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Criterion 6, Indicator 40: Distribution of Revenues Derived from Forest Management

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Abstract

For the forestry and logging, wood products, paper products, and wood furniture industries, in 2002, of a total \$72.5 billion (2005\$) in wages, profits and taxes, 80% went to wages, 18% to profits and 2% to taxes; 43% was provided by paper products industries, 35% by wood products industries, 17% by wood furniture industries and 5% by forestry and logging. Revenues to landowners from stumpage sales in 1997 were \$22 billion (2005\$) of which 5% went to National Forests, 6% went to other public lands, 33% went to industry land owners, and 56% went to other private landowners. Since 1997 much of the industry forest land has been sold to Timber Management Organizations and Real Estate Investment Trusts, so the share of stumpage revenues going to industry land owners has probably declined. Of 18 million acres of forest land on Indian reservations in the U.S., 5.7 million acres are commercial timberland. In 2001 these lands provided \$95 million of revenue (2005\$) mostly from industrial timber harvest or 0.4% of the U.S. total 1997 stumpage revenue of \$22 billion (2005\$). The Northwest region accounted for over 70 percent of the timber volume and more than 85 percent of revenue, followed by the Lake States at 13.5 percent of the timber volume and over 7 percent of revenue. No trend information is available on revenues to various groups.

Keywords: production, sustainability, consumption

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Criterion 6, Indicator 40: Distribution of Revenues Derived from Forest Management

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Indicator Background

The purpose of this report is to provide information on the rationale and data provided for Indicator 40 for the *U.S. National Report on Sustainable Forests—2010*. Information on the rationale for the Indicator and recommended data to be developed are taken from the report of the Technical Advisory Committee (TAC) of the Montreal Process (MP).

Verbatim Montreal Process Technical Advisory Committee Notes

Rationale

Revenues derived from forest management activities, including the sale of forest products and environmental services, are one of the principal sources of funds for paying annual operating costs and making capital investments in the forest estate (areas to be maintained indefinitely as forests). This indicator tracks who shares in the revenues—workers through wages and income, communities through taxes, and others at different geographic scales. Therefore, information on the collection and distribution of these revenues will be useful in understanding economic support for sustainable forest management.

Measurement

The measure desired is the distribution of revenues received from forest management activities, including the sale of forest products, licenses and fees, and receipts from the sale or provision of environmental services. The distribution of total revenues should be displayed as the percentages received by the following and categorized appropriate to national circumstances:

- local forest workers,
- various units of government (e.g., taxes to local governments, deposits to provincial/state/federal treasuries), and
- other parties (e.g., private forest landowners, collectives, communities, firms, concessionaires/lesors).

Displaying the percentages as a pie chart may aid comprehension and illustrate the relative equity of contemporary distribution arrangements—both between forest workers, communities, and other organizations and among the various geographic scales (e.g., revenues that stay local

compared with revenues that are retained at the regional/provincial/state and national or corporate levels).

Some relevant information may be provided by indicators 6.1a, 6.1b, and 6.1c (Indicators 25, 26, and 27) on value and volume of wood and non-wood forest products and on revenue from environmental services, respectively). Some official government sources may provide information on the collection of revenue generated by the harvest and use of publicly owned forests. Information on revenues received from management of privately owned forests will be more difficult to find, but it may be possible to produce estimates. In general, information on the distribution of these revenues will be the most difficult information to find. However, for publicly owned forests, one approach to measurement will be to report the share (percentage) of revenues collected that are retained by and/or allocated to national, regional, or local governments and/or communities.

Comments and Clarifications

Additions and Clarifications to Rationale and Measurement

The TAC guidance asks for revenues paid to “local forest workers,” which we assume means payroll. We assume that payroll for wood and paper products firms should also be reported as a benefit from forests to local workers—even if they do not work in the forest. We will also report payroll for wood furniture firms even though they may be located farther from forests (Table 1).

