

Overview of Monitoring and Management of Autumn Gum Moth (*Mnesampela privata*) in the Green Triangle (GT)

Presenter: Dianne Patzel

22nd October 2025

Dianne.patzel@unisa.edu.au

Photo: D. Patzel unless otherwise stated



University of
South Australia



Forestry
Centre of
Excellence

Content

- GT context
- Forestry Centre of Excellence
- Green Triangle Forest Health Group
- Overview of Autumn Gum Moth
- Monitoring program
- Research



University of
South Australia



Forestry
Centre of
Excellence

Green Triangle

- Has some of Australia's best climate, topography and accessibility for plantations and wood fibre processing
- Constitutes 17% of Australia's plantations or 300,000 hectares
- \$1.5 billion pa in forest industry economic output, which is 7% of the Green Triangle's total economic output
- Employs 7,000 people
- Uses 6% of the land
- Absorbs about 5.8 million tonnes of CO² each year

Source: Green Triangle Forest Industry Hub

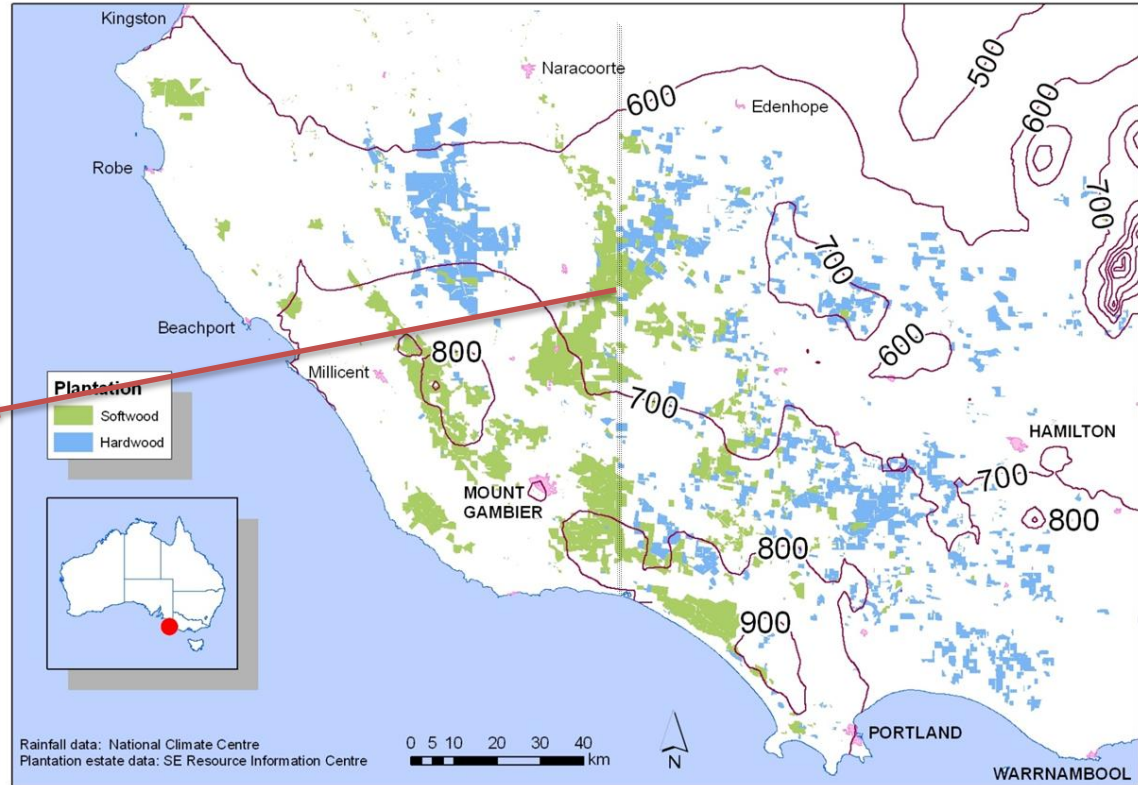


University of
South Australia



Forestry
Centre of
Excellence

Green Triangle Forestry – Plantation Extent





University of
South Australia



Forestry
Centre of
Excellence



University of
South Australia



Forestry
Centre of
Excellence

Past

Case Study: Forest Health

Research

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

Development

- UniSA – Green Triangle Forest Health and Biosecurity Program
- FWPA - Remote Sensing for forest pests and change detection.
- FWPA *Gonipterus* Biocontrol for WA plantations

