University of Idaho
College of Natural Resources

Oregon* Forest Biomass Supply Estimate by County†

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* Similar estimates are available for other western states, and a final project report cited often herein provides details on methods and assumptions that were used by U.S. Forest Service and University of Idaho researchers to develop these estimates (see Cook and O'Laughlin 2011, in **References Cited** section on page 6).

† Estimates for sustainable supplies of forest biomass (i.e., forest health or fire hazard reduction thinning and logging residues) for public and private lands at roadside prices of $10 to $40 per dry ton by $5 increments, plus unused mill residues. This information was originally prepared in December 2009 by the University of Idaho's College of Natural Resources for the Western Governors' Association in fulfillment of Contract #20108-0840.

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Introduction

County-level forest biomass* estimates can help states develop wood bioenergy policies and work with local government officials to plan new wood bioenergy facilities. The U.S. Forest Service continues its efforts to improve the forest biomass supply estimates first made available in the "Billion-ton Supply" report (Perlack et al. 2005), and an update is expected in the near future. Meanwhile the forest biomass estimates herein (**Table 1**) fill an information gap and are likely accurate enough for planning purposes. These estimates could be used to supplement U.S. Forest Service CROP (Coordinated Resource Offering Protocol, see USFS 2011) project assessments of near-term supply plans from public lands where such information exists.

Table 1. Forest biomass supply for western states at roadside prices from $10 to $40 per dry ton.

State	*$10*	*$15*	*$20*	*$25*	*$30*	*$35*	*$40*
AZ	75,829	145,672	170,010	222,846	230,036	231,423	231,601
CA	1,904,370	2,733,657	3,155,708	3,425,863	3,538,764	3,569,309	3,602,018
CO	100,120	123,366	197,806	228,948	274,847	300,161	312,104
ID	796,410	853,887	992,527	1,208,995	1,338,801	1,395,282	1,429,463
KS	8,720	8,720	8,720	8,720	8,720	8,720	8,720
MT	646,769	729,152	1,030,913	1,272,212	1,417,237	1,477,018	1,533,464
NE	4,971	4,971	4,971	4,971	4,971	4,971	4,971
NV	4,799	7,791	7,791	7,871	7,871	7,943	7,943
NM	78,314	90,450	143,710	213,109	279,713	292,336	301,716
ND	265	265	265	265	265	265	265
OR	1,339,728	1,466,478	1,541,285	1,585,410	1,611,490	1,618,589	1,648,377
SD	95,407	95,407	97,729	103,466	108,020	108,020	108,020
TX	3,022	3,022	3,022	3,022	3,022	3,022	3,022
UT	37,927	42,887	50,736	77,294	98,360	104,654	116,094
WA	1,152,105	1,274,302	1,360,558	1,467,007	1,517,302	1,550,350	1,606,562
WY	83,644	105,728	126,208	156,919	183,664	196,388	197,171
Total	6,332,399	7,685,757	8,891,960	9,986,918	10,623,082	10,868,450	11,111,511

As illustrated in **Table 1**, west-wide forest biomass supply increases from about 6.3 million dry tons per year at a roadside price of $10 per dry ton to 11.1 million dry tons at a price of $40 per ton. Five states contribute most of the available forest biomass: California, Oregon, Washington, Montana, and Idaho. The tables in this report, starting on page 7, provide county-level estimates of forest biomass supply for one of the states in **Table 1**.

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* Forest biomass is a category of woody biomass that includes three components: [1] forest thinning (removal of small-diameter trees or brush to reduce hazardous fuels and/or improve forest health conditions), [2] forest residues (logging slash), and [3] mill residues.

Limitations

Before using the county-level tables that begin on page 7, one should know what they do not include. These results are based on U.S. Forest Service assumptions and models that in addition to "sustainability screens" excluded lodgepole pine and spruce-fir forest types from fire hazard thinning because stand-replacing fire is considered the norm in these forest types. Furthermore, moist forests west of the Cascade Range in Oregon and Washington received pre-commercial thinning rather than fire hazard reduction thinning. Further explanation is provided in the **Methods** section below, and in our final project report document (Cook and O'Laughlin 2011).

