Policy Developments Supporting Forest-based Economies

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Western Forest Economists
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Policy Developments Supporting Forest-based Economies

Panelists

California: Bill Stewart, UC-Berkeley

Oregon: Tom Partin, AFRC

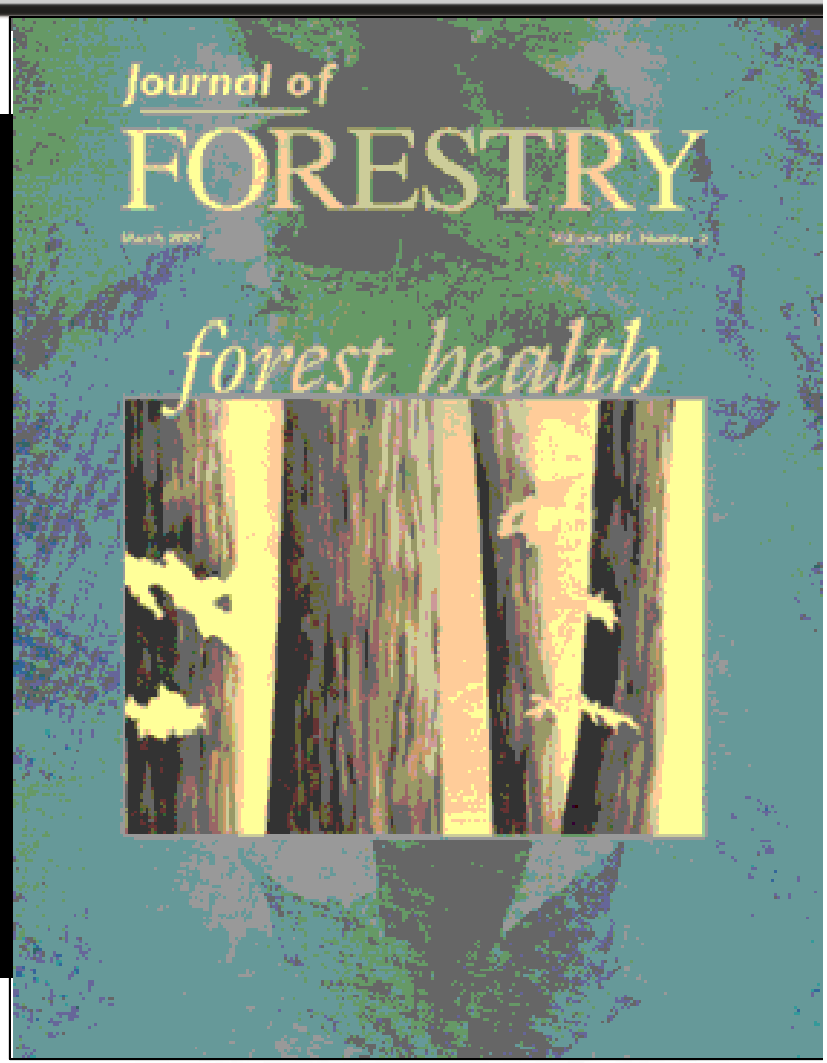
Washington, John Ehrenreich, WFPA

British Columbia: Harry Nelson, UBC

Interior West: Jay O'Laughlin

- Northern Rockies (Idaho & Montana)
- Intermountain (AZ, CO, NM, NV, UT, WY)

"Waiting to burn" (update of 2003 article)



Journal of Forestry, March 2003

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"Waiting to burn" (update of 2003 article)

The condition of national forest timberlands puts a variety of values at severe risk of wildfire. Prudent active management with restoration-based fuel reduction may improve the situation.

ABSTRACT

Several forest health indicators that are derived from inventory data can be used to compare changes in stand conditions over a 50-year period and across ownerships and regions. National forests, most of which are in the West, are denser and have higher mortality rates than other forests. A continuation of today's high growth-to-removals ratio on national forest timberlands portends increased density and mortality, putting various ecological, environmnetal, economic, and social values at greater risk of severe wildfire than they are today. National forest managers could improve stand conditions by increasing removals, but public policies tend to inhibit active management of national forests.

Keywords: fire; policy; silviculture

"Waiting to burn" (update of 2003 article)

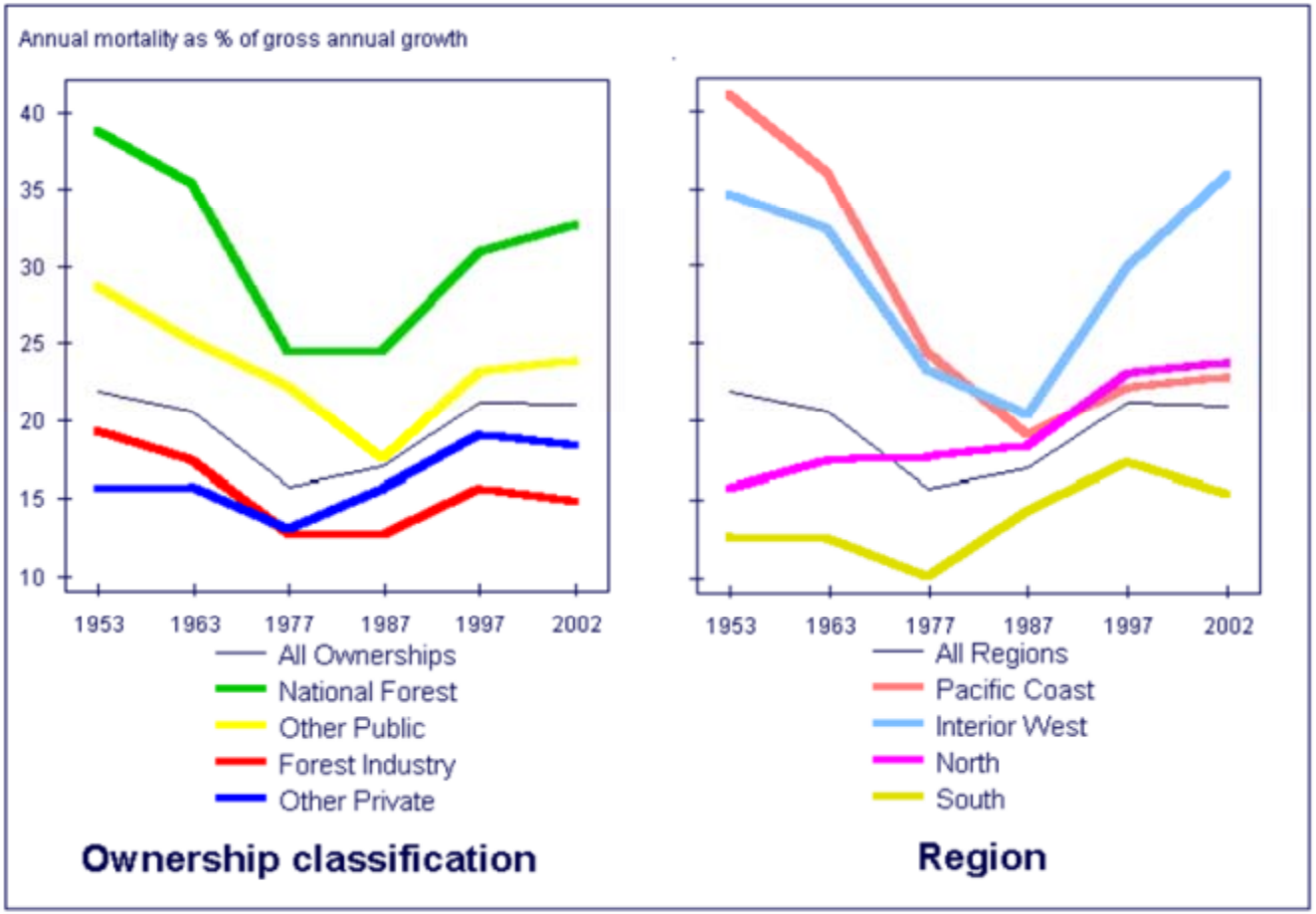

Figure 2. **Mortality/growth rate on US timberlands by ownership classification and region, 1953-2002.**

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Comparing inventory-based indicators

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Fact Sheet #4

High Forest Mortality and Low Timber Removal Rates in the Western States Promise Hazardous Fuel Accumulations and Big Fires

This analysis compares published timber inventory data for each of the Pacific Coast states (Alaska, California, Oregon, and Washington) with the Northern Rocky Mountain (NRM) sub-region (Idaho and Montana), and the six-state Inter-mountain (INT) sub-region (Arizona, Colorado, New Mexico, Nevada, Utah, and Wyoming). Available data for British Columbia are included; however, comparisons with U.S.A. inventory-based indicators are limited by lack of published annual timber growth and mortality estimates for B.C.

- The NRM sub-region (Idaho and Montana) and the six-state INT sub-region have substantial timber resources, each sub-region comparable to either Oregon, Washington, or California (Table 1, line a).
- The eight-state Interior West region (NRM and INT sub-regions combined) and Alaska timberlands have less volume per acre than timberlands in California, Oregon, or Washington (Table 1, line q).
- The large amount of sound dead timber is a distinguishing feature of timberlands in the eight-state Interior West region (Table 1, footnotes to line a). (Note: Published inventory data for 2007 show zero sound dead timber in the Pacific Coast states, except Alaska, which is a reporting error rather than a fact.)
  - Dead timber accumulations in the Interior West region more than doubled from 1997 to 2007, and are substantially higher than for any other modern inventory period (i.e., since 1952).
  - Dead timber accumulations result from high mortality and low removals (Table 1, lines c, d).
- The NRM sub-region (Idaho and Montana) had by far the highest amount of mortality (Table 1, line c). Mortality is a component of the large annual wood increment in the NRM sub-region (Table 1, line e).
- The Pacific Coast states (except Alaska) each add more than a billion cubic feet of volume to timber inventories every year; so do the NRM and INT sub-regions (Table 1, line e). One billion cubic feet of wood is enough to cover a football field with a stack of wood four miles high.
- The annual wood increment (Table 1, line e) adds fuel for the inevitable wildfire.
- Wood is accumulating faster in California and the NRM sub- region than elsewhere (Table 1, line f).
- The six states in the INT sub-region and Alaska are also experiencing high mortality (Table 1, lines h, i), but as indicated by very low removals (Table 1, line d), the forest industry infrastructure necessary to improve the accumulating fuel situation may not exist in some places (Table 1, line k "infrastructure ratio").
- The NRM sub-region and California have become infrastructure-challenged compared to Oregon and Washington (Table 1, line k); removals have decreased due to the dominant presence of National Forest System lands (Table 1, line p) and the public policy barriers that make timber removal difficult.
- The traditional forest sustainability measure is the growth / drain ration; all western states could increase timber removals substantially and still meet this criterion (Table 1, line j).

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Fact Sheet #4 (revised May 6, 2011) – Fact Sheets are based on research reports relevant to current natural resource topics.

Table 1. Timber inventory indicators for four Pacific Coast states, two Interior West sub-regions comprised of eight states, and British Columbia, 2007*

	OR	WA	CA	NRM [1]	INT [2]	AK	BC
	billion cubic feet						
a) Timber Inventory, Growing Stock	87.9	71.1	67.2	75.7 [1]	66.3 [2]	34.3	194
b) Net Growth (annual)	1.7	1.6	1.5	1.1	0.6	0.2	? [8]
c) Mortality (annual)	0.5	0.4	0.4	0.8	0.5	0.3	? [8]
d) Removals (annual)	1.0	0.9	0.5	0.4	0.1	0.1	2.7
e) Wood Increment (annual) [3]	1.2	1.2	1.4	1.4	1.1	0.4	? [8]
	percentage						
f) Wood Accumulation Rate (%) [4]	1.3%	1.7%	2.1%	1.9%	1.6%	1.3%	? [8]
g) Net Growth as % of Inventory	1.9%	2.3%	2.3%	1.4%	0.9%	0.7%	? [8]
h) Mortality as % of Inventory	0.6%	0.6%	0.5%	1.0%	0.8%	0.7%	? [8]
i) Mortality as % of Gross Growth [5]	23%	21%	19%	41%	47%	51%	? [8]
	ratio						
j) Growth / Drain Ratio [6]	1.6	1.8	3.3	2.5	10.2	3.8	? [8]
k) Infrastructure Ratio [7]	0.45	0.45	0.26	0.21	0.09	0.20	? [8]
	million acres						
l) Forest Land Area	30.2	22.3	32.8	46.4	144.9	126.9	135.9
m) Timberland Area	24.6	18.9	19.1	36.0	29.7	11.9	59.3
n) National Forest Timberland Area	11.6	6.4	9.3	24.0	20.3	3.8	n.m. [9]
	percent of total						
o) Timberland % of Total Land Area	40.2%	44.4%	19.2%	24.6%	7.4%	3.3%	25.3%
p) National Forest % of Timberland	47.2%	33.9%	48.7%	66.7%	68.4%	31.9%	n.m. [9]
	cubic feet per acre of timberland						
q) Inventory per acre	3,573	3,762	3,518	2,103	2,232	2,882	3,272

[1] NRM Northern Rocky Mountain sub-region (ID, MT); excludes 10 billion ft³ of sound dead wood.
[2] INT Intermountain sub-region (AZ, CO, NM, NV, UT, WY); excludes 7.2 billion ft³ of sound dead wood.
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[8] B.C. does not report annual growth & mortality data. Forest carbon emissions analysis indicates that annual mortality may exceed annual growth since 2003; however, this analysis "greatly overstates" emissions from timber harvest because forest products carbon pools are excluded as per international greenhouse gas accounting standards.
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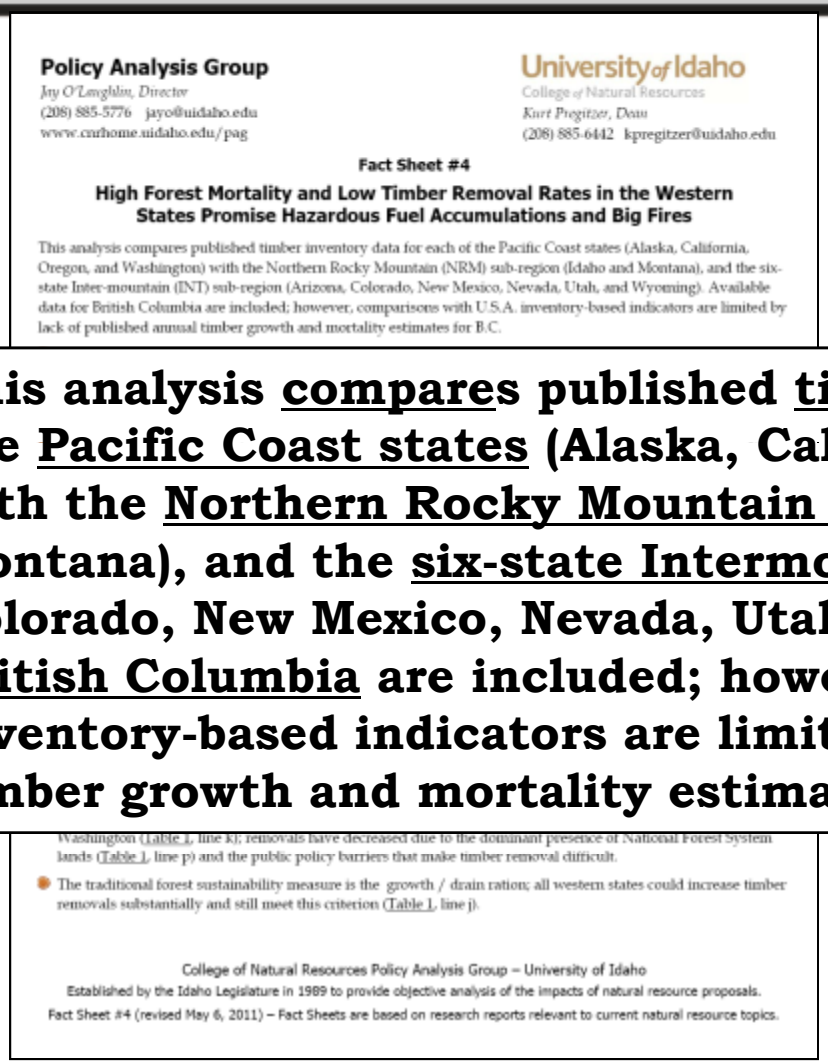
Comparing inventory-based indicators



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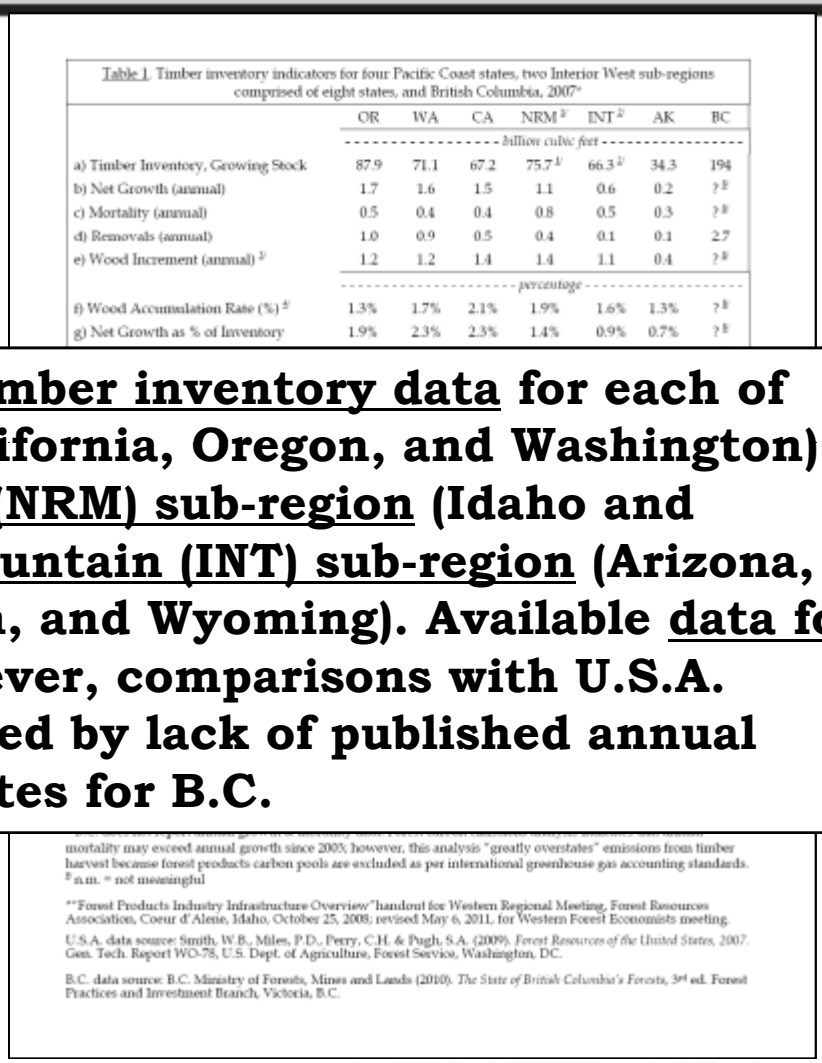

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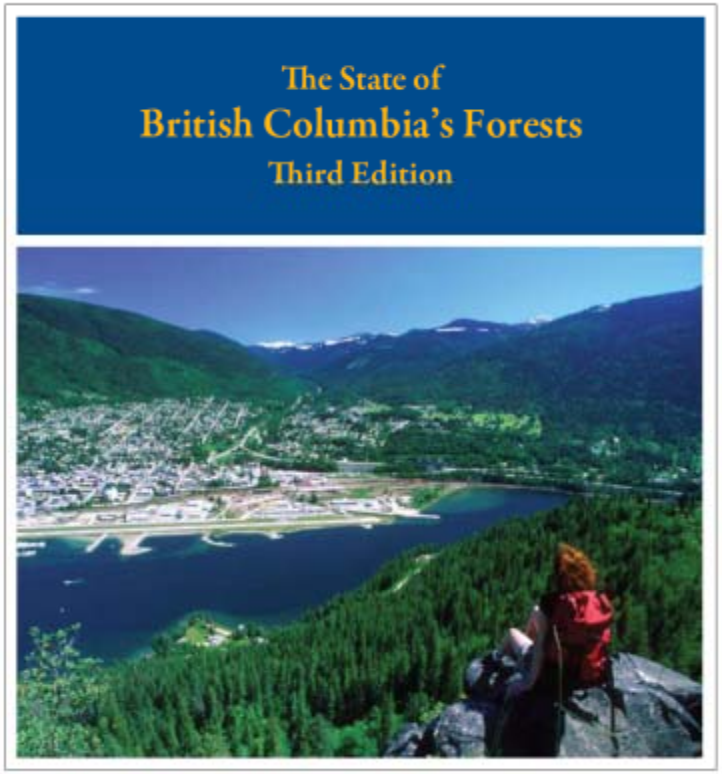
GHG sources & sinks – B.C. forests

From 1990 to 2002, B.C.'s forests were a carbon "sink," providing a net uptake of carbon dioxide (CO_2). Large wildfires in 2003 and 2004 and the mountain pine beetle epidemic have resulted in B.C. forests becoming a net emitter of CO_2 (i.e., a "source") since the year 2002. In 2007, B.C.'s forests released the equivalent of 40.6 million tonnes of CO_2 into the atmosphere. B.C.'s forests are projected to return to being a net sink after 2020. Reforestation and other forest management investments that increase growth can increase the amount of CO_2 absorbed by forests. Over the last 10 years, the amount of carbon in the living biomass pool in B.C.'s forests has declined while the amount in the deadwood and forest floor pool has increased, driven by the beetle epidemic.



