BIOSECURITY RISK MANAGEMENT: ARE WE DOING ENOUGH?

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MAF/FOA Workshop

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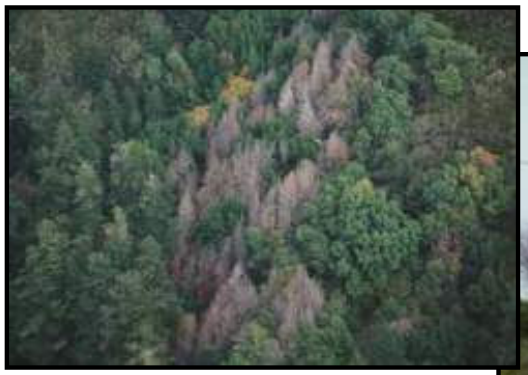
The biosecurity threat: are the risks real?

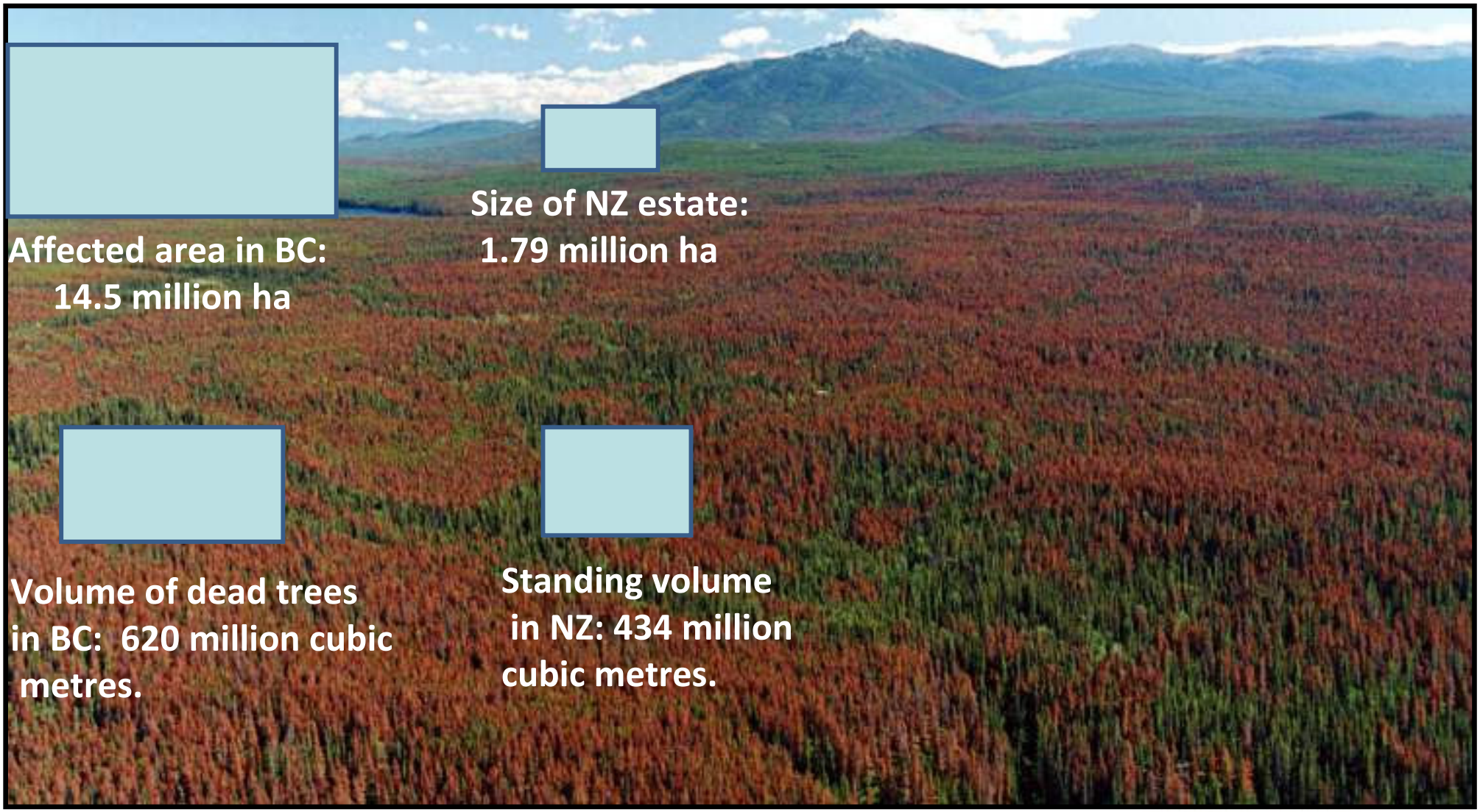
Exotic pests cause enormous losses e.g.:

- Chestnut blight: wiped out chestnuts from their native eastern USA (4 billion trees)
- White pine blister rust killed or damaged 95% of the original western white pine stands
- Gypsy moth costs millions annually
- Dutch elm disease killed 90% of elms in many parts of Britain
- Exotic forest pests cause loss of about US$9 billion per year in the USA



The biosecurity threat: are the risks real?

- Climate change may alter status of existing pests e.g. mountain pine beetle



Risks to radiata pine in NZ

- Established pests
- Many examples:
  - Pitch canker
  - Western gall rust
  - *Phytophthora pinifolia* etc
  - Bark beetles
- Unexpected pests

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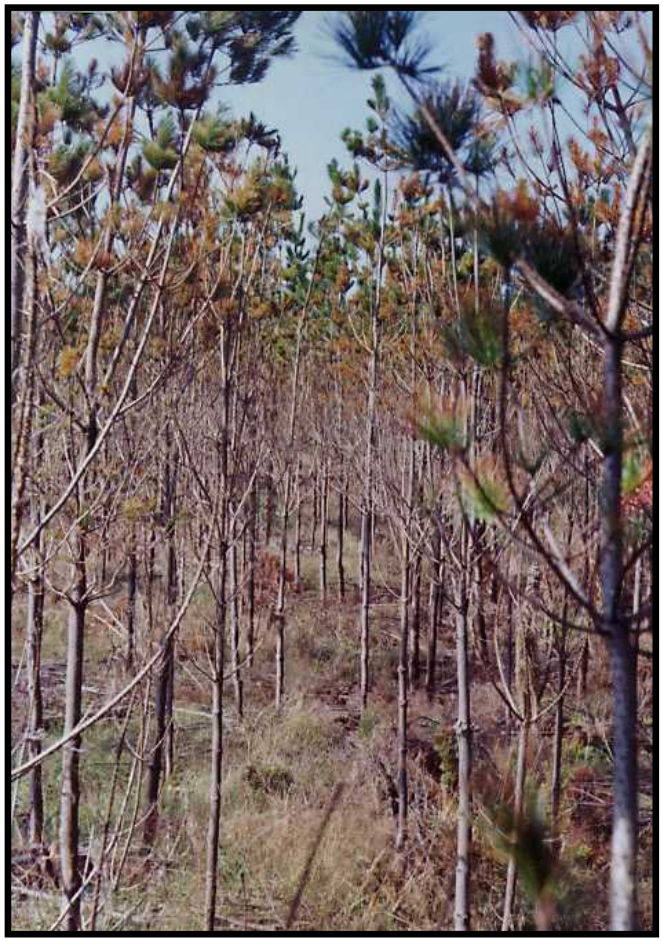
Consequences of these threats?