Background

For several years researchers have been developing and refining estimates of forest biomass supply in the western United States. In 2006, the Biomass Task Force for the Western Governors' Association (WGA) Clean and Diversified Energy project refined a national estimate of biomass supply from the U.S. Departments of Energy and Agriculture "Billion-ton Supply" report (Perlack et al. 2005) to obtain a west-wide estimate (WGA 2006). In 2008, the 2006 west-wide estimate was refined further to provide state-level supply estimates for western states (WGA 2008). These estimates were compiled from county-level estimates that were not published.

Objective

The objective of this project was to further refine the state-level forest biomass supply estimates for western states (WGA 2008) to county-level estimates, similar to published estimates for Idaho (see O'Laughlin 2009), and make county-level data available to interested parties. The county-level estimates of forest biomass supply are in easily-read tabular format and are reported for public and private lands at roadside prices of $10 to $40 per dry ton in $5 increments. This report is one of several made available by the Western Governors' Association for individual western states.

Methods

Although WGA (2008) estimates of biomass supply were reported at the state level, the model used to derive the estimates was based on county-level data provided from a U.S. Forest Service (USFS) Forest Inventory and Analysis (FIA) project. We obtained the unpublished, county-level data and spreadsheet model from Dr. Ken Skog of the U.S. Forest Service (Skog et al. 2007). Our county-level forest biomass estimates are derived from the same data using the same methods, models, and results from which the state-level estimates reported by the WGA (2008) were developed. We describe those methods briefly in the following paragraphs. Due to numerous complexities and assumptions of the modeling process used to create both the 2008 and 2006 WGA forest biomass supply estimates, the appropriate sections of each of those reports were appended to the final project report so users of this information would know exactly what they had (see Cook and O'Laughlin 2011, Appendices A and B).

The most important of these assumptions is that biomass removal is a byproduct, or secondary output, of other forest management objectives including forest health treatment, fire hazard reduction work, or the treatment of fuels after logging (see Cook and O'Laughlin 2011, Appendix A, p. 9). In the earlier WGA (2006) study, it was assumed that 50% off the removals would be used for higher-valued products and 50% available for use as fuel (see Cook and O'Laughlin 2011, Appendix B, pp. 16-17).

The later WGA (2008) study allocated a higher proportion of removals to higher-valued products (30 million dry tons ÷ 43 million dry tons = 70%; see Cook and O'Laughlin 2011, Appendix A, p. 10). It should be noted that previous estimation efforts by the WGA (2006) established "sustainability screens" that imposed constraints on forest management activities in order to protect soil productivity, wildlife habitat, biodiversity maintenance, and water quality. These screens reduced the "Billion-ton Supply" estimates for western states by about one-third. In addition, lodgepole pine and spruce-fir forest types were excluded from fire hazard thinning because stand-replacing fire is considered to be the norm in such forest types, and moist forests west of the Cascade Range in Oregon and Washington pre-commercially thinned instead of fire hazard reduction treatment (see Cook and O'Laughlin 2011, Appendix A, pp. 10-13).

Skog et al. (2007) used the USFS's Forest Inventory and Analysis (FIA) and Timber Products Output (TPO) databases to model forest biomass supply for western states.* In general, forest biomass in the model comes from four sources: [1] thinning of timberland with high fire hazard, [2] logging residue left behind after anticipated logging operations for conventional products, [3] general thinning on private woodlands, and [4] unused mill residue.[†]

Skog et al. (2007) modeled fire hazard thinnings using two tools developed by U.S. Forest Service researchers. First they used the Fuel Treatment Evaluator 3.0 (Skog and Miles 2006), applying several screens and treatments (see Cook and O'Laughlin 2011, Appendix A). Then they used the Fuel Reduction Cost Simulator (Fight et al. 2006) to estimate forest hazard thinning biomass quantities that would be available at various prices. Fire hazard thinning treatments were not applied to national forest timberlands in counties in western Oregon and Washington; instead a pre-commercial thinning treatment was applied.

