

Minnesota Department of Natural Resources

500 Lafayette Road · Saint Paul, Minnesota · 55155-4037

Office of the Commissioner

651-259-5555



November 20, 2008

The Honorable Ellen Anderson
Env., Energy and N.R. Budget Division chair
75 Rev. Dr. Martin Luther King Jr. Blvd.
Capitol Building, Room 120
St. Paul, Minnesota 55155-1606

The Honorable Jean Wagenius
Environment and N.R. Finance chair
449 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, Minnesota 55155

Dear Senator Anderson and Representative Wagenius;

According to Minnesota Session Laws Chapter 368, Article 1, section 19, the Commissioner of the Department of Natural Resources (DNR) must provide quarterly forest management investment account (FMIA) fund statements, including a report on the methodology used in calculating the revenue forecasts.

Attached for your review are two documents:

1. The Forest Management Investment account fund statement updated to reflect anticipated un-allotments.
2. An Executive Summary of Timber Sales Revenue Forecast

Additional detail is available upon request.

Sincerely,

A handwritten signature in cursive script that reads "Laurie Martinson".

Laurie Martinson
Deputy Commissioner

Enclosures

c: Bob Meier
✓ Denise Anderson
Dave Epperly
Marsha Battles-Jenks

DATE: 10/27/2008

LEGISLATIVE REPORT – Cost of Preparation

NAME OF LEGISLATIVE REPORT – Forest Management Investment Account Unallotments

Based on:

Minnesota Statute Reference: Minnesota Session Law Chapter 368, Section 19

Prepared by: André Prah, Department of Natural Resources

Phone: 651-259-5548

E-Mail: Andre.Prah@dnr.state.mn.us

Description of Cost	Further explanation if necessary	Amount
Staff Time	2 weeks staff time (multiple staff)	\$3,000
Duplication Cost (includes paper)	Negligible, most work done electronically	
Other:		
TOTAL TO PREPARE REPORT		\$3,000
<i>(Note: Right click on amount cell and choose update to complete)</i>		

Department of Natural Resources
 Natural Resources Fund Statement
 November Forecast FY 2008

	FY 2007 Actual	FY 2008 Actual	FY 2009 Planning Est (1)	FY 2010 Planning Est	FY 2011 Planning Est	FY 2012 Planning Est	FY 2013 Planning Est
18J Forestry Management Investment Account							
Legal Citation: M.S. 89.039							
Balance Forward In	6,497,722	9,065,146	5,848,635	815,725	(5,203,275)	(11,177,275)	(17,151,275)
Prior Year Adjustments	44,707	16,201	0	0	0	0	0
Adjusted Balance Forward	6,542,429	9,081,347	5,848,635	815,725	(5,203,275)	(11,177,275)	(17,151,275)
Receipts							
5348 Timber Sales	5,893,701	5,297,011	4,577,000	4,237,000	4,264,000	4,264,000	4,264,000
5349 Timber sales interest and penalty	4,937	158,697	3,000	3,000	3,000	3,000	3,000
8000 Investment Income	348,047	202,041	225,000	225,000	225,000	225,000	225,000
8340 Credit Agreement Rebate		67	90	0	0	0	0
8360 Refunds of Prior Yr Expenditure	0	5	0	0	0	0	0
Subtotal Receipts	6,246,685	5,657,821	4,805,090	4,465,000	4,492,000	4,492,000	4,492,000
Transfers In							
From Fund 200, CON. CON Areas Account	2,428,469	3,070,133	2,918,000	2,700,000	2,718,000	2,718,000	2,718,000
From Fund 610, University Susp Account	31,898	30,743	40,000	35,000	35,000	35,000	35,000
From Fund 860, School Susp Account	4,088,530	3,940,487	5,181,000	4,406,000	4,406,000	4,406,000	4,406,000
Total Transfer in	6,548,897	7,041,363	8,139,000	7,141,000	7,159,000	7,159,000	7,159,000
Total Receipts and Transfers In	12,795,583	12,699,183	12,944,090	11,606,000	11,651,000	11,651,000	11,651,000
TOTAL RESOURCES AVAILABLE:	19,338,012	21,780,530	18,792,725	12,421,725	6,447,725	473,725	(5,500,275)
Expenditures							
Lands Records Management System	0	0	688,000	344,000	344,000	344,000	344,000
Forest Management	10,219,351	12,898,681	14,676,000	14,093,000	14,093,000	14,093,000	14,093,000
Enhance Sales FMIA (Appr. 302)	0	407,423	843,000	750,000	750,000	750,000	750,000
Forest Improvement FMIA (Appr. 303)	0	596,567	403,000	1,000,000	1,000,000	1,000,000	1,000,000
Forest Road Maintenance FMIA (Appr. 304)	0	787,131	313,000	0	0	0	0
Ecological classification FMIA (Appr. 301)	0	104,430	496,000	600,000	600,000	600,000	600,000
Invasive Species FMIA (Appr. 305)	0	87,198	163,000	350,000	350,000	350,000	350,000
Re-Inventory FMIA (Appr. 306)	0	116,542	273,000	400,000	400,000	400,000	400,000
Logger Refund - Relief Paymts Timber	0	851,122	34,000	0	0	0	0
Minnesota Conservation Corp	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Statewide Indirect Costs (Forestry)	28,515	57,802	63,000	63,000	63,000	63,000	63,000
Total Expenditures	10,272,866	15,931,896	17,977,000	17,625,000	17,625,000	17,625,000	17,625,000
FUND BALANCE	<u>9,065,146</u>	<u>5,848,635</u>	<u>815,725</u>	<u>(5,203,275)</u>	<u>(11,177,275)</u>	<u>(17,151,275)</u>	<u>(23,125,275)</u>

