



Oregon Forest Ecosystem Carbon Report

*Prepared by USFS Forest Inventory and Analysis
For the 2016 Inventory Period*

*Oregon Board of Forestry
September 4, 2019 Meeting*



Forest Carbon Stocks

Oregon Forest Carbon Stocks by Forest Pools,
2007-2016

Forest Carbon Pools	Total Carbon	SE
	million metric tons	
Live Trees	1,039.0	9.6
Standing Dead	79.0	1.6
Understory Veg	34.0	2.1
Down Woody Debris	156.8	1.9
Forest Floor	117.19	0.55
Roots	238.0	2.2
Soil Organic C	1,575.27	7.55
All Pools	3,239.7	16.7

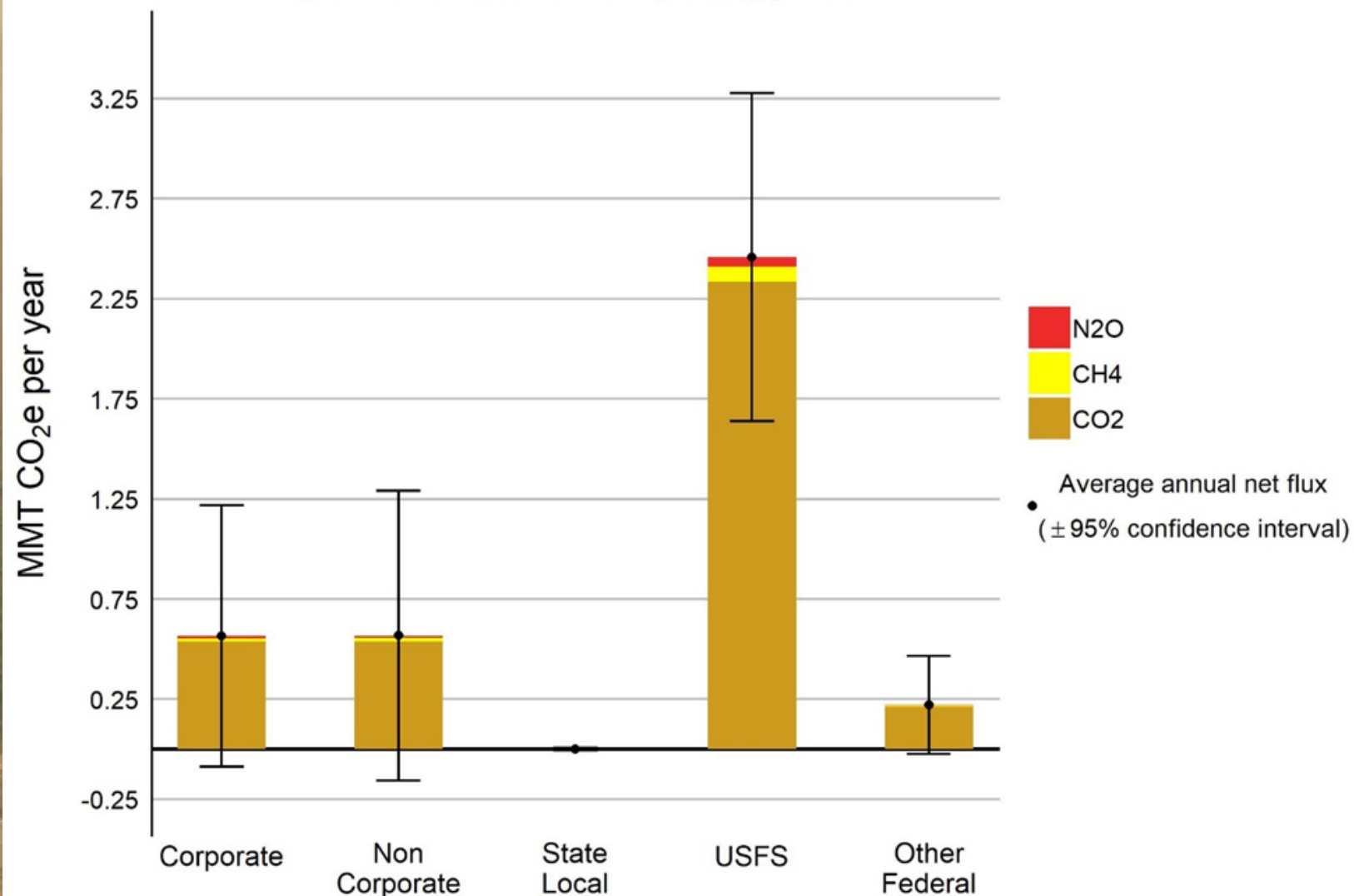


Forest Carbon Flux

Annual Net CO₂e Flux From Forest Pools in Forest Land Remaining Forest Land, 2001-2006 to 2011-2016

Forest Carbon Pools	Net flux	
	Total	SE
	<i>Million Metric Tons CO₂ equivalent/yr</i>	
Live Trees	31.73	2.90
Standing Dead	-0.018	0.68
Understory Veg	-0.21	0.04
Down Woody Debris	-6.82	0.82
Forest Floor	0.56	0.13
Roots	5.98	0.69
Soil Organic C	-0.17	0.29
Net flux All Pools	30.91	3.77

Annual net emissions of greenhouse gases from fire
by owner for the 2016 reporting period