We used the same supply assumptions that Skog et al. (2007) used in their Base Case estimates (WGA 2008; see Cook and O'Laughlin 2011, Appendix A). Fire hazard thinning

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* Western states include: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

[†] Skog et al. (2007) also included biomass from treatment of pinyon-juniper woodlands. However, it is excluded in our analysis because the price at which it enters the model ($60 per dry ton) is above our range of analysis ($10 to $40 per dry ton).

volumes are harvested over a period of 22 years, while private timberland thinning volumes for various purposes are harvested over a period of 30 years. Stumpage prices for fire hazard thinnings and logging residues are $0 and $2 per dry ton on public and private lands, respectively, while the cost of chipping biomass is $8 per dry ton for both public and private lands. There is no cost ($0) for unused mill residues.

Difference in modeling method for logging residue. One assumption used in estimating the amount of logging residue in the model is that as thinning to reduce fire hazard increases and general thinning on private land increases (including harvesting biomass for fuels) then the extent of traditional timber harvesting operations will decrease along with associated logging residue. Both the WGA 2008 estimates and our estimates account for this reduction in volume by decreasing logging residue used for fuels by one-quarter unit for each unit increase in biomass for fuels coming from new thinnings (WGA 2008, p. 16). However, the method by which we decrease logging residue is different than the way Skog et al. (2007) did, and our method results in slightly different estimates.

The model used by Skog et al. (2007) model divides biomass from thinnings and logging residue into two land ownership categories: public and private. They computed the reduction in logging residue by subtracting one-quarter unit for each new unit of thinning regardless of land ownership. We compute the reduction for public and private land ownerships separately. Despite the differences in computation, our results aggregated at the state level did not differ by more than 4% from the results attained by Skog et al. (2007).

Dividing "public" categories into federal and state categories. Both fire hazard thinning volumes and logging residue volumes are computed and reported by public and private land categories based on model results by Skog et al. (2007). It was our desire to further divide the public category into federal and state categories. We hypothesize that there are differences in the availability of forest biomass based on land ownership. Federal lands contain a greater proportion of public timberlands and timber volumes in western states than state lands do (Smith et al. 2004). However, federal timberlands tend to be managed under objectives and laws that are more restrictive of biomass removal (e.g., timber harvesting) compared to state trust timberlands that generally are managed for revenue production (Cook and O'Laughlin 2000).

Current forest conditions also may make a difference in biomass availability. Because state trust timberlands tend to be actively managed for revenue production, we hypothesize that there is less need to conduct fire hazard thinning operations on state lands compared to federal lands, which tend to be less actively managed (Koontz 1997). An informal survey of state forest land managers generally confirmed this hypothesis. Both of the above hypotheses led us to attempt to divide the "public" estimates into federal and state categories. Our attempts were unsuccessful for a variety of reasons (see Cook and O'Laughlin 2009, Appendix C); therefore, we report the results herein using only "public" and "private" categories.

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Forest biomass supply at roadside price of **$10** per dry ton

