

Consistent Standard Estimates of Carbon in Forest Ecosystems and Harvested Wood for the U.S. Voluntary Greenhouse Gas Reporting Program

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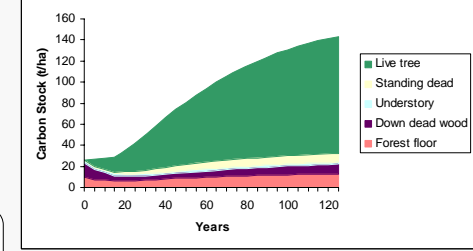
Summary We present a methodology for consistent standard forest carbon estimates adopted by the U.S. Voluntary Greenhouse Gas Reporting Program, also referred to as 1605(b). The estimates and methods also follow guidelines for reporting forest carbon as developed by the Intergovernmental Panel on Climate Change. Look-up tables for carbon in forests and harvested wood are based on linked empirical models and forest statistics. Data sources and level of detail are likely to vary among users. The methods presented were developed to produce consistent estimates across scale or source of data.

Carbon in Forests Tabular summaries are based on individual models for the separate carbon pools, each developed from inventory data. Thus, users can pick and choose portions according to their particular data needs. Tables, representing average stand-level merchantable volume and carbon pools according to stand age, were developed for 51 forest types within 10 regions of the United States.

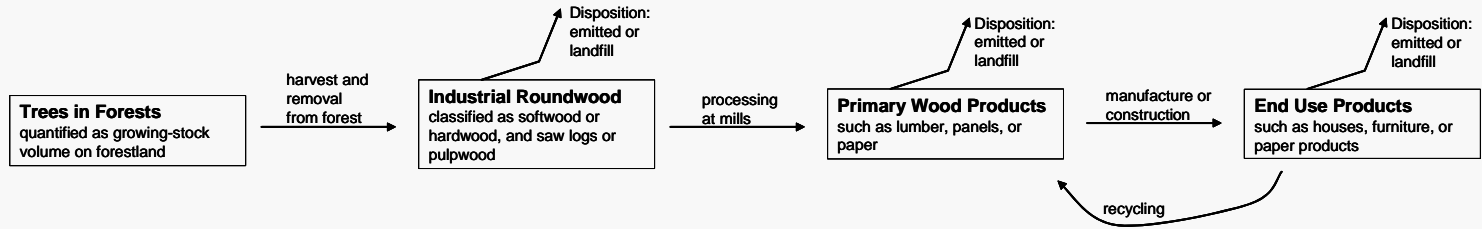
A7.— Regional estimates of timber volume and carbon stocks for aspen-birch stands on forest land after clearcut harvest in the Northern Lake States

Age years	Mean volume m ³ /hectare	Mean carbon density tonnes carbon/hectare						Total nonsoil
		Live tree	Standing dead tree	Under- story	Down dead wood	Forest floor	Soil organic	
0	0.0	0.0	0.0	2.0	13.4	10.2	146.1	25.6
5	0.0	7.3	0.5	2.1	9.5	7.5	146.1	26.8
15	2.9	13.9	1.4	2.1	5.0	6.0	146.1	28.4
25	21.5	26.8	2.7	2.1	3.9	6.5	146.1	42.0
35	47.2	40.8	4.1	2.0	4.0	7.5	146.1	58.4
45	72.8	53.5	5.3	2.0	4.6	8.5	146.1	74.0
55	97.1	64.9	6.1	2.0	5.4	9.3	146.1	87.7
65	119.5	75.0	6.7	2.0	6.1	10.1	146.1	99.8
75	139.7	83.8	7.1	2.0	6.8	10.7	146.1	110.4
85	157.5	91.5	7.4	2.0	7.4	11.3	146.1	120.4
95	173.0	98.0	7.9	2.0	7.9	11.8	146.1	130.4
105	186.0	103.4	8.4	2.0	8.4	12.2	146.1	140.4
115	196.4	107.7	8.7	2.0	8.7	12.5	146.1	150.4
125	204.3	110.9	9.0	2.0	9.0	12.9	146.1	160.4

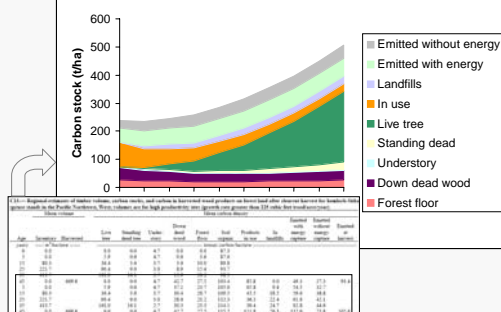
Example of forest ecosystem carbon yields for aspen-birch stands in Northern Lake States



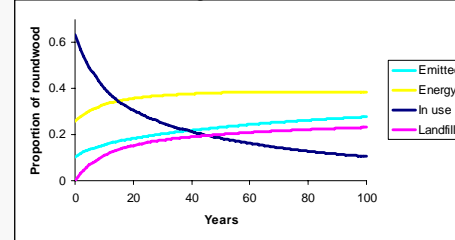
Carbon in Harvested Wood A portion of the carbon in wood harvested from forest ecosystems remains sequestered; the length of time depends on both the initial—or primary—wood products and the end-use of those products. The fate of this carbon, over time, is allocated to products in use, landfills, emitted to the atmosphere with concomitant energy capture, or emitted without energy capture.



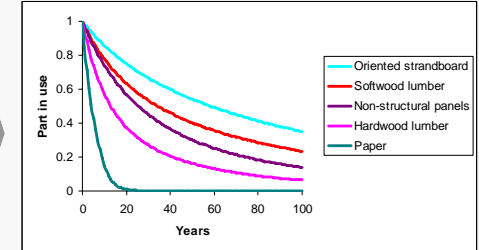
Fate of wood in growing-stock volume after classification of harvested logs, processing into primary wood products, and allocation to end uses for hemlock-Sitka spruce in the Pacific Northwest



Fate of industrial roundwood after processing to primary wood products and allocation to end uses for softwood saw logs in the Southeast



Examples of longevity of primary wood products based on allocation to end uses



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