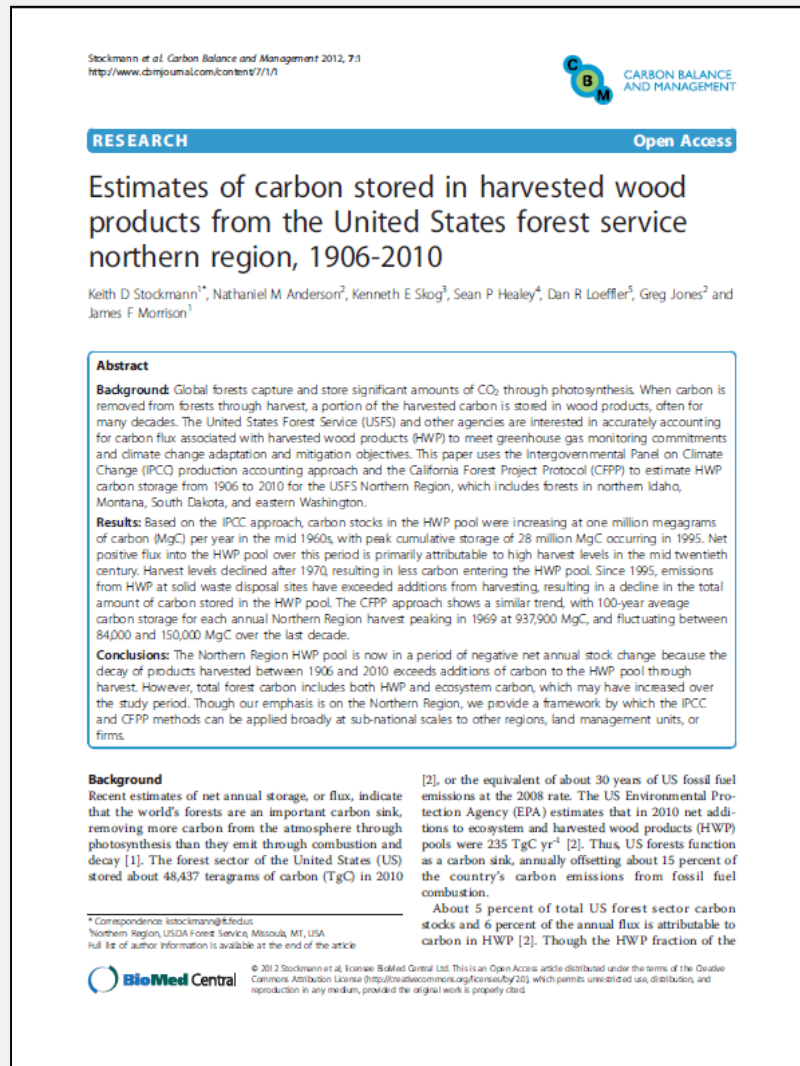


Harvested Wood Product Carbon Storage for Oregon 1962 - 2017



**BUREAU OF BUSINESS AND
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Harvested Wood Product Modeling Framework



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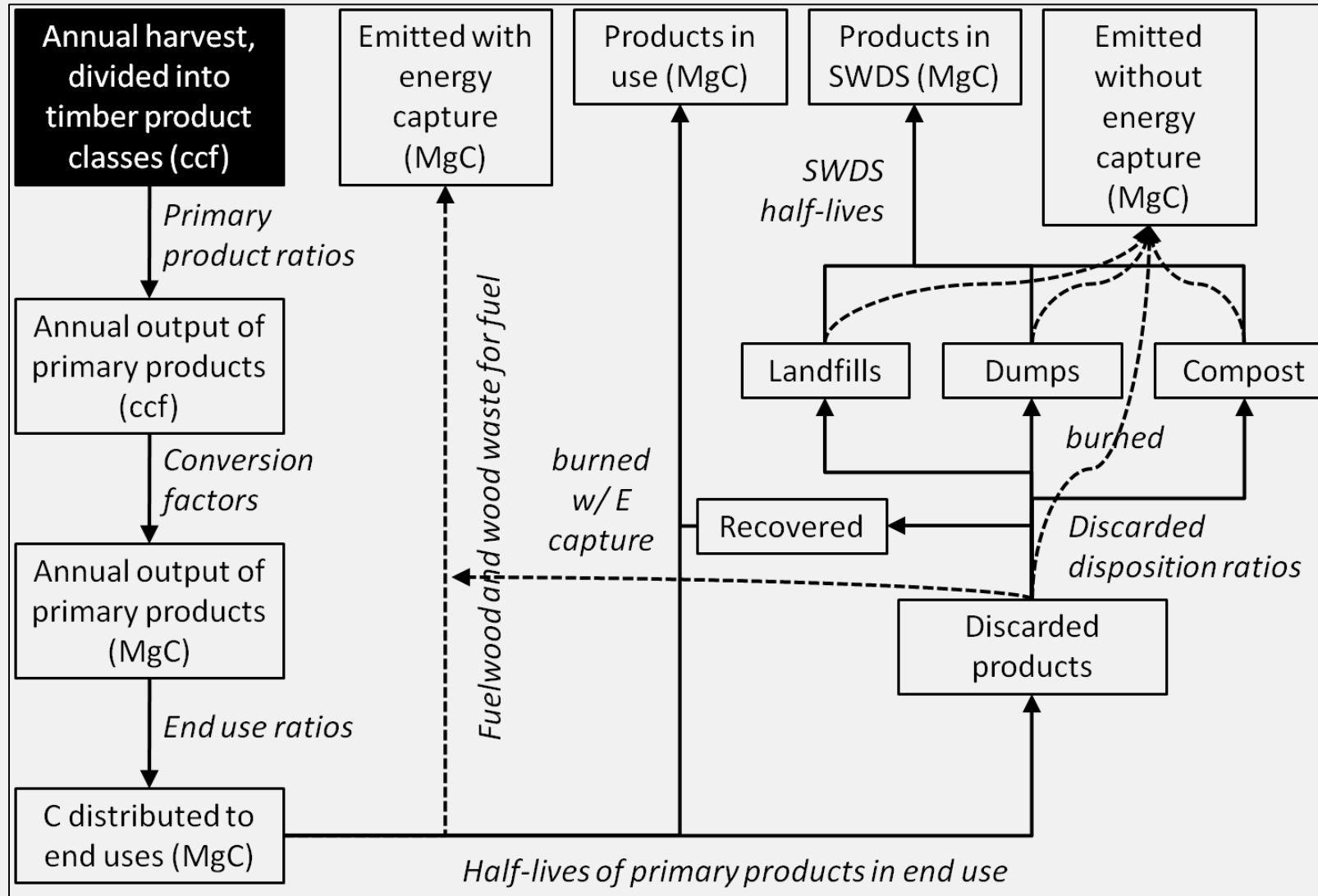
Jesse Young