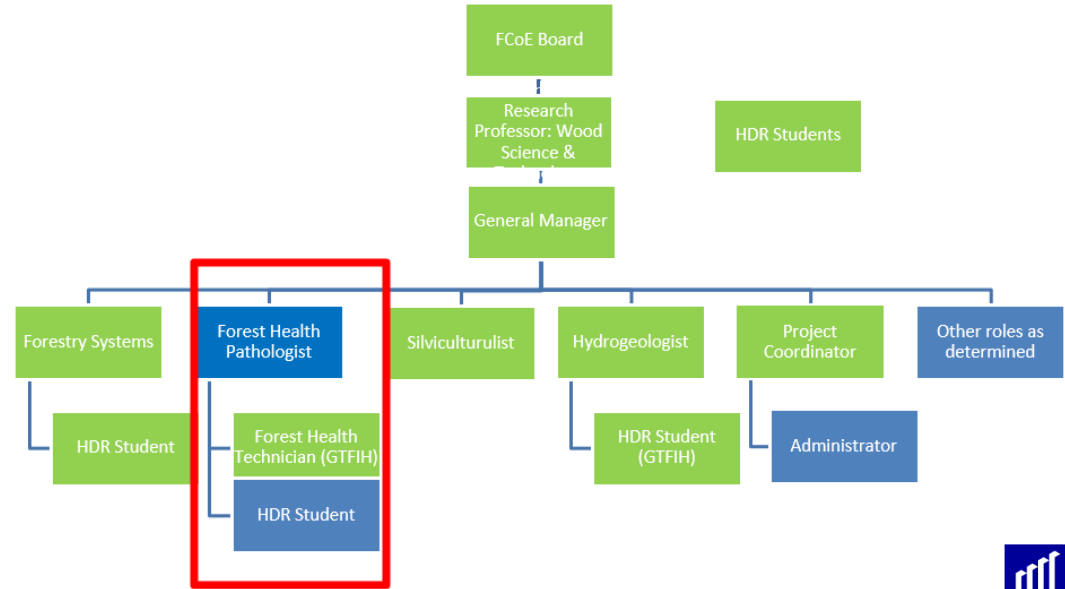
Extension

- GTFHG Forest Health Group
- Regular Committee and Operational Group Meetings
- Collaborative Forest health surveillance across 9 companies, regular reports
- Regular field days, training support
- 8 + yearly reports
- Support and develop industry research
- Seminars
- Implemented collaborative surveillance program
- Innovative pest biological & economic scenarios to identify risks & improve surveillance.
- Industry training.



Forestry Centre of Excellence (Mount Gambier)

1. New laboratory facility in the FCoE building in Mount Gambier
2. Forest Health Specialist (FCoE)
3. Supported by a 5-year 100% industry-funded contract



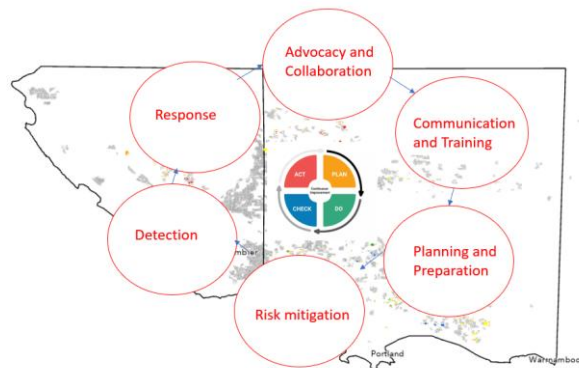
Source: J. O’Hehir



University of
South Australia



Green Triangle Forest Health Group (GTFHG)



Vision: The Green Triangle (GT) forest industry is committed to reducing the effect of pest and disease on plantation production through early detection, intervention and effective collaborative research uniting all GT growers.



