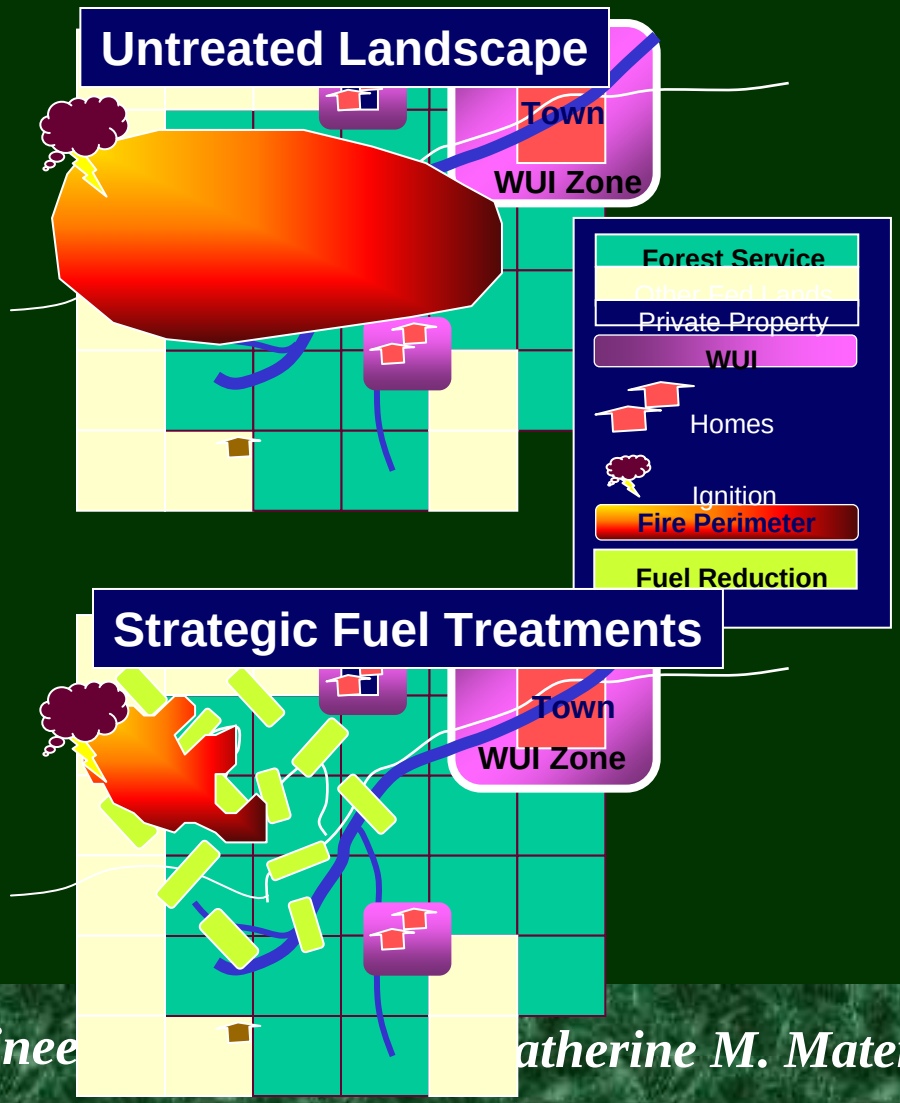
Biomass use and correlation to timing of catastrophic fire . . .

. . . Is there a match?

SPOTS –

Strategic Placement of Treatments

- ✓ **Just initiated by the USFS**
- ✓ **Premise:** ***to implement strategic fuel reduction treatments to serve as "speed bumps" to fire.***
- ✓ **Pilot projects underway**



SPOTS – Strategic Placement of Treatments

2005 Pilots:

- *Montana*
- *Colorado*
- *Utah*
- *California*
- *Oregon*
- *South Carolina*

~360,000 acres

Por

A match . . . with opportunity for carbon banking?

