



# Innovation in Small Scale Forest Harvesting

FOREST GROWERS LEVY TRUST FUNDED PROJECT

JOHN SCHRIDER, GRAHAM WEST, DEAN SATCHELL – SME COMM NZFFA



# Forest Grower Levy Trust (FGLT)

- ▶ Total levy collected 9m
- ▶ Small grower component (40%) 3.6m
- ▶ **Question - Your money – do you want a say in how it is spent?**





# The commercial environment the single small grower is working in

- ▶ Secondary to corporate
- ▶ One-off i.e. single age class, harvest once every 25 years, no established market
- ▶ Cannot provide customers with continuity
- ▶ Cannot sustain high production/high capital cost harvesting system
- ▶ Price taker
- ▶ Higher rates of downtime – less reliable
- ▶ Log price/log demand volatility

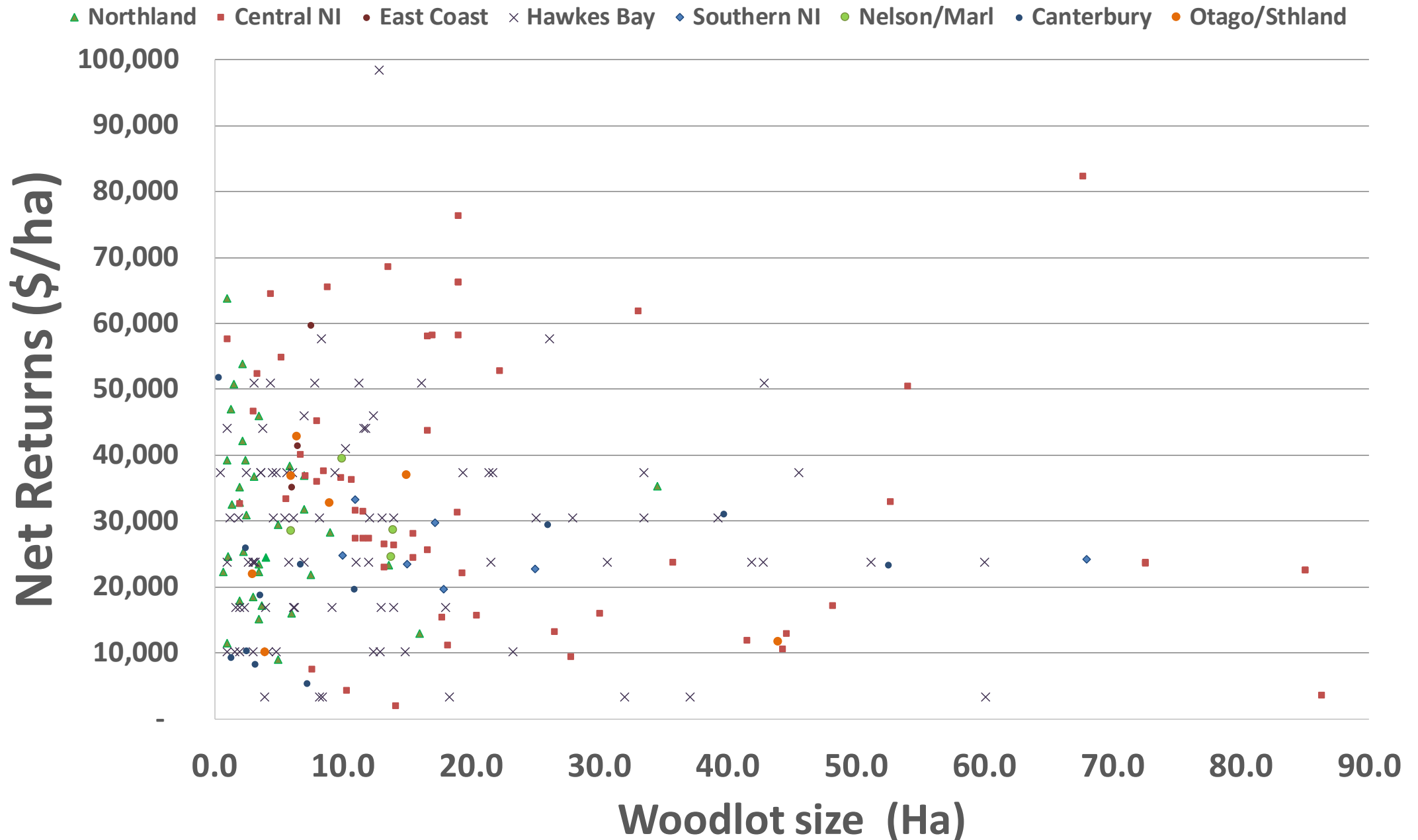


# Background to this project

- ▶ Road construction, harvesting and transportation costs can be 70-80% of delivered price;
- ▶ Costs are **INCREASING**;
- ▶ Woodlots are often poorly located, difficult to access, trees are large, harvesting systems utilise high capital cost equipment and machinery;
- ▶ Situation is unsustainable, margins are reliant on continuing strong log prices;
- ▶ **Question: Can we develop more innovative, cost-effective harvesting systems?**