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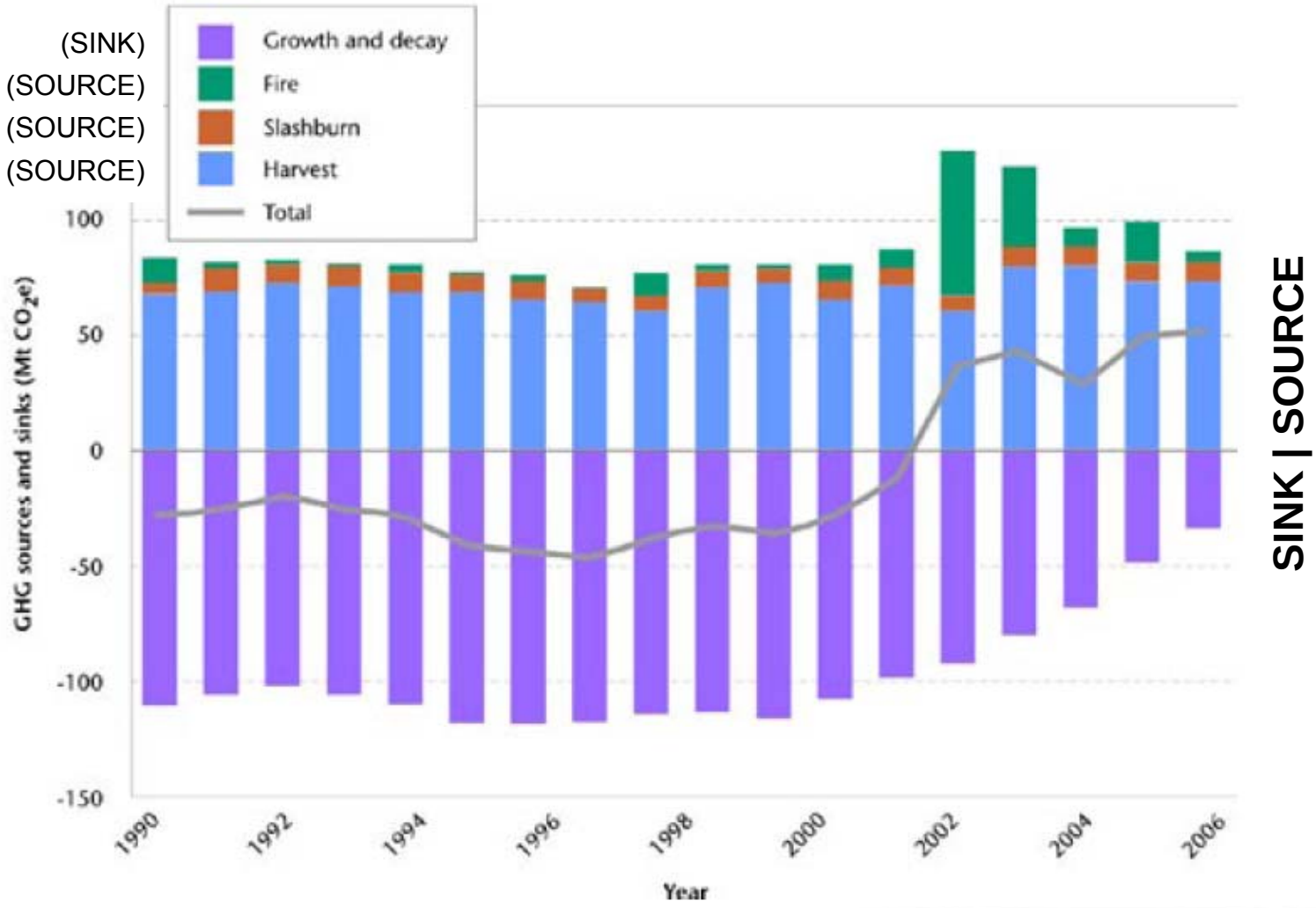
GHG sources & sinks – B.C. forests, 1990-2006



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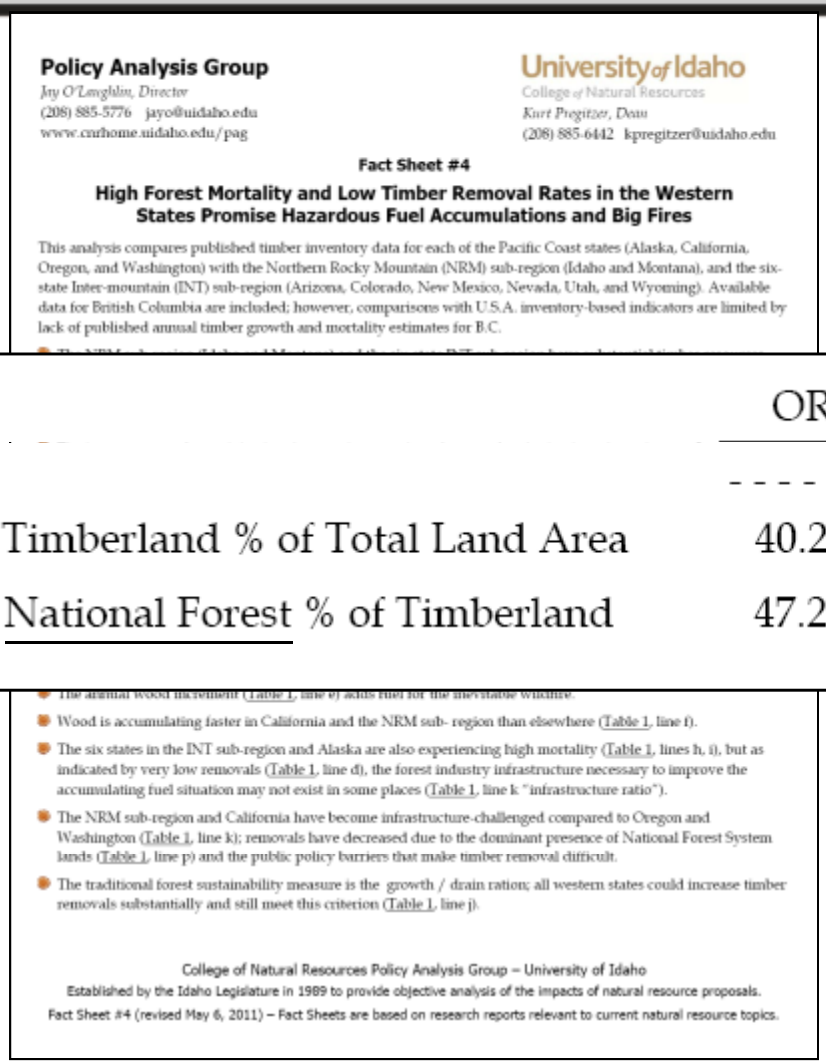
Comparing inventory-based indicators



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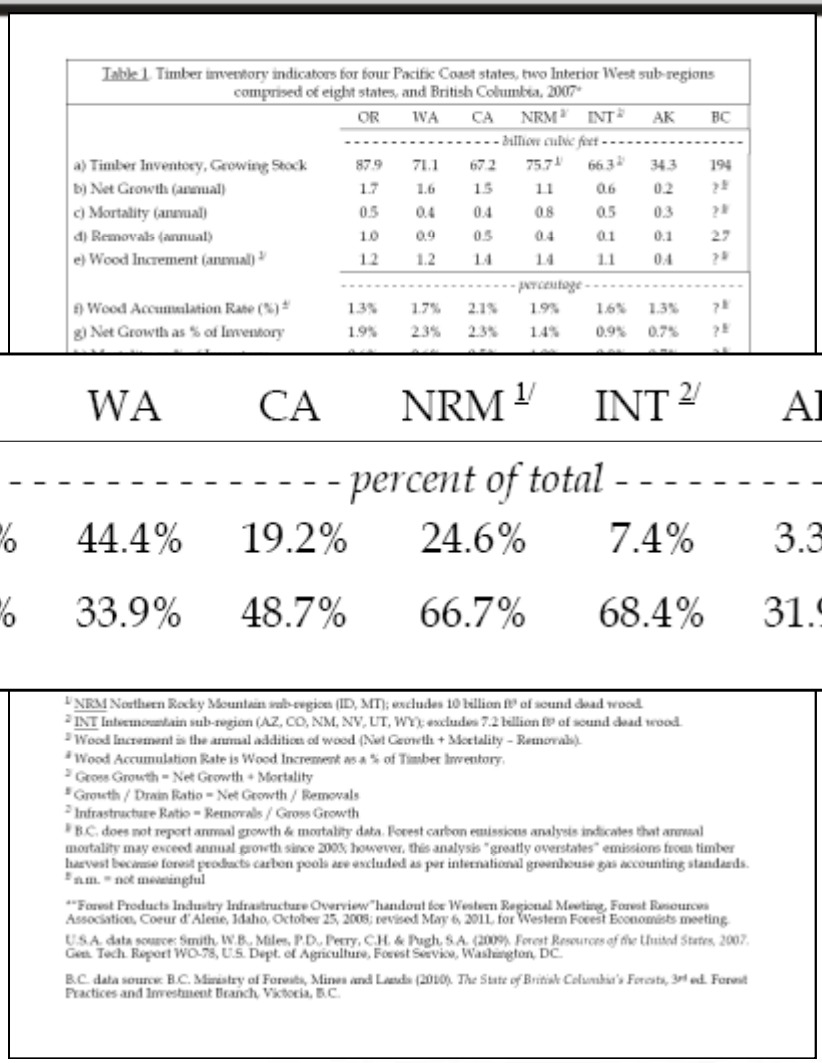

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	OR	WA	CA	NRM [1/]	INT [2/]	AK
	percent of total					
o) Timberland % of Total Land Area	40.2%	44.4%	19.2%	24.6%	7.4%	3.3%
p) National Forest % of Timberland	47.2%	33.9%	48.7%	66.7%	68.4%	31.9%

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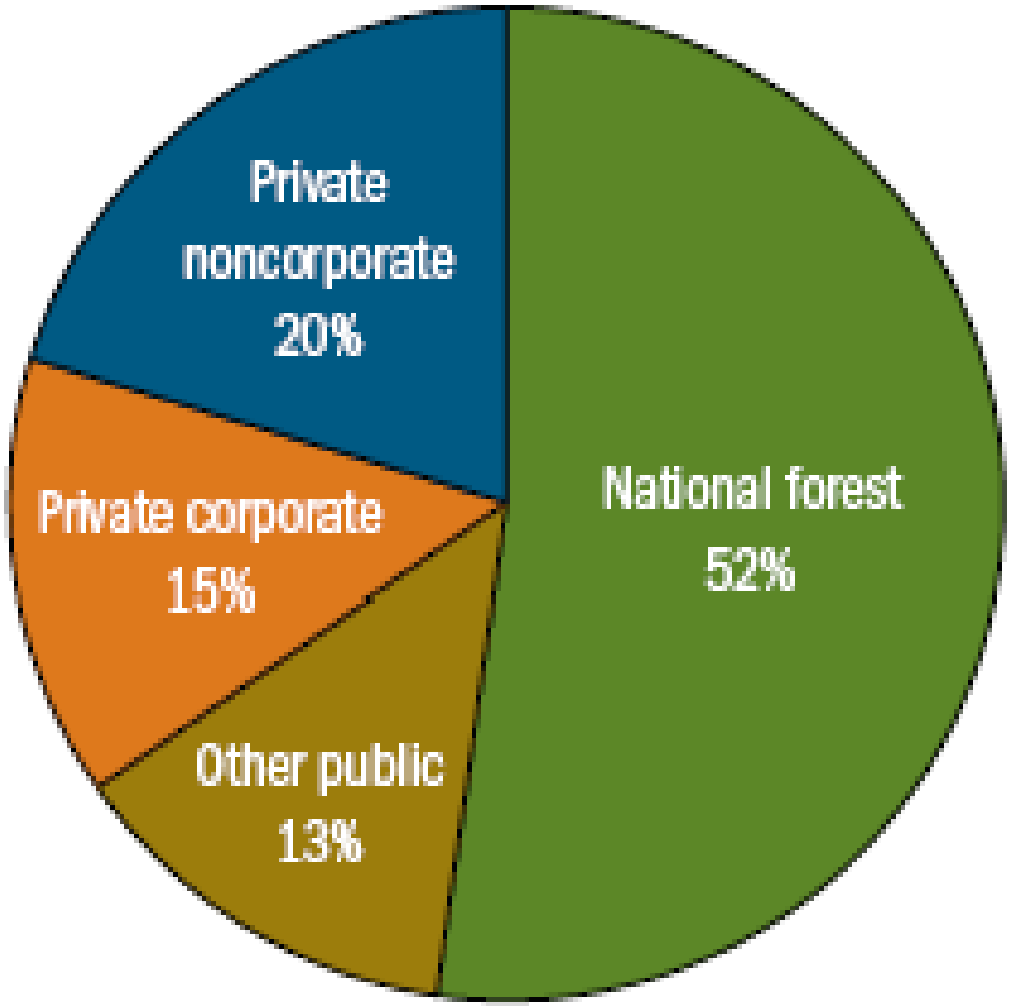
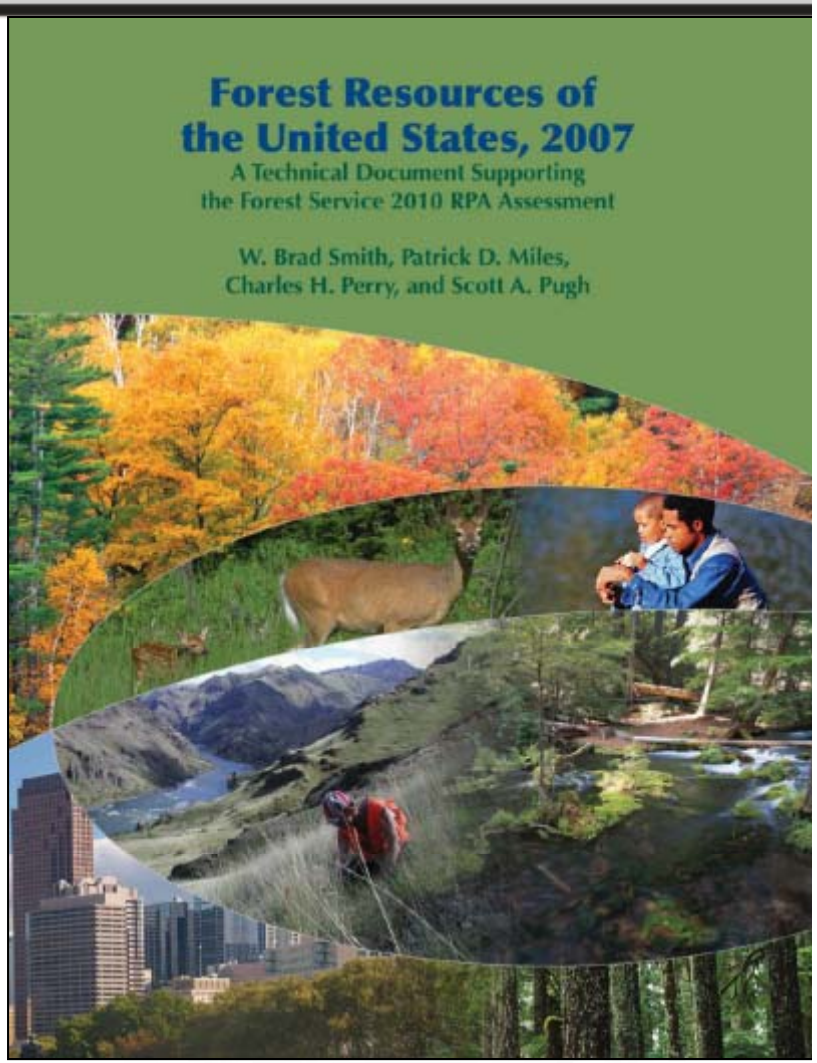
Timberland ownership, western U.S.A.





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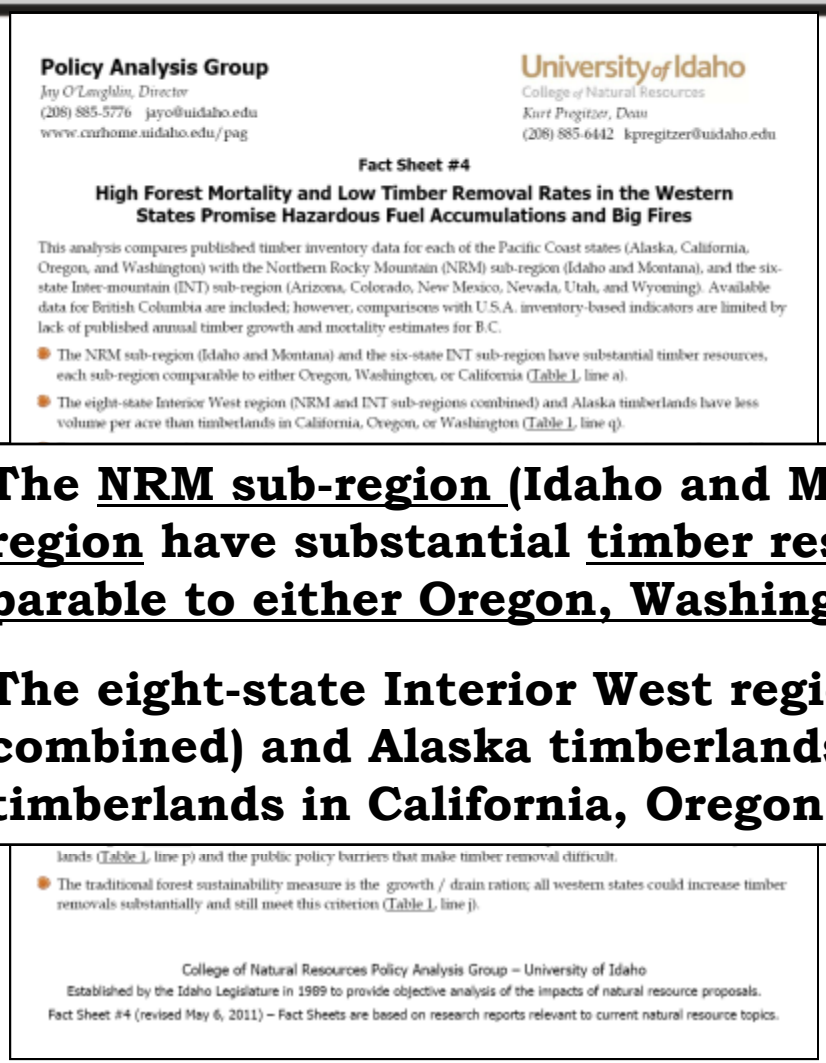
Comparing inventory-based indicators



