Technical Report
NS033

NATIONAL INSTITUTE FOR
FOREST PRODUCTS INNOVATION

Development and implementation of forest health and biosecurity systems and protocols based on quantitative pest risk and economic

Results of Economic Analysis NIFPI Forest Health Project

2025

Mount Gambier Centre
Funded by the Australian Government, South Australian Government & Industry Partners.
nifpi.org.au

Development and implementation of forest health and biosecurity systems and protocols based on quantitative pest risk and economic impact assessment

Results of Economic Analysis NIFPI Forest Health Project

Prepared for

National Institute for Forest Products Innovation

by

Courtney Regan

Results of Economic Analysis NIFPI Forest Health Project
Project No: NIF097-1819 Part B [NS033]

Researcher/s:

Courtney Regan
CSIRO Towards Net Zero Mission
CSIRO Agriculture and FoodResearch Scientist
courtney.regan@csiro.au

University of South Australia Centre for Markets Values and Inclusion
Adjunct Research Fellow
courtney.regan@unisa.edu.au

Forest and Wood Products Australia

Suite 6.03 36 Wellington St, Melbourne, Victoria, 3000

T +61 3 9927 3200

E info@nifpi.org.au
W www.nifpi.org.au

Softwood

- Forestry SA data used to assign site quality to stands

Site quality characteristics for *P. radiata* taken from Lewis et al. (1976).

10-year growth (m^3)	Site Quality
273	1
223	2
175	3
131	4
80	5
37	6
7	7

Softwood

- Forestry SA data used to assign log size proportions.
- Reclassified to *small, Intermediate, Medium* and *large* to align with Australian log price index.
- Forestry SA log sizes 1-3 = small
- 4-6 = intermediate
- 7-8 = medium
- 9-10 = large

Log size proportions for each P. radiata harvest activity and site quality.

Site Quality 1				
	Small	**Intermediate**	**Medium**	**Large**
T1	1	0	0	0
T2	0.56	0.39	0.05	0
T3	0.18	0.56	0.26	0
CF	0.06	0.17	0.6	0.17
Site Quality 2				
	Small	**Intermediate**	**Medium**	**Large**
T1	1	0	0	0
T2	0.67	0.33	0.01	0
T3	0.23	0.57	0.21	0
CF	0.07	0.21	0.64	0.09
Site Quality 3				
	Small	**Intermediate**	**Medium**	**Large**
T1	1	0	0	0
T2	0.77	0.23	0	0
T3	0.31	0.55	0.14	0
CF	0.09	0.29	0.57	0.05

Softwood

- Industry advice taken to further classify log sizes into log class distribution.
- Log classes assumed to include *sawlogs (SAW), recovery (Rec), pulp (PLP), preservation (PRS) and Chip (CHP)*

The proportion of log classes, by log size for each harvest operation (T1-CF) for SQ1

Site Quality 1					
	Log class				
	SAW	**REC**	**PLP**	**PRS**	**CHP**
T1 Small	0	0	0.72	0.28	0
T1 Inter	0	0	0	0	0
T1 Med	0	0	0	0	0
T1 Large	0	0	0	0	0
T2 Small	0.22	0.04	0.43	0.32	0
T2 Inter	0.54	0.06	0.34	0.06	0
T2 Med	0	0	0	0	0
T2 Large	0	0	0	0	0
T3 Small	0.32	0.01	0.67	0	0
T3 Inter	0.70	0.06	0.24	0	0
T3 Med	0.97	0.03	0	0	0
T3 Large	0	0	0	0	0
CF Small	0.32	0.01	0.67	0	0
CF Inter	0.71	0.05	0.24	0	0
CF Med	0.97	0.03	0	0	0
CF Large	0	0	0	0	0

Softwood

- Harvest costs and log prices provided by industry and forestry consultants

Harvest costs ($/m^3) for each log class in each softwood harvest operation (T1-CF)