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

The categories we report include the following:

- benefits to workers in the form of payroll,
- benefits to governments in the form of taxes and fees from firms,
- benefits to shareholders of firms in the form of after-tax profits,
- benefits to Native American communities from sale of timber from timberland holdings, and

Table 1—Payroll and taxes and license fees paid by forest products industry firms, 2002^a
(million dollars)

	Forestry and logging (NAICS 113)	Wood products (NAICS 321)	Paper products (NAICS 322)	Wood furniture (parts of NAICS 337)	State timber yield and severance tax	Total	Total furniture industry
Payroll	2,398	19,276	25,810	10,031	—	57,744	20,891
Taxes and fees	77	523	791	130	144	1,666	251
After tax profits	644	5,727	4,853	1,880	—	13,103	3,774

Sources: Payroll and taxes and fees: US DOC BOC 2008, 2005 Economic census; after tax profits: US DOC BEA 2008, National income and product accounts.

^aState timber yield and severance taxes (dated 1992 to 2007). See Table 7. State income taxes not included. Numbers in bold are estimates.

- benefits to various public and private owners of timberland from sale of timber.

We have not obtained data on benefits provided to workers, governments, or shareholders from production and sale of nonwood forest products, from production and sale of environmental services, or from provision of forest-based recreation and tourism services.

Indicator Development

Data Used To Address Indicator

General Description

Specific Data Sources

- Local forest workers (and other workers in forest products firms)
- Payroll for workers in forest products firms
- Forestry and logging (NAICS 113)
- Wood products (NAICS 321)
- Paper products (NAICS 322)
- Wood furniture (parts of NAICS 337)
- Various units of government (e.g., taxes to local governments, deposits to provincial/state/federal treasuries) and
- Federal taxes paid by forest products firms
- Forestry and logging (NAICS 113)
- Wood products (NAICS 321)
- Paper products (NAICS 322)
- Wood furniture (parts of NAICS 337)
- Timber yield and severance taxes paid by forest landowners to states
- Other parties (e.g., private forest landowners, collectives, communities, firms, concessionaires/leasers),
- Private landowners—none
- Collectives—none
- Communities—none
- Firms profits
- Forestry and logging (NAICS 113)
- Wood products (NAICS 321)

- Paper products (NAICS 322)
- Wood furniture (parts of NAICS 337)
- Concessionaires/leasers—none
- Native American communities
- Value of timber sold
- Owners of timberland (national forest, other public land, industry land, other private land)
- Value of timber sold

Analysis Techniques

General Description

Data on benefits were obtained directly from various data sources except for benefits going to various landowners from the sale of timber.

Specific Steps Taken

Estimates of the benefits going to various forest landowners from the sale of timber in each RPA region were constructed in six steps.

First, a table was constructed using the U.S. Department of Agriculture, Forest Service Timber Product Output database (2008) and ownership splits from Adams and others (2006) that indicates cubic feet of industrial roundwood harvested by owner (national forest, other public, industry, other private), species group (hardwood, softwood), major timber type (sawtimber, nonsawtimber) and region (Table 2).

Second, a table was constructed that contains the stumpage price for sawtimber in dollars per thousand board feet, and pulpwood (nonsawtimber) in dollars/cord for 1997 (in 2005\$) using data from Haynes and others (2003) (Table 3). Stumpage price data, consistent across the United States, was not found for a more recent year.

Third, a table was constructed that contains factors to convert sawtimber in cubic feet to sawtimber in thousand board feet and factors to convert pulpwood in cubic feet to pulpwood in cords by region using data from Haynes and others (1990) (Table 4).

Fourth, a table was constructed containing volumes of sawtimber in thousand board feet and nonsawtimber in cords

Table 2—Softwood and hardwood sawtimber and nonsawtimber harvest by region and ownership, 1997 (million ft³)