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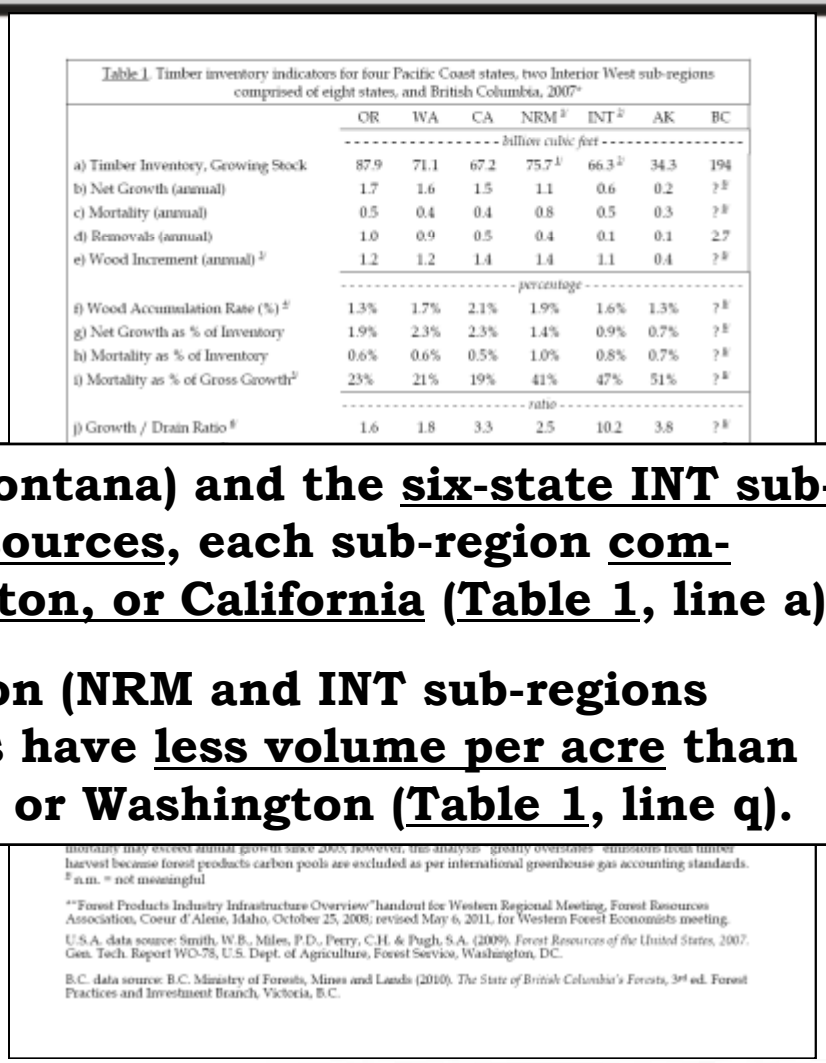

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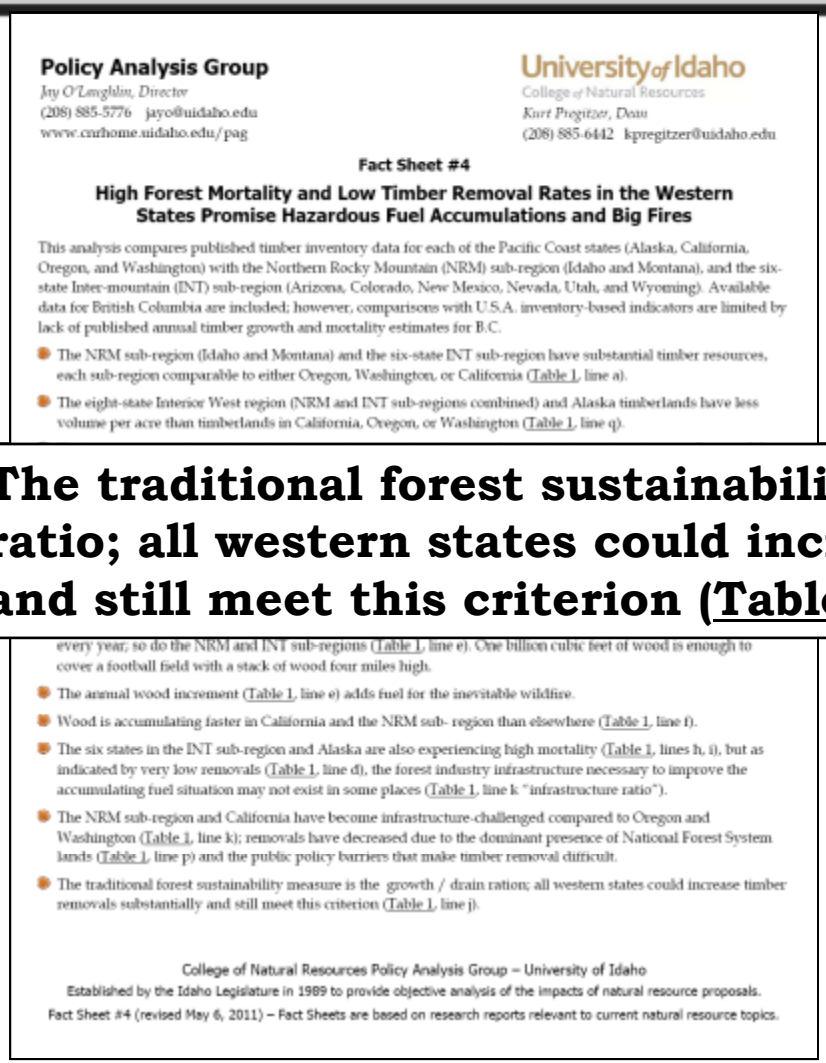
Comparing inventory-based indicators



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Fact Sheet #4

High Forest Mortality and Low Timber Removal Rates in the Western States Promise Hazardous Fuel Accumulations and Big Fires

This analysis compares published timber inventory data for each of the Pacific Coast states (Alaska, California, Oregon, and Washington) with the Northern Rocky Mountain (NRM) sub-region (Idaho and Montana), and the six-state Inter-mountain (INT) sub-region (Arizona, Colorado, New Mexico, Nevada, Utah, and Wyoming). Available data for British Columbia are included; however, comparisons with U.S.A. inventory-based indicators are limited by lack of published annual timber growth and mortality estimates for B.C.

- The NRM sub-region (Idaho and Montana) and the six-state INT sub-region have substantial timber resources, each sub-region comparable to either Oregon, Washington, or California (Table 1, line a).
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every year, so do the NRM and INT sub-regions (Table 1, line e). One billion cubic feet of wood is enough to cover a football field with a stack of wood four miles high.

- The annual wood increment (Table 1, line e) adds fuel for the inevitable wildfire.
- Wood is accumulating faster in California and the NRM sub- region than elsewhere (Table 1, line f).
- The six states in the INT sub-region and Alaska are also experiencing high mortality (Table 1, lines h, i), but as indicated by very low removals (Table 1, line d), the forest industry infrastructure necessary to improve the accumulating fuel situation may not exist in some places (Table 1, line k "infrastructure ratio").
- The NRM sub-region and California have become infrastructure-challenged compared to Oregon and Washington (Table 1, line k); removals have decreased due to the dominant presence of National Forest System lands (Table 1, line p) and the public policy barriers that make timber removal difficult.
- The traditional forest sustainability measure is the growth / drain ration; all western states could increase timber removals substantially and still meet this criterion (Table 1, line j).

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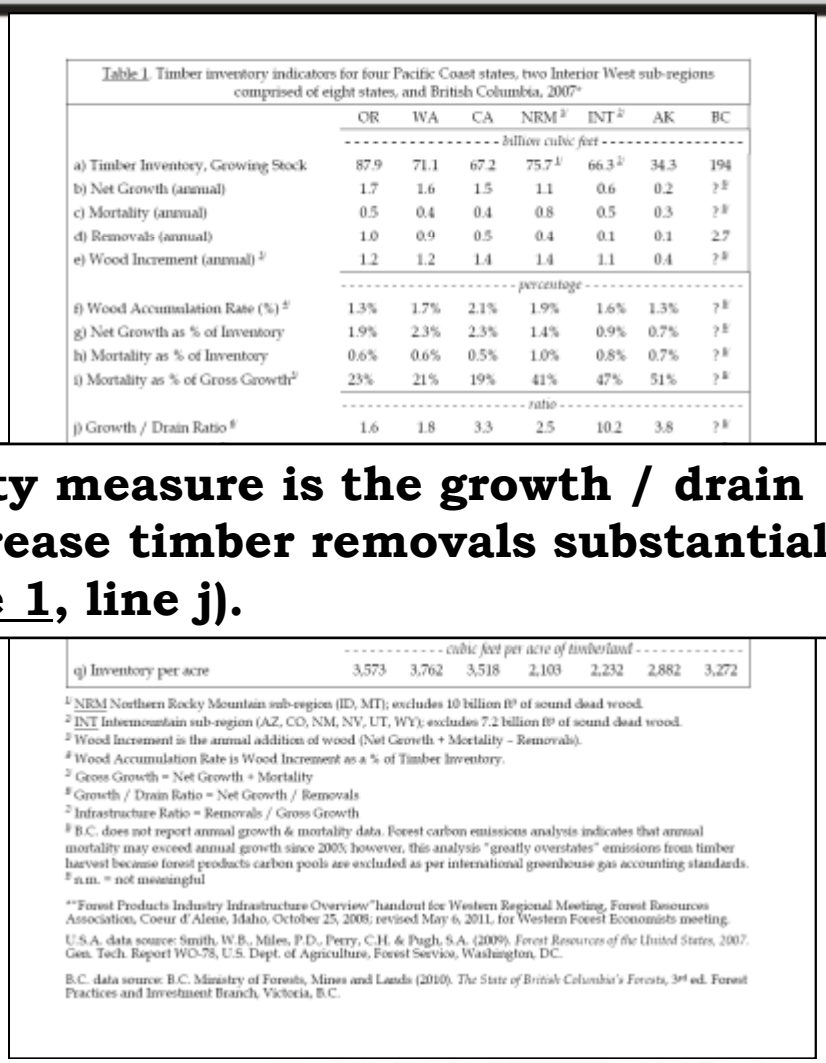
Fact Sheet #4 (revised May 6, 2011) – Fact Sheets are based on research reports relevant to current natural resource topics.



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	OR	WA	CA	NRM [1]	INT [2]	AK	BC
	billion cubic feet						
a) Timber Inventory, Growing Stock	87.9	71.1	67.2	75.7 [1]	66.3 [2]	34.3	194
b) Net Growth (annual)	1.7	1.6	1.5	1.1	0.6	0.2	? [8]
c) Mortality (annual)	0.5	0.4	0.4	0.8	0.5	0.3	? [8]
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f) Wood Accumulation Rate (%) [4]	1.3%	1.7%	2.1%	1.9%	1.6%	1.3%	? [8]
g) Net Growth as % of Inventory	1.9%	2.3%	2.3%	1.4%	0.9%	0.7%	? [8]
h) Mortality as % of Inventory	0.6%	0.6%	0.5%	1.0%	0.8%	0.7%	? [8]
i) Mortality as % of Gross Growth [5]	23%	21%	19%	41%	47%	51%	? [8]
	ratio						
j) Growth / Drain Ratio [6]	1.6	1.8	3.3	2.5	10.2	3.8	? [8]
	cubic feet per acre of timberland						
q) Inventory per acre	3,573	3,762	3,518	2,103	2,232	2,882	3,272

[1] NRM Northern Rocky Mountain sub-region (ID, MT); excludes 10 billion ft³ of sound dead wood.
[2] INT Intermountain sub-region (AZ, CO, NM, NV, UT, WY); excludes 7.2 billion ft³ of sound dead wood.
[3] Wood Increment is the annual addition of wood (Net Growth + Mortality – Removals).
[4] Wood Accumulation Rate is Wood Increment as a % of Timber Inventory.
[5] Gross Growth = Net Growth + Mortality
[6] Growth / Drain Ratio = Net Growth / Removals
[7] Infrastructure Ratio = Removals / Gross Growth
[8] B.C. does not report annual growth & mortality data. Forest carbon emissions analysis indicates that annual mortality may exceed annual growth since 2003; however, this analysis "greatly overstates" emissions from timber harvest because forest products carbon pools are excluded as per international greenhouse gas accounting standards.
[9] n.m. = not meaningful

*"Forest Products Industry Infrastructure Overview" handout for Western Regional Meeting, Forest Resources Association, Coeur d'Alene, Idaho, October 25, 2008; revised May 6, 2011, for Western Forest Economists meeting.

U.S.A. data source: Smith, W.B., Miles, P.D., Perry, C.H. & Pugh, S.A. (2009). *Forest Resources of the United States, 2007.* Gen. Tech. Report WO-78, U.S. Dept. of Agriculture, Forest Service, Washington, DC.

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Policy Developments Supporting Forest-based Economies

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Oregon: Tom Partin, AFRC

Washington, John Ehrenreich, WFPA

British Columbia: Harry Nelson, UBC

Interior West: Jay O'Laughlin

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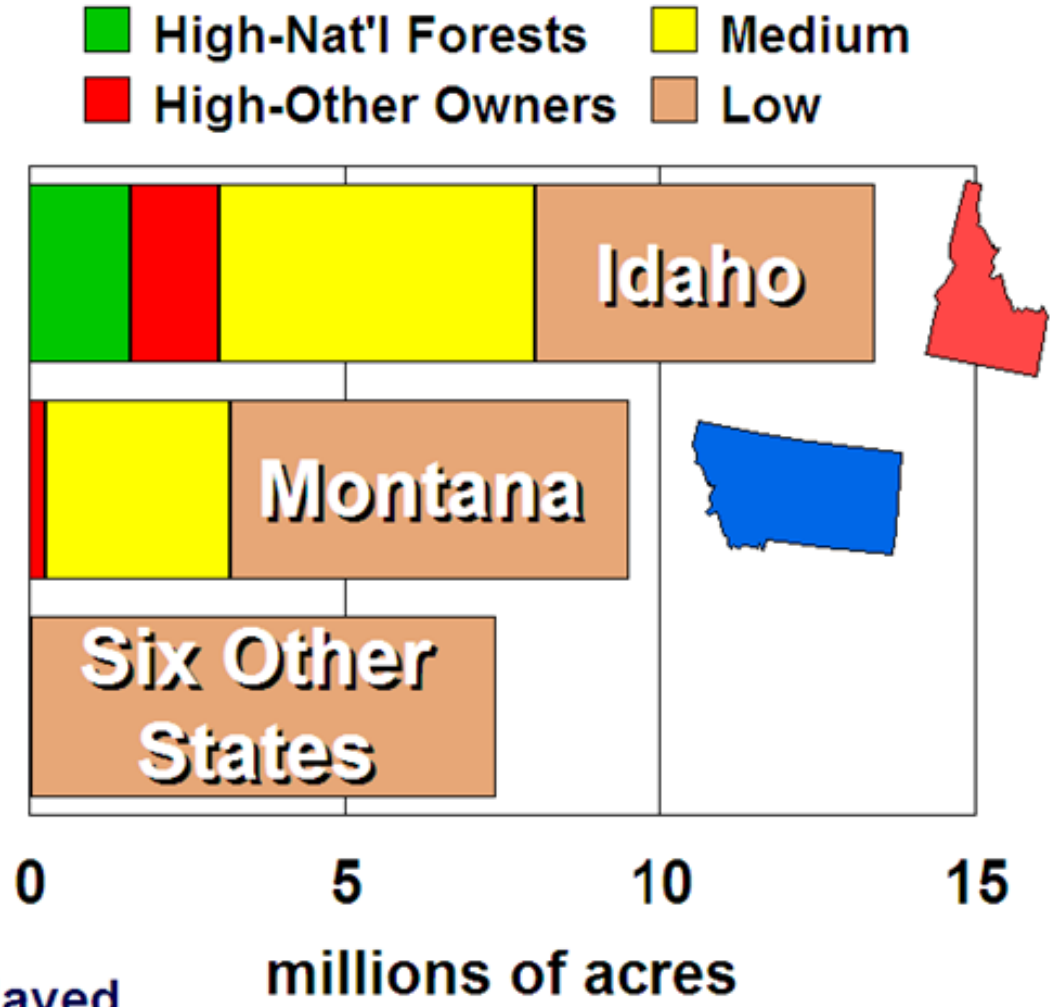
Top 5 states — National Forest lands

State	National Forest Land (Acres)	Total Acreage of State	Nat'l Forest as % of Total State
Alaska	22,483,751	365,481,600	6.2%
California	20,537,679	100,206,720	20.5%
Idaho	20,440,564	52,933,120	38.6%
Montana	16,797,507	93,271,040	18.0%
Oregon	15,625,616	61,598,720	25.4%

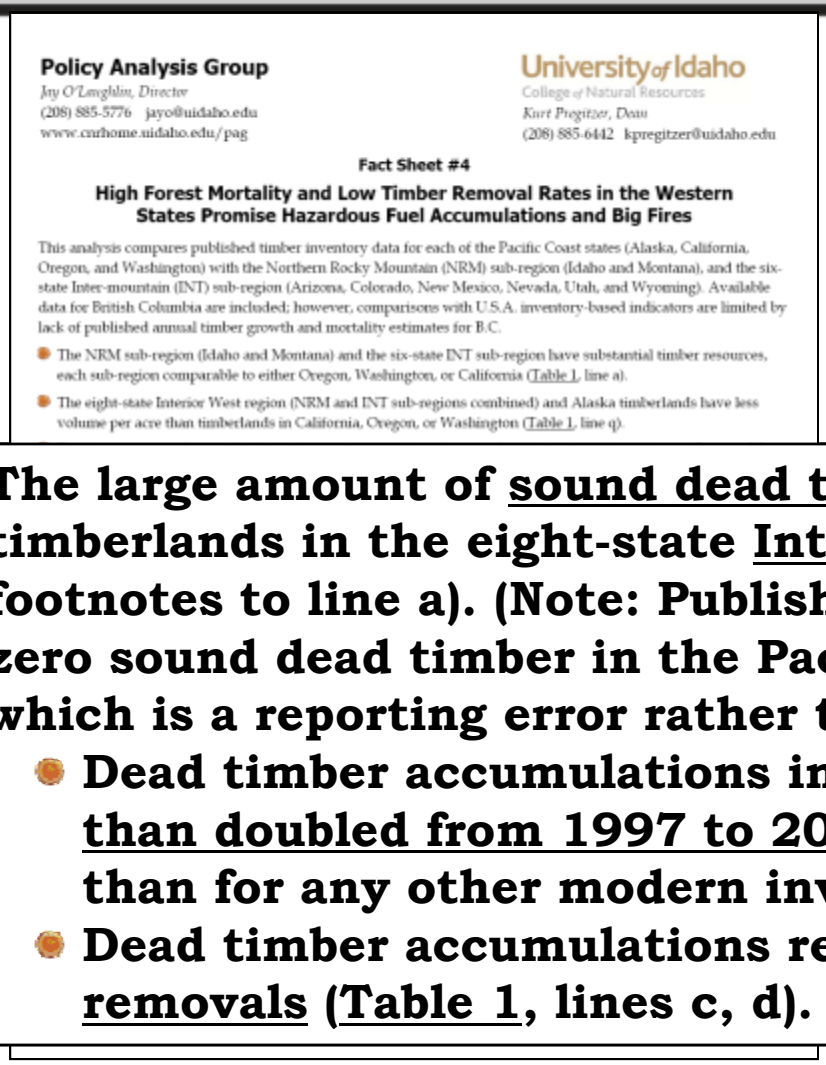
Interior West timberland productivity

- Idaho has 92% of high-productivity forest lands in the 8-state region (AZ, CO, ID, MT, NM, NV, UT, WY)
- Idaho National Forests have more high-productivity lands than other forest landowners



Note: lands of marginal productivity are not displayed

Comparing inventory-based indicators



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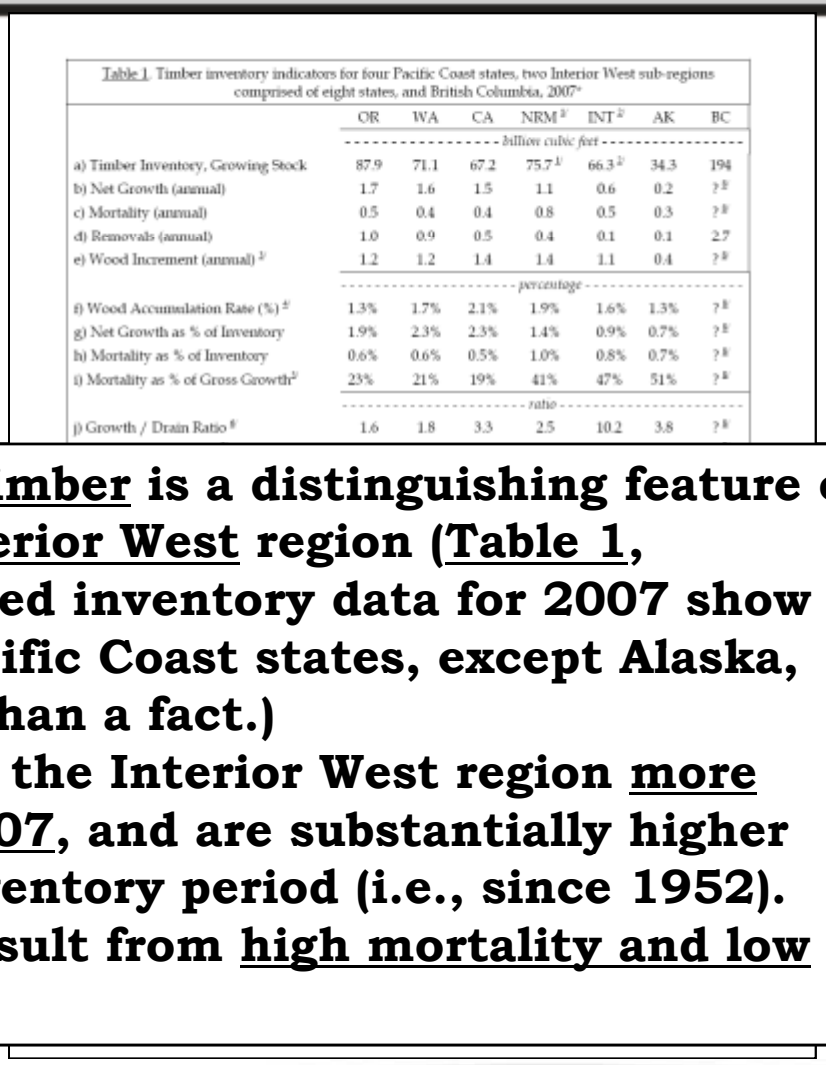