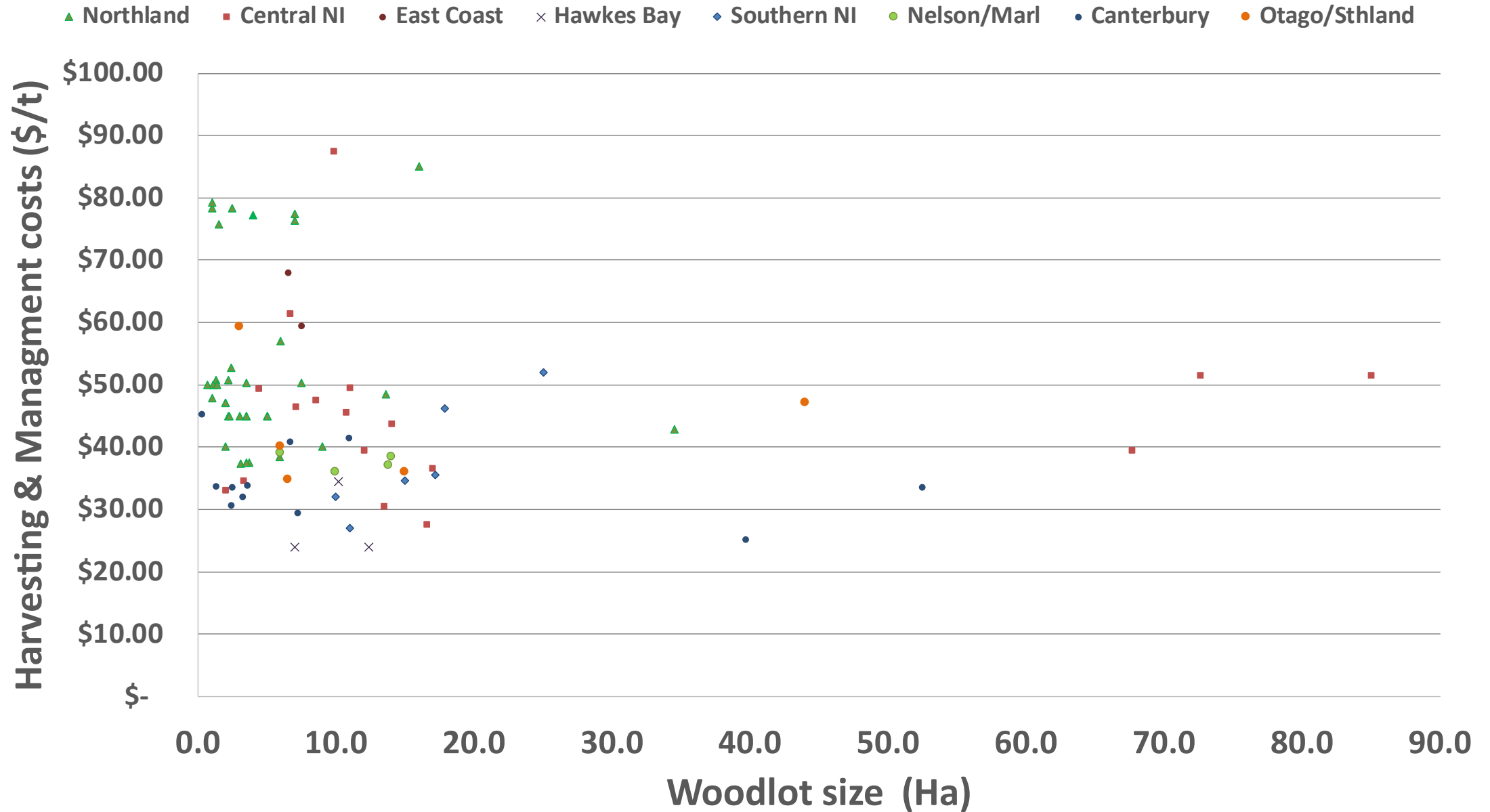


# Net returns (\$/ha) for 215 Woodlots at 2017-18 log prices



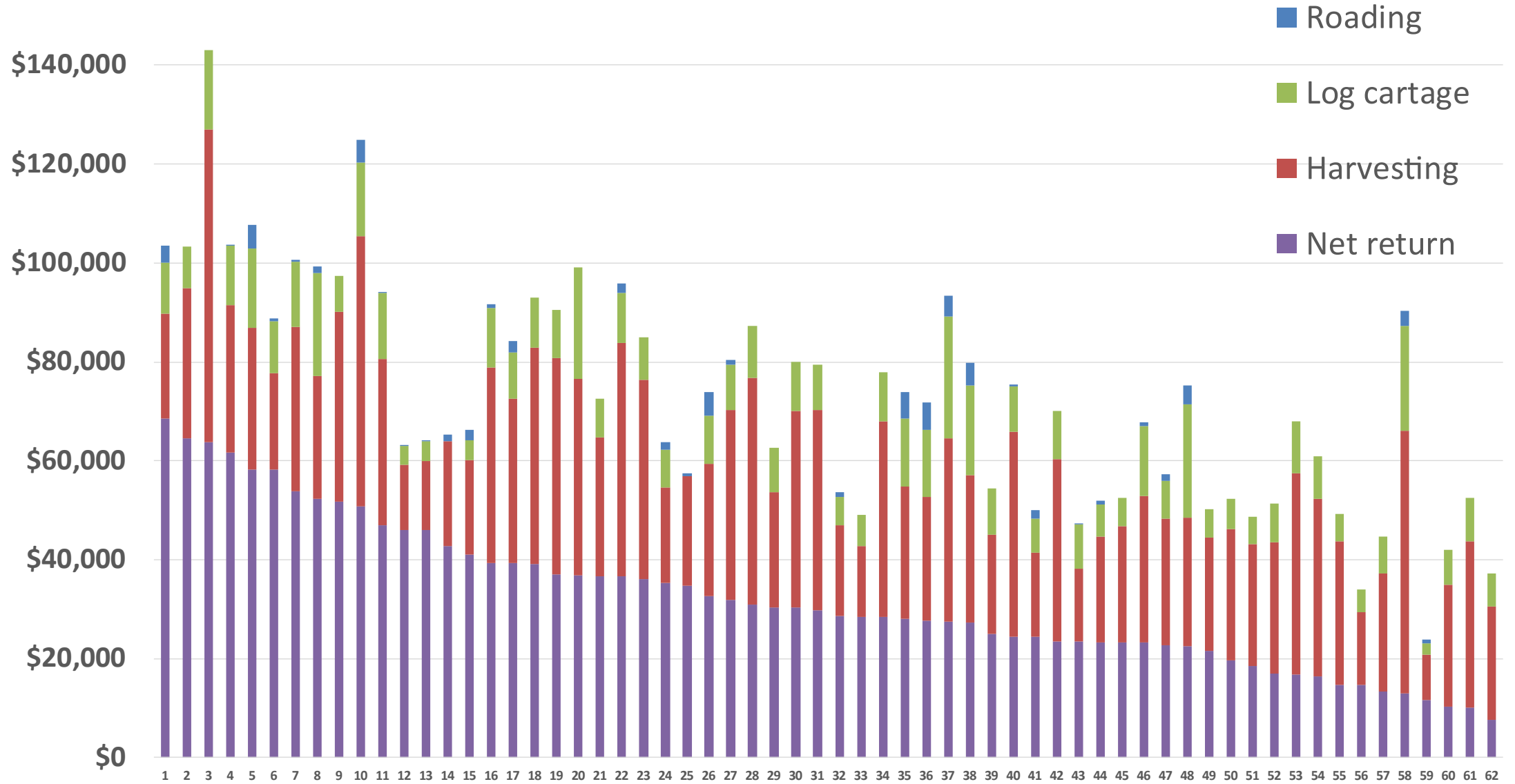


# Harvesting & Management costs (\$/t) by woodlot size for 83 Woodlots



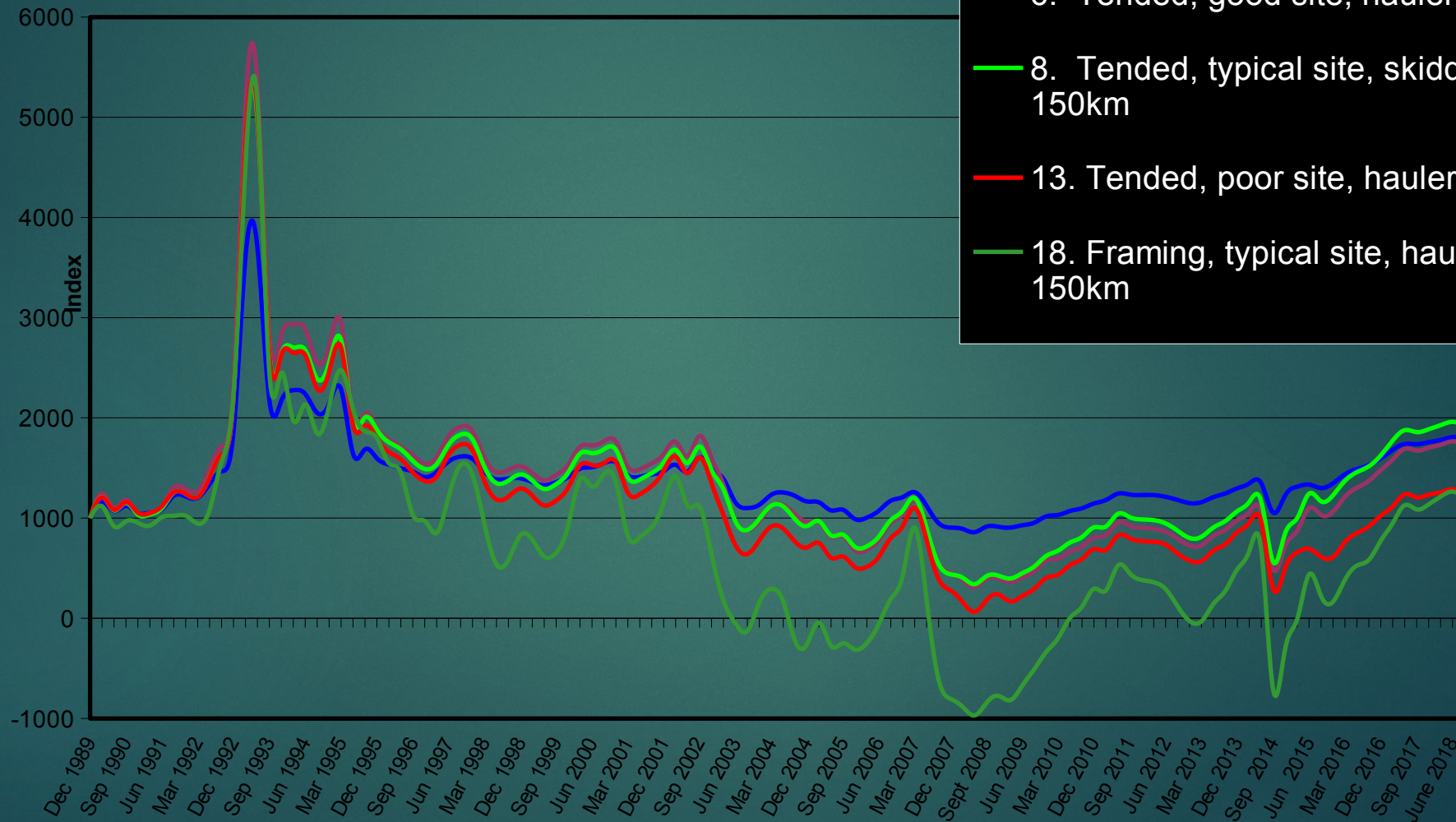


# Distribution gross Woodlot Revenues (\$/ha)





# Radiata Pine Stumpage Movement Index

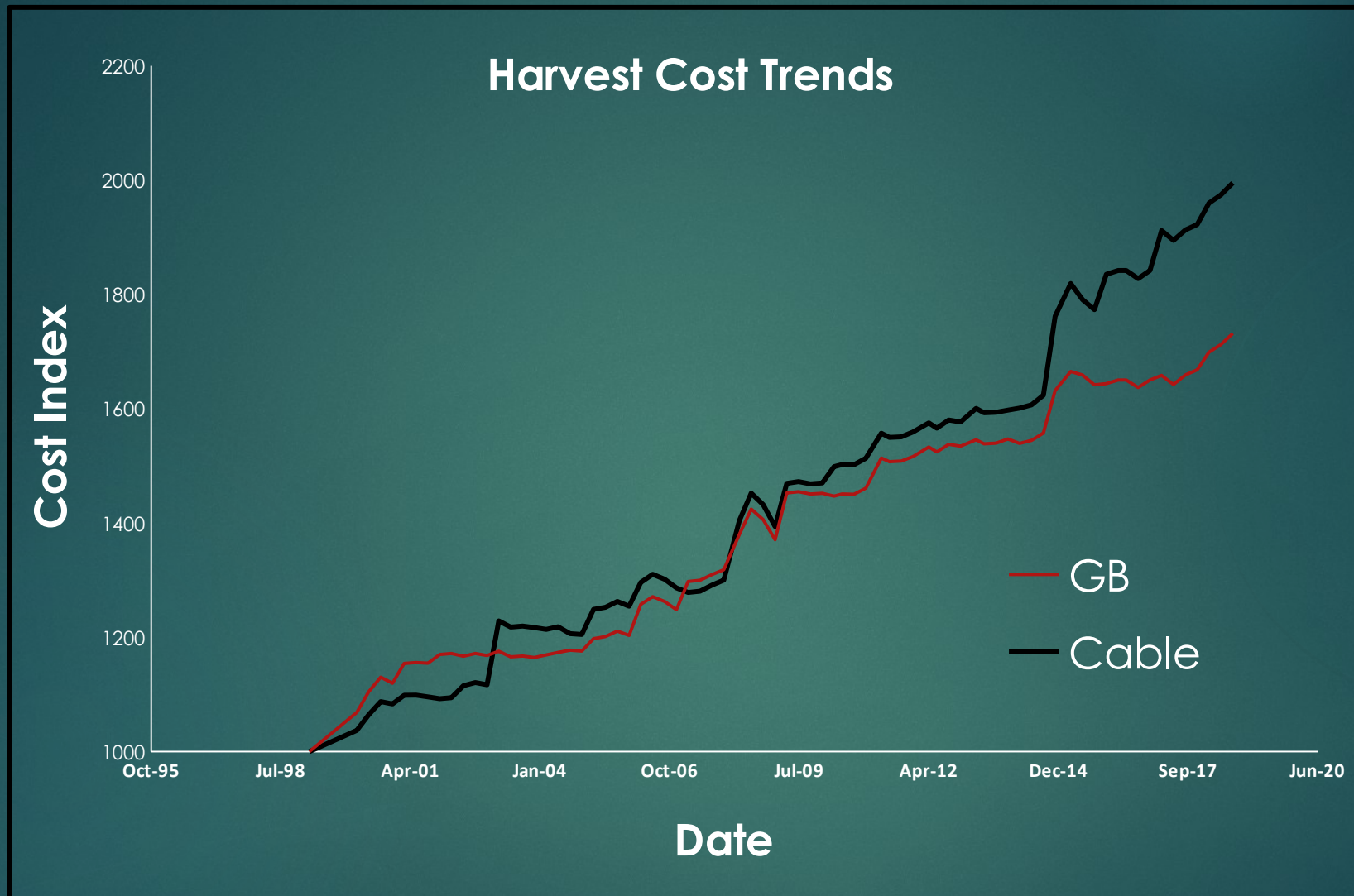


- 1. Tended, super site, skidder, 60km
- 6. Tended, good site, hauler, 150km
- 8. Tended, typical site, skidder, 150km
- 13. Tended, poor site, hauler, 60km
