

BSP SFMA Finances Brainstorming

memo with Tentative Analysis

Revision: March 15, 2014

Below is an initial cut at a "Bottom Line" for SFMA. I thought it would be useful to show one possible format. For details and comments, see relevant pages of the SFMA "Financial analysis" workbook and my various notes within the "HarvHist" workbook. Here is a provisional draft:

Table 1.

Provisional Draft Income Statement			
	Period		Averages
Expenses	2008-2013		
	Ann exp less roads		\$34,599
	Roads		\$34,230
	Facil & Eqpt depreciation		\$26,460
	Staffing		\$148,556
	Total		\$243,845
Revenues			
	1998-2013		\$194,003
	Net Returns		-\$49,842
	"Erngs before depreciation""		-\$23,382

One point remaining to consider is how to handle the issue of returns over the full period, with the periods where detailed data are not readily recovered from the records. Perhaps we just decide that that period, say pre 95 or 98, is so different anyway that it doesn't really matter.

Late in this process, we will think about the future outlook.... Not explicitly included here. We will also look at changes in inventory in the past.

Revenue Experience 1998 to 2013

The **volatility** stands out (Table 2). This is due primarily due to the huge log market fluctuations - overheated lumber markets to 2005 or so, then the collapse, from which recovery only began to be visible in 2011 and 2012.

Table 2.

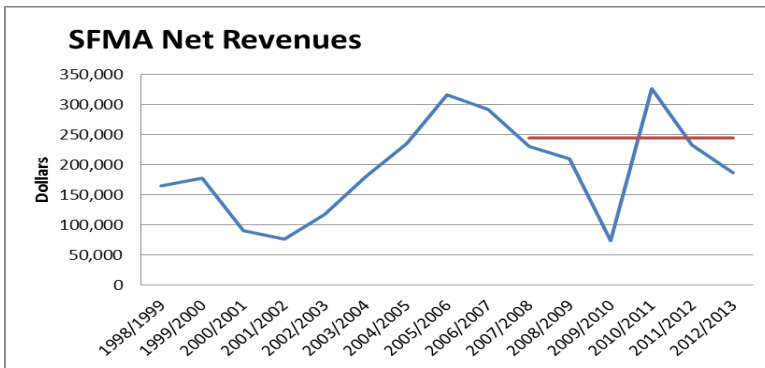
	Net Revenue	net/cd	net/a	cords
Ave 98 to 13 (15 yr)	\$194,003	\$25	\$10	8,065
Ranges	\$326,429	\$40	\$17	11,925
	\$74,350	\$12	\$4	11,925

The harvest level equals .42 cords/A/yr. Later, we will want to look at age classes and compare to estimated sustainable yield.

Both harvest volumes and net revenues per cord have been extremely volatile (Fig 1 below). We have to hope that this has been a period that will not be representative of future decades. But lumber markets, especially for softwood, have historically been cyclical. Pulpwood markets less so, but currently we have significant "mill risk" that was not known in the past. Periodic shutdowns of major wood users have been frequent. This has also been evident

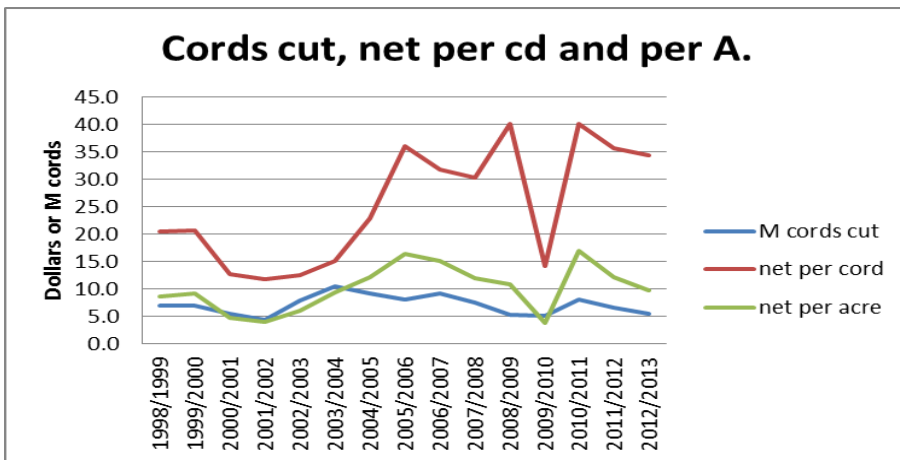
in the biomass users. The red line shows the annual expense average for 2008-13.