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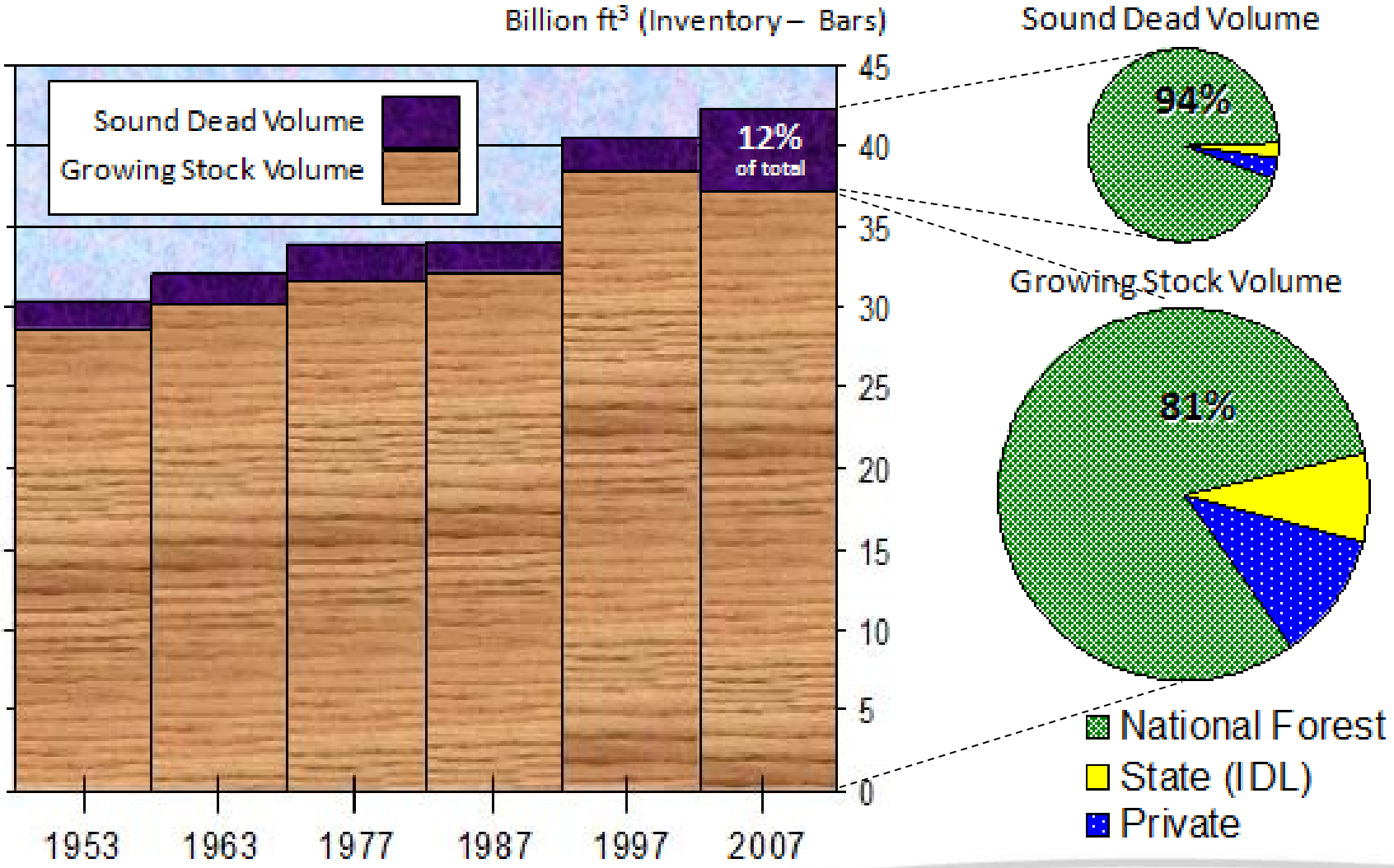
- **The large amount of sound dead timber is a distinguishing feature of timberlands in the eight-state Interior West region (Table 1, footnotes to line a). (Note: Published inventory data for 2007 show zero sound dead timber in the Pacific Coast states, except Alaska, which is a reporting error rather than a fact.)**
  - **Dead timber accumulations in the Interior West region more than doubled from 1997 to 2007, and are substantially higher than for any other modern inventory period (i.e., since 1952).**
  - **Dead timber accumulations result from high mortality and low removals (Table 1, lines c, d).**

Idaho forest inventory trends, 1953-2007



Data: *Forest Resources of the U.S., 2007*

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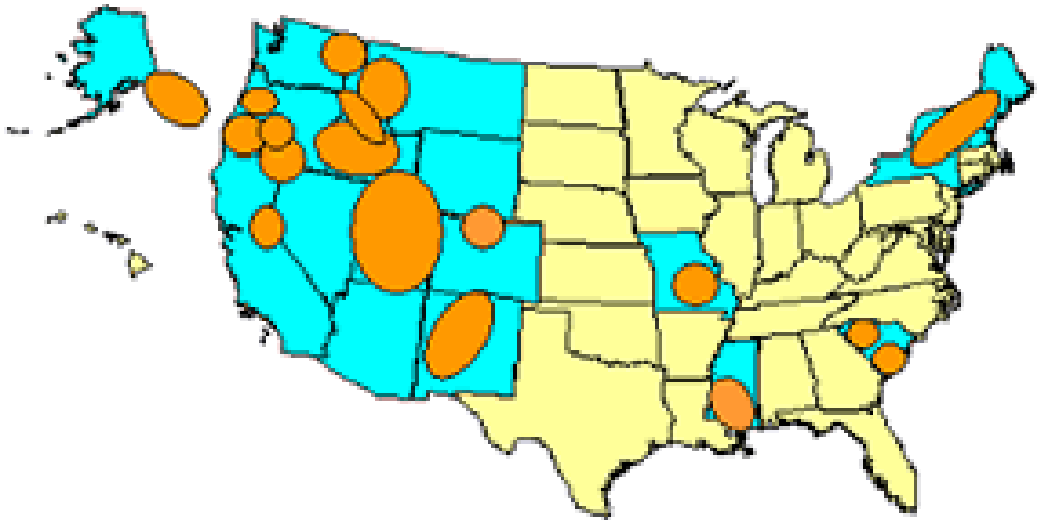
CROP

(Coordinated Resource Offering Protocol)

Since 2006, almost 20 CROP evaluations have been completed on over 50 million acres of public forestlands across the United States, and more CROPS are underway. The CROP evaluations were conducted in geographic regions where forest restoration and fuel load reduction efforts are a high priority. For each CROP, detailed ***resource offering information*** is provided showing the following biomass removal data for every species to be removed during a rolling five-year period:



Completed CROPs (August 2009)

www.forestsandrangelands.gov/Woody_Biomass/supply/CROP/index.shtml

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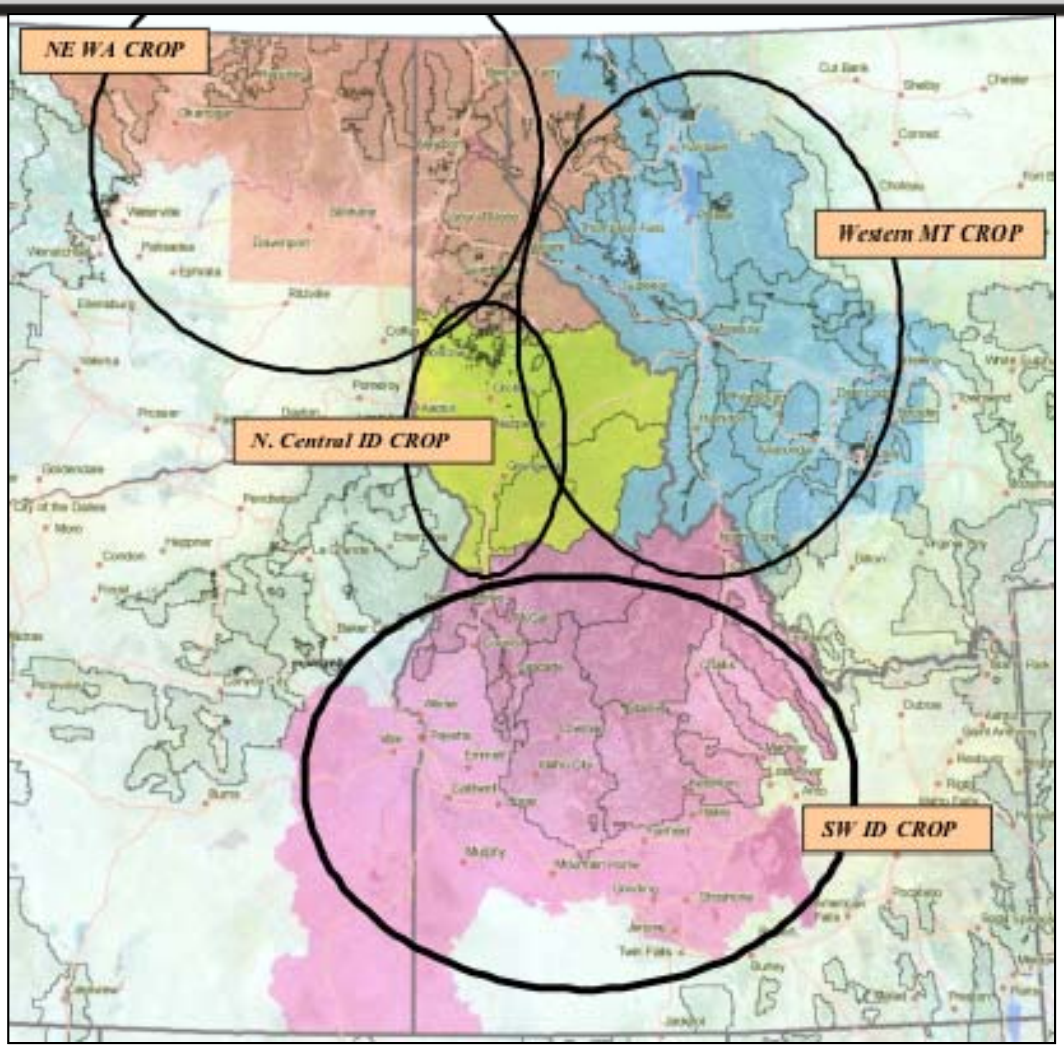
"CROP" projects, Washington-Idaho-Montana*

Coordinated Resource Offering Protocol



* Completed 2009

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CROP summary — Idaho National Forests

National Forest	5-yr total biomass *(g tons)**	5-yr total small log *(mmbf)*	5-yr total large log *(mmbf)*
Idaho Panhandle NF	191,858	121.501	90.128
Clearwater NF	7,688	35.012	78.350
Nez Perce NF	10,482	15.976	41.297
Payette NF	122,603	79.275	52.272
Boise NF	73,437	113.253	86.494
Sawtooth NF	16,525	14.480	2.145
Salmon-Challis NF	56,291	33.456	3.616
Caribou-Targhee NF	?	?	?
Total	478,884	412.951	354.302

**1 g ton = 160 bf*

CROP summary — Idaho National Forests

National Forest	5-yr total biomass *(mmbf)*	5-yr total small log *(mmbf)*	5-yr total large log *(mmbf)*	5-yr total everything *(mmbf)*
Idaho Panhandle NF	30.697	121.501	90.128	242.326
Clearwater NF	1.230	35.012	78.350	114.592
Nez Perce NF	1.677	15.976	41.297	58.950
Payette NF	19.616	79.275	52.272	151.613
Boise NF	11.750	113.253	86.494	211.497
Sawtooth NF	2.644	14.480	2.145	19.269
Salmon-Challis NF	9.007	33.456	3.616	46.079
Caribou-Targhee NF	?	?	?	?
Total	76.621	412.951	354.302	843.874

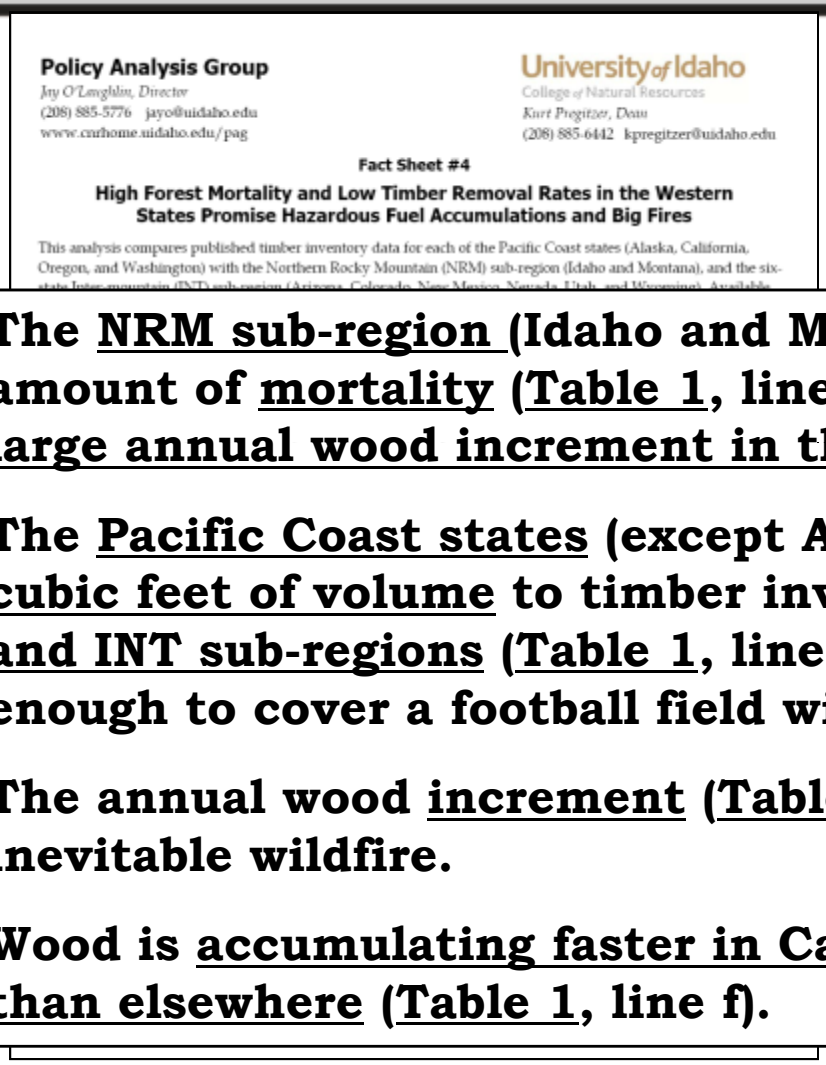
4.0% of gross annual growth

CROP summary — Montana Nat'l Forests

National Forest	5-yr total biomass *(mmbf)*	5-yr total small log *(mmbf)*	5-yr total large log *(mmbf)*	5-yr total everything *(mmbf)*
Beaver/Deer NF	0.000	98.334	43.666	142.001
Bitterroot NF	3.304	9.173	26.697	39.174
Flathead NF	26.678	53.901	53.002	133.581
Helena NF	0.000	73.058	32.442	105.500
Kootenai NF	3.474	41.132	42.026	86.632
Lolo NF	9.262	67.499	40.805	117.566
Total	42.718	343.097	238.638	624.454

3.7% of gross annual growth

Comparing inventory-based indicators



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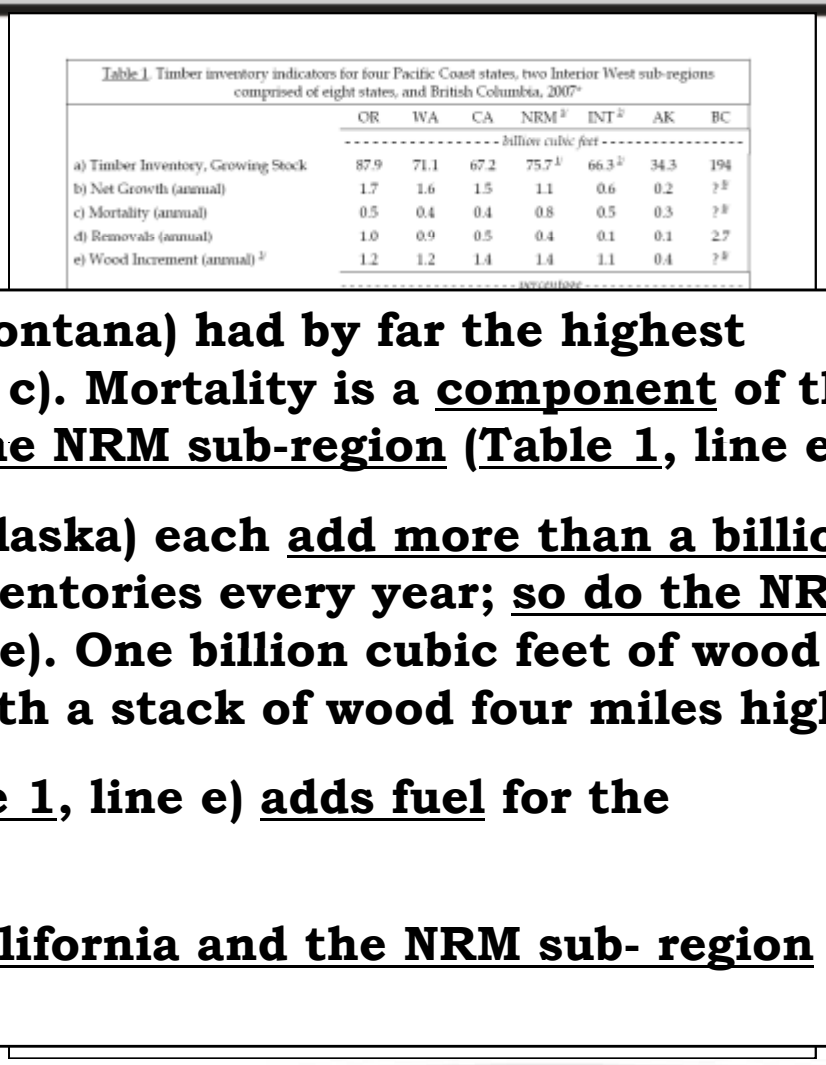

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d) Removals (annual)	1.0	0.9	0.5	0.4	0.1	0.1	2.7
e) Wood Increment (annual) [2]	1.2	1.2	1.4	1.4	1.1	0.4	? [3]

- **The NRM sub-region (Idaho and Montana) had by far the highest amount of mortality (Table 1, line c). Mortality is a component of the large annual wood increment in the NRM sub-region (Table 1, line e).**
- **The Pacific Coast states (except Alaska) each add more than a billion cubic feet of volume to timber inventories every year; so do the NRM and INT sub-regions (Table 1, line e). One billion cubic feet of wood is enough to cover a football field with a stack of wood four miles high.**
- **The annual wood increment (Table 1, line e) adds fuel for the inevitable wildfire.**
- **Wood is accumulating faster in California and the NRM sub- region than elsewhere (Table 1, line f).**

Wildfire & fuels

GAO
U.S. Government Accountability Office

Keyword or Report # GAO-RCED-99-65 Go

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The most extensive and serious problem related to the health of national forests in the Interior West is the over-accumulation of vegetation, which has caused an increasing number of large, intense, uncontrollable, and catastrophically destructive wildfires.