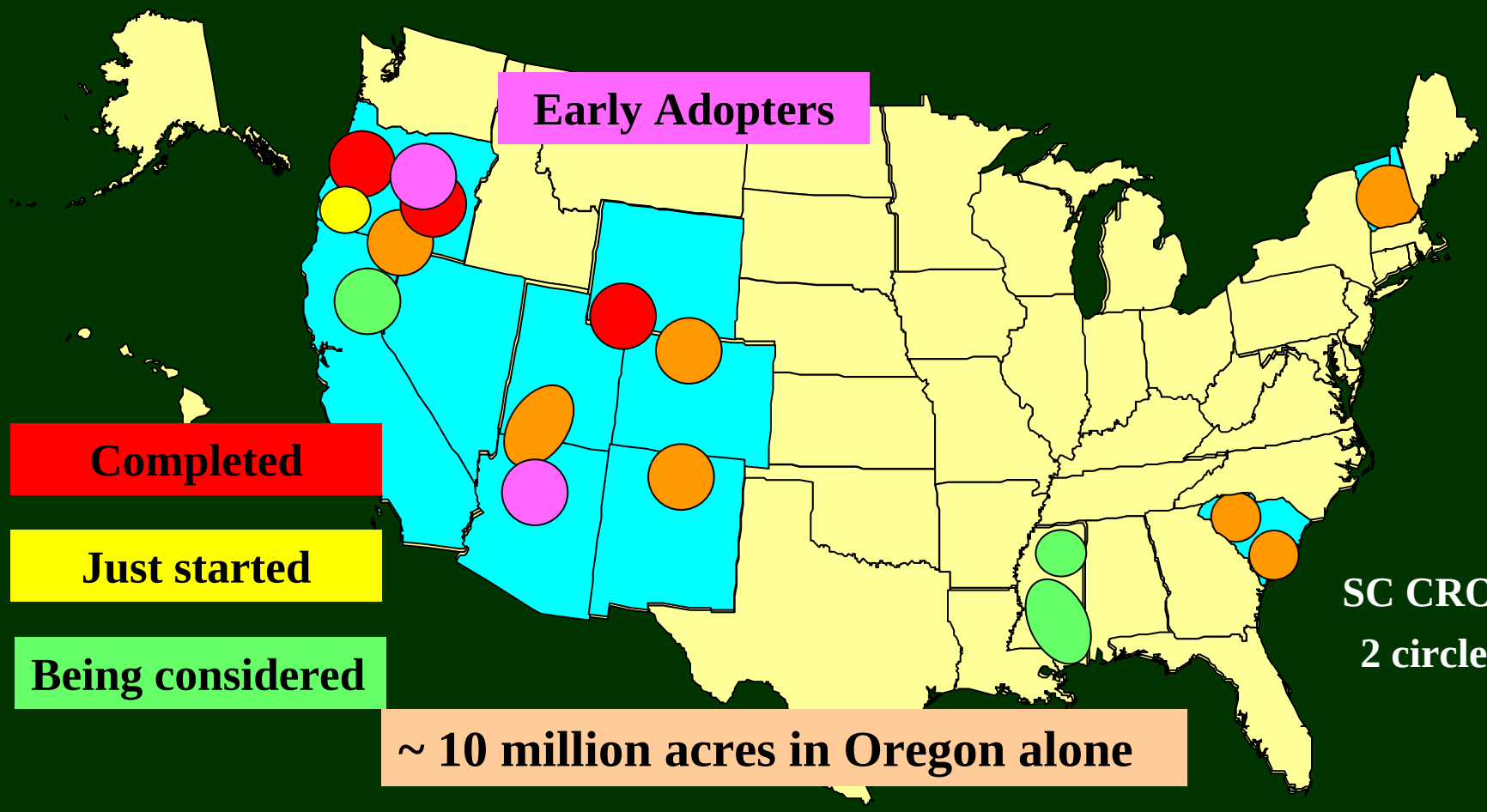
Is it possible to:

- ✓ **Set up an *internal carbon cap and trade system on public lands using CROP and SPOT* as platforms?**
- ✓ **Obtain discounted investment streams based on *carbon registry creation?***
- ✓ ***Earmark investment streams* for CROP and SPOT performance at footprint level?**

If so, Western states may present the best opportunity to `*do the deal'*.

