



Factors Affecting Timber Availability and Sustainability for Kinross Michigan

Summary

Many factors affect the availability of timber for harvest and the sustainable management of forests. Historical timber production and sales trends, stumpage prices, forest industry trends, forest ownership and other factors influence the area and volume of timber harvested. This factsheet briefly discusses the factors influencing timber availability in the area of Kinross, Michigan.

Study Region

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

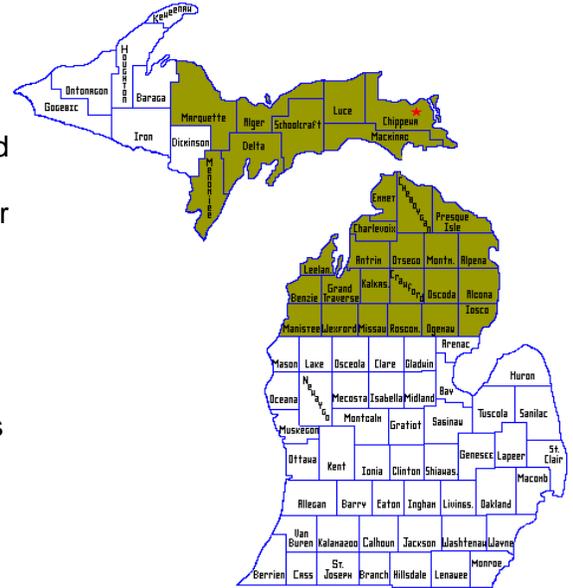


Fig1. Kinross Study Area

Historical pulpwood production and sales in the Kinross Michigan supply area

- Pulpwood production in the 29-county Kinross supply area averaged 1.4 million cords (2.9 million green tons) per year over the period of 2003 to 2007. Approximately 80% of this volume was hardwood. The region’s overall pulpwood production trend has been downward, mirroring the state-level trend (Fig 2 and 3). Pulpwood production is expected to increase as the market rebounds and/or expands with new energy facilities.

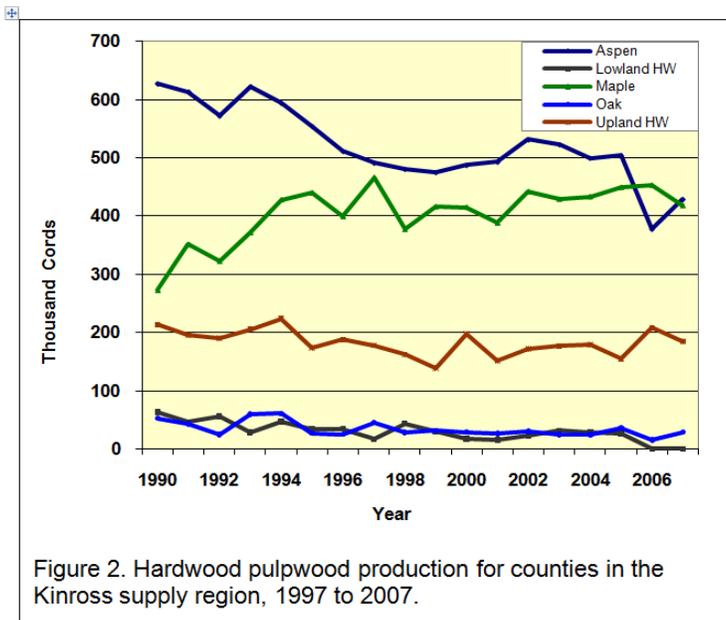


Figure 2. Hardwood pulpwood production for counties in the Kinross supply region, 1997 to 2007.

