

# Appendix C: Carbon Stocks

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## Appendix C

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**Appendix Table C-1 Forest Area, Stock, and Stock Change by State<sup>1</sup>**

State	Forest Area <i>1000 ha</i>	Net Area	Non-Soil		Non-Soil	Harvested Wood
		Change <i>1000 ha yr<sup>-1</sup></i>	Stocks <i>Tg CO<sub>2</sub> eq.</i>	SOC <sup>2</sup> <i>Tg CO<sub>2</sub> eq.</i>	Change <i>Tg CO<sub>2</sub> eq. yr<sup>-1</sup></i>	Products Change
Alabama	9,286	(4.7)	2,435	1467	(11.1)	(9.6)
Arizona	8,395	60.0	1,647	712	2.4	(0.1)
Arkansas	7,620	2.1	2,356	1173	(13.5)	(4.7)
California	13,451	56.9	7,776	1878	(75.4)	(4.1)
Colorado	9,425	60.6	3,382	1087	(23.9)	(0.1)
Connecticut	704	(8.5)	326	158	3.2	(0.1)
Delaware	159	0.7	70	37	(1.2)	(0.1)
Florida	6,534	12.4	1,597	2435	(20.6)	(3.9)
Georgia	10,006	27.2	2,760	3023	(31.5)	(9.7)
Idaho	8,963	5.1	3,833	1348	7.1	(1.8)
Illinois	1,790	6.7	732	368	(2.6)	(0.3)
Indiana	1,913	34.0	829	385	(24.3)	(0.5)
Iowa	1,112	38.0	404	244	(14.1)	(0.1)
Kansas	860	26.8	270	258	(6.6)	(0.0)
Kentucky	4,844	(19.2)	1,734	719	(3.3)	(1.4)
Louisiana	5,713	11.8	1,637	964	(0.2)	(4.6)
Maine	7,165	0.3	2,666	2174	2.9	(3.5)
Maryland	953	(16.7)	449	224	1.5	(0.3)
Massachusetts	1,282	2.6	659	324	(10.0)	(0.1)
Michigan	7,815	1.3	2,945	4292	6.8	(2.6)
Minnesota	6,554	(18.3)	1,905	4054	5.9	(2.2)
Mississippi	7,525	93.5	1,933	1202	(9.4)	(7.6)
Missouri	5,933	36.6	2,084	1054	(38.0)	(1.0)
Montana	10,446	80.2	4,177	1506	(23.7)	(1.2)
Nebraska	507	14.4	169	133	(4.5)	(0.1)
Nevada	4,807	39.3	927	380	(4.8)	(0.0)
New Hampshire	1,948	(0.7)	920	529	(2.5)	(1.1)
New Jersey	776	(13.8)	324	191	(0.9)	(0.0)
New Mexico	6,751	22.8	1,759	594	(14.4)	(0.1)
New York	7,472	10.4	3,323	1960	(20.9)	(1.1)
North Carolina	7,393	(20.4)	2,503	1866	(0.3)	(6.1)
North Dakota	293	2.4	86	88	(1.1)	(0.0)
Ohio	3,281	8.5	1,286	768	(13.9)	(0.7)
Oklahoma	3,102	37.2	825	465	(16.4)	(0.8)
Oregon	12,332	26.3	7,059	3465	(33.7)	(6.0)
Pennsylvania	6,708	(10.4)	2,879	1566	(15.5)	(1.7)
Rhode Island	146	(2.3)	67	34	(0.9)	(0.0)
South Carolina	5,158	36.7	1,542	1436	(19.8)	(4.6)
South Dakota	663	1.6	170	132	(0.3)	(0.1)
Tennessee	5,719	(27.6)	2,102	842	3.2	(2.1)
Texas	4,909	7.2	1,342	778	(7.3)	(5.3)
Utah	7,978	173.2	1,912	783	(20.3)	(0.1)
Vermont	1,822	(6.6)	850	495	6.7	(0.6)
Virginia	6,529	94.0	2,436	1360	(42.7)	(3.4)
Washington	8,951	15.6	6,035	2847	(16.9)	(6.0)
West Virginia	4,740	(28.5)	2,115	1034	(11.8)	(1.2)
Wisconsin	6,490	4.1	2,207	3363	(6.6)	(2.6)
Wyoming	4,632	29.7	1,701	501	(35.2)	(0.1)
<b>Total</b>	<b>251,558</b>	<b>903</b>	<b>93,145</b>	<b>56,697</b>	<b>(561)</b>	<b>(103)</b>

<sup>1</sup> soil carbon does not include effects of past land use history.