Figure 1.



While the cords cut did vary significantly, the biggest source of revenue volatility was net revenue per cord. This is likely because service costs did not decline nearly as much as delivered wood prices did (Fig 2).

Figure 2.



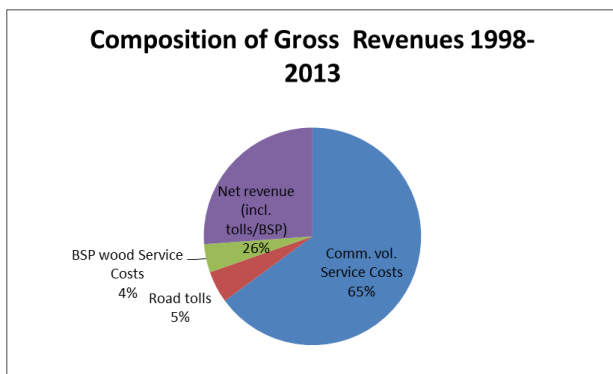
Looking at the annual numbers, in ranked form, is a useful perspective.

Table 3.

Below: Ranked hi to lo		15 yr of revenues	
Yrs	Net Revs	15 yr ave expenses	
2010/2011	326,429		
2005/2006	315,895		
2006/2007	291,723	\$243,845	revised Mar 12
2004/2005	234,885	<i>close</i>	
2011/2012	232,466	<i>close</i>	
2007/2008	230,636	<i>close</i>	
2008/2009	209,960		
2012/2013	186,536	Roughly speaking, breakeven or ahead 3 yrs out of	
2003/2004	180,039	15 -- incl VERY bad market yrs.	
1999/2000	177,837	Close to breakeven in 3 more	
1998/1999	165,367		
2002/2003	116,904	and heavy road exps.	
2000/2001	90,393		
2001/2002	76,624		
2009/2010	74,350		

The breakdown of average gross revenues is dominated by the services costs of getting the wood from the woods to the customers (Fig 3).

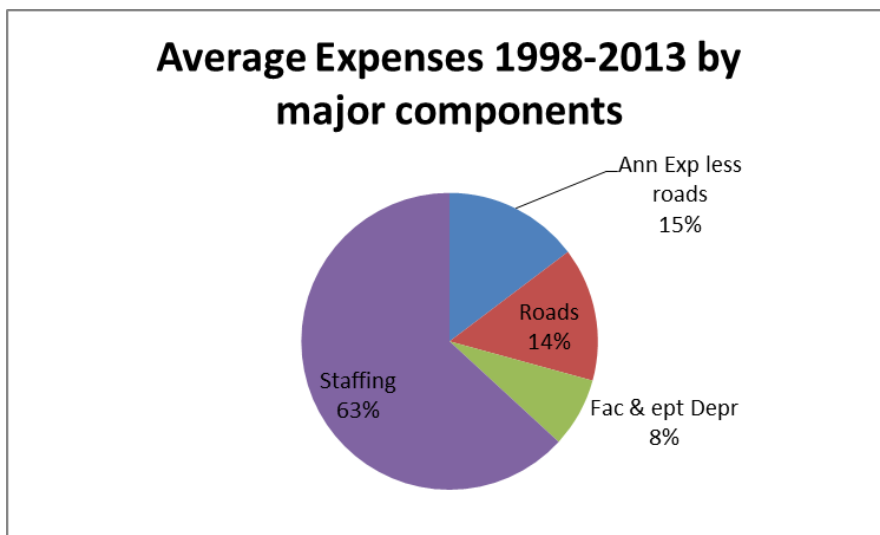
Figure 3.