- Effects on productivity
- Effects on wood quality
- Increased management costs
- Restricted market access, loss of markets
- Increased cost of quarantine treatments
- Reduced ability to import germplasm
- Reduced forest value



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Comparison with other risk factors

- Wind:
  - Ongoing attrition damaging ~1.8% annual cut
  - Occasional catastrophic but limited area affected
  - Minimal investment
- Fire:
  - Small area burned each year (0.12% of planted area)
  - Potential for localised catastrophic damage
  - Significant management investment
- Biosecurity:
  - National level impacts on productivity and trade
  - Potentially devastating
  - Medium management investment

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Approaches to risk management

- MAF BNZ policies and processes
- Surveillance and diagnostics
  - High risk sites
  - Forests
- Research

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What can research offer?

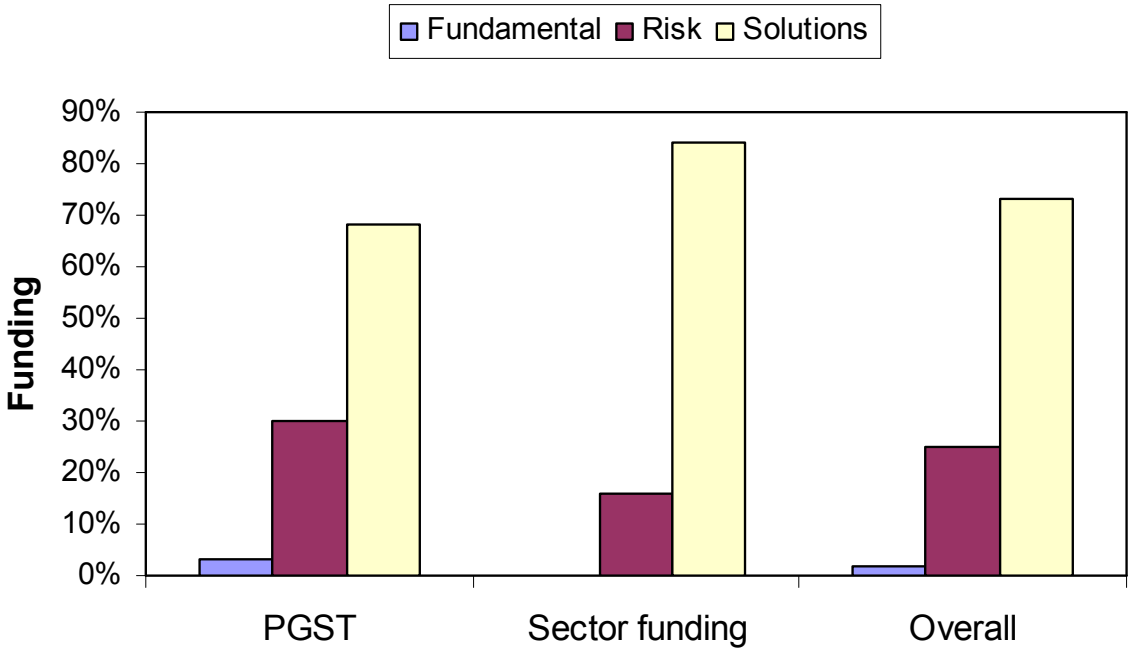
Specialist knowledge and scientific process leading to:

- Reduced likelihood of pest introductions
- Improved probability of pest eradication
- Cost-effective pest management
- Maintained market access
- Huge economic returns on investment in research
- *Increased forest value?*

Doing the right research

FBRC:

- Provides stakeholder focus
- Targets right research
- Oversees technology transfer
- Ensures balanced programme
- Solutions focused research



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Risks from research

- Research can highlight issues which have trade implications out of proportion to the threat
- Do right research at right time
- FHOC
- Risks from not doing research are greater