University of
South Australia

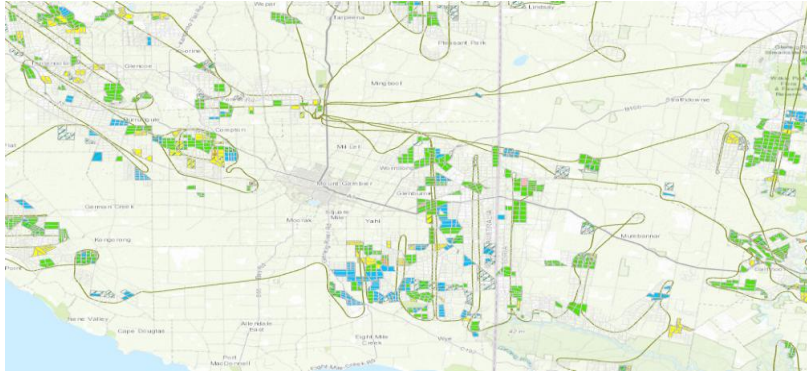


TIMBERLANDS
Pacific



Forestry
Centre of
Excellence

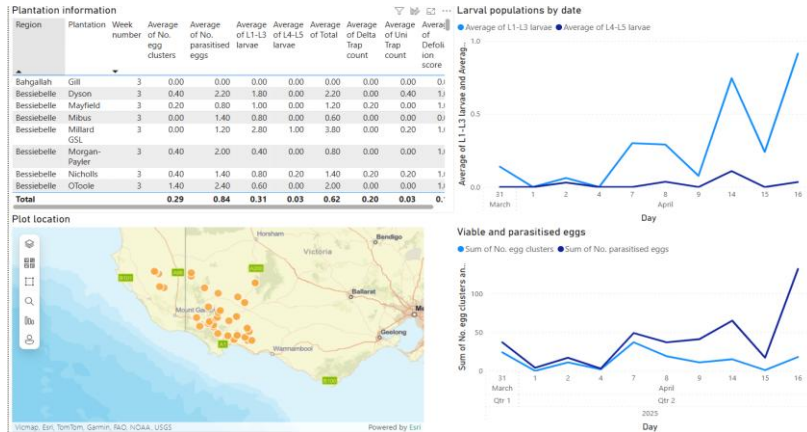
Surveillance/Monitoring



Surveillance

- Damage assessment
- Location, extent and severity of key pests and pathogens

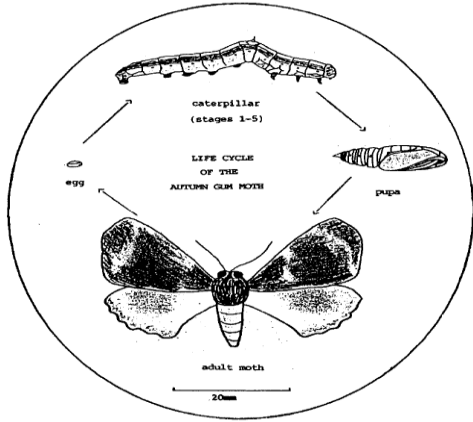
Monitoring - Population Assessment



University of
South Australia



Autumn Gum Moth (AGM)



Adults emerge
March/April (GT)
Females oviposit eggs on
new growth on juvenile
E.globulus

5 larval instars (Larvae 1-
3 skeletonise, 4-5 most
damaging consume all)