Region	Softwood									
	Sawtimber					Nonsawtimber				
	National forest	Other public	Industry	Other private	Total	National forest	Other public	Industry	Other private	Total
Northeast	3	12	108	256	380	2	8	73	174	258
North Central	12	26	12	51	101	18	39	17	75	150
Southeast	17	49	410	786	1,262	18	51	427	819	1,314
South Central	62	32	655	1,084	1,833	49	25	517	856	1,447
Northern										
Rocky Mtns.	94	62	176	165	498	4	2	7	6	19
Southern										
Rocky Mtns.	36	14	1	22	74	21	8	1	13	44
PSW ^a	89	12	250	107	458	21	3	58	25	106
PNW W ^b	56	201	817	266	1,340	13	45	185	60	303
PNW E ^c	131	76	177	188	572	25	11	8	19	63
Total	500	484	2,606	2,927	6,517	170	192	1,293	2,048	3,703
Region	Hardwood									
	Sawtimber					Nonsawtimber				
	National forest	Other public	Industry	Other private	Total	National forest	Other public	Industry	Other private	Total
Northeast	10	33	115	465	623	13	41	143	580	777
North Central	29	110	49	413	602	40	150	67	564	821
Southeast	12	12	76	316	415	27	26	169	706	928
South Central	15	17	140	518	690	31	35	292	1,081	1,439
Northern										
Rocky Mtns.	0	0	0	0	0	0	1	7	0	8
Southern										
Rocky Mtns.	8	3	0	6	18	13	4	1	10	27
PSW ^a	7	0	12	4	23	17	1	28	9	54
PNW W ^b	3	27	83	96	208	2	16	51	58	127
PNW E ^c	0	0	0	0	0	0	0	0	0	0
Total	85	201	475	1,817	2,578	143	273	757	3,007	4,181

Source: USDA FS 2008.

^aPacific Southwest.

^bPacific Northwest—west.

^cPacific Northwest—east.

by multiplying volumes in Table 2 by conversion factors in Table 4 (Table 5).

Fifth, a table was constructed containing stumpage value of sawtimber and nonsawtimber by multiplying volumes in Table 5 by stumpage prices in Table 4 (Table 6).

Sixth, a table was constructed to aggregated stumpage values across species and product group to show stumpage value by ownership within each RPA Region (Table 6).

Data Issues (Replicability, Availability, Precision, and Potential Bias)

Data were not obtained on benefits to governments in the form of state and local income tax paid by forest sector firms.

Data on distribution of revenues to forest products firms include federal taxes, wages, and profits that are available and replicable (based on well-designed surveys or censuses). Data were also obtained on timber severance or yield taxes but are incomplete and may or may not be replicable or available in the future. Data have not been obtained on state and local level taxes. Because state and local taxes data have not been obtained, the distribution of revenues from forest products firms may be biased against the share going to governments in the form of taxes. Data are less available and more difficult to replicate, less precise, and potentially biased on benefits to forest landowners from timber sales and on benefits to Native American communities from timber sales. Data are not available on distribution of revenues to forest-based recreation firms or firms providing environmental services.

Table 3—Sawtimber and pulpwood stumpage prices by region and species, 1997 (2005\$)

Region	Sawtimber (2005\$/×10 ³ bf)		Pulpwood (2005\$/cord)	
	Softwood	Hardwood	Softwood	Hardwood
North	170	337	22	16
South	359	135	33	20
Interior West	170	—	—	—
Pacific Northwest	471	—	—	—

Source: Haynes and others 2003, table 15.

Indicator Interpretation and Discussion

Indicator Results

What Does the Indicator Show?

Benefits from Operation of Forest Products Industries—

We first look at who shares in the revenues from operation of forest products industries. These industries include forestry and logging, wood products, paper products, and wood furniture. Figure 1 shows the shares of revenues in these industries that go to workers in the form of wages, to business owners in the form of profits, and governments in the form of taxes. In 2002, of a total \$72.5 billion (2005\$) in wages, profits, and taxes, 80% went to wages, 18% to profits, and 2% to taxes. Note that these amounts are only part of the uses of the total revenue from product shipments of about \$300 billion (2005\$) in 2002. Revenue is also used to pay for other costs of production including materials, energy, insurance, and interest on debt. The profits received

in 2002 by owners (\$11 billion (2005\$)) were about 3.7% of the value of shipments.

Of the \$72.5 billion in wages, profits, and taxes, 43% was provided by paper products industries, 35% by wood products industries, 17% by wood furniture industries, and 5% by forestry and logging. The share of revenue going to workers was somewhat higher for the paper and wood furniture industries, 82% and 83%, respectively (with correspondingly lower profit shares), than for the wood products and forestry and logging industries at 76% and 79%, respectively.

