Small Scale Forest aggregation is key to the expansion of processing capacity & adding value.

by

Hamish Levack
Red (pre1990 NP) now has a normal age class distribution & is owned by a few large Cos & is committed to local processing.

Green (post1989 NP) is all uncommitted 1st rotation crop with skewed age classes, & owned by 15000 proprietors.
How did this change come about?
The 1980s & 90s political revolution encouraged investment in NP.
Then in 1993 a massive log price increase occurred.
NZ new planting from 1920 [000’s ha/yr vs yr]

All these factors launched the post-1990 NP boom.
How much new planting did SSFOs do?

Between 1993 & 1999

15,000 SSFOs increased the national forest estate by 540,000 ha
If this happens, it will mean a boom and bust.
The combined yield from SSFOs if trees cut age 28 would mean a harvest spike in the 2020s.
& it would mean tears before bedtime unless something is done about it
For example not be enough logging trucks
However the spike could be changed to a sustainable yield like this.....

NZ yield in millions m3/yr versus year
provided 20 000 hectares p.a. of new forest are planted over the next 10 years, [NB spin-off environmental benefits], &
..and provided the SSFs are amalgamated, or the SSF owners cooperate to produce a controlled harvest of trees ranging from age 25 to 35 yrs.
What would an increased sustainable cut of, say, 12 million m3 p.a. in the 2020s mean?

• The increase alone would be more than the total annual NZ cut in 1990, and

• it would allow NZ to increase its current level of wood processing by about 100%
Let’s assume Input, output, & jobs for large modern export-scale mills are:

<table>
<thead>
<tr>
<th>Mill type</th>
<th>Input 000m³/yr</th>
<th>Log types</th>
<th>Output 000m³/yr</th>
<th>FTE to construct</th>
<th>FTE to operate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sawn timber</td>
<td>400</td>
<td>S-logs</td>
<td>202</td>
<td>100</td>
<td>65</td>
</tr>
<tr>
<td>Ply-wood</td>
<td>132</td>
<td>P-logs</td>
<td>60</td>
<td>200</td>
<td>60</td>
</tr>
<tr>
<td>Fibre board</td>
<td>176</td>
<td>Pulp (&amp; S-mill residues)</td>
<td>100</td>
<td>400</td>
<td>65</td>
</tr>
<tr>
<td>Newsprint</td>
<td>583</td>
<td>Pulp (&amp; S-mill residues)</td>
<td>210 (000 T/yr)</td>
<td>1500</td>
<td>220</td>
</tr>
</tbody>
</table>
The potential new mills & jobs from an increased cut of 12 million m³/yr are then

<table>
<thead>
<tr>
<th>Wood type</th>
<th>Million m³/yr</th>
<th>Saw-mills</th>
<th>ply-mills</th>
<th>Newsp-mills</th>
<th>Fibr-mills</th>
<th>FTE (cons)</th>
<th>FTE (oper)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-logs &amp; P-logs</td>
<td>9.3</td>
<td>20</td>
<td>11</td>
<td></td>
<td></td>
<td>4,137</td>
<td>1,936</td>
</tr>
<tr>
<td>S-mill residues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulp logs</td>
<td>2.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulp logs &amp; resids</td>
<td>6.6</td>
<td></td>
<td></td>
<td>2</td>
<td>31</td>
<td>15,371</td>
<td>2,450</td>
</tr>
<tr>
<td>Total logs</td>
<td>12.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19,508</td>
<td>4,386</td>
</tr>
<tr>
<td>Total FTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19,508</td>
<td>4,386</td>
</tr>
</tbody>
</table>
Because of the environmental benefits, Gov provides ad hoc incentives to do new planting, but Government has no targets.
EXAMPLE of SSFO ignorance. This stand was pruned but not thinned. Still at 1500 s.p.ha at age 28, profit from the investment is only half of what it should be.
But such dreams are seldom realized
Here’s why.....
Even though log revenue more than doubled during 1993...
Infrastructural constraints prevented a roundwood removal increase, i.e. owners were unable to cut their trees.

Total NZ round-wood removals in millions m$^3$ p.a. vs year of removal
Forests are different from other goods. If a forest sells 15 yrs after purchase it is 59 SDs away from mean stock-turn of other goods. [not 3, so it is in a different pop.]

<table>
<thead>
<tr>
<th>Number of days held in stock before sold</th>
<th>Number of items identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 other Industrial &amp; consumer goods</td>
<td></td>
</tr>
<tr>
<td>A forest sold 15 yrs after purchase</td>
<td></td>
</tr>
</tbody>
</table>
Forward – selling the harvest revenue

Forest owner receives the NPV of his immature trees from investor when they are say age 15 yrs

Investor

In return forest owner pays the investor the full harvest revenue at say age 30

Sawmiller pays full harvest revenue in return for FO’s age-30 logs

IRD allows FO annual deductibility & investor pays annual tax on modelled $ increment. Fiscally neutral if FO & investor are the same.
To summarize what needs to be done

1. Identify SSFOs
2. Engage and educate SSFOs
3. Use forestry derivatives.
4. New plant 20,000 ha p.a.
“If we don’t hang together, we shall all hang separately” Benjamin Franklin

........and cooperate.
What say we do not organize ourselves?

Ministry of sorry for the inconvenience

Will Gov regulate the harvest of private forests?
The forest industry is at an important decision point.