

Red Pine Management Guide

A handbook to red pine management in the North Central Region



This guide is also available online at:

<http://ncrs.fs.fed.us/fmg/nfgm/rp>

A cooperative project of:



North Central Research Station



Northeastern Area State & Private Forestry



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Economics

Economics

The red pine specific economics section contains tables with average stumpage prices and average costs of silvicultural treatments. You can also download a model to project product yield and revenue for different silvicultural treatment regimes and various economic assumptions. For general information about economic analysis, visit the Economic Considerations in Forest Management 101.

Graphs and tables describing economic and yield outputs are also provided here for various management examples (visit Management Examples).

Costs of different silvicultural treatments

The following table describes typical ranges for silvicultural treatment costs. Actual costs vary by site conditions, scale of the project (large or small), available materials and equipment, manpower, and contractors.

Table 1: Range of silvicultural treatment costs in the Lake States

Silvicultural Treatment	\$/acre
Mechanical Establishment	80-430
Hand Planting	40-400
Mechanical Release	50-150
Chemical Release	50-150
Precommercial Thinning	50-150

Stumpage prices

Table 1. Contract Rates for Red Pine Management Practices, 2005.

	Private Ownerships		Public Ownerships	
	Median	Range	Median	Range
Mechanical Establishment, \$/acre	150	80-200	120	120-130
Hand Planting, \$/acre	N/A	40-400	N/A	40-190
Mechanical Release, \$/acre	80	50-150	N/A	75-140
Chemical Release, \$/acre	80	50-150	N/A	65-150
Start-to-finish reforestation, \$/acre	N/A	N/A	N/A	200-500

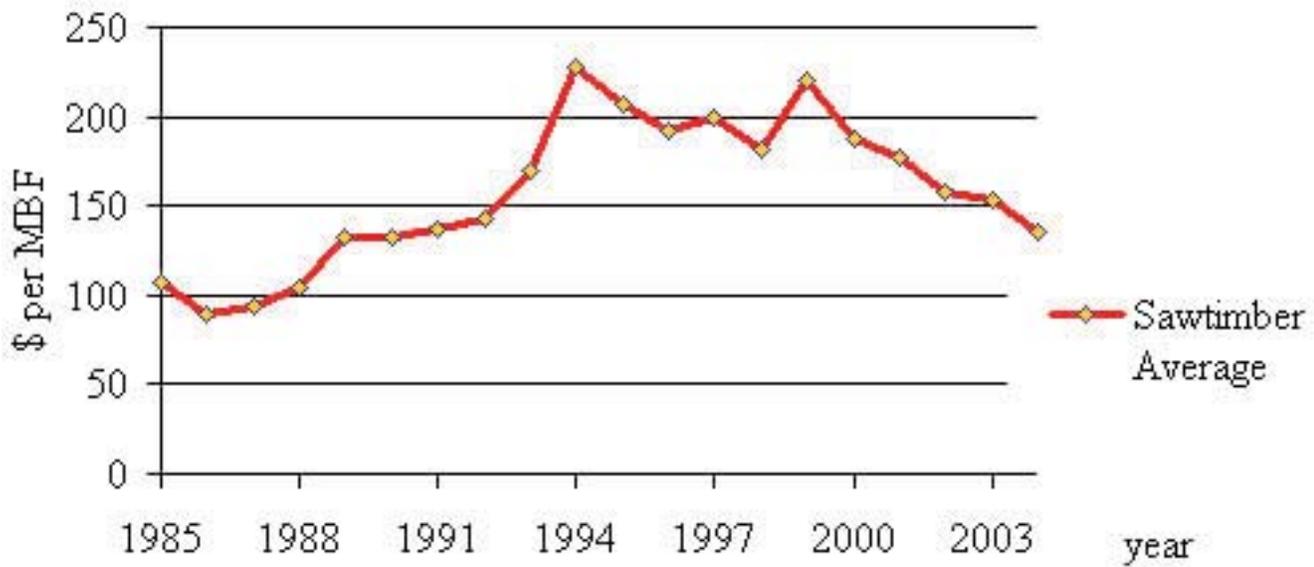


Figure 1. Historical Real Price Trend on Red Pine Sawtimber, dollars per MBF.