(1) FY2009 planning estimate reflects \$4,726,000 in appropriation unallotments

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October 2008

Executive Summary

Timber Sales Revenue Forecast

For lands administered by the Division of Forestry and Section of Wildlife

Fiscal Year 2009 - First Quarter

Prepared by
Don Deckard
State Forest Economist
DNR – Division of Forestry



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PREFACE

In addition to requirements under Minnesota Statutes, section 16A.152, quarterly timber sales revenue forecasts are completed to provide updated revenue estimates utilized to monitor the forest management investment account (FMIA) balance [see 2008 Laws, Chapter 368, Article 1, Section 19]. The Commissioner of the Department of Natural Resources, is required to deliver quarterly revenue reports to the House Ways and Means and the Senate Finance committees and the H/S Environment and Natural Resources Finance committees or divisions. The report to the respective committees will provide forest management investment account (FMIA) fund statements with unallotment information and is to include the methodology used in calculating the revenue forecasts. It is important to note that while due diligence and rigor is applied to the forecasting process, there are inherent market risks and uncertainties as to future events and outcomes.

ACKNOWLEDGEMENTS

This forecast was a collaborative effort. A number of DNR staff provided data and information and made significant contributions. Special thanks to Gaylord Paulson, Karl Olmstead, and Kari Geurtz for their technical support.

Reviewer Distribution List:

Forestry Division Management Team (DMT)

Dave Epperly, Director, Division of Forestry
Bob Tomlinson, Assistant Director, Division of Forestry
Olin Phillips, Manager, Forest Management & Protection Section, Division of Forestry
Janet Cherney, Director of Accounting, Division of Forestry
Dave Thomas, NW Region Forest Manager, Division of Forestry
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Wayne Damerow, Central Region Forest Manager, Division of Forestry
Lillian Baker, Timber Sales Program Supervisor, DNR - Division of Forestry
Calder Hibbard, Forest Policy Analyst, Minnesota Forest Resources Council
Keith Jacobson, Marketing & Utilization Program Supervisor, DNR - Division of Forestry
Jon Nelson, SFRMP Program Supervisor, DNR - Division of Forestry
Tim O'Hara, V.P. Forest Policy, Minnesota Forest Industries
Gaylord Paulson, Timber Sales Program Coordinator, DNR - Division of Forestry

EXECUTIVE SUMMARY

Background

The quarterly timber sales revenue forecast provides critical budget planning information for the Division of Forestry. As required by State law, [see 2008 Laws, Chapter 368, Article 1, Section 19], forecast updates are completed to provide current revenue estimates based on new information and changing expectations. We strive to produce the most accurate and objective forecast possible within the limitations of available information and resources. However, actual timber revenues are determined by a combination of external market forces, physical sale conditions, and timber sales policy.