Edward Butler

The HWP framework

- Harvested timber
 - Board feet to cubic foot volume
- Timber products
 - sawtimber, poles, small roundwood, etc.
- Primary products
 - lumber, plywood, mill residue pulp, fuel, and non-structural panel, etc.
- End uses
 - New residential construction (single, multi family, mobile homes), new non-residential construction, manufacturing (household furniture, other furniture, other products), shipping, other uses

The HWP framework



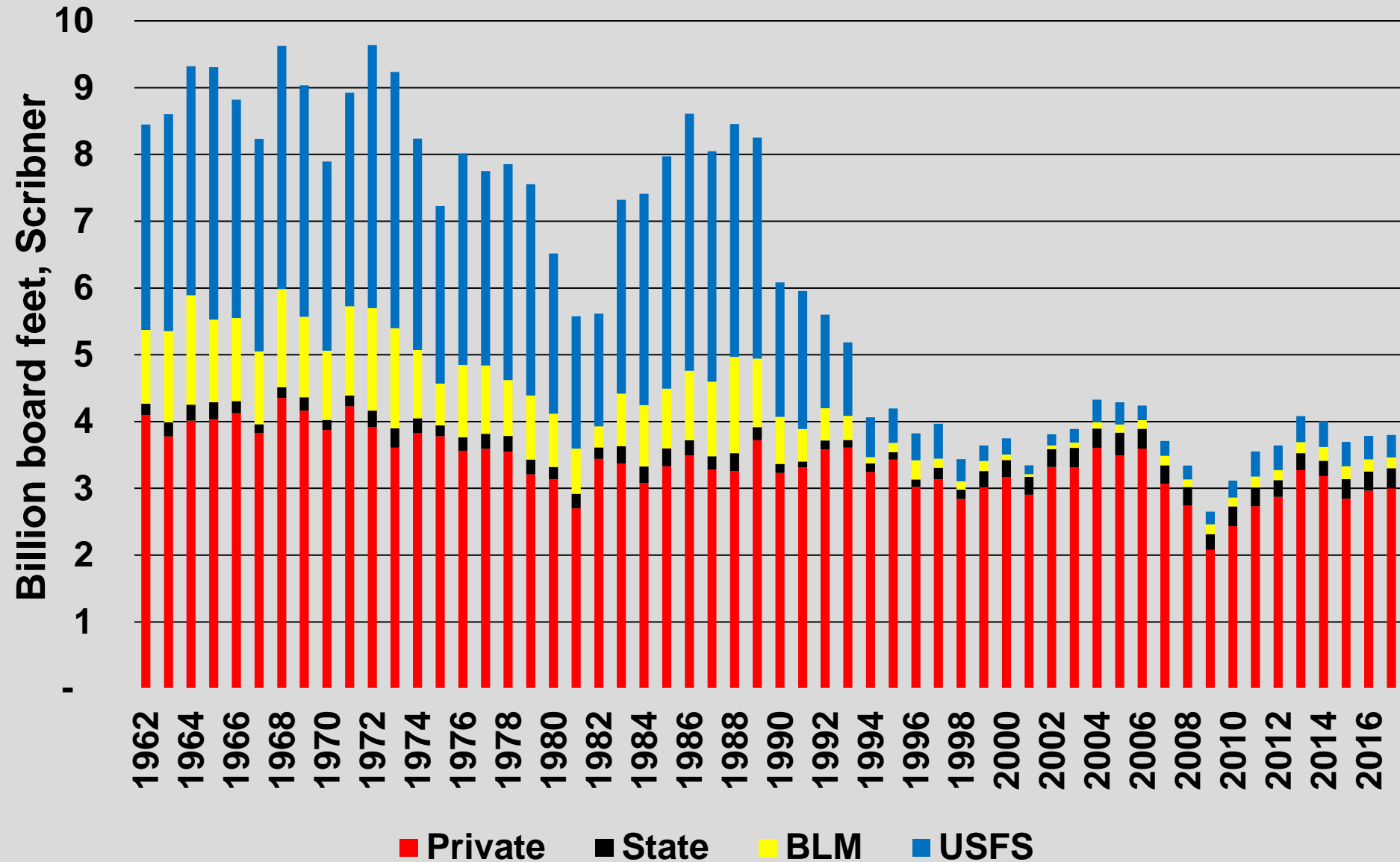
SWDS = Solid Waste Disposal Sites

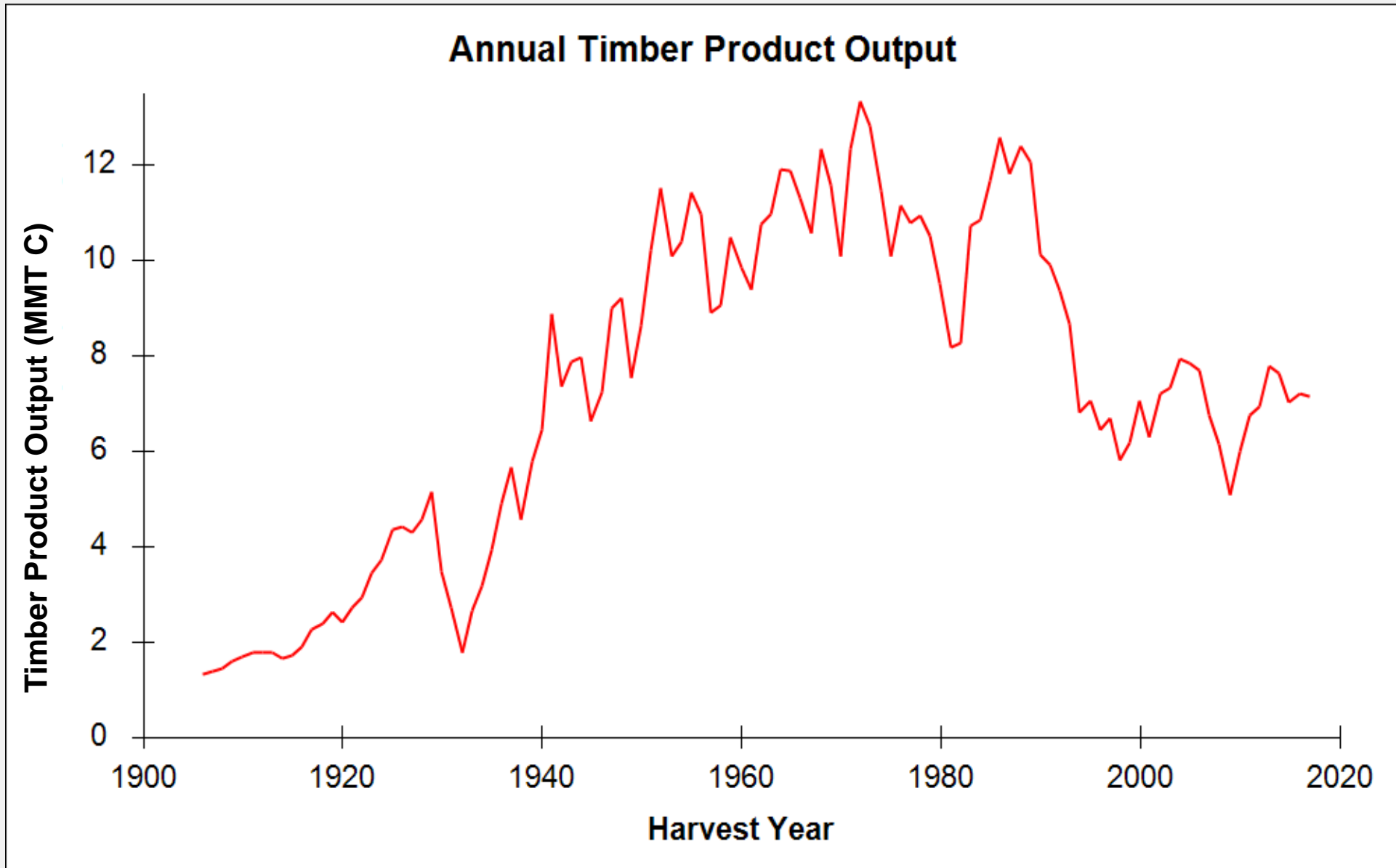
ccf = 100 cubic feet

MgC = Megagram of Carbon = metric ton

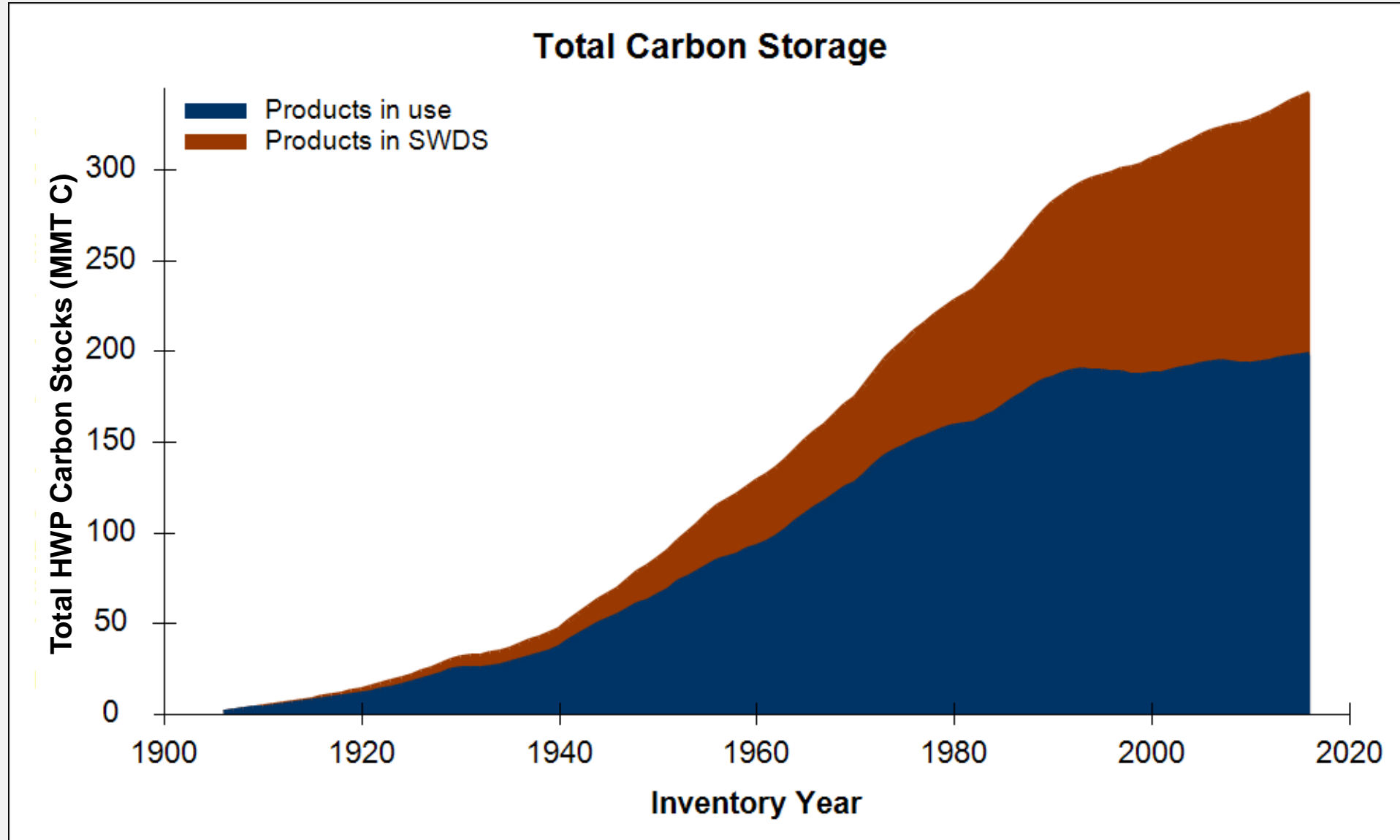
From Stockmann et al. 2012, Carbon Balance and Management 7:1.