Why? 

Other CROP Projects



So what! Wouldn't investment happen anyway, making a non-match for carbon markets consideration?

We don't think so, and here's why . . .

Portland Katoomba

- ✓ ***Ramp-up time to develop credibility for levelized supply out of sync*** **with timing for catastrophic wildfires.**

- ✓ ***Existing production infrastructure not matched to resource offering*** **(eg – Oregon producers can only handle 28% of 4" -7" material (~42 mmbf) and will not purchase the <4" volume (~80 mmbf)**

- ✓ ***<4" resource is vastly underestimated for removal*****, but critical to fuel load reduction; and**

- ✓ ***Ground level forest personnel lack the $ and knowledge*** **to put together new long-term coordinated service agreements.**

And what about surrounding private lands?

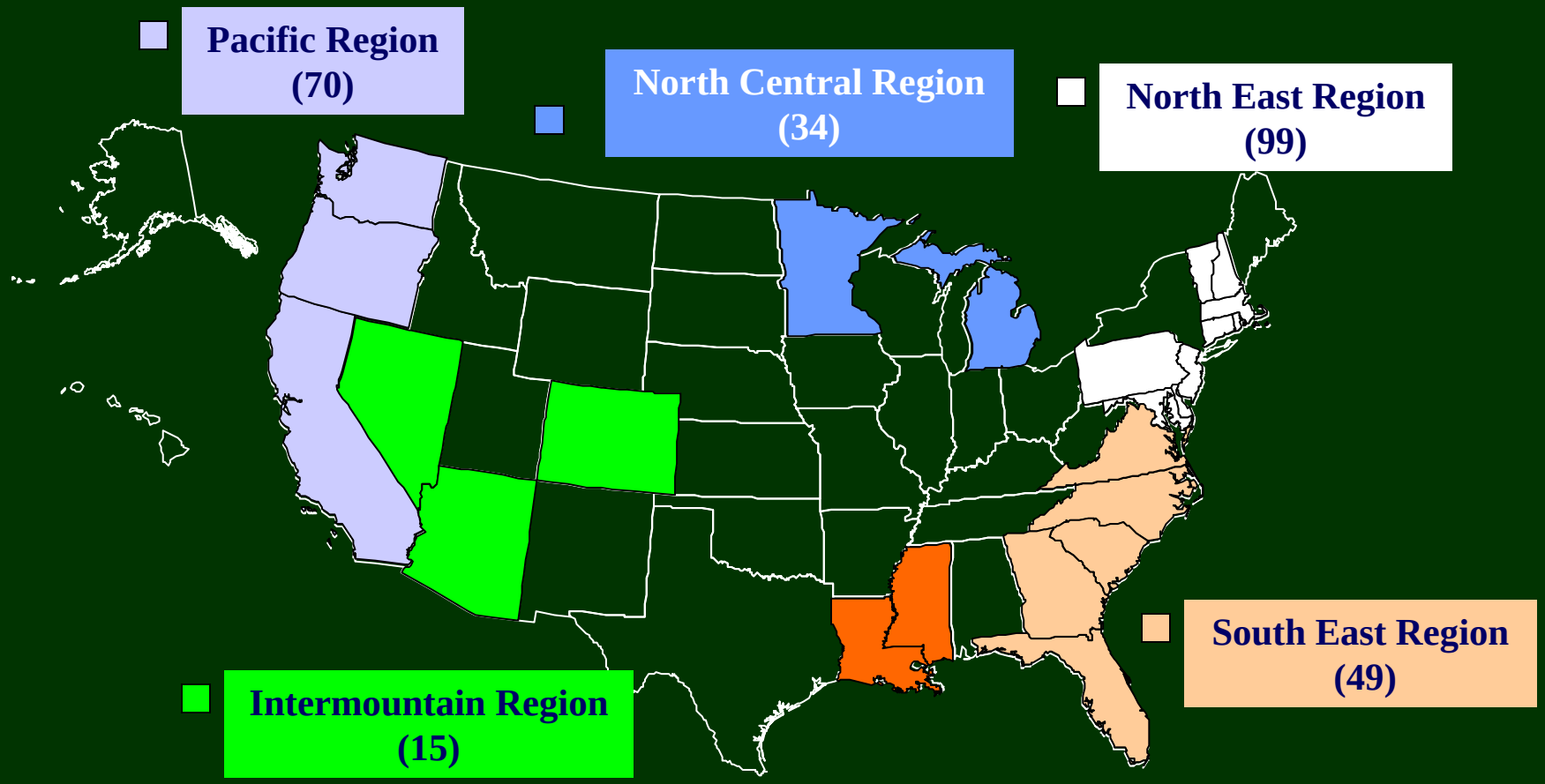
- ***>60%*** **of today's private forestland owners** ***are older than 55*****: more than** ***half are older than 65;***