*Benefits to Forest Owners from Sale of Timber—*We next look at who shares in the revenues from sale of timber from forest land. We have data for 1997 that indicate how this revenue is shared among various forest land owners including owners of national forests, other public forest land, industry forest owners, and other private forest owners. Based on rough estimates for the total stumpage sales value in 1997 of \$22 billion (2005\$), 5% went to national forests, 6% went to other public lands, 33% went to industry land owners, and 56% went to other private landowners. Since 1997, a significant amount of industry forest land has been sold to timber management organizations and real estate investment trusts, so the share of stumpage revenues going to industry land owners has probably declined (Tables 2 to 7, Figs. 2, 3).

*Benefits to Native American Communities from Sale of Timber—*A considerable amount of Native American land is forested. These forests provide wood and non-wood forest

Table 4—Conversion factors

	Softwood sawlogs		Hardwood sawlogs		Softwood	Hardwood
	Cubic feet log scale per thousand board feet, local log scale	Cubic feet log scale per thousand board feet, international 1/4-in. scale	Cubic feet log scale per thousand board feet, local log scale	Cubic feet log scale per thousand board feet, international 1/4-in. scale	pulpwood Cubic feet per cord	pulpwood Cubic feet per cord
Northeast	176.1	176.1	160	161.5	85	85
North Central	176.1	176.1	178.5	171.9	79	79.5
Southeast	217.1	217.1	186.2	179.2	74.6	75.2
South Central	217.1	217.1	164.5	184.4	81	80.1
Northern Rocky Mtns.	158.5	158.5	141.3	196.3	79.7	75
Southern Rocky Mtns.	158.5	158.5	141.3	196.3	79.7	75
PSW ^a	160	160	164.1	221	86	79.3
PNW W ^b	146.3	146.3	165.8	221	86	78
PNW E ^c	183	183	166.8	221	86	78

Source: Haynes and others 1990, tables B-9, B-10.

^aPacific Southwest.^bPacific Northwest—west^cPacific Northwest—east

Table 5—Volume of sawtimber and non-sawtimber harvest, by softwood and hardwood, and by owner and region, 1997

Region	Softwoods									
	Sawtimber ($\times 10^3$ bf)					Nonsawtimber (cords)				
	National forest	Other public	Industry	Other private	Total	National forest	Other public	Industry	Other private	Total
North	88,079	219,733	679,848	1,744,054	2,731,714	252,845	591,366	1,082,279	2,999,082	4,925,572
South	22,298	32,676	5,697,444	18,092,063	23,844,480	838,648	988,359	12,106,041	21,543,957	35,477,004
Rocky Mtns.	824,802	480,471	1,117,076	1,183,474	3,605,822	314,481	133,183	96,230	244,321	788,215
Pacific Coast	1,650,304	1,861,332	8,114,361	3,515,868	15,141,865	217,630	195,396	913,355	778,353	2,104,733
Total	2,585,483	2,594,212	15,608,728	24,535,458	45,323,881	1,623,604	1,908,303	14,197,905	25,565,713	43,295,525

Region	Hardwoods									
	Sawtimber ($\times 10^3$ bf)					Nonsawtimber (cords)				
	National forest	Other public	Industry	Other private	Total	National forest	Other public	Industry	Other private	Total
North	236,284	842,084	995,032	5,282,336	7,355,734	314,900	1,125,373	1,274,830	6,872,095	9,587,198
South	6,120	49,275	1,185,049	6,587,251	7,827,694	319,776	333,859	2,529,407	9,799,853	12,982,894
Rocky Mtns.	42,697	13,828	1,960	31,774	90,258	66,787	25,483	36,582	49,102	177,954
Pacific Coast	45,604	121,664	430,395	450,029	1,047,691	236,364	215,318	1,001,164	856,383	2,309,229
Total	330,704	1,026,851	2,612,435	12,351,390	16,321,379	937,826	1,700,033	4,841,983	17,577,433	25,057,275

Source: Tables 2, 4.