United States General Accounting Office

GAO

Report to the Subcommittee on Forests and Forest Health, Committee on Resources, House of Representatives

April 1999

WESTERN NATIONAL FORESTS

A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats

GAO/RCED-99-65

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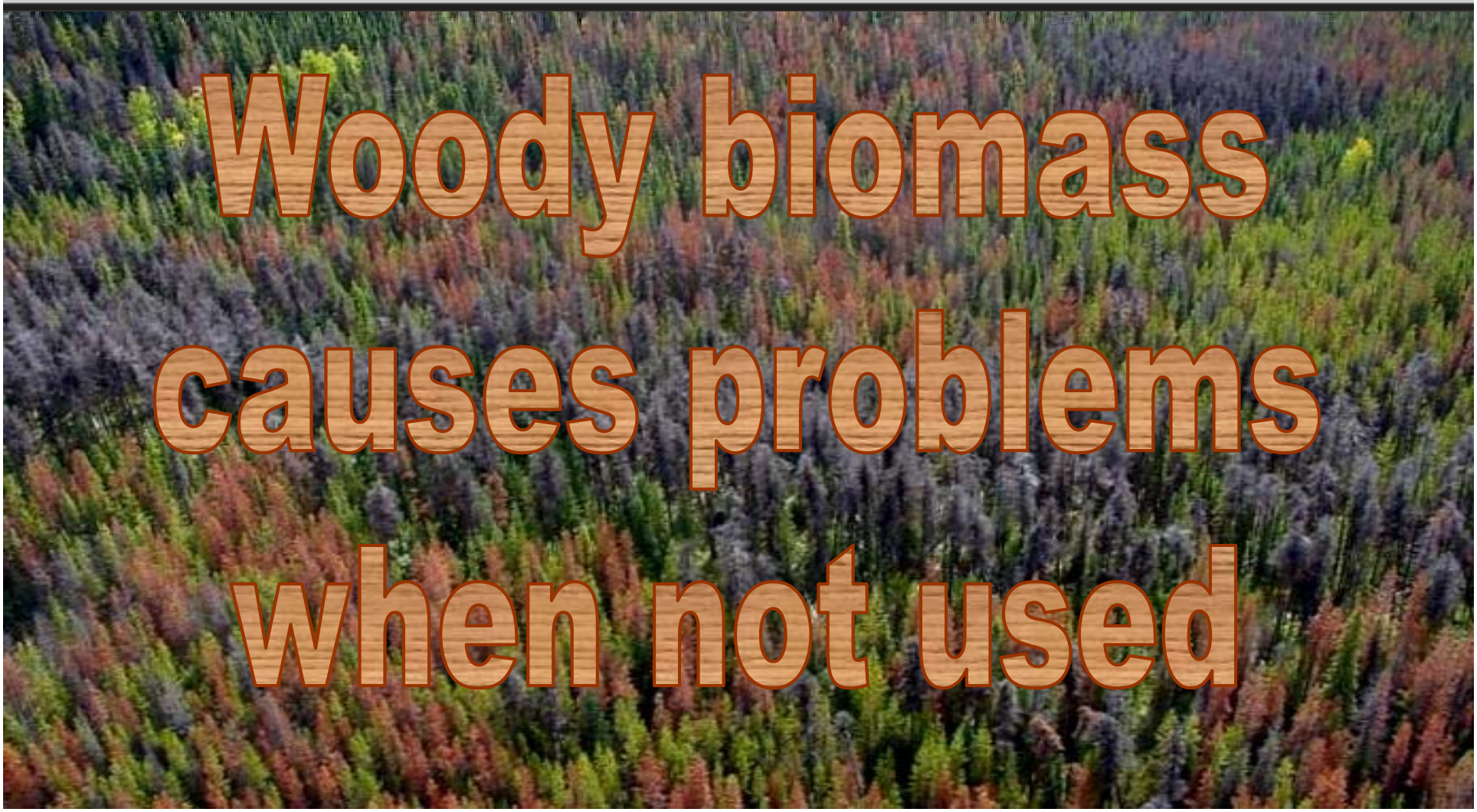
Wildfire, fuels & emissions



Wildfire, fuels & emissions

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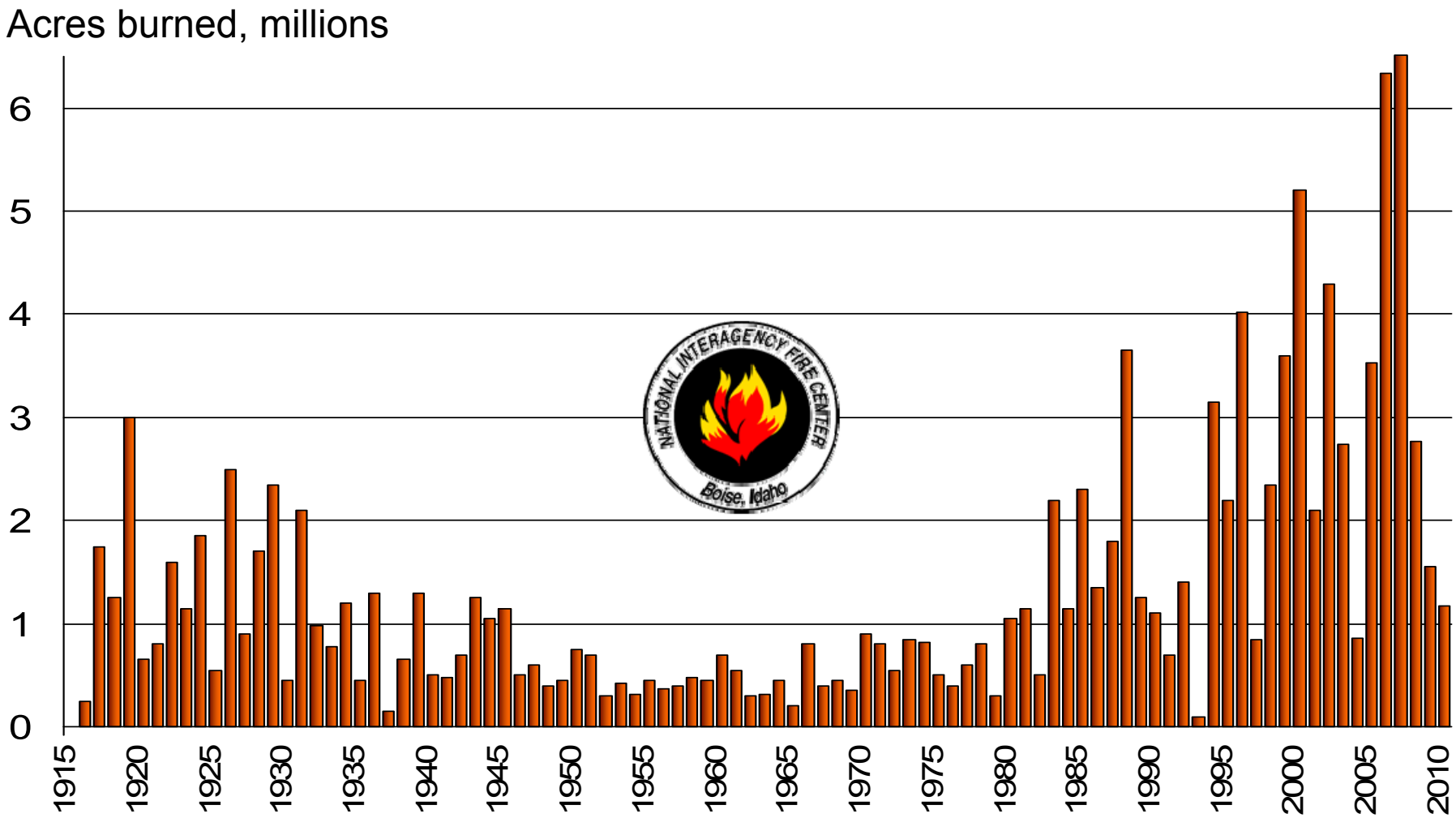
Wildfires in 11 western states, 1916-2010



11 states are AZ, CA, CO, ID, MT, NV, NM, OR, UT, WA, WY

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Wildfire, fuels & emissions . . . outlook

Increases in wildfire burn areas of 74 to 118% in the next century seem likely for the western U.S.

Steven W. Running (2006). "Is global warming causing more, larger wildfires?" *Science* 313: 927-928.

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Wildfire, fuels & climate change

The overall importance of climate in wildfire activity underscores the urgency of ecological restoration and fuels management to reduce wildfire hazards to human communities and to mitigate ecological impacts of climate change . . .

A.L. Westerling, et al. (2006). "Warming and earlier spring increase western U.S. forest wildfire activity." *Science* 313: 940-943.

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Forest management . . .

Oslo, 10 December 2007 – Nobel Peace Prize
awarded to
Intergovernmental Panel on Climate Change
and Albert Arnold (Al) Gore Jr.
"for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change".

"... a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber fibre or energy from the forest, will generate the largest sustained mitigation benefit."

http://www.ipcc.ch/ipccreports/ar4-wg3.htm

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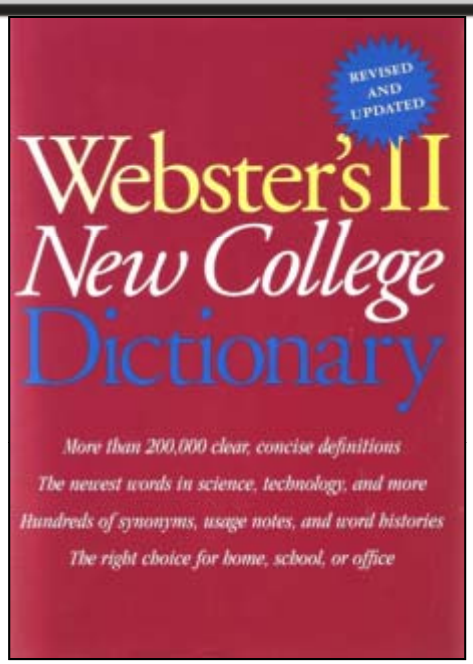
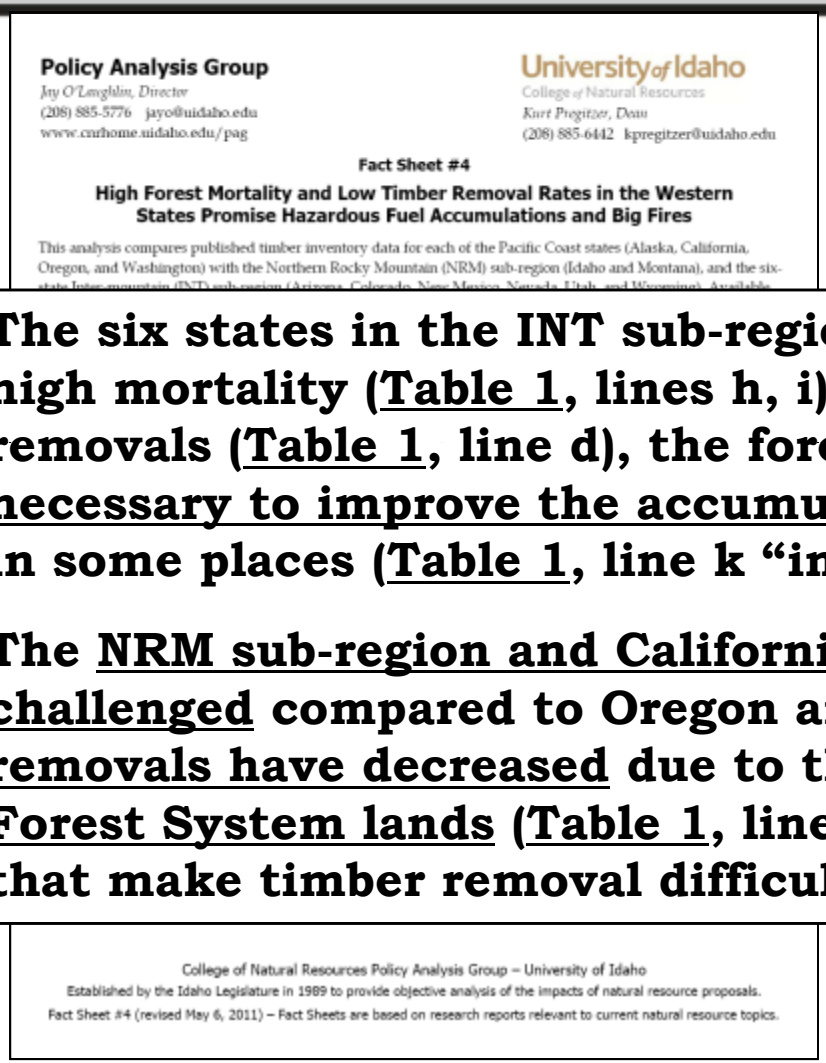
Infrastructure –



The basic facilities, equipment, and installations necessary for the functioning of a system.

Comparing inventory-based indicators



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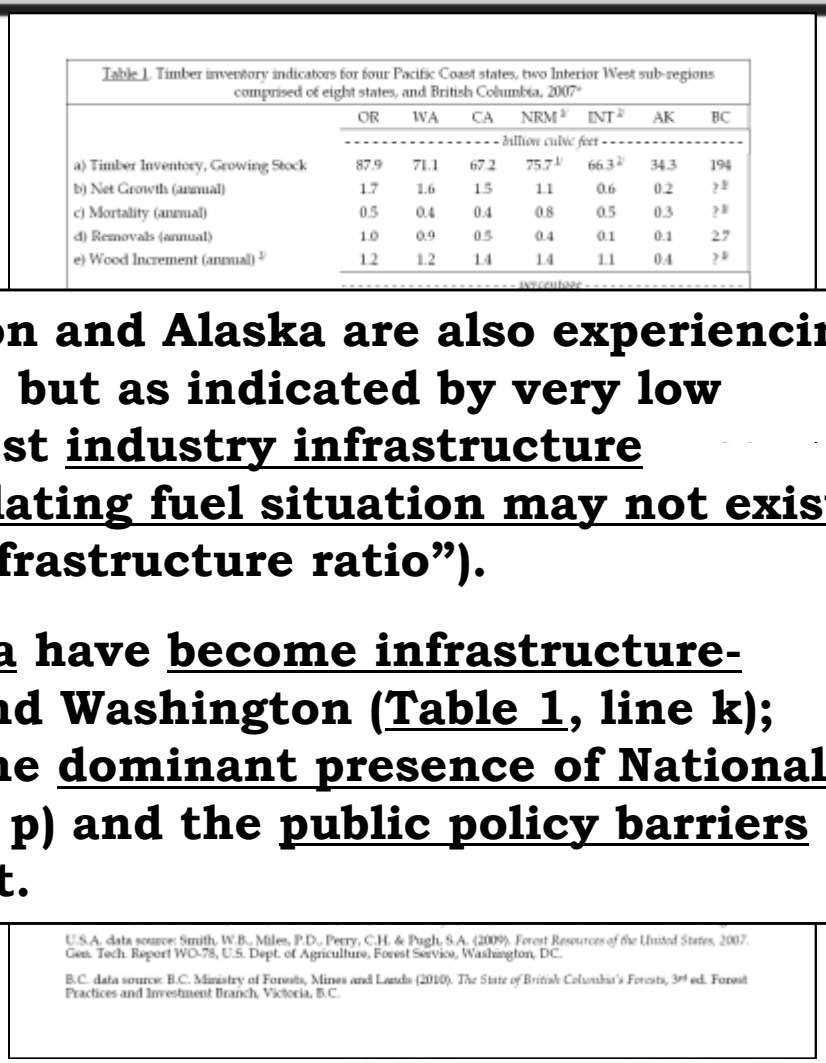

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e) Wood Increment (annual) [3]	1.2	1.2	1.4	1.4	1.1	0.4	? [3]

U.S.A. data source: Smith, W.B., Miles, P.D., Perry, C.H. & Pugh, S.A. (2009). *Forest Resources of the United States, 2007.* Gen. Tech. Report WO-78, U.S. Dept. of Agriculture, Forest Service, Washington, DC.

B.C. data source: B.C. Ministry of Forests, Mines and Lands (2010). *The State of British Columbia's Forests,* 3rd ed. Forest Practices and Investment Branch, Victoria, B.C.

- **The six states in the INT sub-region and Alaska are also experiencing high mortality (Table 1, lines h, i), but as indicated by very low removals (Table 1, line d), the forest industry infrastructure necessary to improve the accumulating fuel situation may not exist in some places (Table 1, line k "infrastructure ratio").**
- **The NRM sub-region and California have become infrastructure-challenged compared to Oregon and Washington (Table 1, line k); removals have decreased due to the dominant presence of National Forest System lands (Table 1, line p) and the public policy barriers that make timber removal difficult.**

Idaho forest business sector employment

Idahoans rely on jobs in the woods, on the roads, and in the mills

Each of the 10,300 direct forest sector jobs supports two more jobs in other sectors

2.5% of total personal income in Idaho comes from employment in the forest business sector

<u>Only 3 states depend more on forest business</u>:

- Maine
- Mississippi
- Oregon

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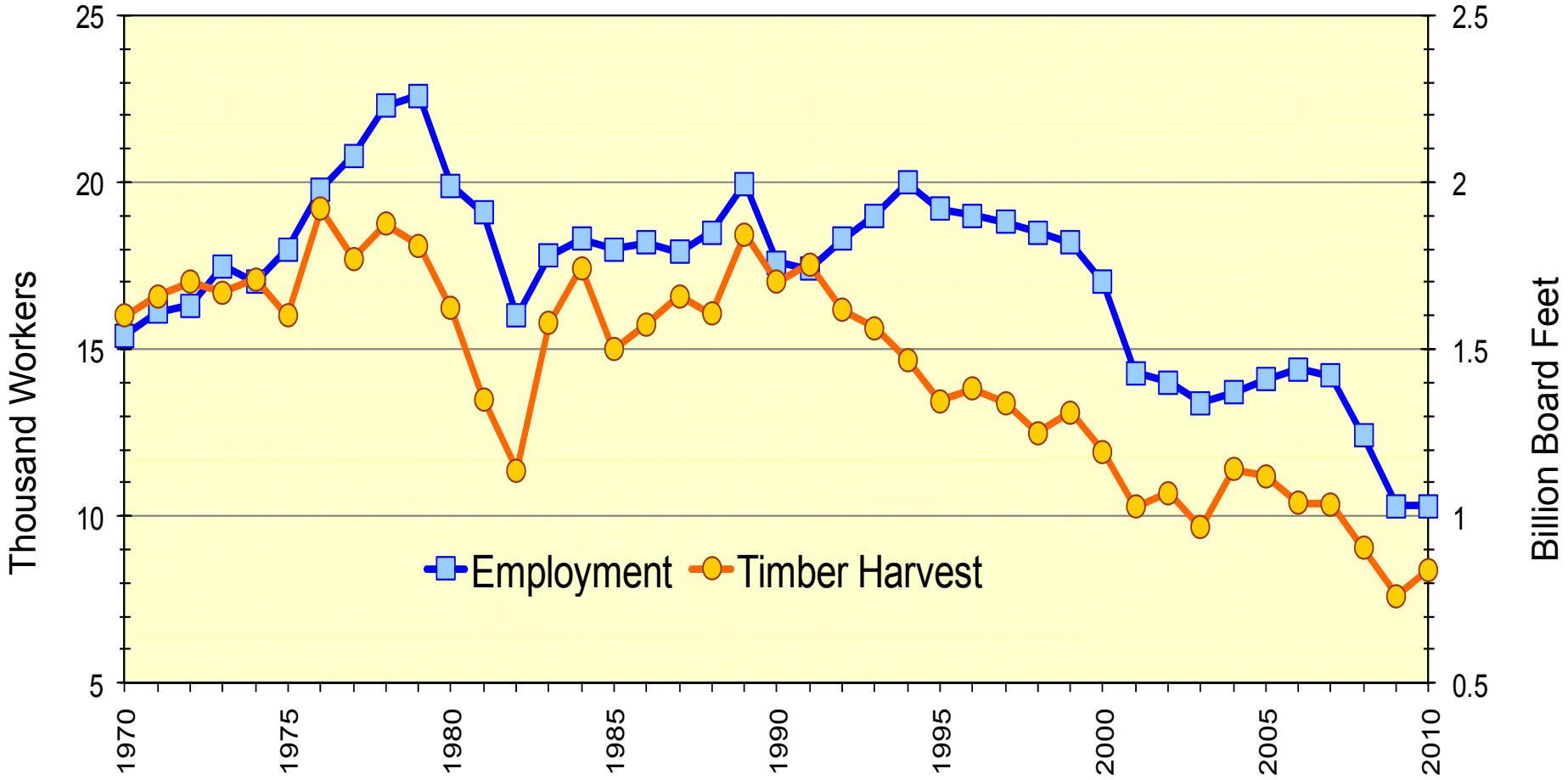
Idaho jobs & timber harvest, 1970-2010