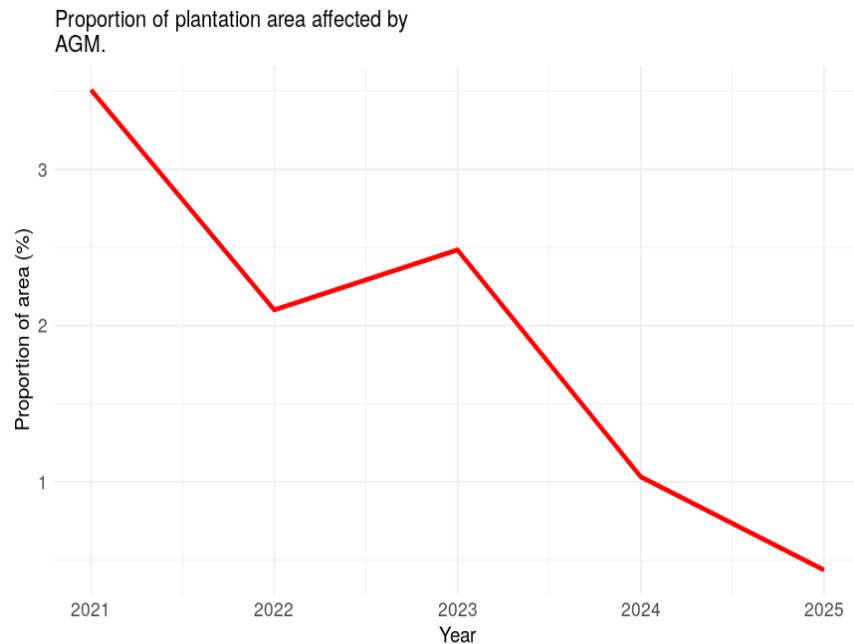
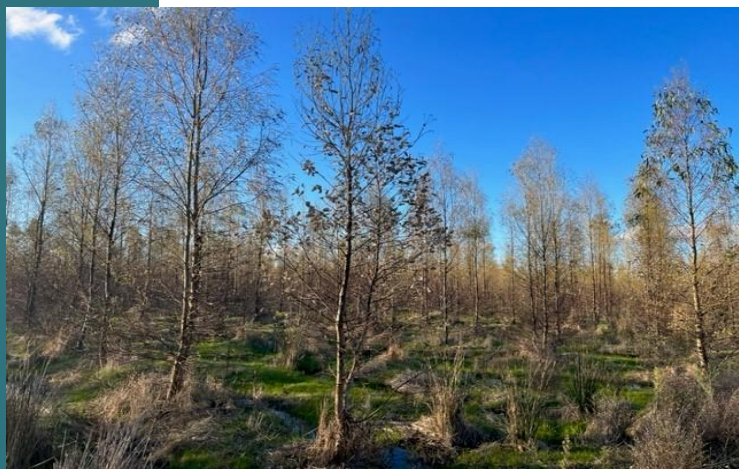
Pupate in soil (6-9
months)



Damage



Damage



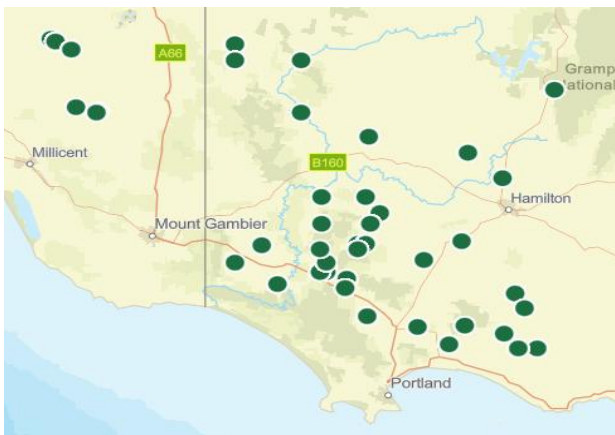
Control



- Chemical control
- Parasitoid wasps (Braconid –egg parasitoid, Ichneumon – larval parasitoid)



Monitoring program



- 12-week population monitoring program
- Communicate results weekly to assist control decision
- Annual field day for identification



Trials

Pheromone Traps

- Trap Type
- Lure efficacy
- Population work



Chemical alternatives (FRM)

- *Bacillus thuringiensis*



University of
South Australia



Forestry
Centre of
Excellence

Research

1. AFWI: Sustainable management of plantation forest pests under changing climates

Objective 1- Risk and economics

- Guide the direction for research investment for key current forest health management options by undertaking economic analysis (chemical control, fertiliser, and silviculture change).
- Identify and quantify the current short and long-term economic threats and their climate change impact.
- Decision support to invest in strategic pest management research for pest management under current and future climates, including (resistant germplasm, targeted vs area wide monitoring, AGM automated traps, and surveillance upgrades)
- Improve knowledge by comparing company-specific actions vs regional

Objective 2- Forest health dashboard

Integrate forest health monitoring data with advanced pest and tree simulation models to provide forecast capabilities to inform economic management.

- Interactive tools allow industry to use and integrate their data to improve and maintain corporate knowledge; especially important as staff turnover.
- Improve timeframes for reporting of risk, weekly or monthly outputs, seeing how each season is evolving in terms of climate suitability for each of the modelled pests.
- Inform the framework for extension to include more pests and diseases, providing innovative data analytics in an accessible centralised location.

2. Link traps to population level and automate monitoring

3. Drivers for AGM in the Green Triangle

Thankyou!



Forestry
Centre of
Excellence



University of
South Australia