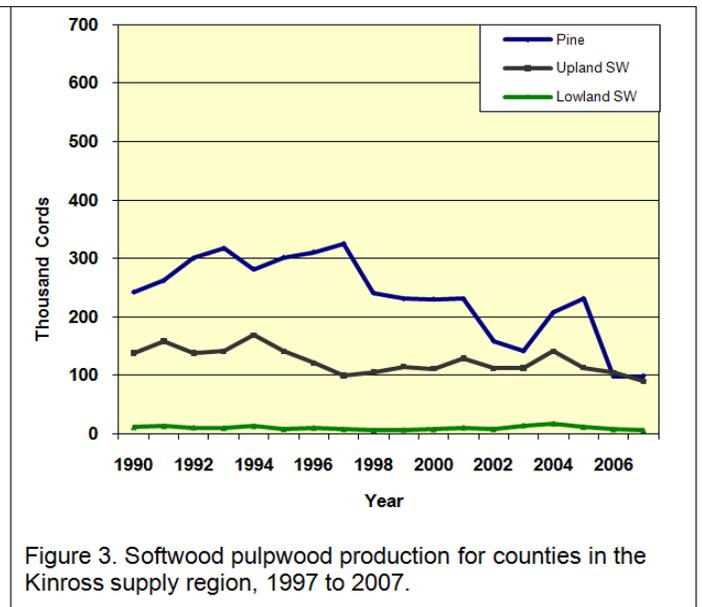


Figure 3. Softwood pulpwood production for counties in the Kinross supply region, 1997 to 2007.



Stumpage price and public timber sale trends in the Kinross supply region

- Nominal prices for pulpwood from State forests have generally shown a modest rising trend over several decades. Recent patterns show an increase until 2005 for most species followed by declining prices through 2009 (Fig 4 and 5).

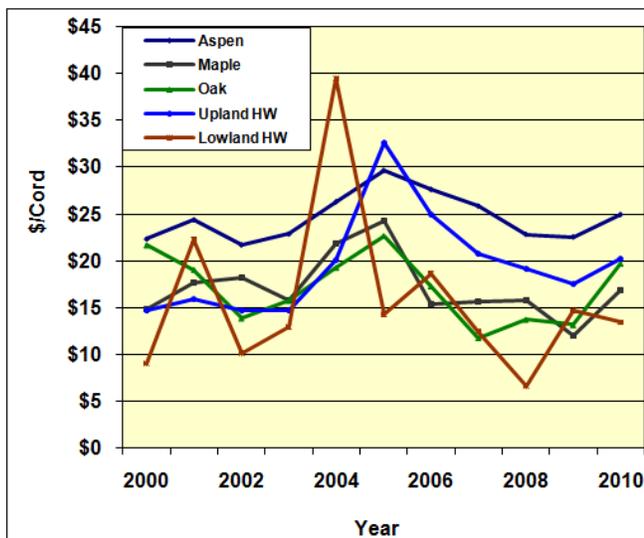


Figure 4. Hardwood pulpwood price per cord sold from Michigan Department of Natural Resources and Environment's Forest Management Units within the Kinross supply region, 2000 to 2010 (2010 prices are for January-May).

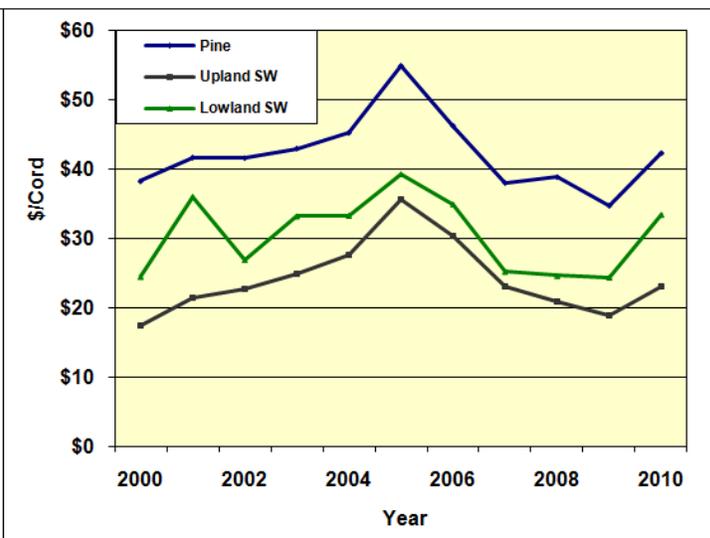


Figure 5. Softwood pulpwood price per cord sold from Michigan Department of Natural Resources and Environment's Forest Management Units within the Kinross supply region, 2000 to 2010 (2010 prices are for January-May).

- Federal stumpage prices have been somewhat lower than those for the state forests but the trends have been the same.