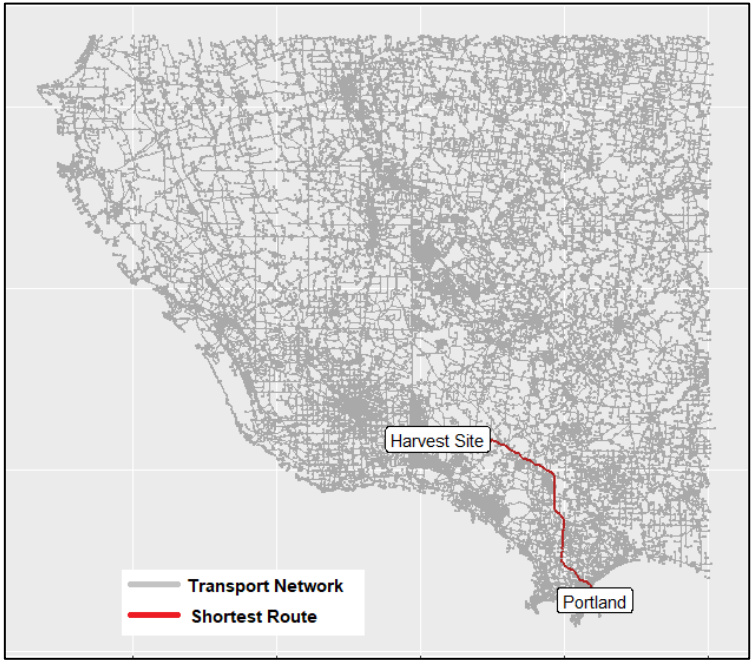
Harvest operation	Harvest costs ($/m^3)
T1	35.2
T2	23.65
T3	18.15
CF	12.65

The assumed log prices for *P. radiata*.

Log class	Log prices ($/M^3)
SAW (small/intermediate)	83
SAW (medium/large)	125
REC	53
PLP	40
PRS	80
CHP	0

Softwood

- Transport costs calculated by transport network model
- Assumed destination was Mt Gambier
- Costs assumed to be \$0.18/m^3/km