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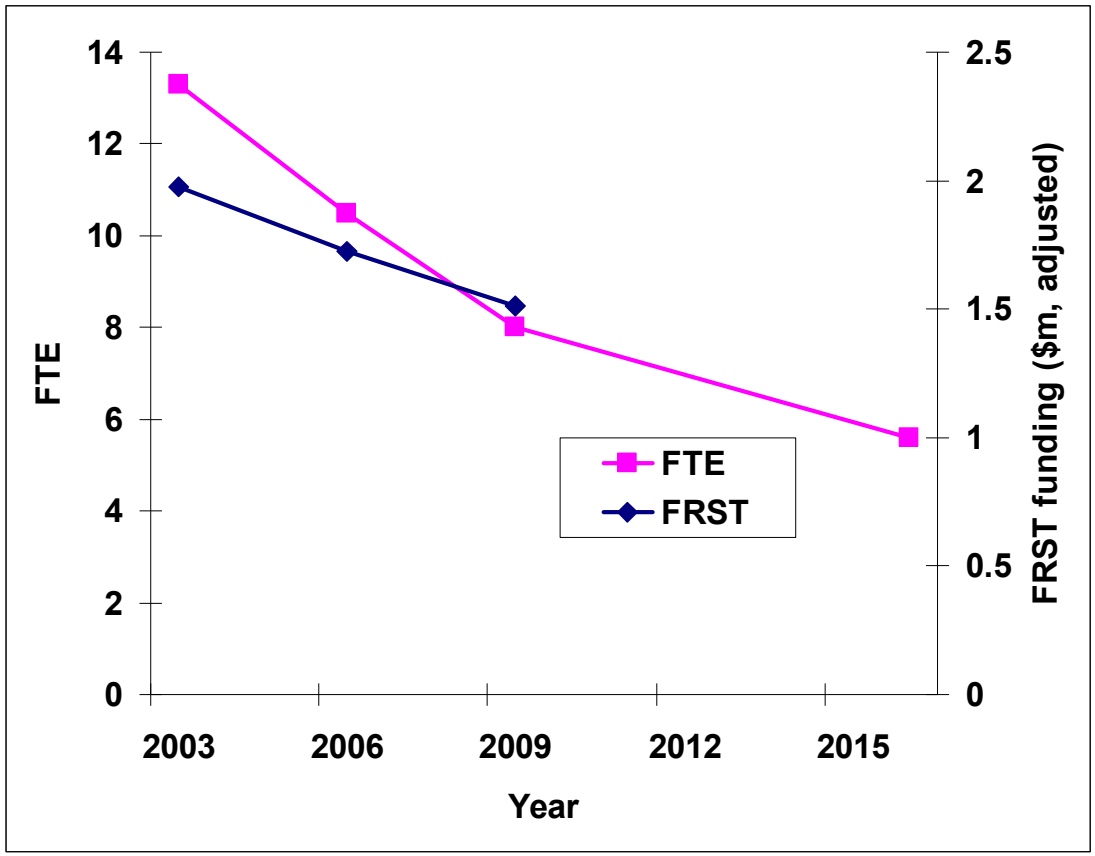
Sustaining science capability

- Maintaining capability is key element of forest biosecurity strategy
- Erosion of current capability
- Target co-funding from sector never achieved
- Risks to sector and NZ will increase as capability is eroded
- New funding is essential



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The opportunity for new research

- Strong economic case for increased investment beyond capability maintenance
- Clear targets for additional funding overseen by FBRC e.g.
  - Reduce annual impact from *Cyclaneusma* from $30 m/yr to $10 m/yr within 5-10 years.
  - Reduce need for fumigation and associated costs.
  - Identify endophytes to reduce pathogen impacts.
  - Develop 5 new diagnostic protocols for high risk organisms
  - Develop methods to determine and mitigate risk from germplasm movement

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Conclusions

- Biosecurity threats could devastate the forest industry
- Research and the associated capability is an effective mitigation strategy with high benefit:cost ratio
- Despite the importance of research, sector funding:
  - Has never reached target to leverage government investment
  - Is based on year to year voluntary levy
  - Is not inflation adjusted
- Research capability is therefore declining
- Is this level of risk management good enough?
- Is a crisis required to fix the problem?

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