Selected Forest Industry Trends in Northern Michigan

- One significant trend in the northern Michigan has been the sale of forest industry lands to various types of investors. It is, however, unlikely for such sales to have a significant impact on timber supplies in the short run as many of these lands continue to be managed for timber production and are enrolled in the Commercial Forest Program.
- Recent closures of primary wood-using mills in Michigan have had major impacts on logging and other forestry sectors. Fourteen large mills have closed in and near the Kinross supply region since 2000 (Table 1). Overall, these closures have negative economic impacts.



- Mill closures also open opportunities for new firms. Several new facilities related to wood-based energy are planned or underway in northeast Michigan (Table 2). These new facilities, particularly pellet mills and wood-based electric power plants, are likely to increase demand for low quality roundwood and logging residues in the future.

Table1. Mill closures in and near the Kinross supply region, 2000-2010.

Mill	Location	Type	Year	Capacity/Wood Use
Fletcher Paper	Alpena	Pulp and Paper	2000	Not known
Connor Forest Industries	Baraga	Wood Products	2001	Not known
Steiger Lumber	Bessemer	Sawmill	2001	Not known
Pine River Lumber Limited	Kenton	Hardwood Sawmill	2001	Not known
Visy Paper	Menominee	Linerboard and Paper	2001	Not known
Connor Forest Industries	Wakefield	Wood Products	2001	Not known
Superior Milling Limited	Watersmeet	Lumber	2001	Not known
Rock-Tenn Co.	Otsego	Coated Recycled	2004	annual capacity of 106,000 tons
Menasha Packaging Co., LLC	Otsego	Pulp	2005	660 tons/day est. 200-250,000 cords/year)
Georgia-Pacific	Gaylord	Particle Board	2006	229 MMBF $\frac{3}{4}$ basis (740,000 gr. ton equivalent of rough pulpwood and chips)
GFP Strandwood Molding Corp.	Hancock	Molded Strandboard	2006	2 MMBF $\frac{3}{4}$ basis (1,800 cords/year)
St. Mary's Paper Mill	Sault Ste. Marie, Ontario, Canada	Pulp	2007	Not known
SAPPI Fine Paper North America	Muskegon	Pulp	2009	344 tons/day approx. 450,000 green tons pulpwood
Smurfit-Stone Container Corporation	Ontonagon	Corrugated Board	2009	approx. 300,000 rough green tons of pulpwood

Source: Michigan Forest Products Council, 2010.

Table 2. New or proposed wood using facilities in and near the Kinross supply region.

Facility	Location	Wood product/ use	Status
Frontier Renewable Resources, LLC	Kinross	Initial production of 20 million gallons of cellulosic ethanol with potential expansion to 40 MG at full capacity. Use 1 million green tons/year at full capacity.	Project underway
renewaFUEL, LLC	Marquette (K. I. Sawyer)	150,000 tons per year of biofuel cubes	Project underway



Verso Paper Corp.	Quinnesec	Electric power	Project announced. (direct fired power)
Eco Park, LLC	Gaylord	Electric power (initially)	Project announced
Traxys North America	White Pine	Electric power	Under Development – engineering work in progress
Traxys North America	Marquette (K. I. Sawyer)	Electric power	Under Development – engineering work in progress
Traxys North America	L'Anse	Electric power. 400 tons/day	Operational (converted in 2008)
Traxys North America	Escanaba	Electric power	Bid for purchase of power plant made
Mancelona Renewable Resources	Mancelona	Electric power, 36 mw	Air quality permit approved.
Cobalt Technologies and American Process Inc	Alpena	Initial production of ethanol in early 2012 with switch to biobutanol in April 2012 (470,000 gallons/year)	Project announced.

Ownership

- Timber production varies with ownership since the motivation for owning forestland varies among different ownership groups. In the Kinross area, private landowners (nonindustrial private, timber management organizations, real estate trusts, industrial forests and tribal lands) control more than half (52.2%) of all the timberland. State and local governments manage about one-third (33.6%), and federal lands comprise 14.2% of the timberland.

Private Forests

Private forests comprise 4.3 million acres of timberland in the study area. Of this, 618,000 acres is under the Commercial Forest Program. The main emphasis of these lands is timber management and hence, can be viewed as being available for timber harvesting. It is, however, difficult to predict timber availability from other lands such as nonindustrial private forests (NIPF) as these include diverse owners with varying forest management objectives. Taking into account the various factors reducing availability, Forest Service researchers estimated the biomass availability from this ownership group and found it to be approximately 38.1% of private lands.