- Employment & harvest are correlated (≈ 13 jobs per million bd. ft., 2001-2010)

Data: Bureau of Business & Economics Research, Univ. of Montana

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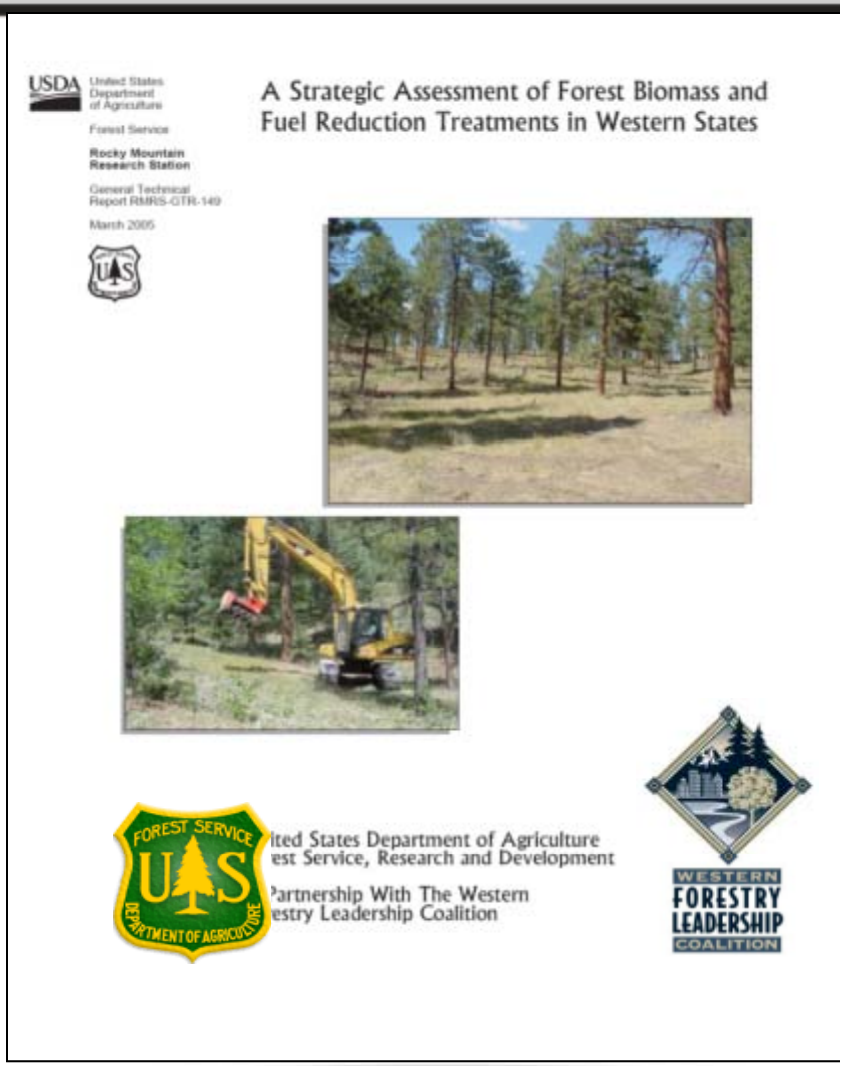
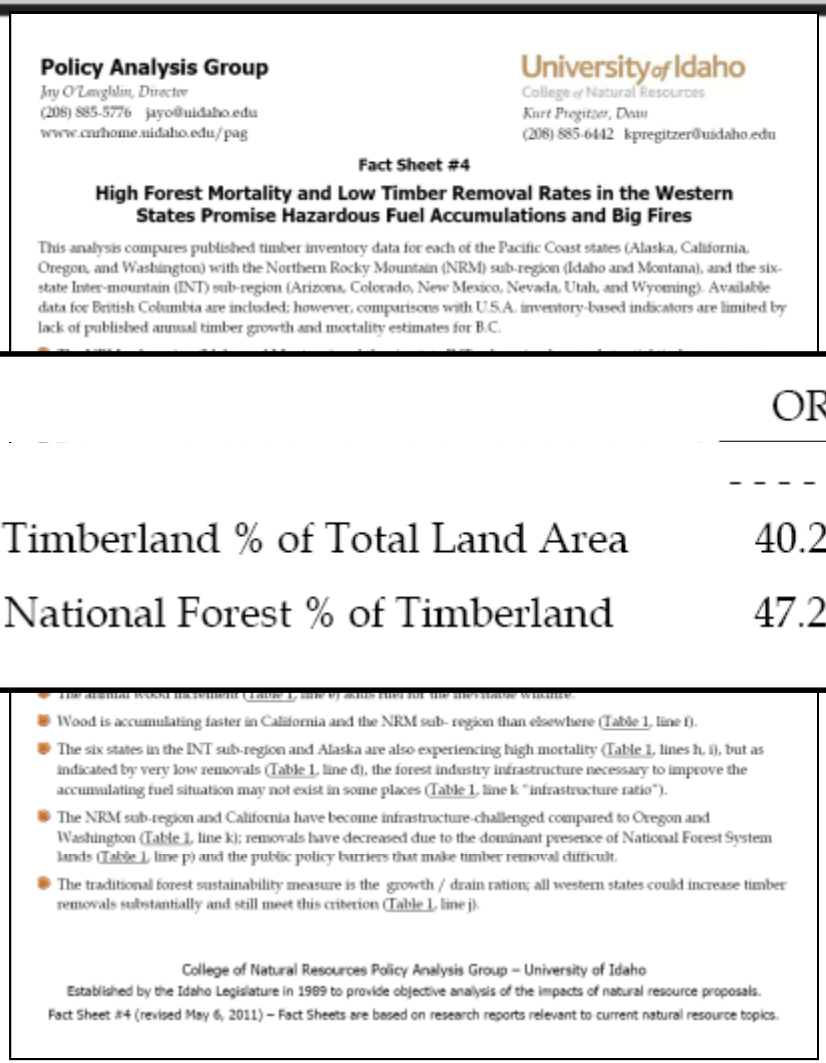
Resource assessment

Implementation of any significant fuel reduction effort will generate large volumes of biomass and require the development of additional workforce and operations capacity in western forests.



Comparing inventory-based indicators



Policy Analysis Group
Jay O'Laughlin, Director
(208) 885-5776 jayo@uidaho.edu
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University of Idaho
College of Natural Resources
Kurt Pregitzer, Dean
(208) 885-6442 kpregitzer@uidaho.edu

Fact Sheet #4

High Forest Mortality and Low Timber Removal Rates in the Western States Promise Hazardous Fuel Accumulations and Big Fires

This analysis compares published timber inventory data for each of the Pacific Coast states (Alaska, California, Oregon, and Washington) with the Northern Rocky Mountain (NRM) sub-region (Idaho and Montana), and the six-state Inter-mountain (INT) sub-region (Arizona, Colorado, New Mexico, Nevada, Utah, and Wyoming). Available data for British Columbia are included; however, comparisons with U.S.A. inventory-based indicators are limited by lack of published annual timber growth and mortality estimates for B.C.

- Wood is accumulating faster in California and the NRM sub- region than elsewhere (Table 1, line f).
- The six states in the INT sub-region and Alaska are also experiencing high mortality (Table 1, lines h, i), but as indicated by very low removals (Table 1, line d), the forest industry infrastructure necessary to improve the accumulating fuel situation may not exist in some places (Table 1, line k "infrastructure ratio").
- The NRM sub-region and California have become infrastructure-challenged compared to Oregon and Washington (Table 1, line k); removals have decreased due to the dominant presence of National Forest System lands (Table 1, line p) and the public policy barriers that make timber removal difficult.
- The traditional forest sustainability measure is the growth / drain ration; all western states could increase timber removals substantially and still meet this criterion (Table 1, line j).

College of Natural Resources Policy Analysis Group – University of Idaho
Established by the Idaho Legislature in 1989 to provide objective analysis of the impacts of natural resource proposals.
Fact Sheet #4 (revised May 6, 2011) – Fact Sheets are based on research reports relevant to current natural resource topics.

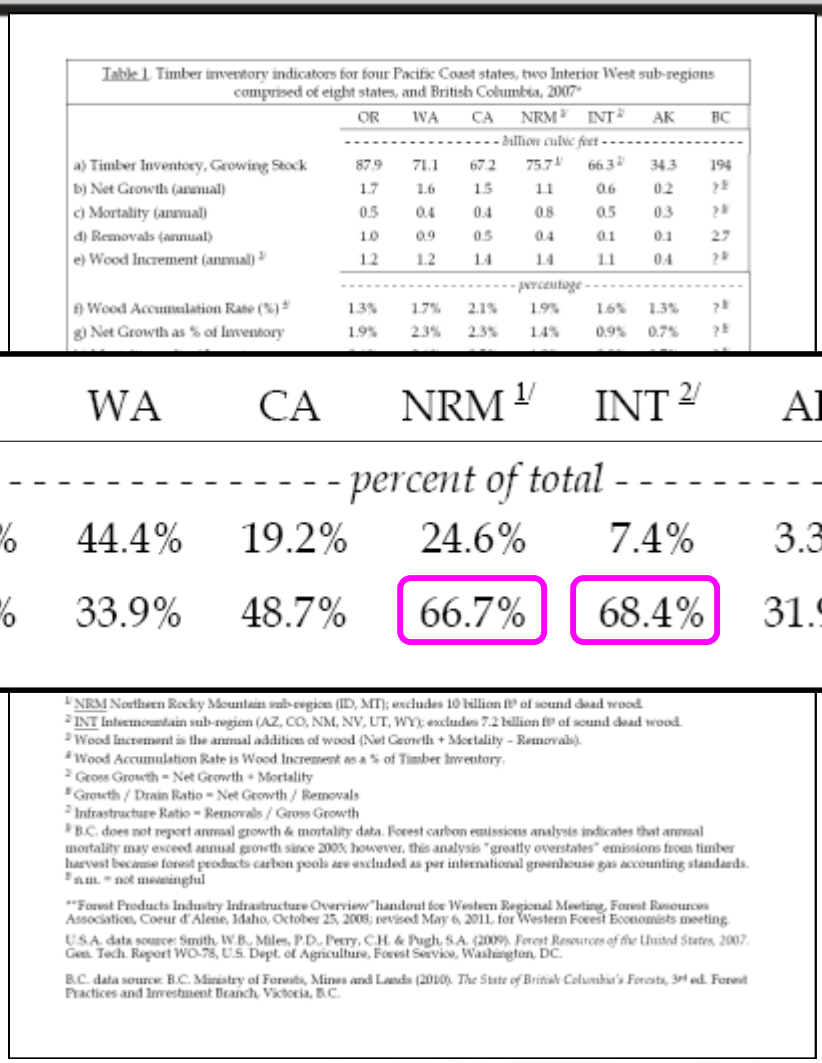

Table 1. Timber inventory indicators for four Pacific Coast states, two Interior West sub-regions comprised of eight states, and British Columbia, 2007*

	OR	WA	CA	NRM [1]	INT [2]	AK	BC
	billion cubic feet						
a) Timber Inventory, Growing Stock	87.9	71.1	67.2	75.7 [1]	66.3 [2]	34.3	194
b) Net Growth (annual)	1.7	1.6	1.5	1.1	0.6	0.2	? [8]
c) Mortality (annual)	0.5	0.4	0.4	0.8	0.5	0.3	? [8]
d) Removals (annual)	1.0	0.9	0.5	0.4	0.1	0.1	2.7
e) Wood Increment (annual) [3]	1.2	1.2	1.4	1.4	1.1	0.4	? [8]
	percentage						
f) Wood Accumulation Rate (%) [4]	1.3%	1.7%	2.1%	1.9%	1.6%	1.3%	? [8]
g) Net Growth as % of Inventory	1.9%	2.3%	2.3%	1.4%	0.9%	0.7%	? [8]

[1] NRM Northern Rocky Mountain sub-region (ID, MT); excludes 10 billion ft³ of sound dead wood.
[2] INT Intermountain sub-region (AZ, CO, NM, NV, UT, WY); excludes 7.2 billion ft³ of sound dead wood.
[3] Wood Increment is the annual addition of wood (Net Growth + Mortality – Removals).
[4] Wood Accumulation Rate is Wood Increment as a % of Timber Inventory.
[5] Gross Growth = Net Growth + Mortality
[6] Growth / Drain Ratio = Net Growth / Removals
[7] Infrastructure Ratio = Removals / Gross Growth
[8] B.C. does not report annual growth & mortality data. Forest carbon emissions analysis indicates that annual mortality may exceed annual growth since 2003; however, this analysis "greatly overstates" emissions from timber harvest because forest products carbon pools are excluded as per international greenhouse gas accounting standards.
[9] n.m. = not meaningful

*"Forest Products Industry Infrastructure Overview" handout for Western Regional Meeting, Forest Resources Association, Coeur d'Alene, Idaho, October 25, 2008; revised May 6, 2011, for Western Forest Economists meeting.

U.S.A. data source: Smith, W.B., Miles, P.D., Perry, C.H. & Pugh, S.A. (2009). *Forest Resources of the United States, 2007.* Gen. Tech. Report WO-78, U.S. Dept. of Agriculture, Forest Service, Washington, DC.

B.C. data source: B.C. Ministry of Forests, Mines and Lands (2010). *The State of British Columbia's Forests, 3rd ed.* Forest Practices and Investment Branch, Victoria, B.C.

	OR	WA	CA	NRM [1]	INT [2]	AK
	percent of total					
o) Timberland % of Total Land Area	40.2%	44.4%	19.2%	24.6%	7.4%	3.3%
p) National Forest % of Timberland	47.2%	33.9%	48.7%	66.7%	68.4%	31.9%

www.cnrhome.uidaho.edu/pag /default.aspx?pid=113086

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2011 proposed NFMA "planning rule"

Sustaining the Legacy

Forest Service Planning DEIS
c/o Bear West Company
132 E 500 S
Bountiful, UT 84010

Subject: Comments on the 2011 Forest Service Proposed Rules for National Forest System Land Management Planning

NAFSR can only conclude that the costs, and the unhealthy conditions now existing on national forests, point to the fact that national forest planning to date has not just failed, but has failed utterly. NAFSR believes that the proposed regulation will not correct the fundamental deficiencies in past planning efforts.

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2011 proposed NFMA "planning rule"

Sustaining the Legacy

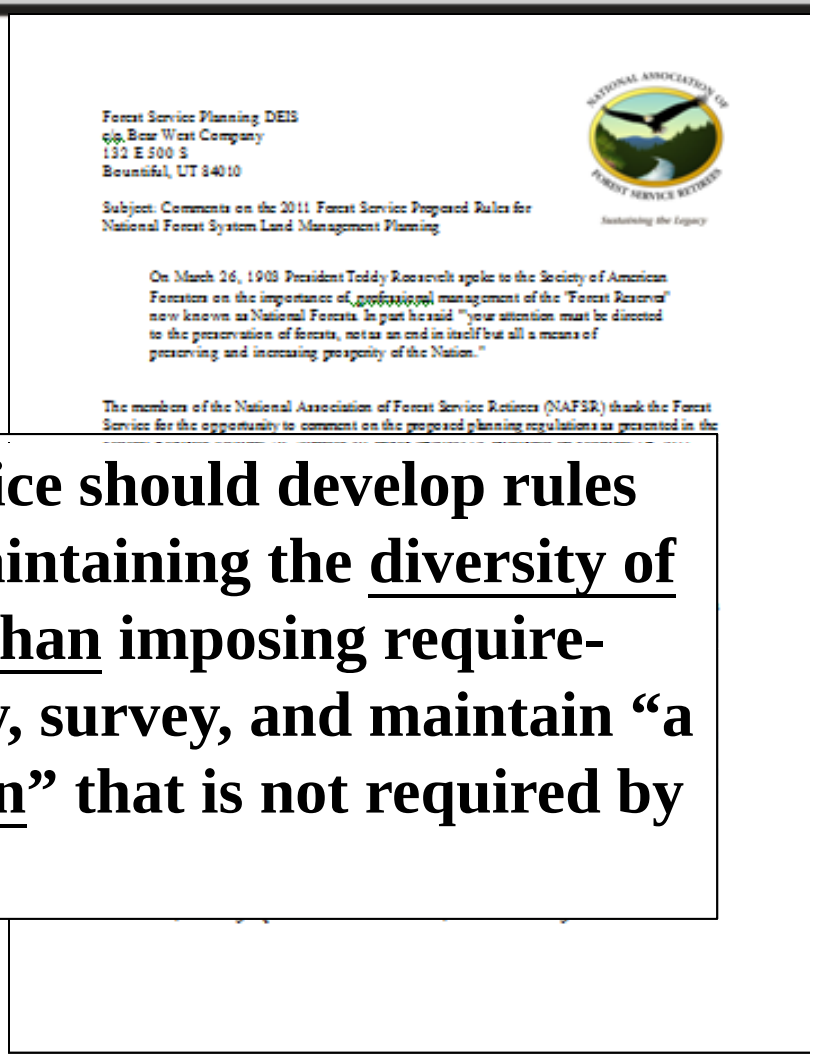
Forest Service Planning DEIS
c/o Bear West Company
132 E 500 S
Bountiful, UT 84010

Subject: Comments on the 2011 Forest Service Proposed Rules for National Forest System Land Management Planning

NAFSR strongly recommends dispensing with NEPA requirements for the planning rule and for forest plan revisions and amendments, since there is no commitment to activities on the ground (or preclusion of further plan amendments to allow activities) and no effect on the environment of the planning actions themselves.

2011 proposed NFMA "planning rule"

Sustaining the Legacy



Forest Service Planning DEIS
c/o Bear West Company
132 E 500 S
Bountiful, UT 84010

Subject: Comments on the 2011 Forest Service Proposed Rules for National Forest System Land Management Planning

On March 26, 1908 President Teddy Roosevelt spoke to the Society of American Foresters on the importance of [illegible] management of the "Forest Reserve" now known as National Forests. In part he said "your attention must be directed to the preservation of forests, not as an end in itself but all a means of preserving and increasing prosperity of the Nation."

The members of the National Association of Forest Service Retirees (NAFSR) thank the Forest Service for the opportunity to comment on the proposed planning regulations as presented in the

The Forest Service should develop rules that <u>focus on</u> maintaining the <u>diversity of habitats</u> <u>rather than</u> imposing requirements to identify, survey, and maintain "a <u>viable population</u>" that is not required by the NFMA.

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Redesigning State & Private Forestry

The 2008 Farm Bill codified the main components of Redesign into law by amending the Cooperative Forestry Assistance Act. The three national themes are now set in law as national priorities and the State Assessments and Strategies are required and are central to S&PF program delivery.

- Conserve working forest landscapes,
- Protect forests from harm, and
- Enhance public benefits from trees and forests.