- **10% of family forestland will have** ***ownership transfer in the next 5 years.***

2005 USFS Offspring Study:

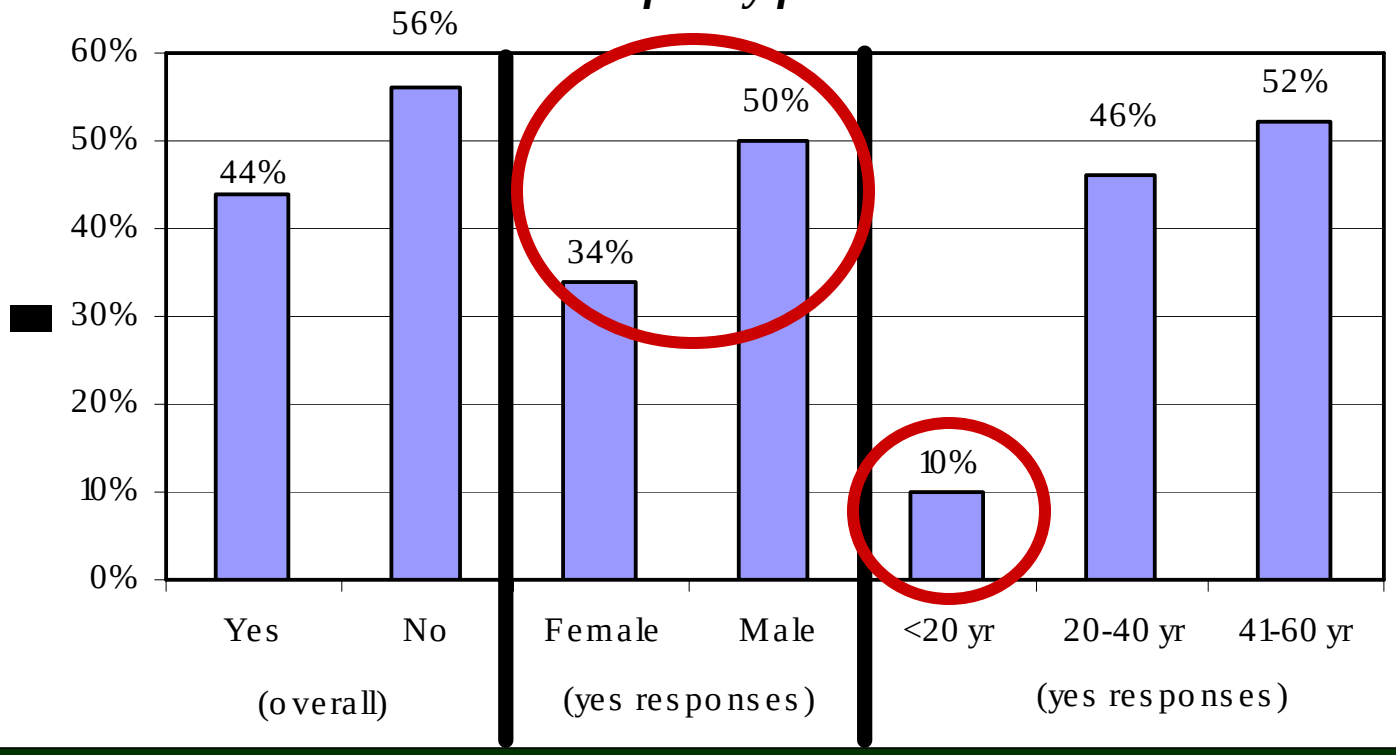
- ***300 direct offspring interviews***
  (38% female; 62% male)
- ***25 states***
- ***Over 200 families***
- ***Almost 300,000 acres***

