Commercial Forestry in New Zealand

A MODERN COMPANY PERSPECTIVE
Growth in Harvest Volumes

Source: Economic Data and Analysis, Ministry for Primary Industries
1. Overview of the NZ Forestry Sector
   - GROWTH

2. Growing for our tomorrow
   - RMF SCI STRATEGY

3. Next Step Innovation
   - TRANSFORMATIVE TECHNOLOGY
It is not accidental that New Zealand currently is one of the most desired locations for investors outside their own countries.

GROWTH

Areas
Productivity
Demand
Prices
Export Revenue
Financials

FOA Annual Report 2017, David Rhodes
Growth in Harvesting and Planting

Billion Trees
- 70,000 ha in 2019 rising to 110,000 in 2022
- Grow the plantation estate to 2.2m hectares

Source: 2006 NEFD Forest area by annual age class, as at 1 April 2016
Productivity (MAI) Growth

- Long history of companies working together on research
- $2.5 million/yr to radiata management and productivity research

<table>
<thead>
<tr>
<th>Pruned regime</th>
<th>Structural regime</th>
</tr>
</thead>
<tbody>
<tr>
<td>228 sph, 2.3 m³</td>
<td>487 sph, 1.61 m³</td>
</tr>
<tr>
<td>524 m³/ha</td>
<td>784 m³/ha</td>
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<tr>
<td>19/m³/ha/yr</td>
<td>28/m³/ha/yr</td>
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"Optimising radiata pine stand density could increase the net value of New Zealand’s plantation estate by NZ$1.7 billion”

Dr Mike Watt, Source Offcuts, 6 April 18

Source FOA 2016 Facts and Figures
Growth in China Log Imports

- 38 million m$^3$ softwood logs imported in 2017
- Clamp down on domestic timber harvest & investment building boom
- Russia log exports: 21 million m$^3$ to 9 million m$^3$ in past 10 years
- NZ exported 14 million m$^3$ in 2017, up 20% on ‘16

Source: China Customs Log and lumber import data
So much Growth!

“Jing-Jin-Ji” super-city cluster
Export Price Growth

Source: NZ Ministry of Primary Industries
Domestic Consumption also on the Rise

Source: MPI SOPI Report – March 2018
Improved Financial Returns
Deloitte Top 200 Rankings

Assets $12.5B
Revenue $4.2B
NPAT $0.8B
ROA 5.7%

✅ Increased competition for forestry assets, especially scale assets
✅ Higher valuations

Matariki Forests
- NPAT - 22\textsuperscript{nd}
- ROA - 15\textsuperscript{th}
  (No 1 in forestry)
Growing for our tomorrow

Matariki Forests
- Established in 2005
- Rayonier 77% owner
- 120,000 ha
- Harvesting 2.5 million m3/yr
- 700 staff & contractors
- Difficult first 10 years
1. Safety brings efficiency and productivity

2. Go beyond incremental process improvement to make large gains through mechanisation and innovation

3. Achieve scalable and sustainable change by building mutual success together
Deliver a safer and more efficient supply chain

Safety Culture
“improve our safety culture”

Collaboration
“working together to build success”

Mechanisation
“if it can be mechanized it will be”

Quality Workforce
“a willingness at all levels to keep learning and investing in skills”

Benchmarking
“emulate best practices and performance”

Annual Tactical Plans
1. Safety Culture

“Establish a culture of safety”

- Nationwide cultural change initiatives and leadership programs
- Focus on Critical Risks (eg: Repair & Maintenance)
- H&S goals that benefit all parties

✓ Positive changes in behaviours and attitudes
✓ Increased near hit reporting
✓ Higher quality A&I reports
✓ Improved safety leadership, productivity, morale & work enjoyment
✓ Fewer safety-related accidents,
2. Collaboration

“working together to build success”

✓ Build & maintain strong working relationships to create new value and win:win
✓ Greater input into HP decisions
✓ New contracting approach
✓ Benefit-sharing model
✓ Long term perspective
✓ Incentivise mechanization and innovation

“Allocate work to incumbent contractors who can demonstrate material improvement initiatives to the mutual benefit of both parties”
3. Mechanisation

“if it can be mechanized it will be”

- MOU with UDC Finance

2017 Mech Stats:

- 86% mech felling
- 91% grapple extraction

<table>
<thead>
<tr>
<th>KPI</th>
<th>2013</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers Per Crew</td>
<td>7.1</td>
<td>6.4</td>
</tr>
<tr>
<td>Labour productivity (t/worker/day)</td>
<td>28</td>
<td>46</td>
</tr>
<tr>
<td>Crew Production (t/day)</td>
<td>201</td>
<td>283</td>
</tr>
</tbody>
</table>
4. Quality Workforce

“a willingness at all levels to keep learning and investing in skills”

<table>
<thead>
<tr>
<th>TRAINING SUBJECT</th>
<th>DESCRIPTION OF TRAINING</th>
<th>WHEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>Employment Law</td>
<td>May</td>
</tr>
<tr>
<td></td>
<td>Leadership Training</td>
<td>June - July</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>Heath and Wellbeing with Dr Tom (KYND)</td>
<td>April - May - June</td>
</tr>
<tr>
<td></td>
<td>Induction Training - Core Competencies</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Environmental</td>
<td>NES Training</td>
<td>April</td>
</tr>
<tr>
<td></td>
<td>Environmental Standards Update</td>
<td>May - June - July</td>
</tr>
<tr>
<td>Value Recovery, Product Quality</td>
<td>1: Sawmill, 2: Port Visits</td>
<td>1: June 2: November</td>
</tr>
<tr>
<td></td>
<td>Processor Certification</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Hydraulics Training</td>
<td>Mid Year</td>
</tr>
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</table>
"This opportunity is the biggest thing that has ever happened to me. To be able to fill in the gaps and grow my leadership skills means I can pass on my knowledge and teach the up and coming forest workers."

Terry Sanson
5. Benchmarking
“emulate best practices and performance”

Contractor Dashboard

- Productivity & Innovation
- Safety & Environmental
- Quality Workforce
- Value
- Service Delivery
- Performance YTD

Time and Motion Studies & Productivity Coaching

- Unhook: 25%
- Outhaul: 15%
- Inhaul: 26%
- Grapple: 34%

Chart showing unhook time distribution.
Harvesting is considerably safer!
... and the supply chain is more efficient and resilient

~$10 million of cost savings adding 10% to RMF’s bottom line in 2017
Next Step Innovation

Transformative technology

- Cost savings through fewer resources
- Productivity improvement
- Safer
Threshold of a new high-tech era

Integrated Technology Platform

- Build on technology already here today with new technology, new business models and new skills
  - Information capture
  - Connectivity
  - Data analytics
  - Automation

Be ready for the competitive challenges that this will bring
But there are barriers..

- Complex forest settings
- Low R&D expenditure
- Commercialisation
- Cost of implementation
- New skills required

**Emirates Team New Zealand**

- Longest surviving America's Cup syndicate of all time and the most successful
- Reached every one of the past six finals, won 2 challenges
We’ve got a strong base to build on…

- **Innovative culture**: an appetite for new technology development & deployment
- **Collaboration**: Overcome barriers through collaborative R&D strategy & targeted investment
- **Skills & capability**: to design and successfully execute new innovations.
- **Scale**: 1.7m ha, 33m m³ harvest, strong demand, new capital investment, Government support

…. we are well positioned for future success!
THANKS!

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