Forecast Methods

The timber sales revenue forecast is a combination of four distinct forecast variables. An additional step is then required to estimate the portion of timber revenue allocated to the Division of Forestry budget. Approximately 50% of timber sales revenue is eventually available for Division budgeting while the other 50% is distributed to various accounts and entities including the School / University Trust accounts, the General Fund, and Minnesota counties. Each component of the revenue forecast has its own unique set of metrics, range of variation, drivers, constraints, and inherent uncertainties. The four forecast variables and metrics were:

1. sales volume (volume offer "target" minus an estimate of no-bid sales),
2. sales average per-unit price (regression model utilizing historic stumpage and product price data),
3. removals volume (most recent 5-year adjusted for forecast sales and operational constraints), and
4. removals average per-unit price, (value of timber under contract adjusted for forecast sales values and permit default risk).

The basic revenue forecast calculations:

Forecast Timber Revenue (TR) =
 ((FY Forecast Sales Volume * FY Forecast Per-Unit Price) * 0.15 down payment))
 + ((FY Forecast Removals Volume * FY Forecast Per-Unit Price) * 0.85 balance due))
 + Other Timber Revenues
 + Net Gain/Loss in unbilled balance

The estimate of the portion of timber sales revenue eventually allocated to Forest Management Investment Account (FMIA):

Funds Allocation and Portions to FMIA =
 18J FMIA Direct Deposit = TR * (100% * % Historical Acquired Forestry Revenue)
 200-022 Con-Con Transfer = TR * (50% * % Historical Con-Con Revenue)
 Forest Suspense Account (FMIA transfer lags 1 fiscal year) = (~36% * % Historical Trust Revenue)

While the basic calculations are similar to revenue estimates made prior to April 2008, current procedures differ in the following key ways:

- sales average per-unit price was forecast with a regression model utilizing historic stumpage prices and primary product data as compared to using the value of existing contracts,
- the impact of length of winter logging season has been quantified as a significant long-run constraint on removals volume, and
- the forecast removals average per-unit price was adjusted for permit default risk.

These procedural changes have added to the level of rigor used in the forecasting process.

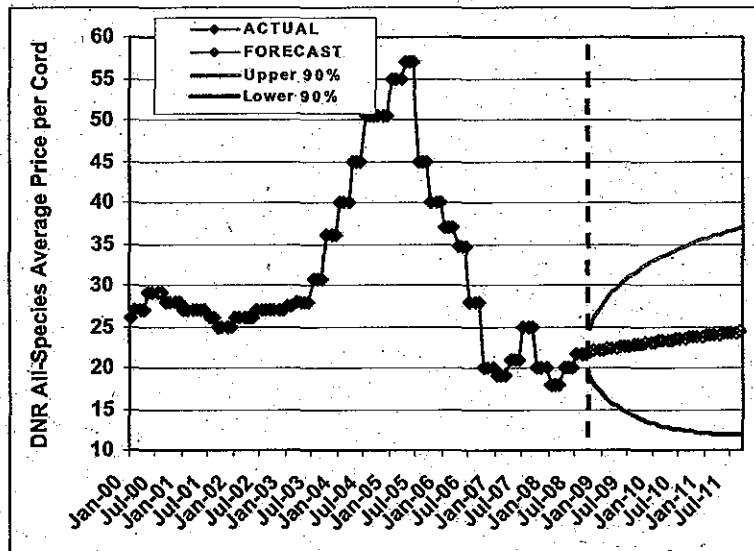
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Forecast Sales Volume

The timber offer target from Division of Forestry and Section of Wildlife administered lands was increased from 800,000 cords in FY08 to 950,000 cords for the current fiscal year. Based on the increased FY09 timber target, volume projections to be offered for sale FY2009 through FY2011 were forecast at 136,000 cords higher than the most recent 5-year average 814,000 cords, a 17% annualized increase. Sold volumes were forecast at 932,000 cords including 6 million board feet (MMBF) sawtimber annually or 98% of the offer target. Through FY09Q1 (preliminary), the Division of Forestry sold 111,357 cords at an all-species average \$21.60 per cord plus 962 MBF of sawtimber at an all-species average \$183 per MBF.