Yearly harvest data

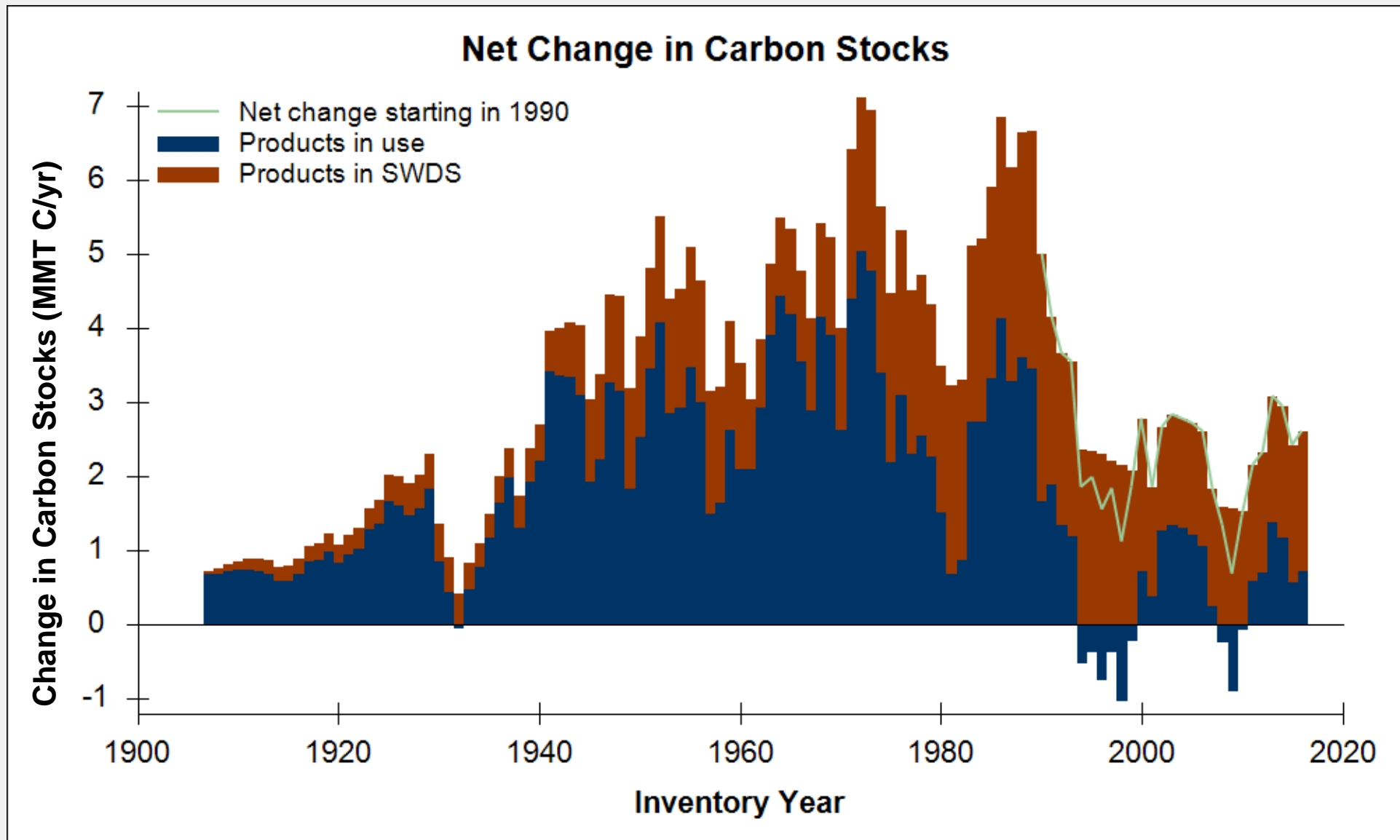




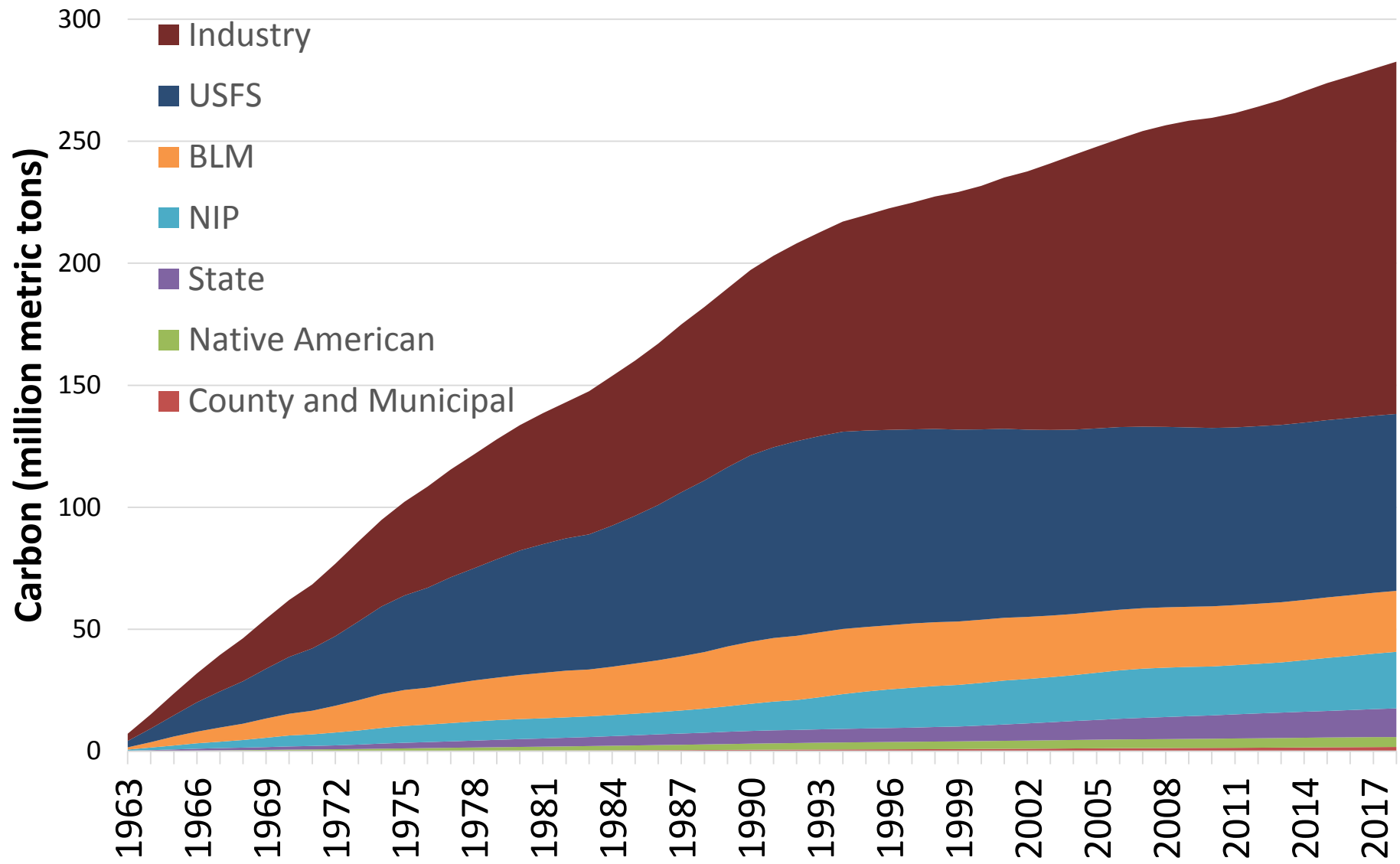
Annual timber product output in Oregon, converted to Million Metric Tons of Carbon, 1906 to 2017.