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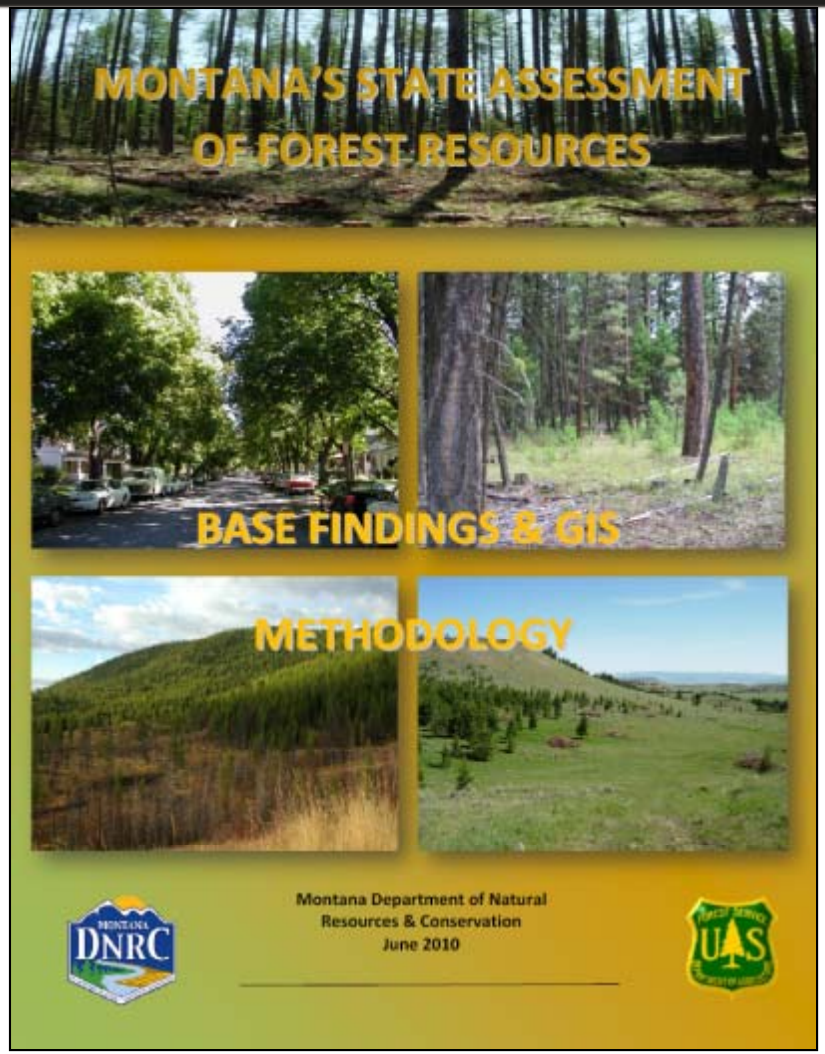
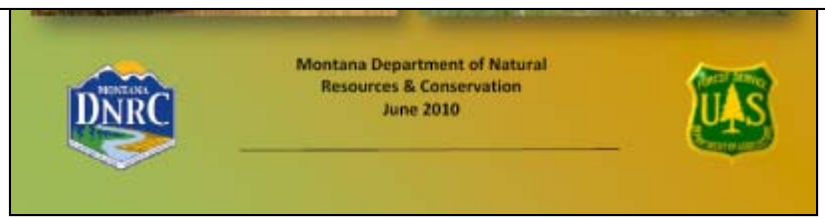
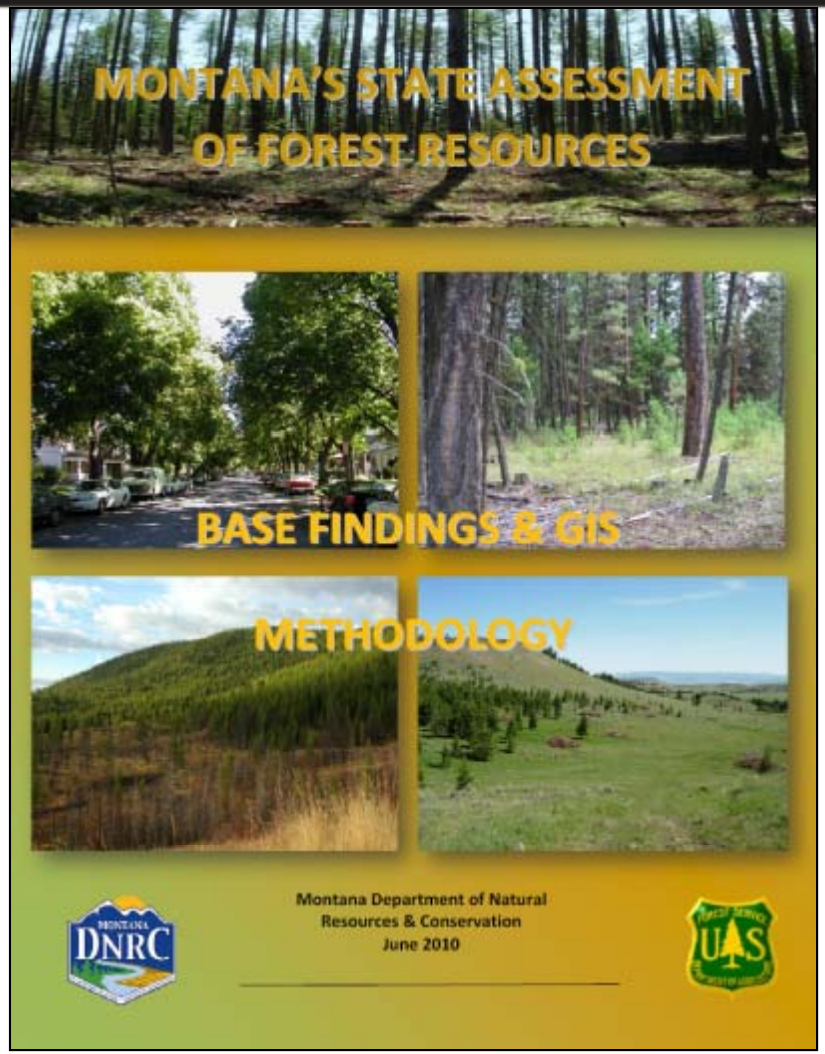

MONTANA'S STATE ASSESSMENT
OF FOREST RESOURCES
BASE FINDINGS & GIS
METHODOLOGY
Montana Department of Natural
Resources & Conservation
June 2010

Montana Statewide Forest
Resource Strategy

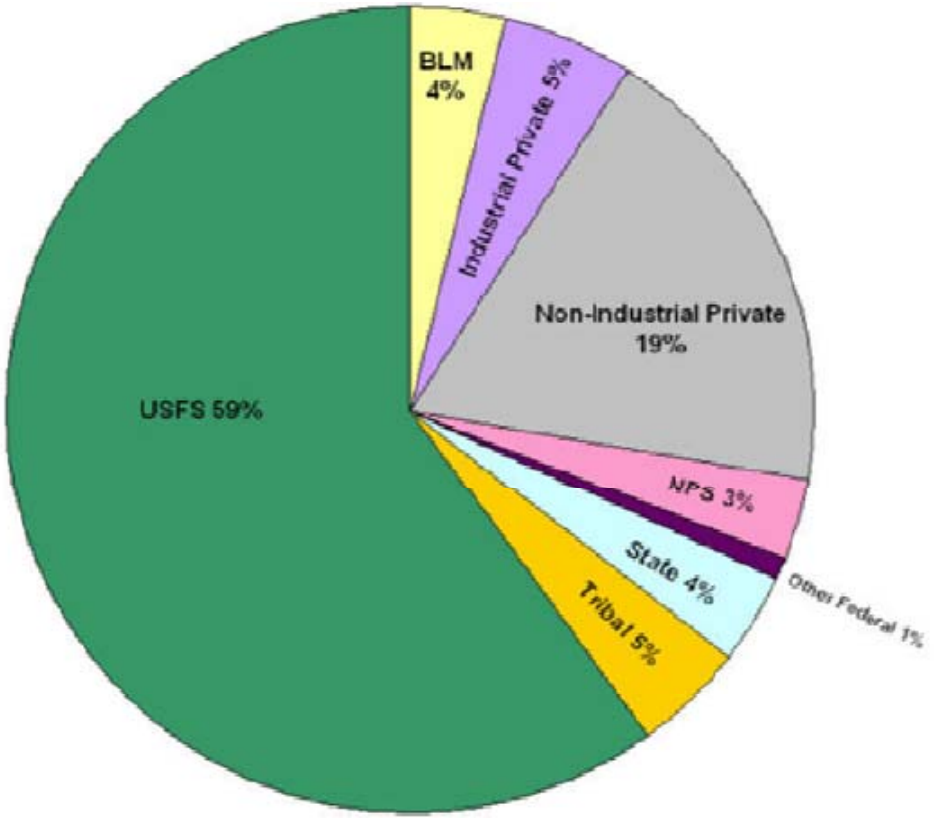
The gradual decline to present conditions of Montana's timber industry began during the 1990s. Though lumber prices remained high during this period, the downturn in timber supply from federal lands meant that the industry had a difficult time responding to the demand. Montana experienced its first major loss of milling infrastructure in this time, and the wood processing capacity of the state's mills decreased by 30% during this decade.

In the first decade of the 21st century, a number of factors combined to turn the tide against the industry once again. Federal timber supply remained low due to litigation, threatened and endangered species concerns, the impacts of past harvesting practices, federal budget constraints, and wildfire impacts.





Montana Forest Ownership



Daily Inter Lake.com

Senator calls forest bill 'responsible plan for Montana'

By Jon Tester | Posted: Sunday, May 8, 2011 2:00 am

We need smart natural resource development. And for future generations, we need to protect the land, clean water and fresh air we're blessed with., I have a responsibility to do all those things with policies that foster job creation in Montana. And that's why, earlier this year, I reintroduced a landmark jobs bill — the Forest Jobs and Recreation Act.

Congress often tells the Forest Service what it can't do. My bill would be the first time Congress tells the Forest Service what it will do. It will put folks back to work in our forests by directing the Forest Service to take on large restoration projects — thinning timber on 100,000 acres over 15 years and improving habitat. The bill permanently sets aside motorized recreation areas for trail-riding and snowmobiling, a first in Montana. And, for the first time in 28 years, it sets aside wilderness in some of Montana's wildest backcountry.

Some people would rather not solve problems. They're good at making excuses, laying blame, and saying 'no' because it's easier and serves their own interests. But working together is the responsible thing to do. Working hard and finding common ground are Montana values. … Montanans — and the forests we rely on — deserve better. They deserve a responsible plan to create jobs. They deserve a bipartisan plan to manage our forests and bring them back to health. They deserve the Forest Jobs and Recreation Act.

Jon Tester, a Big Sandy Democrat, is Montana's junior U.S. senator.

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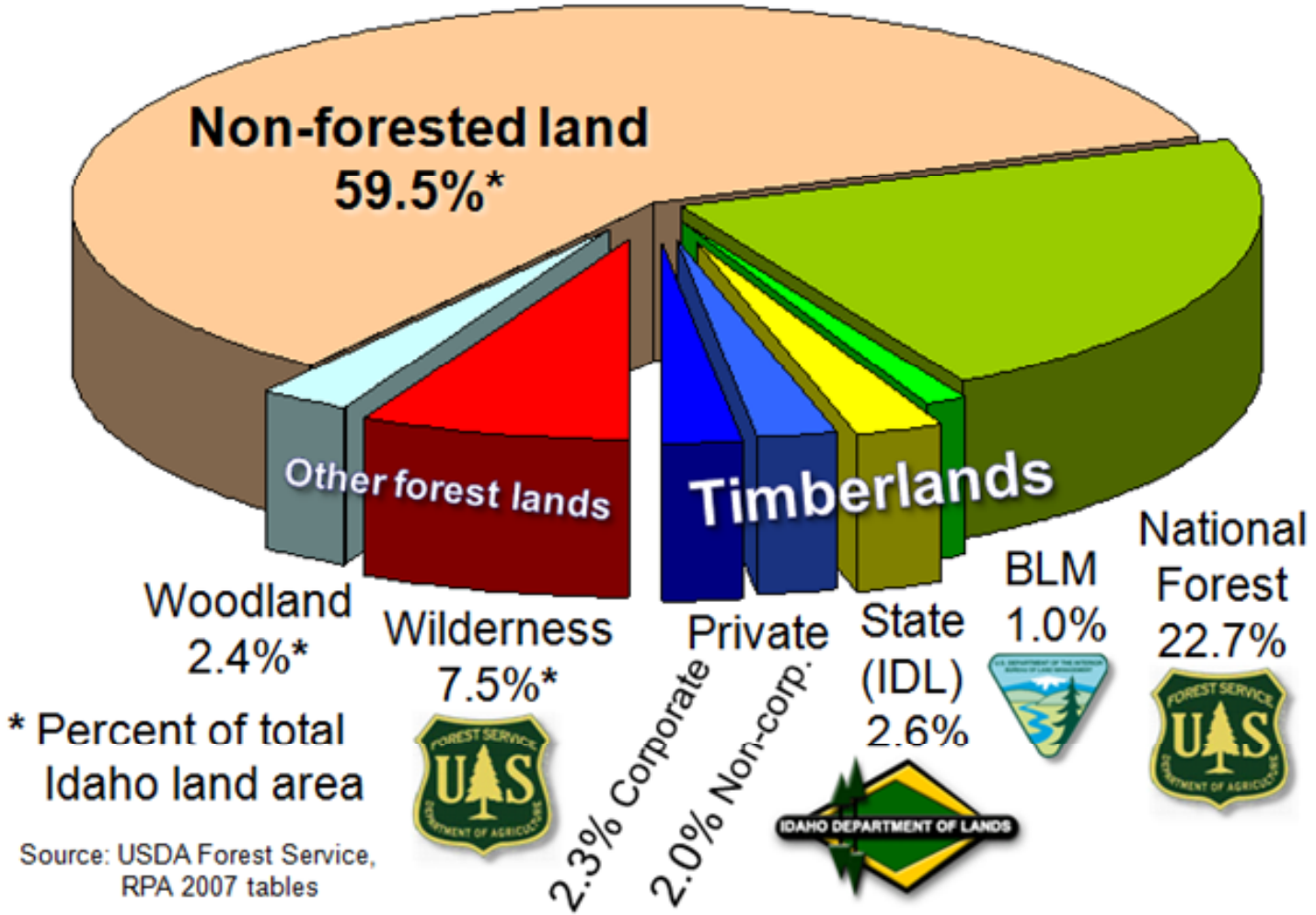
Montana Forest Restoration Committee

Restoring Montana's Forests - A New Approach

The Montana Forest Restoration Committee (MFRC) is primarily a volunteer consensus-based, collaborative group which was formed in January 2007 to help guide restoration of Montana's National Forests.

The MFRC articulated a collective vision of ecologically-appropriate, scientifically-supported forest restoration through a set of 13 principles (Principles), ratified in August 2007. The Principles represent the "zone of agreement" where controversy, delays, appeals, and litigation are significantly reduced.

Idaho forest extent and ownership



data: *Forest Resources of the U.S., 2007* (U.S. Forest Service 2009)

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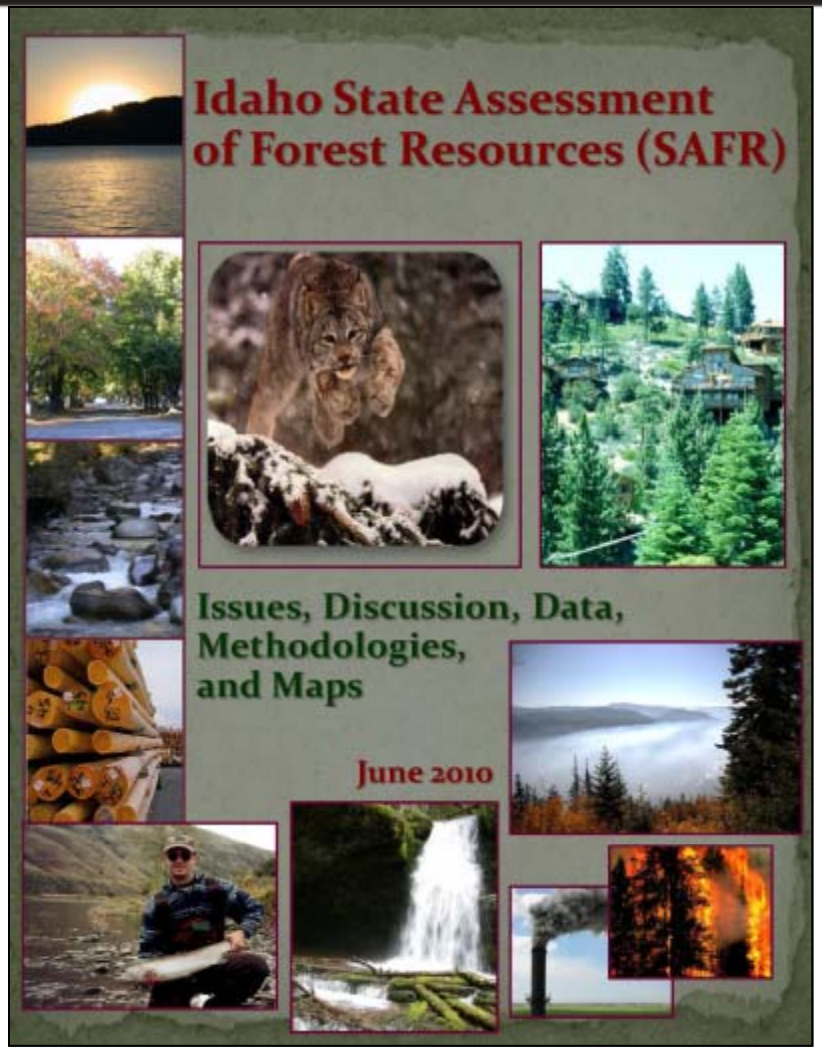
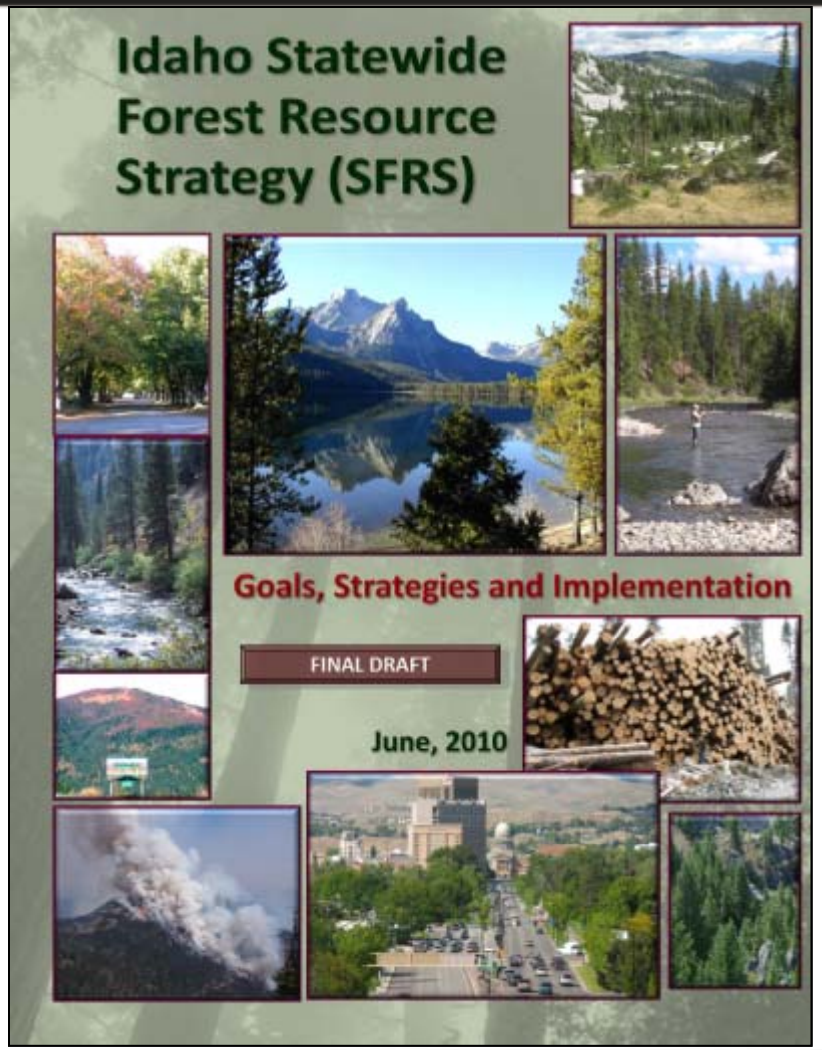
IDAHO State of Idaho Department of Lands

IDAHO DEPARTMENT OF LANDS





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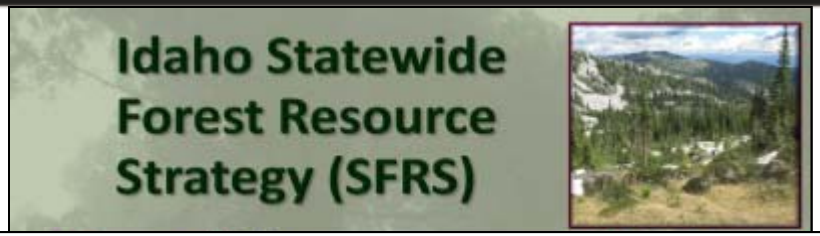
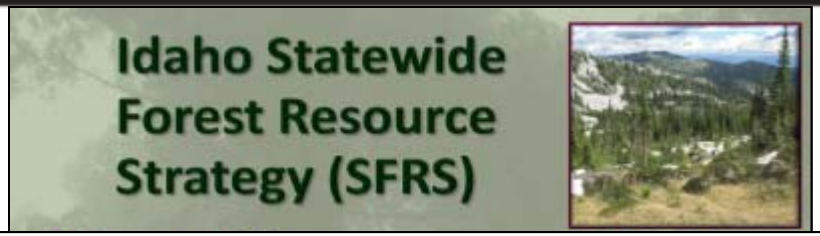


Initially, the multi-resource committee and State Assessment of Forest Resources (SAFR) Stakeholder group identified the loss of forest infrastructure (mills, markets, etc.) as a key issue (threat to forests).