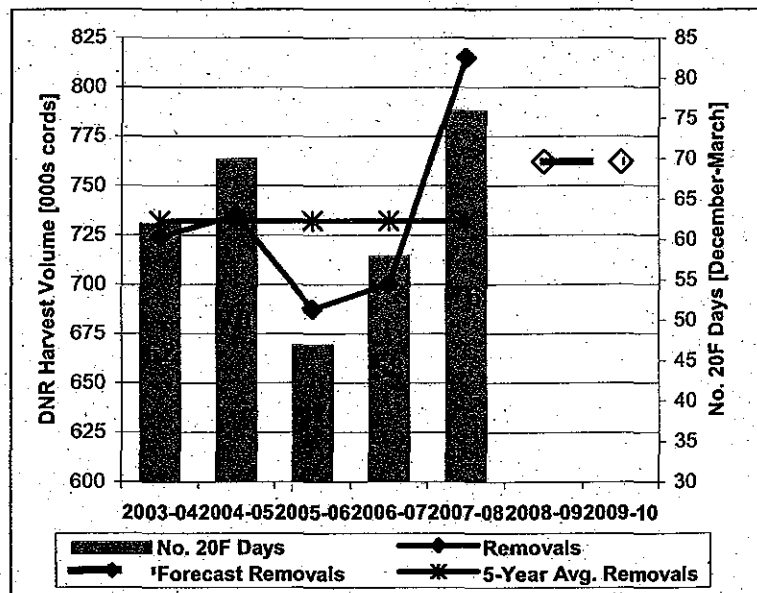
Forecast Sales Average Per-Unit Price

The forecast per-cord selling price was developed with a regression model utilizing historic stumpage prices and primary product data. The model was fit to monthly time-series data from January 2000 through September 2008. The average all-species cordwood price was forecast to increase from the current \$21.60 per cord to \$25 per cord by FY2011. The all-species average sawtimber price is expected to remain in the \$200 per MBF range. The forecast all-species average cordwood selling prices by fiscal year were as follows: FY09= \$22 per cord, FY10= \$24 per cord, and FY11= \$25 per cord.



Forecast Removals Volume

In FY08, DNR set a modern era timber removals volume record of 815,000 cords. Under a scenario of relatively low private timber availability, U.S. Canadian dollar parity, and emerging biomass markets, DNR timber removals volume would be expected to be in the 800,000-1,000,000 million cord range over the forecast horizon. However, DNR timber removals volume seems to be more dependent on the length of the winter logging season than on existing timber inventory and increasing timber sales volume targets. An estimated 70-75% of all DNR stumpage volume sold is designated as winter only operable. For the most recent 5-year period, removals ranged from low 687,000 cords in FY06 with a 47-day winter logging season to a high 815,000 cords in FY08 with a 76-day winter logging season. Weather forecasting was beyond the capability of this analyst. Hence, the forecast for timber removals relied on the 5-year average adjusted for the FY09 timber offer target increase. If the percentage of winter only timber remains constant, the offer target