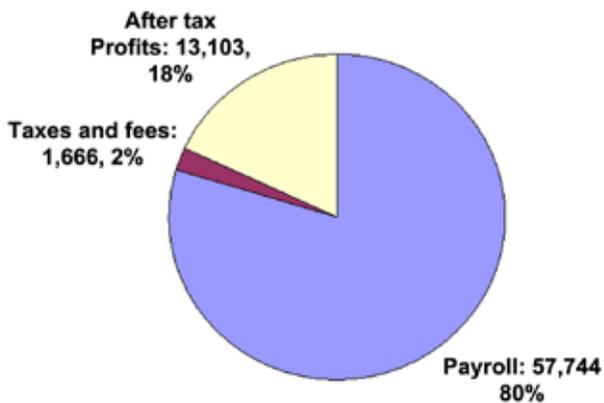


Figure 1. Payments going to forest products business owners (profits), forest products firm employees (payroll), and to governments (taxes and fees), 2005 (million dollars and percent). Source: Table 1.

products and other values that are vital to Native American communities. Therefore, it is also important to note the share of U.S. timber stumpage revenues that goes to Native Americans.

There are approximately 18 million acres of forest land on Indian reservations in the United States, of which 5.7 million acres are classified as commercial timberland (IFMAT II 2003). In 2001, these lands provided \$95 million of revenue (2005\$) mostly from industrial timber harvest. This 2001 stumpage revenue is 0.4% of the estimated total U.S. 1997 stumpage revenue of \$22 billion (2005\$). The 18 million acres of Native American forest land is about 2% of total U.S. forest land (749 million acres). The 5.7 million

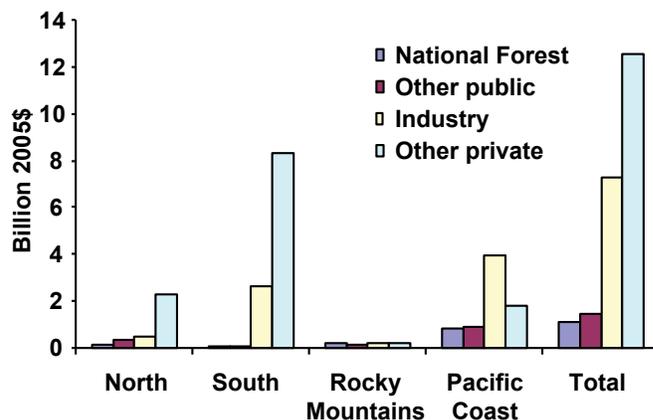


Figure 2. Stumpage revenue from U.S. timber harvest by owner and region, 1997 (billion 2005\$). Source: Table 6.

acres of Native American timberland is about 1% of total U.S. timberland (504 million acres).

For Native American forest land in 2001, the Northwest region accounted for over 70% of the harvested timber volume and more than 85% of revenue, followed by the Lake States at 13.5% of the harvested timber volume and over 7% of revenue.

How Has It Changed Since 2003?

Data are not available to determine a time trend in share of revenue received by various groups from forest industry activities or from timber sales.

Table 6—Stumpage value of sawtimber and non-sawtimber harvest, by softwood and hardwood, and by owner and region, 1997 (2005\$)^a