State Forests

State forest lands comprise approximately 2.8 million acres in the study area. The availability of timber from these forests is influenced by social and economic factors (e.g. housing market activity, increased recreational demands, second home development, stakeholder interests etc.) as well as biological and physical factors (slope, soil wetness, stand age etc). The Michigan DNR has identified 39 limiting factors for harvesting on state forests.



For the state forests to be eligible for harvest, it should first meet a minimum silvicultural criterion (related to timber stocking, growth, site etc.). Then some of these may have limiting factors. Over the 2002-2006 periods, less than 1/4th (22.3%) of the lands evaluated met silvicultural criteria, and many of those acres had limiting factors related to harvesting (61.9%). The two major limiting factors (wetness and old growth) accounted for 22.8% of the total limiting factor area in the period. Some areas that meet silvicultural criteria may never be harvested (e.g., potential or designated old growth) whereas other areas may eventually be harvested (e.g., delayed treatment for age/size class diversity). A number of multiple limiting factors are often present that constrain silvicultural treatments. Additionally, the Michigan MDNR is currently developing a Biodiversity Stewardship Area (BSAs) network which has a focus on high-quality natural communities supporting native plants and animals. This will most likely affect timber harvest levels in the future.

National Forests

National forests account for 95% of federal lands in the study region. The study region encompasses the Hiawatha National Forest and most of the Huron National Forest. Timber availability from these forests is guided by the respective national forest management plans.

Hiawatha National Forest

Approximately 578,461 acres (65% of 895,313 total acres) of the Hiawatha National Forest was assessed as suitable for timber production in 2006 given biological, physical and social factors. The Forest Service projected allowable sale quantity from this forest is 109 million board feet (mmbf) of timber per year.

Huron-Manistee National Forest

Overall, 401,121 acres (41% of the total 980,341 acres) of the Huron-Manistee National Forest was classified as suitable for timber production in 2006. The allowable sale quantity from this forest is projected to be 91 million board feet (15.2 million cubic feet) per year.

The national forests have significantly more productive capacity than is currently utilized or proposed for timber harvesting. To increase national forest harvest levels beyond what is currently projected would likely be a multi-year process. Nonetheless, the national forests could produce significantly more timber volume from suitable lands.

Other Considerations

- A number of other factors such as physiographic class, distance from roads, stocking levels, age classes, etc are likely to affect availability of land for timber harvesting.



Physiographic class

Site characteristics affect accessibility, harvesting and silvicultural methods. Three broad classes of soil wetness as shown below are likely to affect availability.

Hydric	swamps/bogs, beaver ponds, other hydric
Mesic	flatwoods, rolling uplands, bottomlands, other mesic
Xeric	deep sands, other xeric

Almost two-thirds (64.3%) of all timberland in the study region is classified as mesic sites. About 21% is classified as hydric, and 15% as xeric sites. Site moisture conditions may affect suitability for harvesting or represent other site limitations. It should however be taken into account that not all hydric sites are unavailable and some wet areas are currently logged. One estimate is that 30% of the hydric sites would be accessible, especially with winter logging.

Road Distance

Accessibility of timberland as determined by distance from a road is high for the Kinross supply region. Overall, almost 91% of all timberland in the study area is within 1 mile of a road. Seventy percent is within one-half mile and 46% is within one-quarter mile. Lands farther from the roads are expected to be less available for timber harvesting. However, one estimate is that 80% of the timberlands greater than a mile from roads would be accessed eventually via road building.

Stocking and Age Classes

Stocking class reflects the percentage of trees occupying a site relative to full stocking of 100%. Over 50% of the Kinross supply region is fully or overstocked. Lower stocked timberlands are less appealing for harvest operations due to their reduced timber volume per acre. Over 14% of timberlands in the region are nonstocked or poorly stocked.

Some forest types such as aspen and pine are managed based upon their age. In such cases, age can also have some effect in constraining timber availability in the short term.

Though many factors influence timber availability, it is important to examine all of the factors in combination because interactions occur. Some constraints could be changed in the relatively short run, e.g. access permission, administrative vs. physical, biological. But some are medium or long term constraints such as hydric sites or those under long term administrative restrictions e.g. national and state parks.