Expenses -- these charts need to be updated (I think I have the data) but are probably a rough sense of the situation --

On the expense side of the budget, staffing accounts for 63% and miscellaneous operating costs and roads between them account for roughly 30% (Fig. 4). Depreciation on equipment and facilities is minor. Many items serve Park purposes more generally. These amounts have been allocated to the SFMA by management judgment. Principal expense items do vary but not to the same degree as revenues (Fig. 5).

Fig. 4.

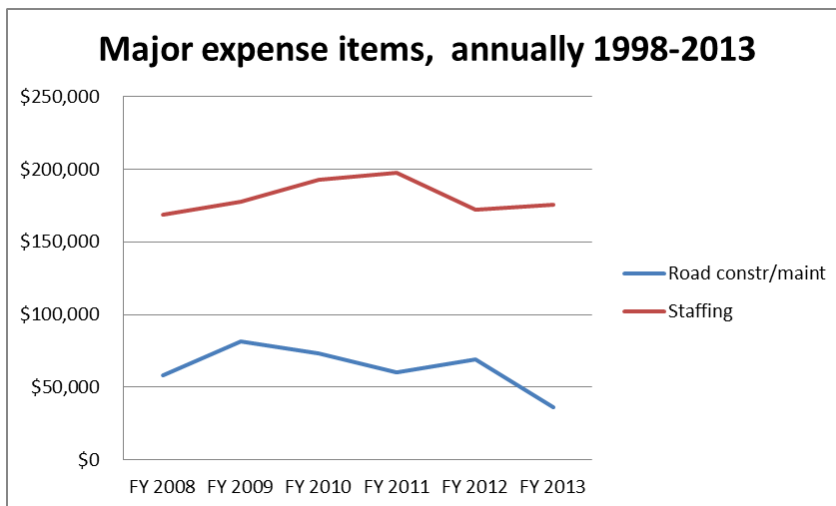


Generally, road construction has been conducted by contractors cutting the wood, so that past road construction is reflected in lower net timber revenues that would otherwise have been realized. This means that in future, higher net returns are likely.

Note: We need to pull out construction from maintenance in the roads category.... ONGOING NOW.

We can at least put numbers on how much road was built/rebuilt over the pre-2005 period to place the above results in perspective. For now that would be OK. WE could even take the mileages constructed and guesstimate what they would accost to build if done today.

Figure 5.



Revenues Minus Expenses

Because of the volatility, and since the annual fluctuations actually obscure the picture for what we are seeking to determine in this study, we use averages for expenses of the past 15 years, matched to revenues.

These are previewed in Table 1 above. Over the 15 year period analyzed, the SFMA incurred a loss before depreciation of \$23,382/yr, or a cumulative \$351,000. Part of this represented investments in roads (to be determined, I hope). Including depreciation as a private owner would, the annual loss is far larger, at roughly \$50,000 per year.

For another view, total period net revenues totaled almost \$3 million. The cumulative loss was equivalent to 25% of the net revenues.

To balance this situation, a number of important benefits were realized:

- completion of a road system and material upgrades in water crossings and other infrastructure;

- completion of modern forest inventories and management plans;

- progress in salvaging wood that otherwise would have been lost;

- silvicultural treatments that have placed many acres (get figure) in a productive and healthy condition.

(-- perhaps we can say something from the inventories in the way of progress toward regulated age class distribution.)

This has been achieved while leaving roughly 1/3 (check number) of the forest's productive forest in an unmanaged condition – a figure which surely would have been much lower on a peer –comparison private property. In fact, we believe it is a higher share in unmanaged condition than is true on at least some peer nonprofit properties.

Uncertainties: Infrequent but potentially serious Hazards

There are two categories of risks that might affect harvests, operating results, and valuations for the future. These can only be inferred from past experiences. These are events that cannot be readily predicted, for a number of reasons that need not detain us here. The two categories are natural hazards, and mill risk.

Natural hazards

The most noteworthy natural hazard is spruce budworm. In the past outbreak, this was a significant factor, and the outbreak affected a largely unmanaged forest that was also virtually unroaded.