	Fire hazard thinning			Logging residue			
County	Public	Private	Private land thinning	Public	Private	Unused mill residues	TOTAL
Oregon							
Baker	356	0	0	1,192	0	0	1,548
Benton	0	0	26,922	103	8,486	0	35,511
Clackamas	0	0	18,413	595	9,461	125	28,594
Clatsop	0	0	9,205	1,276	47,540	0	58,021
Columbia	0	0	14,655	334	31,735	0	46,724
Coos	0	0	7,904	599	107,200	16,068	131,771
Crook	201	0	0	384	2,618	0	3,202
Curry	0	0	8,515	551	23,734	0	32,800
Deschutes	0	205	0	2,234	8,132	0	10,571
Douglas	0	0	103,099	3,113	219,415	0	325,628
Gilliam	0	0	0	0	0	0	0
Grant	0	427	64	117	1,455	10	2,073
Harney	0	0	0	117	504	0	621
Hood River	162	33	0	0	0	0	195
Jackson	9,208	30,373	55,274	0	3,862	0	98,717
Jefferson	0	0	0	0	3	0	3
Josephine	0	0	170,233	9	0	0	170,241
Klamath	1,099	139	0	3,867	58,470	91	63,666
Lake	0	0	385	0	0	0	385
Lane	0	0	0	889	101,268	22	102,179
Lincoln	0	0	1,768	303	24,657	0	26,728
Linn	0	0	12,722	539	26,181	0	39,442
Malheur	0	0	0	36	400	0	436
Marion	0	0	6,622	273	5,015	0	11,910
Morrow	0	0	1,847	0	0	0	1,847
Multnomah	0	0	234	0	0	0	234
Polk	0	0	6,988	152	10,206	0	17,346
Sherman	0	0	0	0	0	0	0
Tillamook	0	0	5,547	462	57,464	0	63,473
Umatilla	588	0	1,596	311	11,837	0	14,333
Union	884	133	3,233	224	6,196	0	10,669
Wallowa	0	1,276	0	0	0	0	1,276
Wasco	611	3,481	1,607	112	524	0	6,334
Washington	0	0	617	453	16,564	0	17,634
Wheeler	0	88	0	181	1,058	0	1,327
Yamhill	0	0	3,455	261	10,571	0	14,287
TOTAL	13,110	36,155	460,905	18,688	794,554	16,316	1,339,728

Forest biomass supply at roadside price of **$15** per dry ton

	Fire hazard thinning		Private land thinning	Logging residue		Unused mill residues	TOTAL
County	Public	Private		Public	Private		
Oregon							
Baker	356	0	0	1,192	0	0	1,548
Benton	0	0	26,922	103	8,486	0	35,511
Clackamas	0	0	18,413	595	9,461	125	28,594
Clatsop	0	0	9,205	1,276	47,540	0	58,021
Columbia	0	0	14,655	334	31,735	0	46,724
Coos	0	0	20,871	599	103,958	16,068	141,496
Crook	201	0	918	384	2,388	0	3,891
Curry	0	0	8,515	551	23,734	0	32,800
Deschutes	0	205	0	2,234	8,132	0	10,571
Douglas	0	0	106,615	3,113	218,536	0	328,265
Gilliam	0	0	0	0	0	0	0
Grant	0	427	64	117	1,455	10	2,073
Harney	0	0	0	117	504	0	621
Hood River	162	33	0	0	0	0	195
Jackson	38,308	66,713	55,274	0	0	0	160,295
Jefferson	0	0	0	0	3	0	3
Josephine	0	0	170,233	9	0	0	170,241
Klamath	1,099	139	804	3,867	58,269	91	64,269
Lake	0	2,487	385	0	0	0	2,872
Lane	0	0	0	889	101,268	22	102,179
Lincoln	0	0	10,480	303	22,479	0	33,262
Linn	0	0	12,722	539	26,181	0	39,442
Malheur	0	0	0	36	400	0	436
Marion	0	0	16,009	273	2,668	0	18,950
Morrow	0	0	1,847	0	0	0	1,847
Multnomah	0	0	234	0	0	0	234
Polk	0	0	20,637	152	6,794	0	27,582
Sherman	0	0	0	0	0	0	0
Tillamook	0	0	5,547	462	57,464	0	63,473
Umatilla	1,597	0	1,596	59	11,837	0	15,089
Union	884	6,570	3,233	224	4,587	0	15,496
Wallowa	325	1,276	0	0	0	0	1,601
Wasco	611	21,711	1,607	112	0	0	24,041
Washington	0	0	617	453	16,564	0	17,634
Wheeler	839	88	1,264	0	742	0	2,933
Yamhill	0	0	3,455	261	10,571	0	14,287
TOTAL	44,381	99,649	512,123	18,255	775,754	16,316	1,466,478