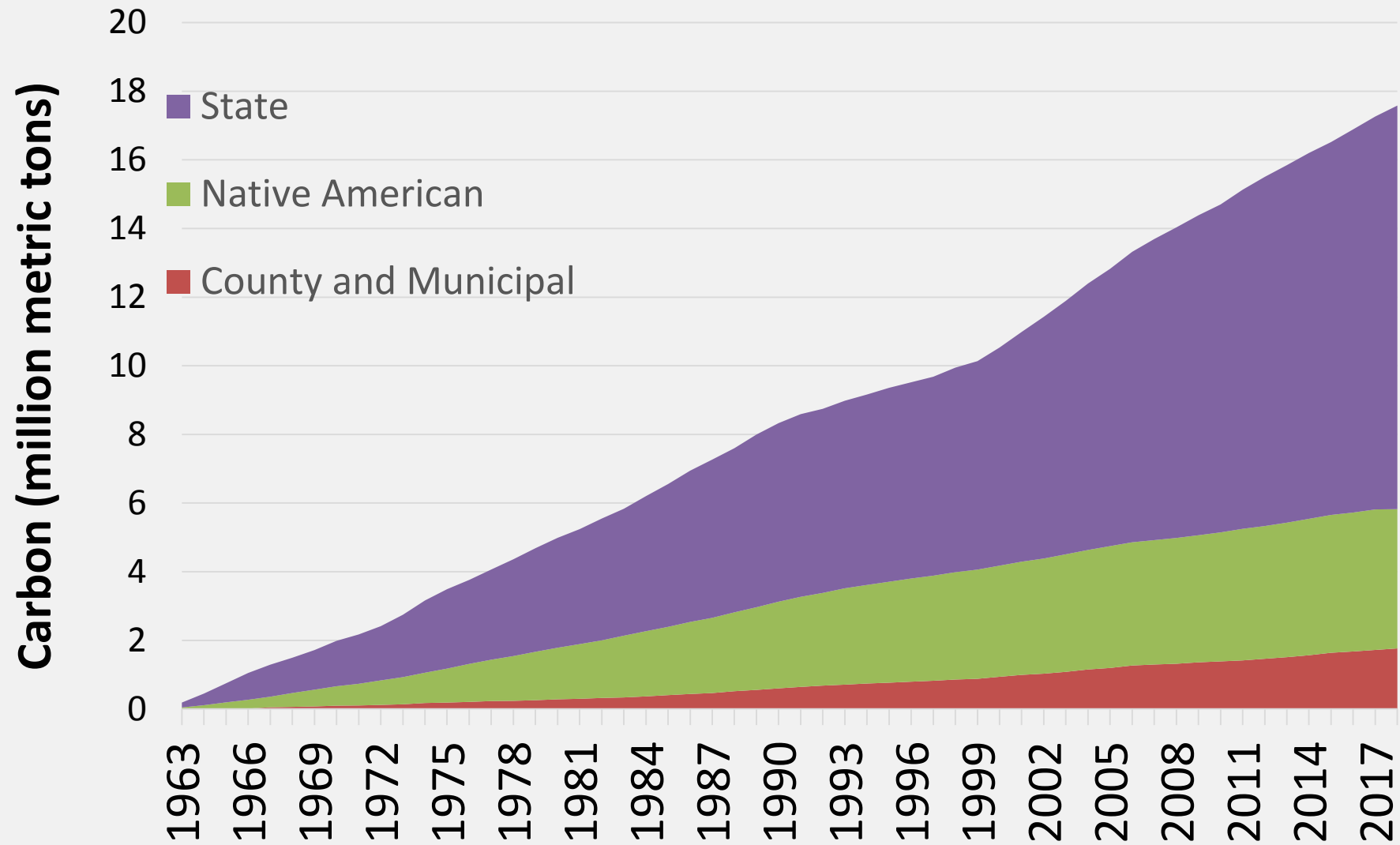
Cumulative total carbon stored in HWP manufactured from timber harvested from Oregon forests 1906 to 2017. Carbon in HWP includes both products that are still in use and carbon stored at solid waste disposal sites.