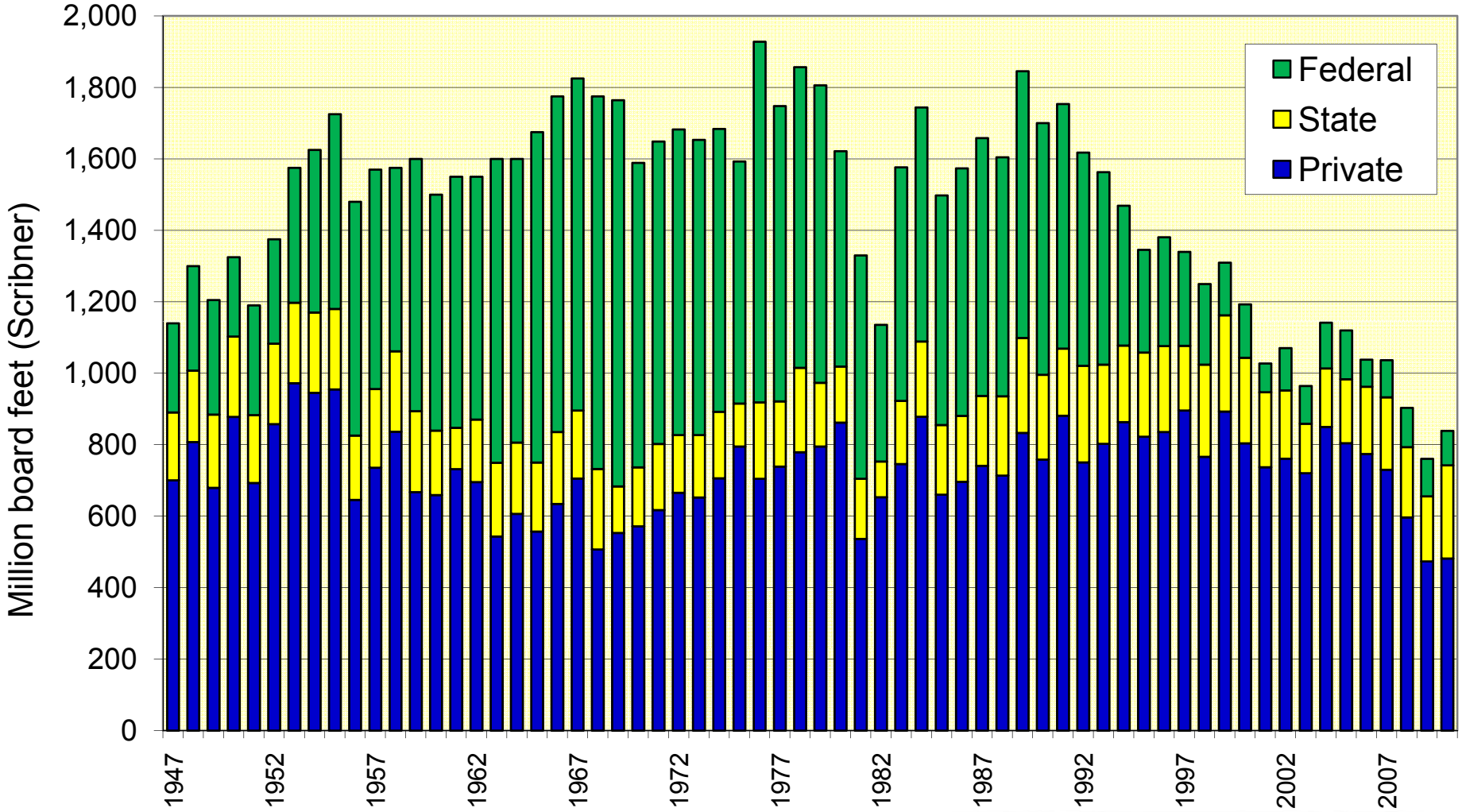
This threat is greater than simply economics. When markets and mills shut down, incentives to manage forests are significantly diminished, leading to an increase in forest insect and disease problems, fire risk, and a decline in overall forest health.



Drivers, such as the difficulty of Federal lands forest management, were discussed. Various ways to measure this were also discussed (such as amount of litigation in various areas), but the challenge of finding this information and developing datasets to express this is beyond the scope of this project.

One of the more important datasets to consider is the location of current mills, and existing and planned biomass facilities. Areas that are in close enough proximity to feed these markets will be higher priority for projects.

Idaho timber harvest, 1947-2010



Data: Bureau of Business & Economics Research, Univ. of Montana

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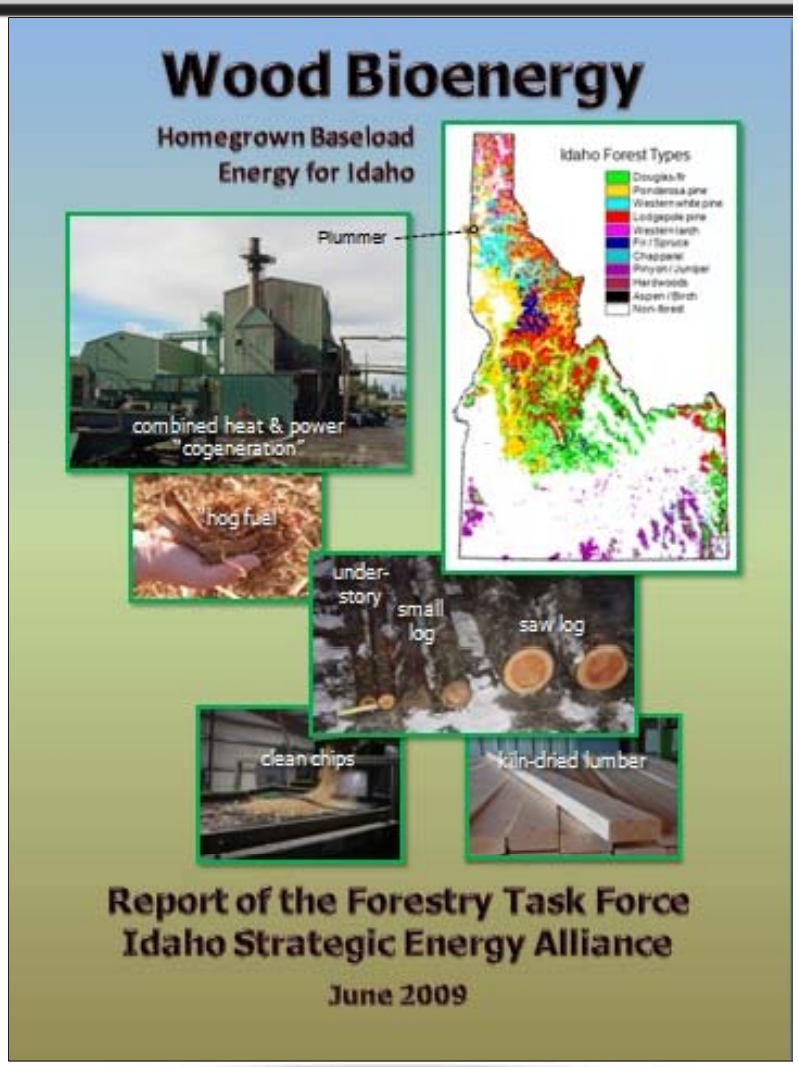
Wood bioenergy recommendations . . .

- Create business tax credit
- Create biomass removal incentive
- Expand “Fuels for Schools” program
- Increase U.S. Forest Service budget for restoration
- Change federal biomass definitions
- Build community support



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Idaho Forest Restoration Partnership

A Network of Collaboration

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Welcome

The partnership was formed to help strengthen collaborative forest restoration efforts across Idaho. The partners have agreed to support four principles in a common vision for our forests:

1. In Idaho's forests, **strategic forest restoration is essential** to address the current challenges posed by uncharacteristic wildfire, insects, disease and climate change.
2. **Active management** is needed in some areas of public forests to restore their resiliency.
3. **A healthy forest industry** is an important and necessary part of a restoration strategy to offset restoration costs and to provide jobs and economic stability in rural communities throughout Idaho.
4. **Collaborative groups** can provide useful advice and recommendations on forest restoration projects, through cooperation between citizens, including interest groups, elected officials, and pubic land managers

www.idahoforestpartners.org/main.html

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Mission

The Idaho Forest Restoration Partnership connects, informs, and supports collaborative groups working to restore the resilience of Idaho forests.

Role

IFRP will create a network to help Idaho forest collaboratives connect with each other and get the information and resources they need to succeed. The network is intended to respond to the needs of local collaboratives -- not to direct or steer their decisions.

Advocacy

IFRP will advocate on behalf of collaborative forest restoration. As appropriate, IFRP will communicate with the Idaho congressional delegation, the U.S. Forest Service, other land managers, and stakeholders.

www.idahoforestpartners.org/main.html

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Workshops & Conferences

IFRP sponsors Workshops and Conferences to connect, inform, and support collaborative groups working to restore the resilience of Idaho forests.

Climate Change, Bioenergy, and Sustaining Forests of Idaho and Montana

The conference convened in Boise, Idaho in March 2010. The conference organizing committee, with SAF leadership, formed the Idaho Forest Restoration Partnership. The conference presentations are a source of reference materials for those interested in forest restoration. Spatial Interest hosts the conference presentations. View presentations>>

Collaborative Forest Restoration in Idaho: Tools and Practices

January 19-20, 2011. Boise, Idaho.

The workshop brought together participants in forest collaboration from throughout Idaho to share perspectives and lessons learned. Sessions addressed key issues with congressional staff, Forest Service leaders, and other subject matter experts. The workshop concluded with a discussion of whether there is a need for a network to connect and inform forest collaborative groups working in Idaho. A discussion Forum supports communication between Workshop participants. IFRP Workshop Forum>>

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Partners
The Idaho Forest Restoration Partnership (IFRP) is a coalition of organizations and individuals that have come together to support collaborative forest restoration in Idaho. We are forestry professionals, timber industry leaders and conservationists:
Rocky Mountain ELK FOUNDATION
Society of American Foresters
Growing better all the time
Idaho Conservation League
IDAHO SMALLWOOD PARTNERS
The Nature Conservancy
Protecting nature. Preserving life.
INTERMOUNTAIN FOREST ASSOCIATION
THE WILDERNESS SOCIETY
www.idahoforestpartners.org/main.html
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Large scale forest restoration

Policy Resolution 11-01

WESTERN GOVERNORS' ASSOCIATION

The Departments of Interior and Agriculture, in consultation with the WGA, should develop collaboration plans for large-scale forest restoration projects that include federal lands, to ensure open, inclusive, transparent, accessible and meaningful stakeholder involvement, and maximum flexibility for innovation and budget stability. Land managers implementing larger-scale restoration initiatives should develop rolling five-year action plans based on appropriate assessments and priorities, such as those set in Statewide Forest Resource Assessments and Strategies, and include work of timber, vegetation, and wildlife management programs. Priorities should be collaboratively developed with the affiliated stakeholder groups and regulatory agencies.

www.westgov.org/component/joomdoc/doc_download/1390-11-01

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Lack of cohesive federal biomass policy

WESTERN GOVERNORS' ASSOCIATION

C.L. "Butch" Otter
Governor of Idaho
Chairman

Christine O. Gregoire
Governor of Washington
Vice Chair

August 10, 2010

Carol Browner
Climate Change and Energy Advisor to the President
The White House
1600 Pennsylvania Ave. N.W.
Washington, DC 20006

Dear Ms. Browner:

On behalf of the Western Governors, we are writing to express our concern about the absence of a clear and cohesive federal policy on the use of biomass for energy production. Without such a policy, decisions made by an array of competing federal authorities could negatively impact efforts to improve forest health, as well as local and state investments in renewable energy projects that utilize forest residues and other biomass materials.

Biomass energy holds great potential for new markets in the forest products and energy sectors by creating demand and value for material derived from activities related to forest health and hazardous fuels reduction. Private investments associated with these new markets could help offset a clear and growing deficit of public financial resources needed to pursue urgently needed forest treatments.

http://westgov.org (Aug. 10, 2010)

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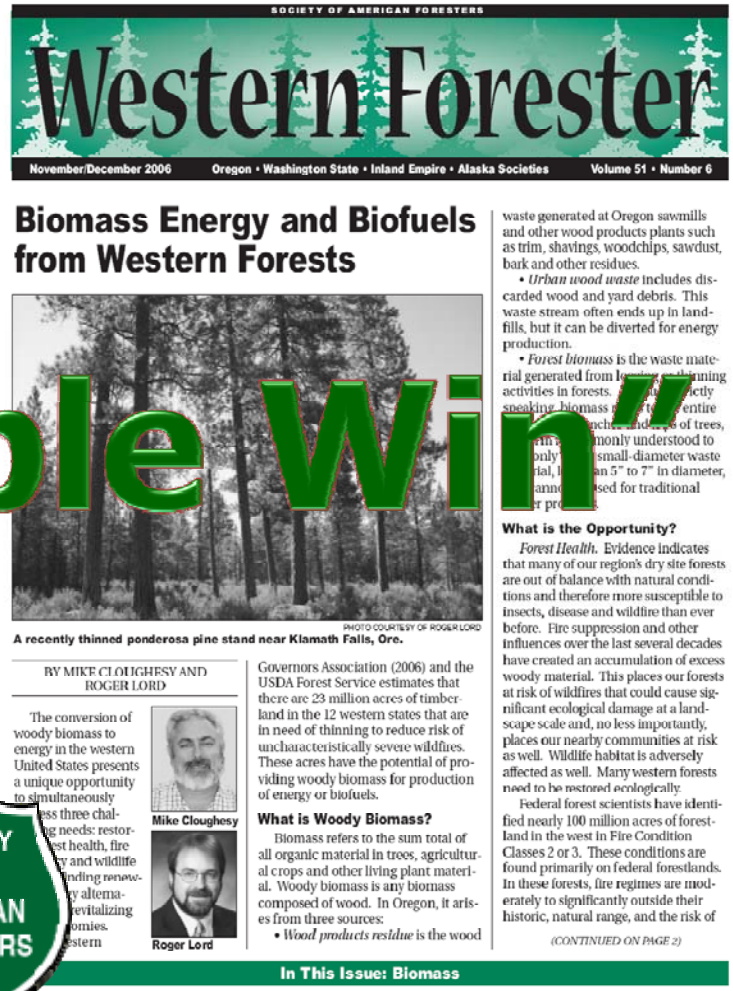
Forest management . . .

. . . opportunity to address three challenging issues:

- Restoring forest health, fire resiliency, and wildlife habitat
- Finding renewable energy alternatives
- Revitalizing western economies

"Triple Win"



SOCIETY OF AMERICAN FORESTERS

Western Forester

November/December 2006 Oregon • Washington State • Inland Empire • Alaska Societies Volume 51 • Number 6

Biomass Energy and Biofuels from Western Forests

PHOTO COURTESY OF ROGER LORD

A recently thinned ponderosa pine stand near Klamath Falls, Ore.

BY MIKE CLOUGHESY AND ROGER LORD

The conversion of woody biomass to energy in the western United States presents a unique opportunity to simultaneously ess three chal- g needs: restor- est health, fire and wildlife inding renew- alterna- evitalizing omies. estern

Governors Association (2006) and the USDA Forest Service estimates that there are 23 million acres of timberland in the 12 western states that are in need of thinning to reduce risk of uncharacteristically severe wildfires. These acres have the potential of providing woody biomass for production of energy or biofuels.

Mike Cloughesy

Roger Lord

What is Woody Biomass?

Biomass refers to the sum total of all organic material in trees, agricultural crops and other living plant material. Woody biomass is any biomass composed of wood. In Oregon, it arises from three sources:

• *Wood products residue* is the wood waste generated at Oregon sawmills and other wood products plants such as trim, shavings, woodchips, sawdust, bark and other residues.

• *Urban wood waste* includes discarded wood and yard debris. This waste stream often ends up in landfills, but it can be diverted for energy production.

• *Forest biomass* is the waste material generated from l ning activities in forests. ctly speaking, biomass entire nch of trees, monly understood to small-diameter waste rial, l an 5" to 7" in diameter, anno sed for traditional r pro

What is the Opportunity?

Forest Health. Evidence indicates that many of our region's dry site forests are out of balance with natural conditions and therefore more susceptible to insects, disease and wildfire than ever before. Fire suppression and other influences over the last several decades have created an accumulation of excess woody material. This places our forests at risk of wildfires that could cause significant ecological damage at a landscape scale and, no less importantly, places our nearby communities at risk as well. Wildlife habitat is adversely affected as well. Many western forests need to be restored ecologically.

Federal forest scientists have identified nearly 100 million acres of forestland in the west in Fire Condition Classes 2 or 3. These conditions are found primarily on federal forestlands. In these forests, fire regimes are moderately to significantly outside their historic, natural range, and the risk of

(CONTINUED ON PAGE 2)

In This Issue: Biomass

SOCIETY OF AMERICAN FORESTERS 1900

http://www.forestry.org/pdf/dec06.pdf

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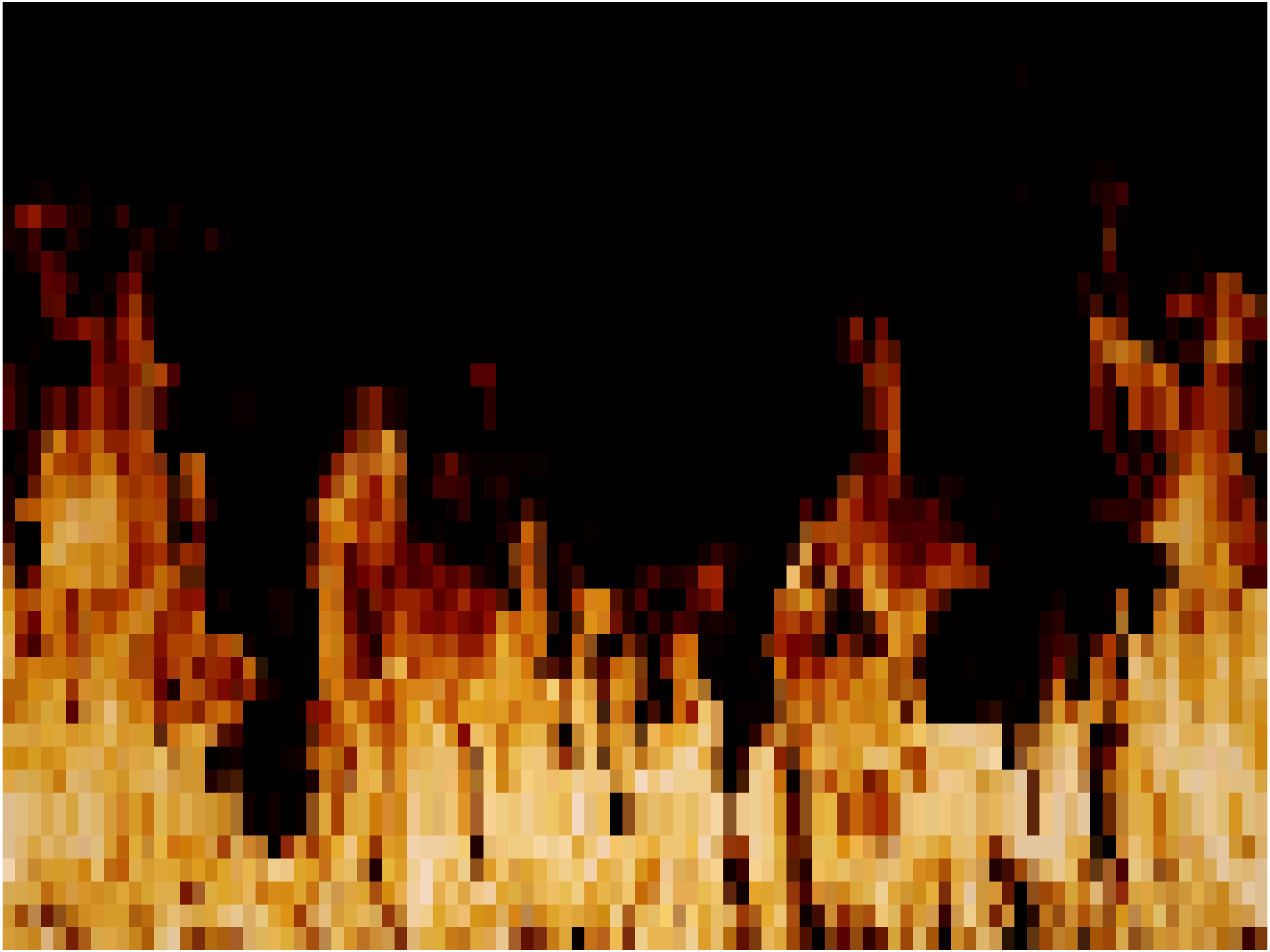

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