Forest biomass supply at roadside price of **$20** per dry ton

	Fire hazard thinning			Logging residue			
County	Public	Private	Private land thinning	Public	Private	Unused mill residues	TOTAL
Oregon							
Baker	356	0	0	1,192	0	0	1,548
Benton	0	0	37,354	103	5,878	0	43,335
Clackamas	0	0	18,413	595	9,461	125	28,594
Clatsop	0	0	9,205	1,276	47,540	0	58,021
Columbia	0	0	14,655	334	31,735	0	46,724
Coos	0	0	20,871	599	103,958	16,068	141,496
Crook	201	0	918	384	2,388	0	3,891
Curry	0	0	8,515	551	23,734	0	32,800
Deschutes	0	205	0	2,234	8,132	0	10,571
Douglas	0	0	111,901	3,113	217,215	0	332,229
Gilliam	0	0	0	0	0	0	0
Grant	501	427	64	0	1,455	10	2,457
Harney	157	0	0	78	504	0	739
Hood River	12,387	10,711	0	0	0	0	23,098
Jackson	38,308	83,937	55,274	0	0	0	177,519
Jefferson	929	0	0	0	3	0	933
Josephine	0	0	170,233	9	0	0	170,241
Klamath	6,374	196	804	2,548	58,255	91	68,269
Lake	0	2,487	385	0	0	0	2,872
Lane	0	0	0	889	101,268	22	102,179
Lincoln	0	0	10,480	303	22,479	0	33,262
Linn	0	0	12,722	539	26,181	0	39,442
Malheur	0	0	0	36	400	0	436
Marion	0	0	16,009	273	2,668	0	18,950
Morrow	0	1,778	1,847	0	0	0	3,625
Multnomah	0	0	234	0	0	0	234
Polk	0	0	20,637	152	6,794	0	27,582
Sherman	0	0	0	0	0	0	0
Tillamook	0	0	5,547	462	57,464	0	63,473
Umatilla	1,765	0	1,596	17	11,837	0	15,215
Union	884	6,570	3,233	224	4,587	0	15,496
Wallowa	2,094	5,723	0	0	0	0	7,817
Wasco	611	21,711	1,607	112	0	0	24,041
Washington	0	0	11,392	453	13,870	0	25,715
Wheeler	839	1,768	1,264	0	322	0	4,192
Yamhill	0	0	3,455	261	10,571	0	14,287
TOTAL	65,407	135,513	538,615	16,738	768,697	16,316	1,541,285

Forest biomass supply at roadside price of **$25** per dry ton

	Fire hazard thinning			Logging residue			
County	Public	Private	Private land thinning	Public	Private	Unused mill residues	TOTAL
Oregon							
Baker	356	0	0	1,192	0	0	1,548
Benton	0	0	37,354	103	5,878	0	43,335
Clackamas	0	0	18,413	595	9,461	125	28,594
Clatsop	0	0	9,490	1,276	47,469	0	58,235
Columbia	0	0	14,655	334	31,735	0	46,724
Coos	0	0	20,871	599	103,958	16,068	141,496
Crook	201	0	918	384	2,388	0	3,891
Curry	0	0	8,515	551	23,734	0	32,800
Deschutes	2,849	205	0	1,522	8,132	0	12,708
Douglas	0	0	111,901	3,113	217,215	0	332,229
Gilliam	0	0	0	0	0	0	0
Grant	501	1,774	64	0	1,118	10	3,468
Harney	157	0	0	78	504	0	739
Hood River	14,714	10,847	0	0	0	0	25,562
Jackson	41,985	85,002	55,274	0	0	0	182,261
Jefferson	929	1,561	0	0	0	0	2,491
Josephine	0	0	170,233	9	0	0	170,241
Klamath	6,374	196	804	2,548	58,255	91	68,269
Lake	1,683	2,487	385	0	0	0	4,555
Lane	0	0	0	889	101,268	22	102,179
Lincoln	0	0	10,480	303	22,479	0	33,262
Linn	0	0	12,722	539	26,181	0	39,442
Malheur	0	0	0	36	400	0	436
Marion	0	0	16,009	273	2,668	0	18,950
Morrow	360	1,778	1,847	0	0	0	3,985
Multnomah	0	0	234	0	0	0	234
Polk	0	0	20,637	152	6,794	0	27,582
Sherman	0	0	0	0	0	0	0
Tillamook	1,874	0	5,547	0	57,464	0	64,885
Umatilla	1,765	0	1,596	17	11,837	0	15,215
Union	3,309	6,570	3,233	0	4,587	0	17,698
Wallowa	2,094	30,297	0	0	0	0	32,391
Wasco	2,494	21,711	1,607	0	0	0	25,811
Washington	0	0	11,392	453	13,870	0	25,715
Wheeler	839	1,768	1,264	0	322	0	4,192
Yamhill	0	0	3,455	261	10,571	0	14,287
TOTAL	82,485	164,196	538,900	15,228	768,285	16,316	1,585,410