- 18. Framing, typical site, hauler, 150km



Source: Forme Consulting Group Ltd







# What we are dealing with?

Forests that are:

- ▶ Small
- ▶ Inaccessible
- ▶ Lower quality site
- ▶ Environmentally sensitive
- ▶ Steep
- ▶ Isolated
- ▶ Large trees
- ▶ Single age class
- ▶ etc





# What can we do to drive change?

- ▶ Cost v. production?;
- ▶ Lower day costs?;
- ▶ Less equipment?;
- ▶ De-phase tasks?;
- ▶ Encourage greater versatility?  
e.g. interchangeable components to combine tasks;
- ▶ Challenge existing common practice? e.g. mobile off-road forwarding v. necessity for road construction;
- ▶ Challenge industry norms? e.g. drive to “eliminate feet on the ground/hands on the saw” may not be appropriate for felling of small woodlots.





# Tasks & Output



1. Engage harvesting experts and innovators to rationalise and develop research proposals.
2. Run a series of workshops and interviews involving all participants to collate ideas and existing information.
3. Report on existing knowledge gaps and research needs that would progress small scale harvesting innovation.
4. Assist in rationalising research priorities and in the business case development to produce a pipeline of research proposals.



# Engage with

To awaken the interest of small scale participants and broaden the available resource base by capturing examples of innovation and systems approach thinking.

## We want:

- ▶ Harvest managers
- ▶ Harvest planners
- ▶ Contractors
- ▶ Equipment modifiers
- ▶ Engineers
- ▶ Bush mechanics
- ▶ Researcher
- ▶ Good old Kiwi ingenuity





What examples of innovation are out there

- ▶ Key concepts
- ▶ What is their genesis
- ▶ How can they and will they benefit from focused and formal research





# Summary

- ▶ Half day workshops in Northland/BOP/Eastland/SNI/Marlborough/Otago& Southland
- ▶ What interest and ideas can we collaborate on and develop
- ▶ How can they benefit from focused and formal research
- ▶ Put proposal to FGLT for Funding in September 2019

Please provide feedback to:

John Schrider [john@forme.co.nz](mailto:john@forme.co.nz)

Graham West [westlanduse@gmail.com](mailto:westlanduse@gmail.com)

Dean Satchell [dsatch@xtra.co.nz](mailto:dsatch@xtra.co.nz)