Region	Softwoods						Hardwoods								
	Sawtimber			Non-sawtimber			Sawtimber			Non-sawtimber					
	National forest	Other public	Other private	Industry	Total	National forest	Other public	Other private	Industry	Total	National forest	Other public	Other private	Industry	Total
North	14,972,689	37,352,909	296,475,167	115,568,678	464,369,443	5,571,692	13,031,333	66,087,774	23,849,111	108,539,910	828,417	6,670,107	108,166,780	51,756,733	150,902,493
South	8,002,074	11,726,502	6,492,734,702	2,044,653,110	8,557,116,389	27,720,664	32,669,205	712,113,956	400,153,065	1,172,656,891	10,080,653	3,264,798	888,795	662,170	3,221,150
Rocky Mtns.	140,209,745	81,676,148	201,181,102	189,893,939	612,960,935	6,929,907	2,934,819	5,383,859	2,120,529	17,369,114	776,676,109	875,991,091	1,654,659,001	3,818,829,227	46,379,904
Pacific Coast	939,860,618	1,006,746,650	8,645,049,971	6,168,944,954	16,760,602,194	45,017,949	52,941,104	800,737,378	446,249,388	1,344,945,819	101,264,928	322,303,755	2,784,711,156	597,654,344	461,578,967
Total	1,041,125,546	1,329,050,405	11,429,761,127	6,766,599,298	20,566,536,377	62,005,055	81,844,632	1,125,818,922	536,856,178	1,806,524,787	Softwoods and hardwoods				
Region	Softwood and hardwood, sawtimber and non-sawtimber						Softwood and hardwood, sawtimber and non-sawtimber								
	Sawtimber			Non-sawtimber			Sawtimber			Non-sawtimber					
	National forest	Other public	Other private	Industry	Total	National forest	Other public	Other private	Industry	Total	National forest	Other public	Other private	Industry	Total
North	94,561,555	320,996,970	2,075,755,939	450,731,159	2,942,045,623	10,528,218	30,744,699	174,254,554	43,914,932	259,442,403	8,830,492	18,396,609	912,638,539	451,909,798	1,438,312,870
South	150,290,398	84,940,946	208,683,019	190,356,584	634,270,947	8,138,821	3,396,090	6,272,654	2,782,699	20,590,264	787,443,101	904,715,880	1,760,910,886	3,920,445,523	88,179,249
Rocky Mtns.	105,089,773	351,741,669	2,250,010,492	494,646,091	3,201,488,026	43,094,405	57,897,229	8,297,049,823	2,656,975,830	11,055,017,287	1,041,125,546	1,329,050,405	11,429,761,127	6,766,599,298	1,806,524,787
Pacific Coast	43,094,405	57,897,229	8,297,049,823	2,656,975,830	11,055,017,287	158,429,219	88,337,036	214,955,673	193,139,283	654,861,211	796,517,205	912,919,103	1,793,564,061	3,958,694,271	88,179,249
Total	1,103,130,601	1,410,895,038	12,555,580,049	7,303,455,476	22,373,061,164	62,005,055	81,844,632	1,125,818,922	536,856,178	1,806,524,787	Softwood and hardwood, sawtimber and non-sawtimber				

^aSources: Tables 3, 5.

Table 7—State level timber yield and severance taxes as posted on web sites in January 2011^a

Region	State	Type of tax	Tax rate	Tax receipts	
				Million \$	Year
Northeast	Connecticut	None	—	0	
	Delaware	None	—	0	
	Maine	None	—	0	
	Maryland	None	—	0	
	Massachusetts	Yield tax	8% of stumpage value as set by the state forestry agency	N/A	
	New Hampshire	Yield tax	10% of stumpage value as set by the state forestry agency	N/A	
	New Jersey	None	—	0	
	New York	Yield tax	6% of stumpage value as set by the state forestry agency	N/A	
	Pennsylvania	None	—	0	
	Rhode Island	None	—	0	
North Central	Vermont	None	—	0	
	Illinois	Yield tax	4% of stumpage price paid to the timber grower	N/A	
	Indiana	None	—	0	
	Iowa	None	—	0	
	Kansas	None	—	0	
	Michigan	Yield tax	5% of stumpage price paid to the timberland owner	N/A	
	Minnesota	None	—	0	
	Missouri	Yield tax	6% of stumpage value as set by the state forestry agency	N/A	
	Nebraska	None	—	0	
	North Dakota	None	—	0	
South	Ohio	None	—	0	
	South Dakota	None	—	0	
	West Virginia	Yield tax	3.22% of the gross proceeds from the timber sale	3.1	2000
	Wisconsin	Severance tax/ yield tax	Varies by product, species, and zone	N/A	
	Alabama	Severance tax	Pine logs: \$0.100 per ton or \$0.75 per MBF (Doyle) Other logs: \$0.065 per ton or \$0.50 per MBF (Doyle) Pulpwood: \$0.10 per ton or \$0.25 per cord	5.4	2006
	Arkansas	Severance tax	Pine timber: \$0.178 per ton Other timber: \$0.125 per ton	3.4	2005
	Florida	None	—	0	
	Georgia	Severance tax	County millage rate	N/A	
	Kentucky	None	—	0	
	Louisiana	Severance tax	Logs: 2.25% of stumpage value set by state forestry agency Pulpwood: 5% of stumpage value as set by state forestry agency	12.6	2009
West	Mississippi	Severance tax	Softwood timber: \$0.12 per ton or \$1.00 per MBF Hardwood timber: \$0.08 per ton or \$0.75 per MBF Softwood pulpwood: \$0.30 per cord Hardwood pulpwood: \$0.215 per cord	0.6	2007
	North Carolina	Severance tax	Softwood sawtimber: \$0.50 per MBF Hardwood and baldcypress sawtimber: \$0.40 per MBF Softwood pulpwood: \$0.20 per cord Hardwood pulpwood & baldcypress: \$0.12 per cord	N/A	
	Oklahoma	None	—	0	
	South Carolina	None	—	0	
	Tennessee	None	—	0	
	Texas	None	—	0	
	Virginia	Severance tax	Pine logs: \$1.15 per MBF Pine pulpwood: \$0.475 per cord	N/A	
	Alaska	None	—	0	
	Arizona	None	Severance tax repealed effective Nov. 1, 2006 (p) 2.9% of harvest value of timber as set by the State Board of Equalization	0	
	California	Severance tax	Equalization	N/A	
West	Colorado	None	0	0	
	Hawaii	None	0	0	
	Idaho	Yield tax	3% of stumpage value as determined by the State Tax Commission	N/A	
	Montana	Severance tax	\$0.15 per MBF	N/A	
	Nevada	None	0	0	
	New Mexico	Yield tax	0.125% of the gross value of the harvested timber	N/A	
	Oregon	Severance tax/ yield tax	\$3.575 per MBF with first 25 MBF harvested exempt, plus \$3.60 per MBF in Eastern Oregon or \$4.61 per MBF in Western Oregon Western Oregon—\$4.61 per thousand board feet	28.8	2006
	Utah	None	0	0	
	Washington	Severance (excise) tax	5.0%	17.8	2010
	Wyoming	None	0	0	