Forest biomass supply at roadside price of **$30** per dry ton

	Fire hazard thinning			Logging residue			
County	Public	Private	Private land thinning	Public	Private	Unused mill residues	TOTAL
Oregon							
Baker	356	37	0	1,192	0	0	1,585
Benton	0	0	37,354	103	5,878	0	43,335
Clackamas	0	0	18,413	595	9,461	125	28,594
Clatsop	0	0	9,490	1,276	47,469	0	58,235
Columbia	0	0	14,655	334	31,735	0	46,724
Coos	0	0	20,871	599	103,958	16,068	141,496
Crook	201	0	918	384	2,388	0	3,891
Curry	0	0	8,515	551	23,734	0	32,800
Deschutes	2,849	205	0	1,522	8,132	0	12,708
Douglas	0	0	111,901	3,113	217,215	0	332,229
Gilliam	0	0	0	0	0	0	0
Grant	501	3,495	64	0	688	10	4,758
Harney	157	0	0	78	504	0	739
Hood River	15,049	10,847	0	0	0	0	25,896
Jackson	41,985	89,418	55,274	0	0	0	186,677
Jefferson	929	3,394	0	0	0	0	4,323
Josephine	0	0	170,233	9	0	0	170,241
Klamath	9,613	7,282	804	1,738	56,483	91	76,013
Lake	1,683	2,541	385	0	0	0	4,610
Lane	0	0	0	889	101,268	22	102,179
Lincoln	0	0	10,480	303	22,479	0	33,262
Linn	0	0	12,722	539	26,181	0	39,442
Malheur	0	0	0	36	400	0	436
Marion	0	0	16,009	273	2,668	0	18,950
Morrow	360	1,947	1,847	0	0	0	4,154
Multnomah	0	0	234	0	0	0	234
Polk	0	0	20,637	152	6,794	0	27,582
Sherman	0	0	0	0	0	0	0
Tillamook	1,874	0	5,547	0	57,464	0	64,885
Umatilla	1,923	0	1,596	0	11,837	0	15,357
Union	3,716	6,570	6,414	0	3,791	0	20,491
Wallowa	2,094	32,179	0	0	0	0	34,273
Wasco	2,494	27,097	1,607	0	0	0	31,198
Washington	0	0	11,392	453	13,870	0	25,715
Wheeler	839	1,768	1,264	0	322	0	4,192
Yamhill	0	0	3,455	261	10,571	0	14,287
TOTAL	86,623	186,781	542,082	14,401	765,288	16,316	1,611,490