The recent spruce budworm epidemic of the early 1980's resulted in loss of softwood over the area, particularly balsam fir. Through the Greenwoods Program, protection measures (aerial application of BT) were applied to portions of the SFMA. Estimates indicate that 25% to 50% of the fir component on the SFMA was lost to the budworm, but this estimate is confounded by the loss of fir to age-related mortality.

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(from Management Plan)

With the recent history of management, the forest's managers believe that the stocking of fir in the SFMA is at a modest level and largely consists of younger stands. Thus, any outbreak arriving in the coming decade or so ought to be manageable without severe losses – at least if past patterns of vulnerability (e.g. related to age and stocking conditions) continue to hold true.

The other natural hazard is wind damage, a hazard that seems endemic to the Katahdin region. A late 70's blowdown on nearby Telos township took down wood on a very large area and likely within the SFMA as well. In 2013, a severe outbreak blew down an estimated XXX cords over YYY Acres (will fill in). It is believed that this is a 30 yr or more return period event. It is possible that younger stands of the future will be less vulnerable to wind damage than those of the 70's.

Mill Risk

For a property with hauling distances such as the SFMA, mill risk is a material factor. Mill risk is the risk that a major buyer of a property's wood will shut down. The result would be twofold: less competition for wood, leading to lower prices, and longer haul distances, leading to lower net returns to stumpage. Examples of mill risk in this area are not far to seek. They would include the closures on the Canadian border due to the housing recession; the closing of

Sherman Lumber Co and the veneer plant at Patten; the periodic shutdowns at Great Northern; the on-again –off again career of the Sherman Station biomass plant (now demolished), and the permanent closure of the Pinkham mill (JD Irving) at Nashville Plantation. Unfortunately, this is only a short list. Even mills to which SFMA is not hauling can have “knock-on” effects on the market if they shut down.

Thinking about these sources of risk is useful to understand history, but will also affect views of future profitability in view of risk. A key point is that a single property of this size is not well diversified against the wind and mill risk factors.

**A few questions to speculate on a bit:
there are certainly more....**

- 1) If the SFMA were not being managed for timber at all, would any of the road system in the area be maintained, even as hiking trails or otherwise?
- 2) need to clarify -- expenses on roads --are they all in the nature of maintenance? Is any of it "construction" in sense of creating the long-lived nondepreciable asset (road prism)
- 3) Need to be sure that our "ann. exp less roads" is not double counting anything from the depreciation amount.

Attachment:

Clarification on definition of operable acres--

Current operational acres (16,250ac) do not reflect all the RMZ acres that will likely be operated over time (FMP2012 assumed 1/3 or about 1500ac), nor the "Undesignated" acres (FMP2012 assumed 1/2 or about 1500ac). The combination of all of these gets us to the 19250ac figure