^aInformation collected and provided by John Greene, USDA FS, Southern Research Station, New Orleans, Louisiana. See Reference section: Data on state timber yields and severance taxes.

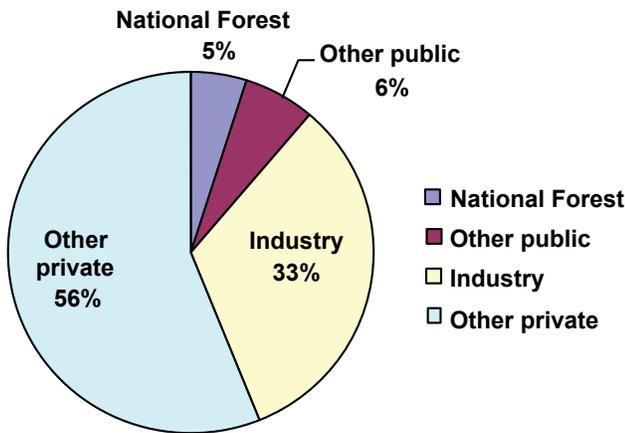


Figure 3. Share of stumpage revenue from U.S. timber harvest by owner, 1997. Source: Table 6.

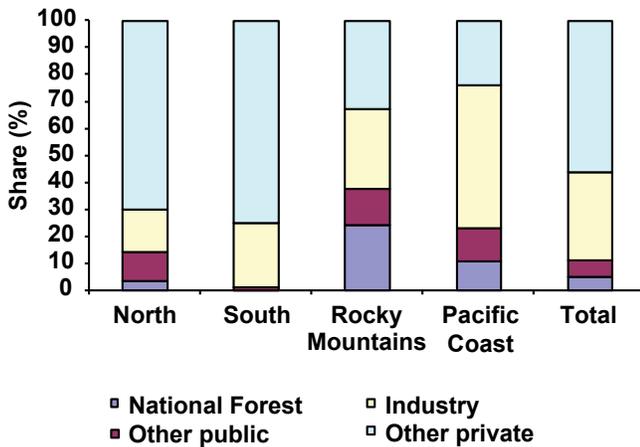


Figure 4. Share of stumpage revenue from U.S. timber harvest for each type of forest owner, by region, 1997. Source: Table 6.