Net change reflects differences reported in the two most recent inventories per state.

**Appendix Table C-2 Carbon Stock Pools on Private Forestland  
by Region and Age-Class**

	Age Class	SOC <sup>1</sup>	Dead Plant Matter	Biomass	<i>Total</i>
Region	<i>Years</i>	<i>Tg CO<sub>2</sub> eq.</i>			
<b>North</b>		<b>16,317</b>	<b>5,301</b>	<b>15,222</b>	<b>36,839</b>
	<20	1,473	224	295	<b>1,992</b>
	20-40	2,402	548	1,408	<b>4,357</b>
	40-60	4,757	1,487	4,286	<b>10,529</b>
	60-80	4,881	1,849	5,651	<b>12,380</b>
	80-100	2,042	866	2,631	<b>5,539</b>
	100-150	683	298	879	<b>1,859</b>
	150-200	36	14	32	<b>81</b>
	200+	4	1	5	<b>10</b>
	Uneven	40	15	35	<b>91</b>
<b>South</b>		<b>15,072</b>	<b>3,729</b>	<b>17,270</b>	<b>36,071</b>
	<20	4,944	703	2,451	<b>8,098</b>
	20-40	3,164	756	3,339	<b>7,259</b>
	40-60	3,064	958	4,747	<b>8,769</b>
	60-80	1,924	664	3,564	<b>6,153</b>
	80-100	574	196	1,094	<b>1,865</b>
	100-150	189	60	333	<b>581</b>
	150-200	7	2	10	<b>18</b>
	200+	1,205	390	1,731	<b>3,327</b>
<b>Pacific Coast</b>		<b>3,309</b>	<b>2,091</b>	<b>4,361</b>	<b>9,762</b>
	<20	777	247	196	<b>1,220</b>
	20-40	612	293	734	<b>1,639</b>
	40-60	627	414	1,023	<b>2,063</b>
	60-80	556	422	915	<b>1,893</b>
	80-100	370	314	654	<b>1,338</b>
	100-150	224	221	473	<b>919</b>
	150-200	51	62	145	<b>257</b>
	200+	38	47	97	<b>181</b>
	Uneven	54	71	125	<b>251</b>
<b>Rocky Mountain</b>		<b>1,554</b>	<b>1,587</b>	<b>1,897</b>	<b>5,038</b>
	<20	357	295	136	<b>789</b>
	20-40	114	89	71	<b>274</b>
	40-60	120	111	124	<b>355</b>
	60-80	226	224	295	<b>745</b>
	80-100	268	298	417	<b>983</b>
	100-150	310	374	572	<b>1,257</b>
	150-200	94	118	173	<b>384</b>
	200+	64	77	110	<b>251</b>
<b>Total</b>		<b>36,252</b>	<b>12,708</b>	<b>38,750</b>	<b>87,710</b>

<sup>1</sup> (SOC) Soil organic carbon, soil carbon does not include effects of past land use history.