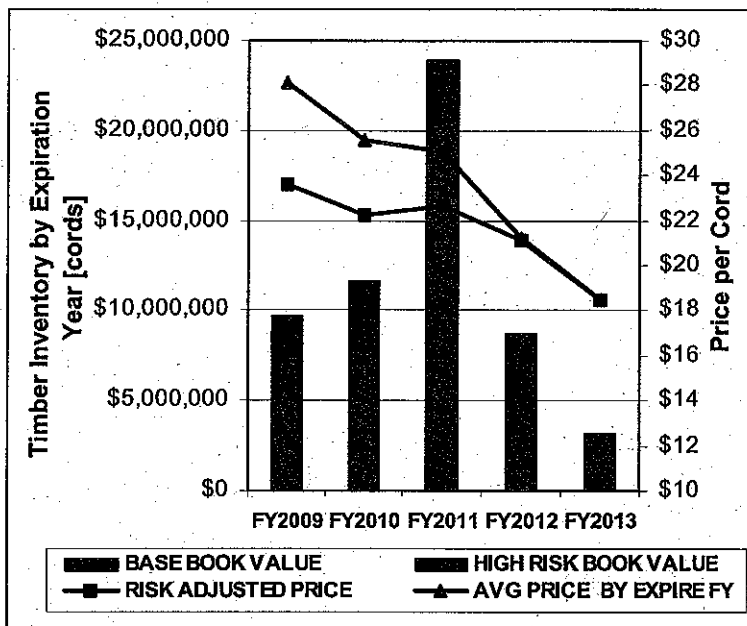


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increase would add an estimated 30,000 cords of summer operable wood to the mix. Under this scenario, forecast average removals would be 762,000 cords including sawtimber, 4.0% above the 5-year average.

Forecast Removals Average Per-Unit Price

As of September 30th, DNR had 2.34 million cords timber inventory (including scaled unbilled volume) valued at \$57.2 million or an average \$24.43 per cord plus 14.3 MBF valued at \$3.1 million or an average \$216.23 per MBF. The volume and value of cord products by fiscal year expiration included: FY09, 345,555 cords at \$28.15 per cord, FY10, 454,002 cords at \$25.58 per cord, and FY11, 956,061 cords at \$25.03 per cord. A permit default risk adjustment was made by flagging all cordwood permits with values >\$60 per cord. Overall, 112,345 cords with a book value of \$8 million were identified as being high risk, 5% by inventory volume and 14% by inventory value. The risk-adjusted



volume and value of cord products by fiscal year expiration were reduced as follows: FY09, 311,739 cords at \$23.59 per cord, FY10, 425,553 cords at \$22.24 per cord, and FY11, 906,361 cords at \$22.64 per cord. Based on the default risk analysis, forecast removals values were as follows: FY09, \$24.75 per cord, FY10, \$24 per cord, and FY11, \$24 per cord subject to further refinement and recalibration of the risk adjustment procedure as new default data becomes available.

Forecast Timber Sales Revenue Summary

Forecast timber receipts for FY09-FY11 were less than the most recent 5-year average \$23 million.

Scenario	FY09	FY10	FY11
LOW	\$20,698,000	\$19,165,000	\$19,289,000
MED	\$22,886,000	\$21,183,000	\$21,321,000
HIGH	\$25,075,000	\$23,201,000	\$23,353,000

Example Funds Allocation FY09 MED Revenue Forecast (\$22,886,000).

Account	Allocation Factor ^a	Allocation	FMIA Portion	FMIA Receipts and Transfers
Acquired Forestry	0.20	\$4,577,000	100%	\$4,577,000 ✓
Con-Con	0.255	\$5,836,000	50%	\$2,918,000 ✓
School / Univ. Trust	0.50	\$11,443,000	~36% ^b	\$4,119,000 ^c

^aAllocation factors based on value of current timber inventory and historic averages by land classification.