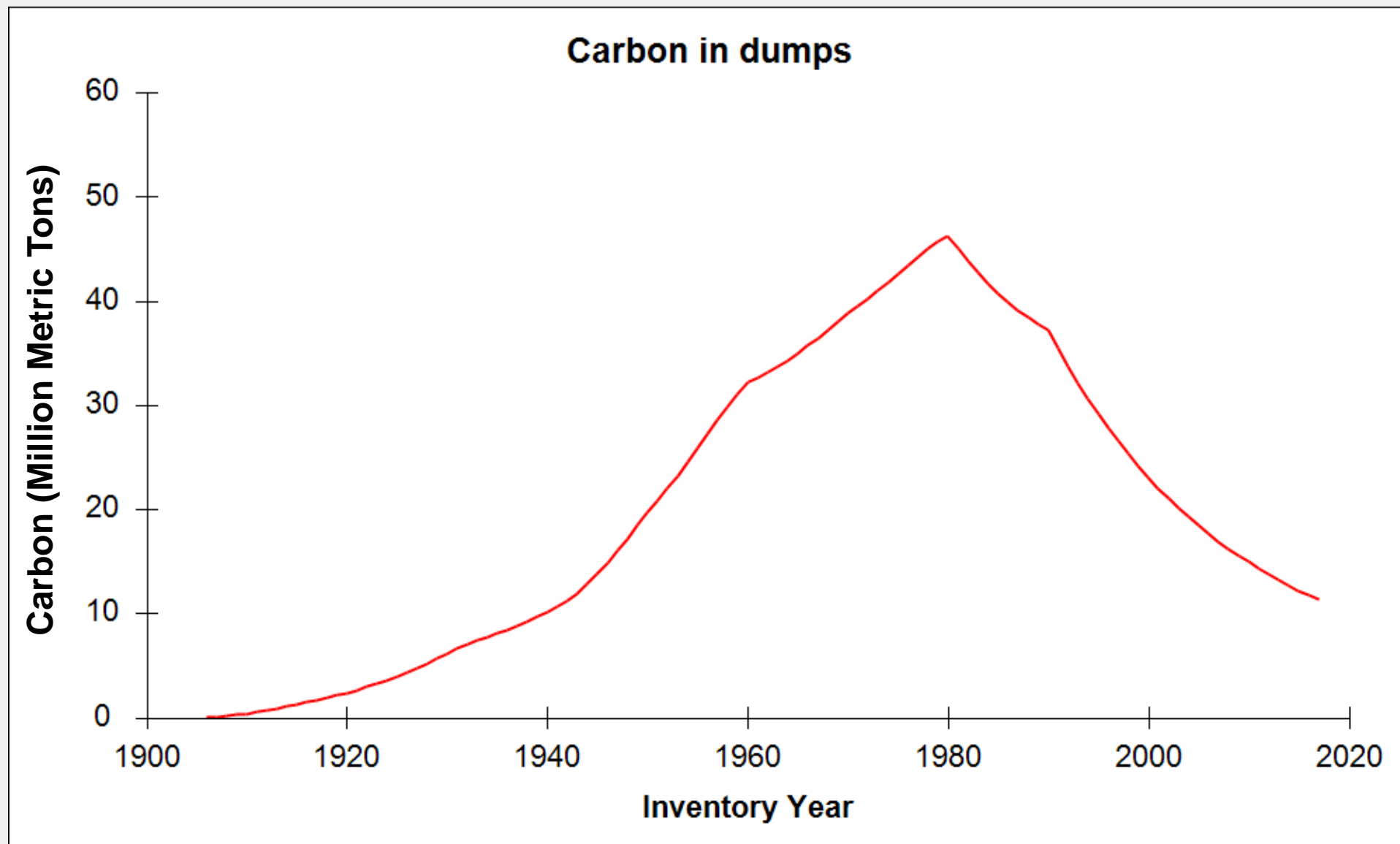
The net change in Oregon timber carbon stocks in HWP from the previous year. The net stock change is the sum of net change for SWDS (red bar) and products in use (blue bar).