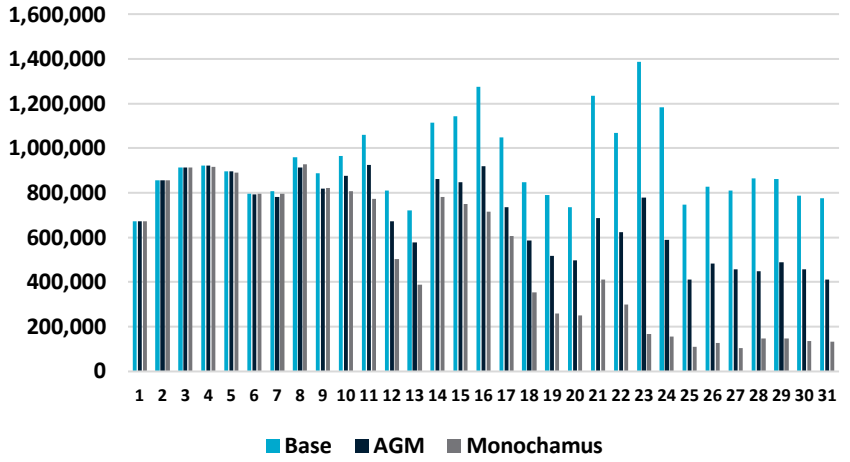


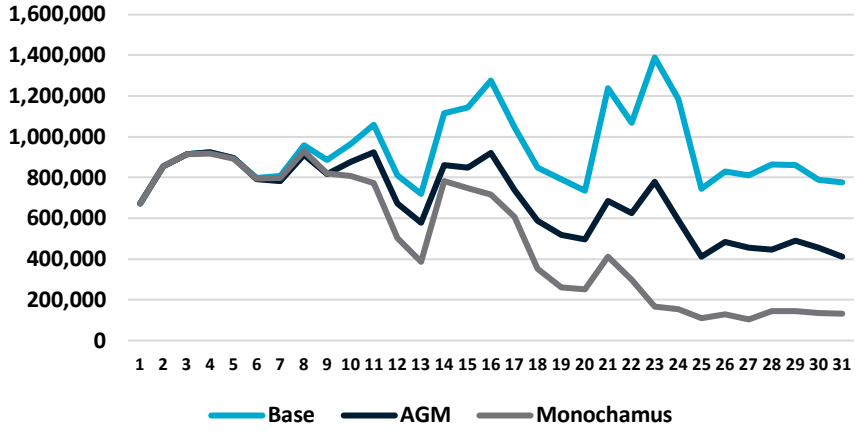
Softwood

- Impacts on wood flows from pest calculated from modelled data

- Yield impacts become apparent from ~ year 10

	BAU	AGM	Monoch.
Wood flow (Mm3)	28.8	21.4	15.7
% Change		-25.6	-45.4

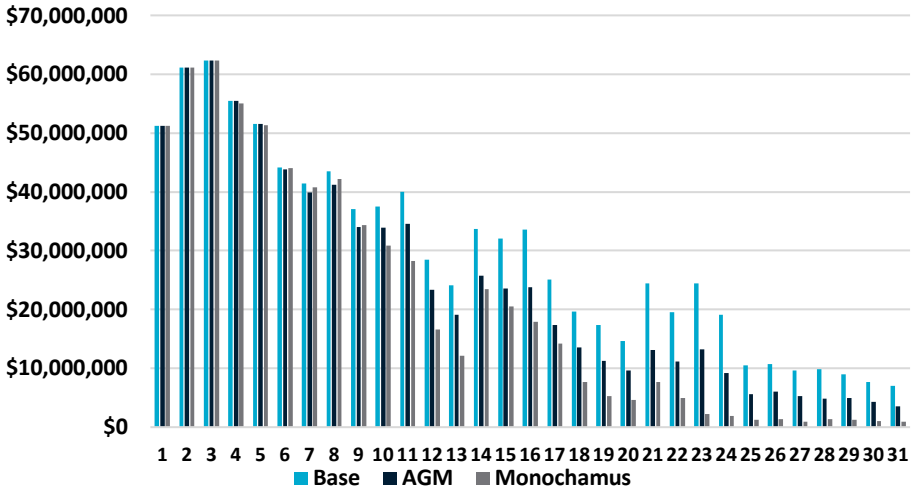




Softwood

- Economic comparisons done on present value basis over the 30-year time horizon

	BAU	AGM	Monoch.
Present Value	$906.14	$757.87	$648.78
Change ($M)		-$148.28	-$257.36
Annualised ($M)		-$12.44	-$21.60

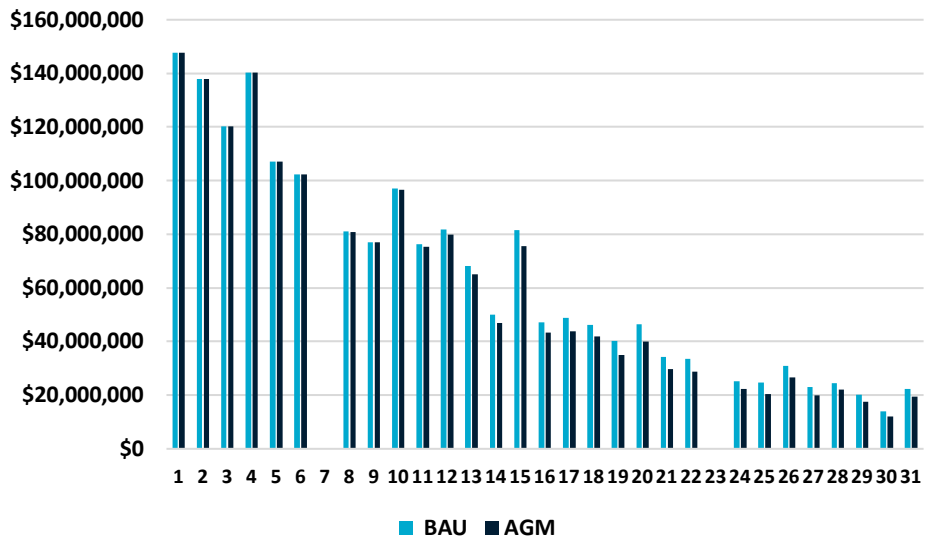


hardwood

- Economic comparisons done on present value basis over the 30-year time horizon

	BAU	AGM
Present Value ($B)	$1.85	$1.77
Change ($M)		-74.8

	BAU	AGM
Wood flow (Mm^3)	42.4	39.3
Change (Mm^3)		-3.11



Thank you

CSIRO Towards Net Zero Mission
CSIRO Agriculture and Food
Research Scientist

courtney.regan@csiro.au

University of South Australia Centre for Markets Values and Inclusion
Adjunct Research Fellow

courtney.regan@unisa.edu.au