Portland Katoomba

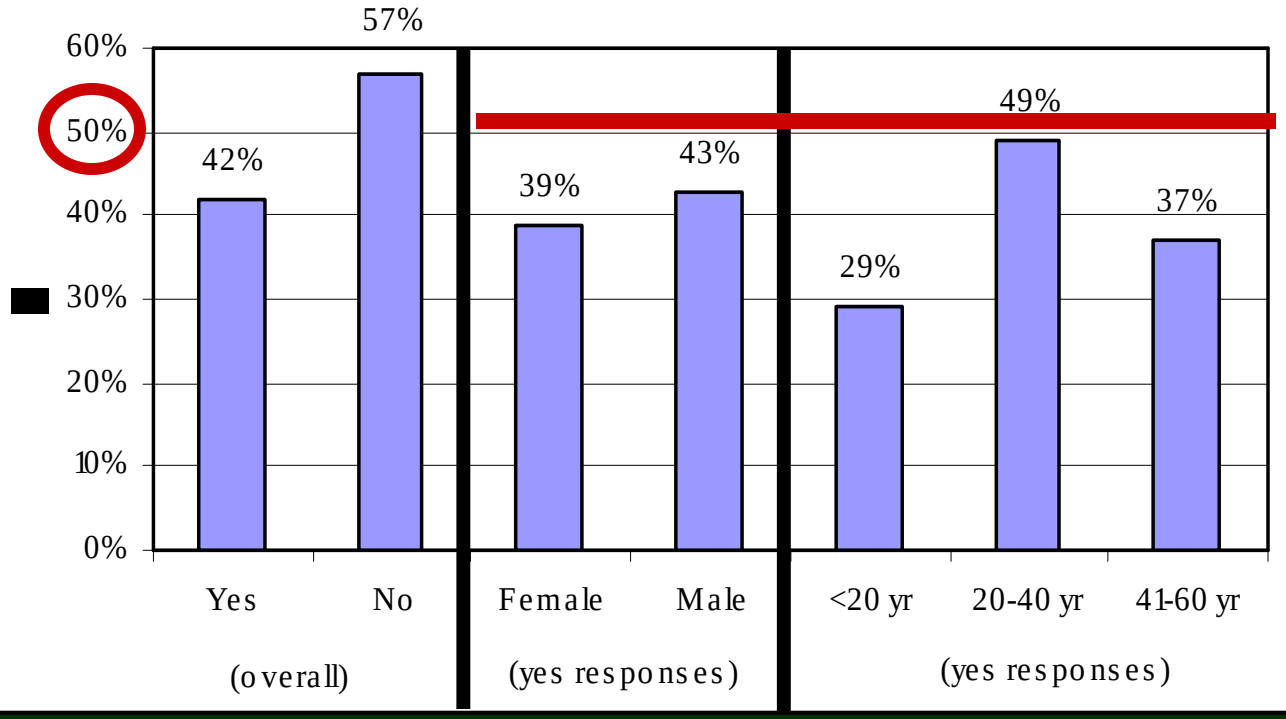


56% of all offspring interviewed *have not* been involved with the management of the family forests!