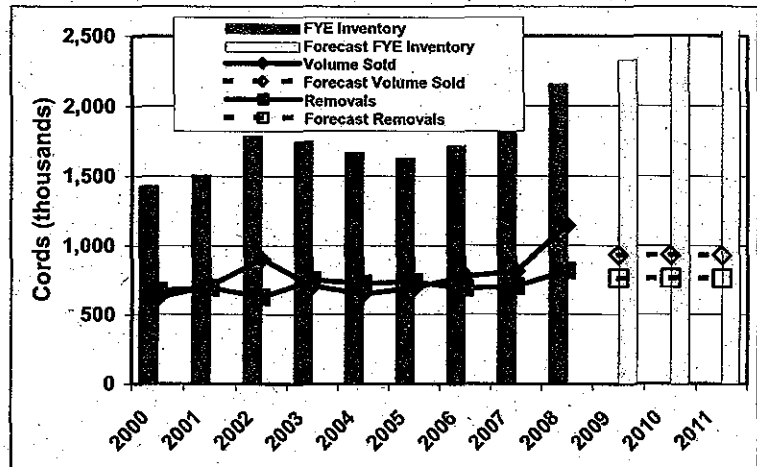
^bEstimated School / Univ. Trust management cost reimbursement rate to FMIA as (%) net timber sales revenue applied herein for forecasting purposes only when official certified costs are not available.

^cFY09 School / Univ. Trust certified costs will transfer to the FY10 FMIA account balance.

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Timber Inventory

Inventory remains a concern as it plays an important role in the revenue forecasting process and provides insights for the future policy direction of the DNR timber program. At the close of FY08, uncut timber inventory was ~2.16 million cords. This was equivalent to a 2.9-year supply at an annual removals volume of 762,000 cords. This was not a normal expectation and seems to be tied to winter only operational constraints. This topic requires further analysis to better understand long-run timber revenue implications.



Forecast Timber Receipts by Source, FY2009-FY2011.

FY2009 FORECAST TIMBER SALES REVENUE						
	VOL CDS	TR	PORTION TR			
SOLD CORDS	920000	\$20,240,000	\$3,036,000			
SOLD SAW (6 MMBF)	12000	\$1,200,000	\$180,000			
SOLD OTHER		\$500,000	\$75,000			
REMOVALS CORDS	752000	\$18,612,000	\$15,820,200			Interest Income +
REMOVALS SAW (5 MMBF)	10000	\$1,000,000	\$850,000			Gen Fund Rev =
REMOVALS OTHER		\$500,000	\$425,000			\$1,000,000
BILLING GAIN		\$1,500,000	\$1,500,000	FY2009	REVENUE	w/INT INC
SUM			\$21,886,200	LOW (-10%)	\$19,697,580	\$20,697,580
				MED	\$21,886,200	\$22,886,200
				HIGH (+10%)	\$24,074,820	\$25,074,820
FY2010 FORECAST TIMBER SALES REVENUE						
	VOL CDS	TR	PORTION TR			
SOLD CORDS	920000	\$22,080,000	\$3,312,000			
SOLD SAW (6 MMBF)	12000	\$1,200,000	\$180,000			
SOLD OTHER		\$500,000	\$75,000			
REMOVALS CORDS	752000	\$18,048,000	\$15,340,800			Interest Income +
REMOVALS SAW (5 MMBF)	10000	\$1,000,000	\$850,000			Gen Fund Rev =
REMOVALS OTHER		\$500,000	\$425,000			\$1,000,000
SUM			\$20,182,800	FY2010	REVENUE	w/INT INC
				LOW (-10%)	\$18,164,520	\$19,164,520
				MED	\$20,182,800	\$21,182,800
				HIGH (+10%)	\$22,201,080	\$23,201,080
FY2011 FORECAST TIMBER SALES REVENUE						
	VOL CDS	TR	PORTION TR			
SOLD CORDS	920000	\$23,000,000	\$3,450,000			
SOLD SAW (6 MMBF)	12000	\$1,200,000	\$180,000			
SOLD OTHER		\$500,000	\$75,000			
REMOVALS CORDS	752000	\$18,048,000	\$15,340,800			Interest Income +
REMOVALS SAW (5 MMBF)	10000	\$1,000,000	\$850,000			Gen Fund Rev =
REMOVALS OTHER		\$500,000	\$425,000			\$1,000,000
SUM			\$20,320,800	FY2011	REVENUE	w/INT INC
				LOW (-10%)	\$18,288,720	\$19,288,720
				MED	\$20,320,800	\$21,320,800
				HIGH (+10%)	\$22,352,880	\$23,352,880

FY09 revenue includes a one-time gain on unbilled balance.