**Appendix Table C-3 Carbon Stock Pools on Public Forestland by Region and Age-Class**

Region	Age class <i>Years</i>	SOC <sup>1</sup>	Dead Plant Matter	Biomass	<i>Total</i>
		<i>Tg CO<sub>2</sub> eq.</i>			
<b>North</b>		<b>7,548</b>	<b>1,942</b>	<b>5,271</b>	<b>14,761</b>
	<20	740	72	102	915
	20-40	983	153	372	1,507
	40-60	1,711	379	1,022	3,111
	60-80	2,252	673	1,918	4,843
	80-100	1,222	442	1,282	2,946
	100-150	570	199	510	1,280
	150-200	52	18	44	114
	200+	8	3	8	19
	Uneven	9	4	13	26
<b>South</b>		<b>2,659</b>	<b>718</b>	<b>3,485</b>	<b>6,862</b>
	<20	373	41	144	558
	20-40	407	77	321	805
	40-60	632	170	812	1,614
	60-80	710	237	1,189	2,136
	80-100	277	96	522	895
	100-150	110	41	232	383
	150-200	6	2	7	15
	Uneven	145	54	256	455
<b>Pacific Coast</b>		<b>4,881</b>	<b>4,357</b>	<b>10,060</b>	<b>19,298</b>
	<20	575	252	146	973
	20-40	499	240	495	1,234
	40-60	412	267	621	1,300
	60-80	663	529	1,241	2,432
	80-100	632	571	1,309	2,512
	100-150	860	892	2,105	3,857
	150-200	405	488	1,194	2,087
	200+	807	1,083	2,872	4,761
	Uneven	29	37	77	142
<b>Rocky Mountain</b>		<b>5,357</b>	<b>6,397</b>	<b>9,457</b>	<b>21,212</b>
	<20	907	739	310	1,955
	20-40	263	220	173	655
	40-60	213	201	239	653
	60-80	574	622	991	2,188
	80-100	861	1,018	1,680	3,559
	100-150	1,447	1,994	3,352	6,792
	150-200	729	1,072	1,810	3,612
	200+	364	531	903	1,799
<b>Total</b>		<b>20,445</b>	<b>13,414</b>	<b>28,273</b>	<b>62,132</b>

<sup>1</sup> (SOC) Soil organic carbon, soil carbon does not include effects of past land use history.

**Appendix Table C-4 Carbon Stock Pools on Timberlands by Region and Stand Size Class**

	Stand Size Class	SOC <sup>1</sup>	Dead Plant Matter	Biomass	<i>Total</i>
Region			<i>Tg CO<sub>2</sub> eq.</i>		
<b>North</b>		<b>22,630</b>	<b>6,844</b>	<b>19,478</b>	<b>48,952</b>
	Nonstocked	269	16	10	<b>295</b>
	Seedling/ Sapling	4,629	781	999	<b>6,408</b>
	Poletimber	7,797	2,158	5,337	<b>15,293</b>
	Sawtimber	9,935	3,889	13,132	<b>26,955</b>
<b>South</b>		<b>17,233</b>	<b>4,320</b>	<b>20,099</b>	<b>41,652</b>
	Nonstocked	197	7	16	<b>221</b>
	Seedling/ Sapling	4,412	623	1,708	<b>6,743</b>
	Poletimber	4,886	1,187	5,310	<b>11,383</b>
	Sawtimber	7,737	2,503	13,064	<b>23,305</b>
<b>Pacific Coast</b>		<b>6,546</b>	<b>4,819</b>	<b>11,123</b>	<b>22,489</b>
	Nonstocked	240	94	34	<b>368</b>
	Seedling/ Sapling	1,002	380	293	<b>1,675</b>
	Poletimber	756	377	777	<b>1,910</b>
	Sawtimber	4,548	3,968	10,019	<b>18,535</b>
<b>Rocky Mountain</b>		<b>3,661</b>	<b>4,450</b>	<b>7,186</b>	<b>15,297</b>
	Nonstocked	201	155	50	<b>406</b>
	Seedling/ Sapling	544	452	315	<b>1,312</b>
	Poletimber	711	729	1,180	<b>2,620</b>
	Sawtimber	2,205	3,114	5,642	<b>10,960</b>
<b>Total</b>		<b>50,070</b>	<b>20,433</b>	<b>57,886</b>	<b>128,390</b>

<sup>1</sup> (SOC) Soil organic carbon, soil carbon does not include effects of past land use history.