Attachment – detailed charts

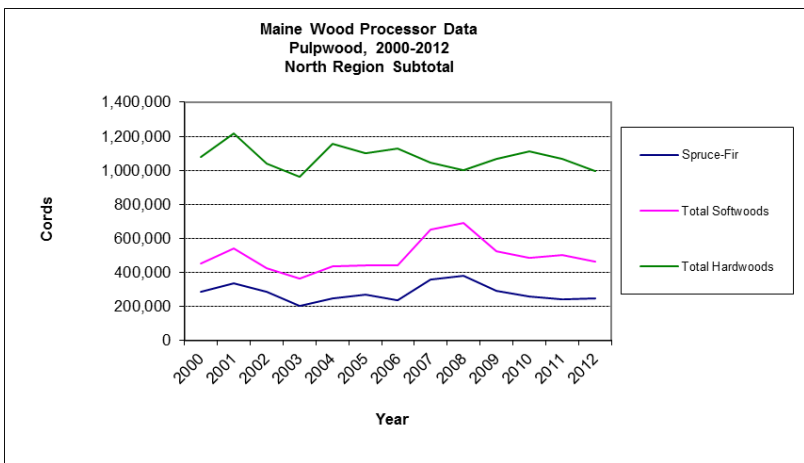
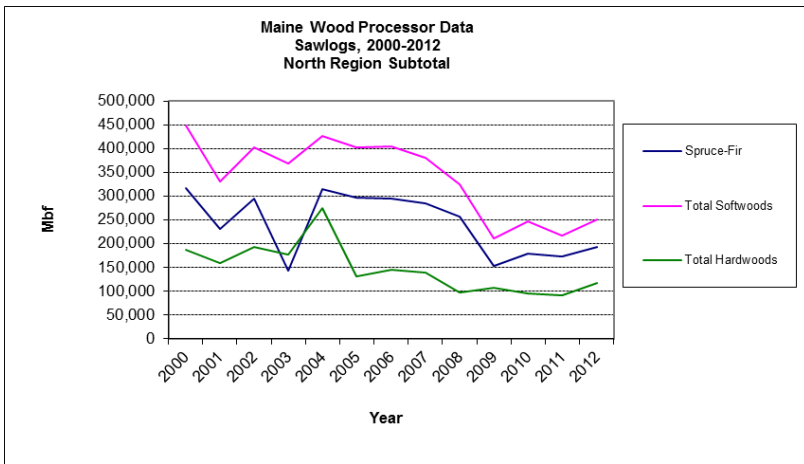
These cover 4 northern counties, Somerset, Piscataquis, Penobscot and Aroostook.

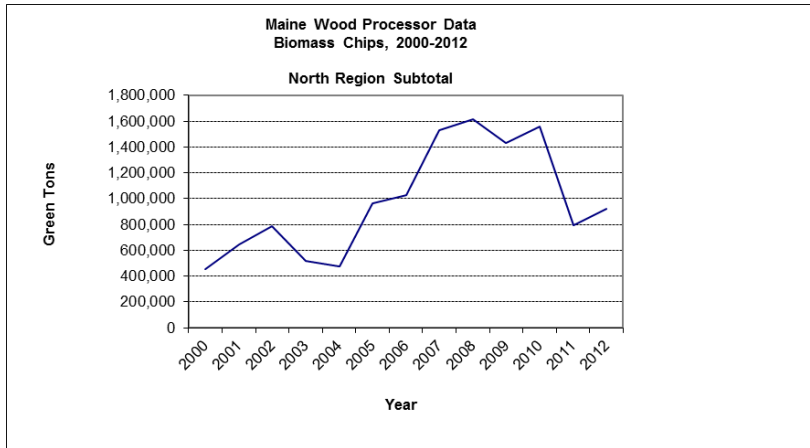
Wood processed in ME from these counties. MFS annual Wood Processor reports. The

Pulpwood did not fluctuate very much; hardwood least of all.

The collapse in sawlog markets shows very clearly in these charts.

The collapse in biomass usage is striking; despite very low in place values it is a small boost to revenue; especially important in hard times.,





Questions prev. sent Feb 24

Specific Questions

1. Inventory comparisons from past – rough & ready OK
2. Inventory & harvest projections
3. Can update costs/revenues to 2011 or 2012?
4. We spoke of needing to separate past road costs into construction vs maintenance of existing ones.

5. Need some reasonable scenario for what longterm replacement/repair on roads/bridges/culverts costs will be on average – for now, simple is better.
6. In Harv Hist, in cell 2 W I see one number for managed acres; in chart at about AP 95 I see a different one...

7. Maybe we do not need a separate study on asset values – just hire a reviewer instead who has the background.
8. I have to think about risk a bit. Major damaging events in region since 1980 -- do you have a list?

SBW losses –any estimate ever made?

Blowdowns on nearby lands and within SFMA

We over due for anything else????

SBW

Something else? Hwds – not an issue 30 yr ago

Calcs for me:

Longrun real price stuff...

Parse out causes of net revenue fluctuations; volume or prices, or road costs...

Do the MFS stumpages for Pen/ Pisc Cty for comps.... Mostly for trend.

Maybe calc some pro forma projections based on scenarios for hi-lo net revenues and hi-lo harvest levels -- yep, good idea....