Timber Resources in Northeast Michigan

Summary

This factsheet provides a brief overview of timber resources on timberlands in the vicinity of Kinross, Michigan. It highlights the standing timber in the forests, how much is grown, and what percentage of the growth is removed annually. It, thus, provides useful baseline information for the establishment of any new forest products industry in this region of Michigan.

Study Region

The study region includes lands within a 150-mile radius of Kinross, Michigan. The region contains part or all of 8 counties in the Upper Peninsula (UP) and 21 counties in the Northern Lower Peninsula (NLP) (Fig 1).

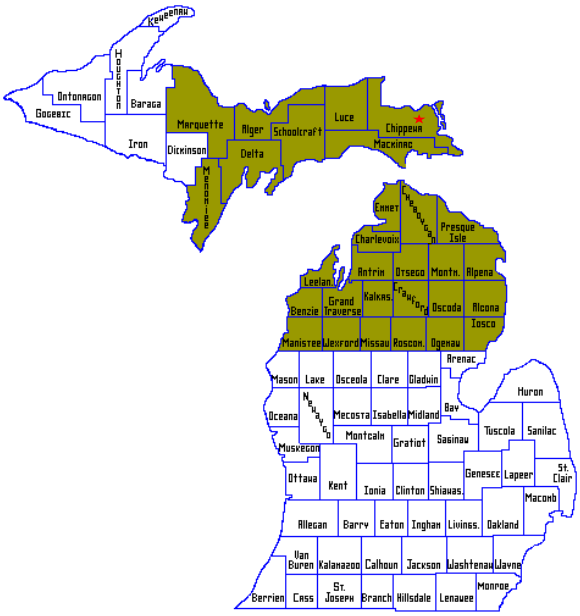

Fig1. Kinross Study Area

Timberland Area in Kinross Region

- Michigan has 19.2 million acres of timberland (forested land capable of producing more than 20 ft^3 per acre of wood resource per year). The study region includes 40% of the timberland in the state.
- Total timberland area within 150 miles of Kinross is 8.3 million acres (3.9 million acres in the UP and 4.3 million acres in the NLP). The UP has 48% of the timberland in the study region, and 52% is in the NLP.

Timber Volume

- There are 11.4 billion cubic feet of growing stock volume (274 million green tons or 155 million dry tons of wood and bark) in the study region. Growing stock volume is net volume in cubic feet of growing-stock trees 5.0 inches DBH and over, from 1 foot above the ground to a minimum 4.0-inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs.
- Hardwoods make up 57% of the volume in the study area and softwoods comprise 43%.
- Almost half of the total growing stock volume in the study region is made up of four species—sugar maple, northern white cedar, red maple, and red pine, each with at least 10% of the total growing stock volume.
- The region contains considerable timber volumes in sawtimber-size trees. Overall, there are 32.1 billion board feet (5.3 billion cubic feet) of volume in the sawlog portions of growing

Source: L.A. Leefers, and J.M. Vasievich. 2010. Timber Resources and Factors Affecting Timber Availability and Sustainability for Kinross, Michigan. Feedstock Supply Chain Center of Energy Excellence.
Summarized by: B. Kuipers, K. Potter-Witter, and S.GC.
Michigan State University.

stock trees or almost half of the total growing stock volume. This volume is evenly balanced between hardwoods and softwoods. Only about 26% of the sawtimber-size trees are high quality, tree grades 1 and 2.

Growth and Removals

- Net annual growth (total growth less mortality) in the study region is 279 million cubic feet (6.7 million green tons or 3.8 million oven-dry tons) per year.
- Annual removals of all species of growing stock timber in the study region is about 144 million cubic feet (3.6 million green tons or 2.0 million dry tons) which is approximately 60% of the net annual growth. Average annual harvest volumes were 62.0% on private timberlands, 31.3% on state/local timberlands, and 6.7% on federal timberlands.
- The harvesting pressure in the region as measured by the ratio of net annual growth to removals (net annual growth/annual removals) is 1.9. This indicates that annual growth is almost twice as much as annual removals for all species on all ownerships.
- Overall growth exceeds removals for the study region by 136 million cubic feet per year or 3.1 million green tons.
- The net annual growth is 2.5% and annual removals are 1.3% of total growing stock inventory on timberland.

Woody Biomass in the Study Region

- The aboveground component of trees is known as woody biomass. There is 300 million dry tons of woody biomass in the study region. It includes limbs and tops, stumps, saplings, growing stock and non-growing stock trees (culls, rough and rotten). Of this, tops and limbs account for 50 million dry tons, boles yield 200 million dry tons, stumps total 12 million dry tons, and saplings make up the remaining 38 million dry tons. Boles are the main source of biomass representing 66% of the total dry biomass for hardwoods and 69% for softwoods.
- Approximately 50 million dry tons of biomass in the study region are in boles of poor quality (cull) trees or non-commercial species.

Table1. Total inventory, growth and removals of growing stock trees in Kinross, Michigan.

	Growing stock volume (Million cuft)	Net annual growth of growing stock (Million cuft)	Annual removals of growing stock (Million cuft)	Growth to removals ratio (G/R)	Growth in excess of removals (Million cuft)
Hardwood	6,552.9	154.4	89.7	1.7	64.7
Softwood	4,807.9	124.8	53.9	2.3	70.9
All Species	11,360.7	279.2	143.6	1.9	135.6

Source: L.A. Leefers, and J.M. Vasievich. 2010. Timber Resources and Factors Affecting Timber Availability and Sustainability for Kinross, Michigan. Feedstock Supply Chain Center of Energy Excellence.
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