Forest biomass supply at roadside price of **$35** per dry ton

	Fire hazard thinning			Logging residue			
County	Public	Private	Private land thinning	Public	Private	Unused mill residues	TOTAL
Oregon							
Baker	465	37	0	1,164	0	0	1,666
Benton	0	0	37,354	103	5,878	0	43,335
Clackamas	0	0	18,413	595	9,461	125	28,594
Clatsop	0	0	9,490	1,276	47,469	0	58,235
Columbia	0	0	14,655	334	31,735	0	46,724
Coos	866	0	20,871	383	103,958	16,068	142,146
Crook	344	0	918	348	2,388	0	3,999
Curry	0	0	8,515	551	23,734	0	32,800
Deschutes	2,849	205	0	1,522	8,132	0	12,708
Douglas	0	0	111,901	3,113	217,215	0	332,229
Gilliam	0	0	0	0	0	0	0
Grant	4,684	3,495	64	0	688	10	8,940
Harney	157	0	0	78	504	0	739
Hood River	15,049	10,847	0	0	0	0	25,896
Jackson	41,985	89,418	55,274	0	0	0	186,677
Jefferson	1,629	3,394	0	0	0	0	5,023
Josephine	0	0	170,233	9	0	0	170,241
Klamath	9,613	7,282	804	1,738	56,483	91	76,013
Lake	1,809	3,508	385	0	0	0	5,702
Lane	0	0	0	889	101,268	22	102,179
Lincoln	0	0	10,480	303	22,479	0	33,262
Linn	0	0	12,722	539	26,181	0	39,442
Malheur	0	0	0	36	400	0	436
Marion	0	0	16,009	273	2,668	0	18,950
Morrow	360	1,947	1,847	0	0	0	4,154
Multnomah	0	0	234	0	0	0	234
Polk	0	0	20,637	152	6,794	0	27,582
Sherman	0	0	0	0	0	0	0
Tillamook	1,874	0	5,547	0	57,464	0	64,885
Umatilla	1,923	0	1,596	0	11,837	0	15,357
Union	3,716	6,570	6,414	0	3,791	0	20,491
Wallowa	2,131	32,179	0	0	0	0	34,310
Wasco	2,494	27,346	1,607	0	0	0	31,447
Washington	0	0	11,392	453	13,870	0	25,715
Wheeler	839	1,768	1,264	0	322	0	4,192
Yamhill	0	0	3,455	261	10,571	0	14,287
TOTAL	92,786	187,996	542,082	14,121	765,288	16,316	1,618,589

Forest biomass supply at roadside price of **$40** per dry ton

	Fire hazard thinning			Logging residue			
County	Public	Private	Private land thinning	Public	Private	Unused mill residues	TOTAL
Oregon							
Baker	465	561	0	1,164	0	0	2,190
Benton	0	0	37,354	103	5,878	0	43,335
Clackamas	0	0	18,413	595	9,461	125	28,594
Clatsop	0	0	9,490	1,276	47,469	0	58,235
Columbia	0	0	14,655	334	31,735	0	46,724
Coos	866	0	20,871	383	103,958	16,068	142,146
Crook	958	0	918	195	2,388	0	4,459
Curry	1,742	0	8,515	115	23,734	0	34,106
Deschutes	2,849	205	0	1,522	8,132	0	12,708
Douglas	0	0	111,901	3,113	217,215	0	332,229
Gilliam	0	0	0	0	0	0	0
Grant	9,384	3,637	64	0	653	10	13,747
Harney	157	0	0	78	504	0	739
Hood River	15,049	10,847	0	0	0	0	25,896
Jackson	41,985	89,418	55,274	0	0	0	186,677
Jefferson	1,629	3,394	0	0	0	0	5,023
Josephine	0	0	170,233	9	0	0	170,241
Klamath	9,741	7,282	804	1,707	56,483	91	76,108
Lake	1,809	3,508	385	0	0	0	5,702
Lane	20,226	0	0	0	101,268	22	121,516
Lincoln	2,123	0	10,480	0	22,479	0	35,081
Linn	0	0	12,722	539	26,181	0	39,442
Malheur	0	0	0	36	400	0	436
Marion	0	0	16,009	273	2,668	0	18,950
Morrow	360	1,947	1,847	0	0	0	4,154
Multnomah	0	0	234	0	0	0	234
Polk	0	0	20,637	152	6,794	0	27,582
Sherman	0	0	0	0	0	0	0
Tillamook	1,874	0	5,547	0	57,464	0	64,885
Umatilla	1,923	0	1,596	0	11,837	0	15,357
Union	3,716	6,570	6,414	0	3,791	0	20,491
Wallowa	2,131	32,179	0	0	0	0	34,310
Wasco	2,494	27,346	3,045	0	0	0	32,886
Washington	0	0	11,392	453	13,870	0	25,715
Wheeler	839	1,768	1,264	0	322	0	4,192
Yamhill	0	0	3,455	261	10,571	0	14,287
TOTAL	122,317	188,662	543,521	12,309	765,253	16,316	1,648,377