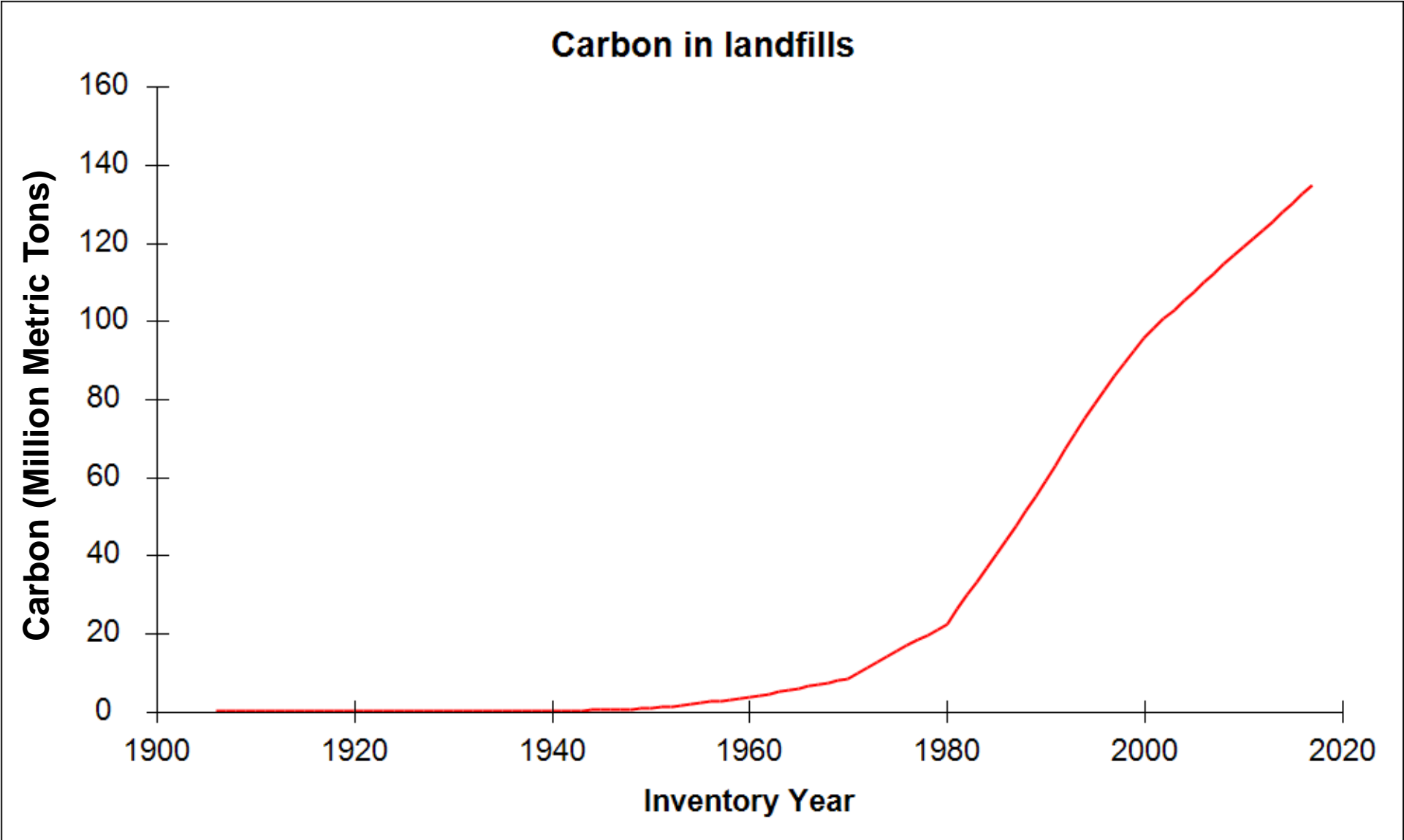


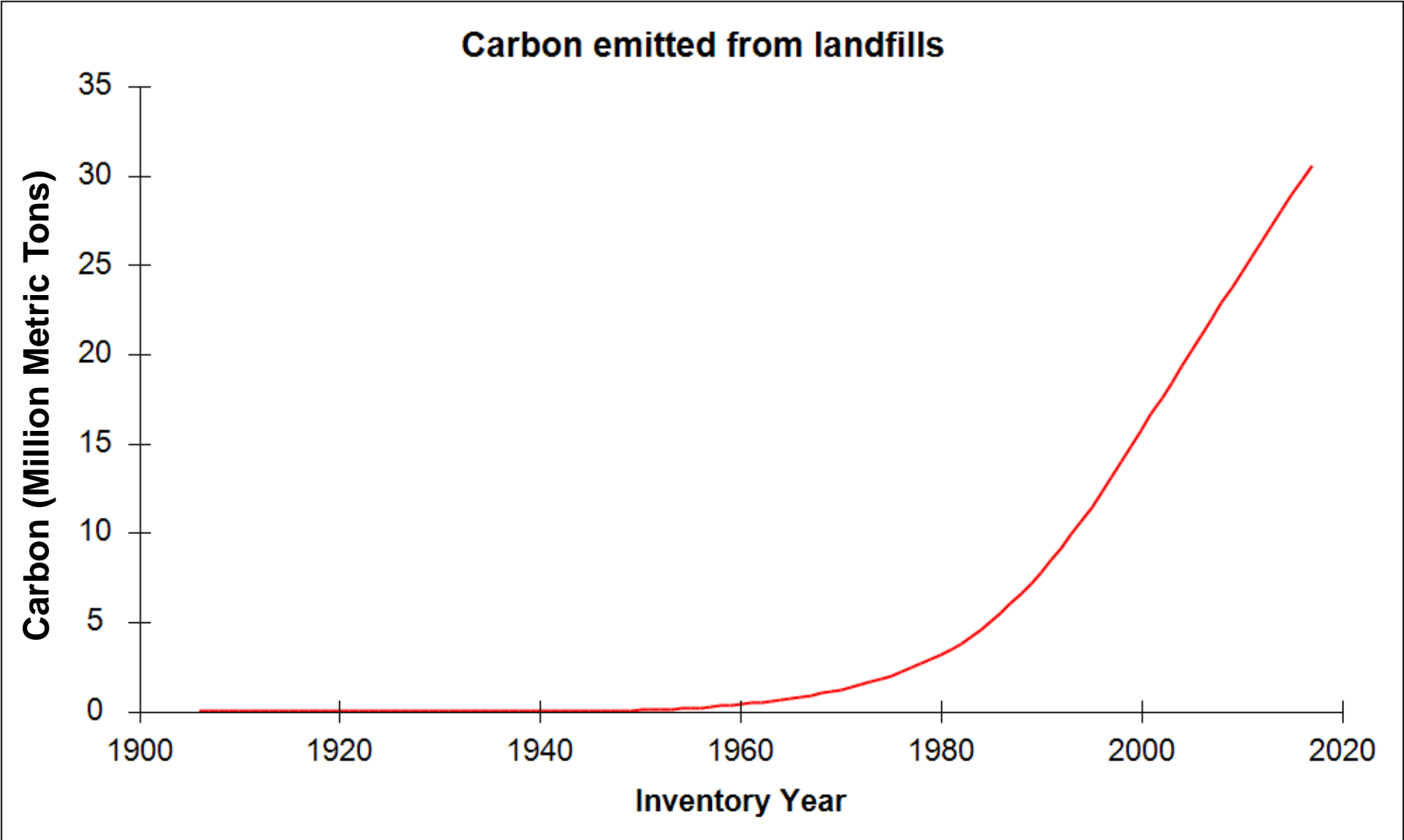
All ownership HWP C disposition of products in use and in SWDS



State, Tribal, County and Municipal ownership HWP C disposition of products in use and in SWDS







Oregon Harvested Wood Product Carbon Report

- Currently working to integrate Oregon harvest data prior to 1962.
- Analysis on schedule and draft report expected to be completed by the end of October 2019 and final report by June 2020.