Regional Variation and Associated Issues

Regional Variation in Share of Benefits Going to Various Forest Landowners from Sale of Timber—The estimated shares of timber stumpage revenue going to various landowners varies widely among regions. In 1997, the share going to public owners (national forest and other public) was highest in the Rocky Mountains (37%) followed by the Pacific Coast (23%), North (14%), and South (1%). The share going to other private owners (non-industry) was highest in the South (75%) followed by the North (70%), Rocky Mountains (33%), and Pacific Coast (24%) (Figs. 2, 4).

Another way to look at the geographical distribution of revenue shares is by looking at where various types of owners receive most of their stumpage revenue. For 1997, the largest share of national forest or other public land stumpage revenue came from the Pacific Coast (68%) followed by the North (18%), Rocky Mountains (10%), and South (4%). The largest share for other private landowner revenue came from

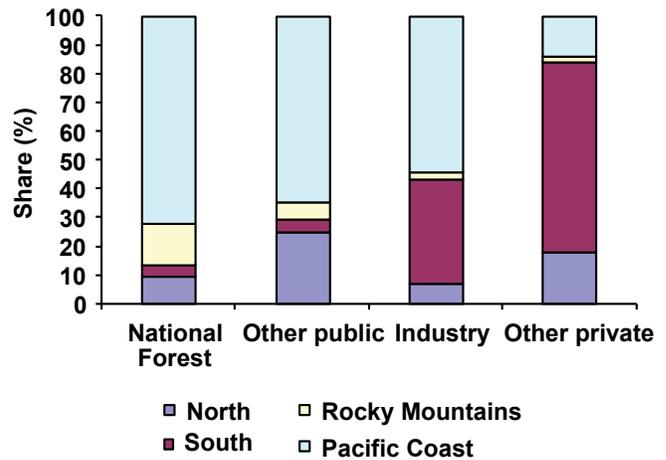


Figure 5. Share of stumpage revenue from U.S. timber harvest for each region by type of forest owner, 1997. Source: Table 6.

the South (66%) followed by the North (18%), Pacific Coast (14%), and Rocky Mountains (2%) (Figs. 2, 5).

Assessment of Ability to Measure Underlying Concern

General Assessment

Data are not available to determine a time trend in share of revenues received by various groups.

Information of overall revenues from environmental services is shown under Indicator 27. However, data are not available on the shares of such revenues going to workers, businesses (profits), and governments. Nor are data available on benefits provided to workers, governments, or shareholders from production and sale of non-wood forest products, or from provision of forest-based recreation and tourism services.

Congruence of U.S. Results with TAC Recommendations

U.S. data provided on benefits provided to workers, governments, and firms from forest products industries match the TAC recommendations, except that we did not obtain data on income taxes paid to states. We provide data not explicitly requested by the TAC recommendations, including distribution of stumpage revenue to various forest owners and to Native American communities. We have not provided information on distribution of benefits from provision of environmental services. Environmental services overall revenues are shown under Indicator 27.

It is not clear if the TAC recommendations have requested information on distribution of benefits from non-wood forest products or from forest-based recreation and tourism. We have not obtained such information.

Suggested Steps for Improvement

Data on state and local income taxes paid are needed to complete data on distribution of benefits from forest prod-

ucts firms. An initial survey could be made to determine what data are available on the distribution of benefits from environmental services.

Cross-Cutting Issues and Relation to Other Indicators

This indicator asks for distribution of the benefits (revenues) from the environmental services provided for Indicator 27. The sources and amounts identified for Indicator 27 would be a starting point for determining who obtains those revenues (workers, governments, firms, and land owners).

The trends in who obtains benefits from forests would aid our understanding of the importance of forests (Indicator 44)—particularly to whom they are important, and would aid our understanding of the effect of changing benefits on resilience of forest-dependent communities (Indicator 38)—to whom and where benefits are flowing.

The trends in who obtains benefits from forests would also suggest how the stakeholders in forests are changing. As benefits increase to certain stakeholder groups, their voices may become more influential in determining forest investment (Indicator 37), research and education (Indicator 35), and institutions (Criterion 7).

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