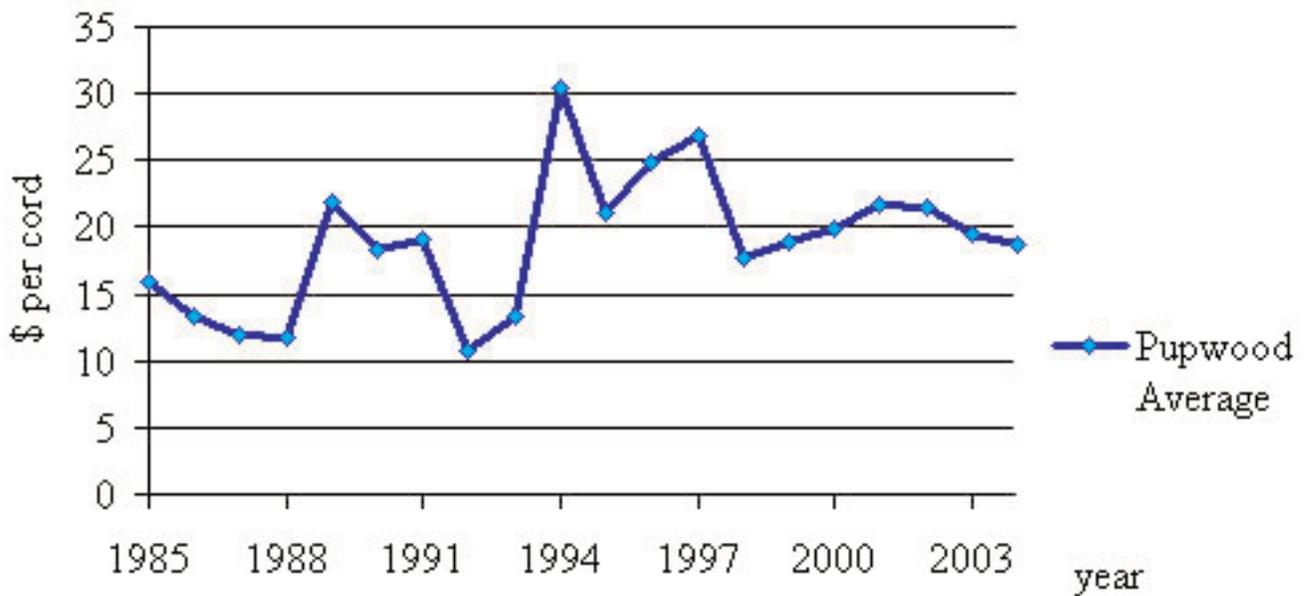


Figure 2. Historical Real Price Trend on Red Pine Pulpwood, dollars per cord.

Financial analysis of forest management investment options

Advanced users may download the Red Pine Economic Analysis Calculator which is a red pine growth and yield model (RESINOSA written by Timothy Mack and Tom Burk) and an economic optimization module (FREOM 3.4 written by Denys Goychuk and Mike Kilgore). The model is available for download on the website at http://www.ncrs.fs.fed.us/fmg/nfmgrp/econ/p4_financial.html.

This model projects the growth and yield for different silvicultural treatment regimes. With the economic optimization module, you can also model and compare silvicultural treatment alternatives and associated financial returns. Such trials can help find the best treatment strategy for your stand.

The program file is in a Microsoft Excel file format. Users will have to enable macros in Excel in order to use the full functionality of this software. A short manual in Microsoft Word format provides the basics for using the model.

The red pine growth and yield model is based on the RESINOSA model developed by Thomas E. Burk and Timothy J. Mack. Economic module was developed by Denys A. Goychuk. For more information on this model, please refer to the following papers:

*Mack, T.J. and Burk, T.E. 2004. Equations for predicting merchantable yield and diameter distribution for Lake States red pine. *NJAF* 21(2): 107-110.

Mack, T.J. and Burk, T.E. 2005. A model-based approach to developing density management diagrams illustrated with Lake States red pine. *NJAF* 22(2): 117-123.

Goychuk D.A., and Kilgore M.A. 2005. Increasing Forest Productivity in Northern Minnesota through Investments in Red Pine Management: A Financial Evaluation. Staff Paper No. St. Paul, MN: Department of Forest Resources, University of Minnesota.