FM.1: ***Involved in the management of the family forests?***



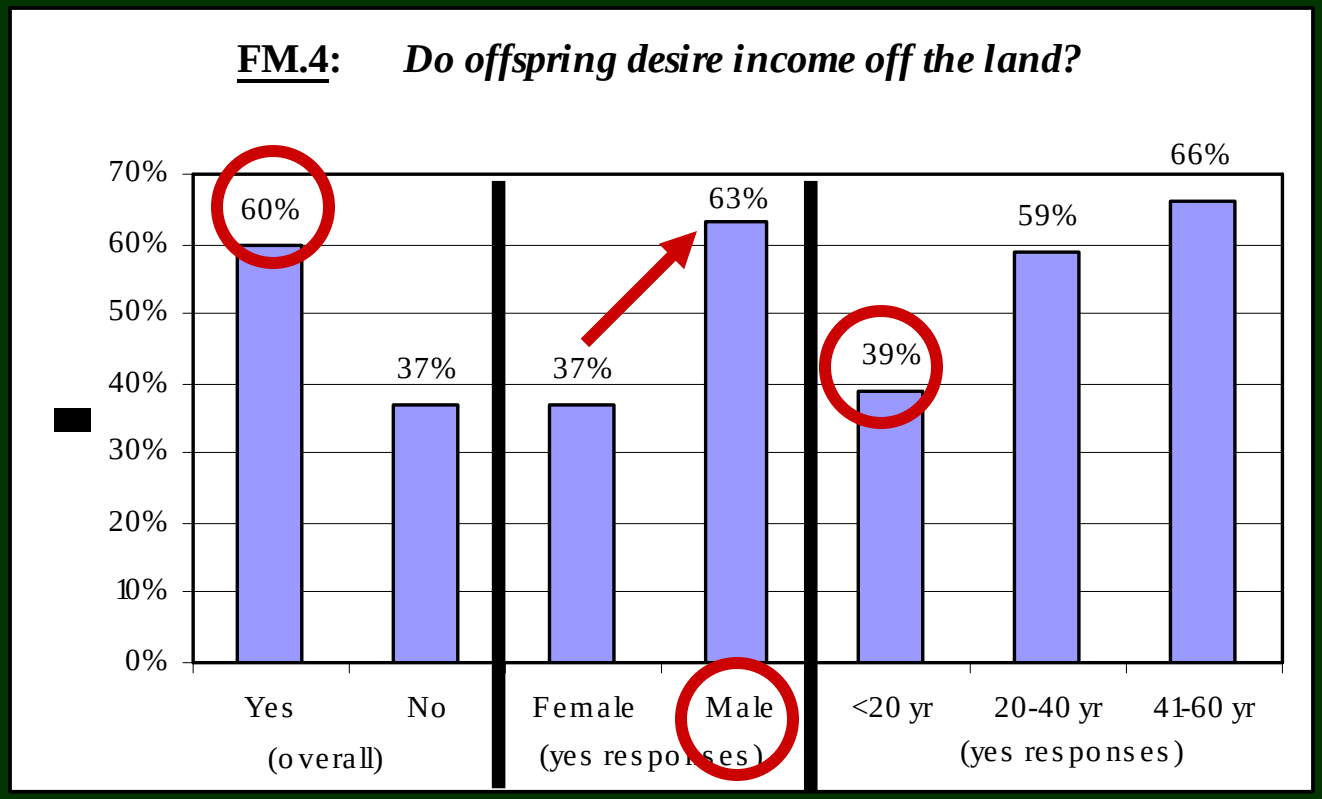
FM.2: *If not involved would you like to be?*



And while offspring note that their parents manage the family forests for *everything <u>but</u> <u>income generation:</u>*

- **60% - *wildlife protection***
- **46% - *water protection***
- **40% - *soil protection***

They clearly have different thoughts in mind for the family forests:



So - here's what we see . . .

- ✓ ***CROP and SPOT provide solid data baseline*** **for what needs to be removed.**
- ✓ ***But for*** **carbon investment – the ability of the industry and agencies to ramp-up and become fully operable within wildfire timelines *would not happen.***
- ✓ ***Private lands within CROP landscapes in serious threat*** **of removal by next generation; but *lack sufficient coordination and scale*** **to attract carbon investment on their own.**

More to Come!