**Appendix Table C-5 Carbon Stocks<sup>1</sup> on all Forestland by Forest Type Group and Ownership**

Forest Type Group	Private	Public	Reserve/Other
	<i>Tg CO<sub>2</sub> eq.</i>		
<b>East</b>	<b>41,194</b>	<b>9,547</b>	<b>2,196</b>
Aspen/Birch	1,020	644	95
Elm/Ash/Cottonwood	2,125	449	96
Loblolly/Shortleaf Pine	4,819	729	42
Longleaf/Slash Pine	821	262	13
Maple/Beech/Birch	7,705	1,965	658
Oak/Gum/Cypress	2,912	595	119
Oak/Hickory	15,787	2,918	730
Oak/Pine	3,162	643	103
Spruce/Fir	1,341	671	168
White/Red/Jack Pine	1,131	497	131
Other East Type Groups	372	174	41
<b>West</b>	<b>7,887</b>	<b>19,692</b>	<b>12,629</b>
Alder/Maple	451	195	15
Aspen/Birch	238	794	170
California Mixed Conifer	620	1,637	603
Douglas-fir	2,668	6,443	1,159
Fir/Spruce/Mt. Hemlock	607	4,712	2,498
Hemlock/Sitka Spruce	539	1,093	506
Lodgepole Pine	186	1,422	728
Other Western Hardwoods	120	78	293
Other Western Softwoods	30	271	305
Pinyon/Juniper	7	45	3,884
Ponderosa Pine	966	1,830	206
Redwood	208	13	108
Tanoak/Laurel	422	221	109
Western Larch	49	264	38
Western Oak	545	391	1,418
Western White Pine	1	23	45
Other West Type Groups	229	258	543
<b>Total</b>	<b>49,080</b>	<b>29,239</b>	<b>14,826</b>

<sup>1</sup> Excluding soils.

**Appendix Table C-6 Net Annual Carbon Stock Change<sup>1</sup>  
on all Forestland by Forest Type Group and Ownership**

Forest Type Group	Private	Public	Reserve/Other
	<i>Tg CO<sub>2</sub> eq. yr<sup>-1</sup></i>		
<b>East</b>	<b>(193.2)</b>	<b>(190.0)</b>	<b>(24.8)</b>
Aspen/Birch	15.7	0.5	1.9
Elm/Ash/Cottonwood	(16.0)	(17.5)	(1.1)
Loblolly/Shortleaf Pine	(58.5)	(10.8)	0.2
Longleaf/Slash Pine	(3.4)	(9.0)	(0.5)
Maple/Beech/Birch	(52.5)	(34.7)	13.0
Oak/Gum/Cypress	52.5	(20.3)	(7.5)
Oak/Hickory	(172.3)	(65.7)	(21.0)
Oak/Pine	26.9	(13.6)	(8.1)
Spruce/Fir	22.1	(1.5)	3.9
White/Red/Jack Pine	11.9	(12.8)	(7.7)
Other East Type Groups	(19.7)	(4.6)	2.2
<b>West</b>	<b>(56.6)</b>	<b>(190.3)</b>	<b>(96.4)</b>
Alder/Maple	-	-	-
Aspen/Birch	-	-	-
California Mixed Conifer	(62.1)	(124.0)	(33.4)
Douglas-fir	(7.5)	(46.0)	(0.9)
Fir/Spruce/Mt. Hemlock	(0.3)	(2.3)	14.3
Hemlock/Sitka Spruce	6.5	8.2	(17.8)
Lodgepole Pine	2.0	13.7	3.5
Other Western Hardwoods	-	-	-
Other Western Softwoods	(0.3)	(2.4)	(7.4)
Pinyon/Juniper	(0.8)	(2.3)	(51.6)
Ponderosa Pine	0.0	(26.0)	5.1
Redwood	5.3	2.2	(10.6)
Tanoak/Laurel	-	-	-
Western Larch	0.5	(11.0)	(1.3)
Western Oak	-	-	-
Western White Pine	(0.0)	(0.6)	3.6
Other West Type Groups	-	-	-
<b>Total<sup>2</sup></b>	<b>(249.8)</b>	<b>(380.3)</b>	<b>(121.2)</b>

<sup>1</sup> Excluding soils.

<sup>2</sup> Includes carbon storage in urban trees.

- Indicates no data available.