

Vespula Wasp BioControl Agent Application Environmental Protection Agency



December 17th 2020

"Making Tasman Great"

Wasp biocontrol project committee

- Funded by MPI Sustainable Farming Fund
- Top of the South Island
- Stakeholders from:
 - Nelson Forests Management
 - The Landcare Trust
 - Friends of Rotoiti
 - Federated Farmers
 - DOC
 - Entecol
 - ApiNZ
 - Rural Women NZ
 - Environment Bay of Plenty
 - Greater Wellington Regional Council
 - Beef and Lamb New Zealand

Funded by Sustainable Farming Fund

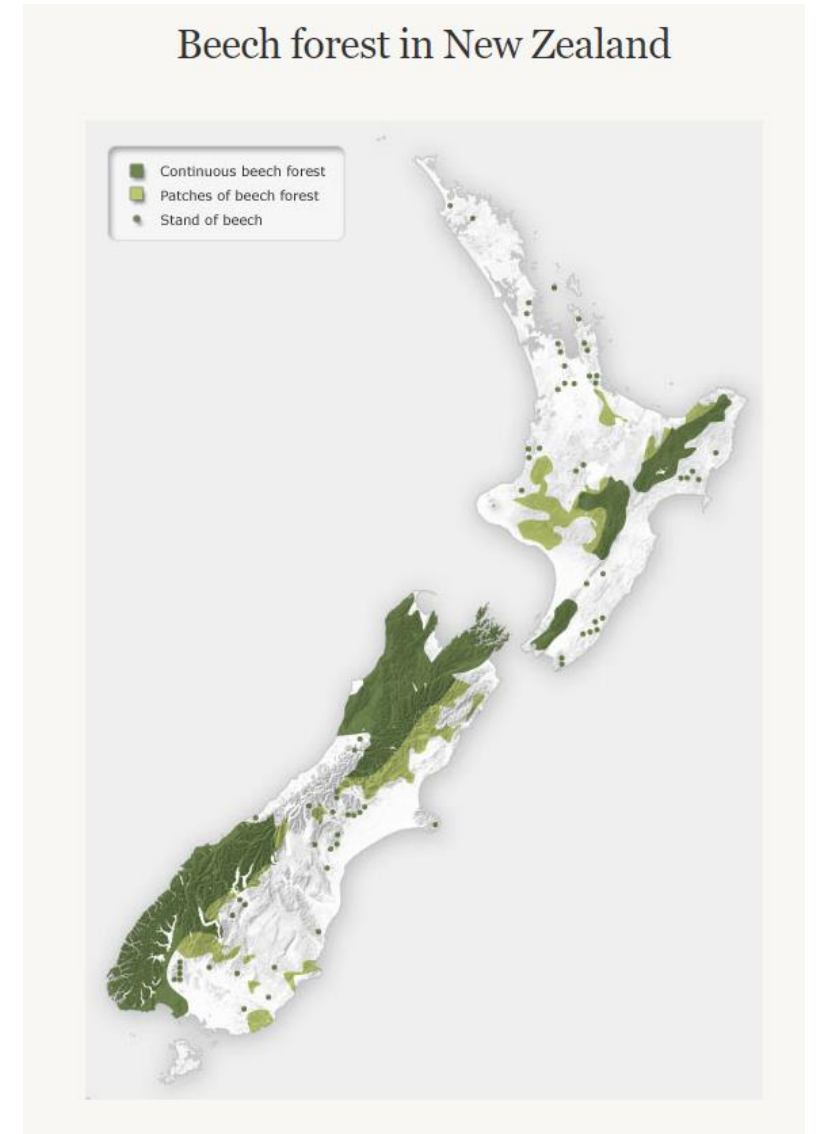
Ministry for Primary Industries
Manatū Ahu Matua



- Tasman District Council
- Hawks Bay Regional Council
- NZ Wine
- Forest & Bird
- ECan
- Waikato Regional Council
- Marlborough Wine Research Centre
- Manaaki Whenua – Landcare Research
- Auckland Council
- Marlborough District Council
- Forest Owners Association

Beech forest distribution

- Tasman District and the adjoining Marlborough Sounds have a substantial proportion of NZ's beech forest.
- Honeydew from beech trees is a major food source for both common and German wasps and results in high wasp numbers throughout the district.
- There are up to 30 nests per ha and many thousands of wasps per nest.



Wasps Collecting Honey Dew on Beech Trees



Non Human Wasp Impacts

- Impact on horticulture production including grape and fruit crops.
- Impacts on honey production – wasps robbing honey bee hives and attacking bees.
- Biodiversity impacts of wasps taking the food of particularly nectar feeding birds (kaka, tui, bellbirds etc.) and killing newly emerged chicks.
- Wasps attacking native insects such as caterpillars and orb web spiders.

Wasp Impacts on Humans

- Tasman District Council receives a 1-2 complaints each month related to wasps. These complaints generally relate to wasp nests in close proximity to dwellings and or recreation areas.
- People sensitive to wasp stings need to carry epi-pens and avoid areas of high wasp density during the mid to late summer period when wasp numbers are at their highest.
- Nationally approx. 1300 people per year seek medical advice for wasp stings. Serious allergic reactions and occasional deaths have been reported.
- Wasps are not included in the Tasman RPMP as we currently don't have a way of controlling them at a landscape scale. However Biosecurity Staff do respond to individual calls for assistance poisoning individual nests and providing advice.

Nelson Lakes – St Arnaud



Controlling Impacts of Wasps

- Wasp control using toxins is possible at local scales using products such as Vespex (Registered Trademark) wasp bait. However baiting is only feasible at a local scale. Control often occurs in high use areas along walking tracks, picnic areas and around houses.
- Often this work is undertaken by DOC, councils and community groups, sometimes with crowd funding such as Wasp Wipeout.
- It is not feasible to regularly bait landscape scale areas such as rural areas and the entire beech forest area of Tasman District.



Abel Tasman Coastal Track



Efforts to control wasps in Tasman

- 2014 Environlink Report (1414) by Darren Ward, Landcare Research. Recommended a number of biocontrol research areas including reintroducing *Sphecophaga vesparum*, research into hoverflies and mites.
- Vespula Biocontrol Action Group formed comprising TDC, Landcare Research, environmental NGO's, land managers, forestry managers, apiarists and DOC. Research funded by Sustainable Farming Fund.
- Initial work on mites and reintroduction of *Sphecophaga vesparum* but limited success so far.
- Research then focused on natural enemies of wasps in their UK home range. The most promising of these were hoverflies (*Volucella inanis*) and beetles (*Metoecus paradoxus*).

Summary

- Both German and common wasps are in high numbers in Tasman District.
- Wasps impact on both human uses and natural values.
- Wasp control through poisoning wasp nests and baiting is effective in reducing wasp numbers in local areas but only provides temporary control due to re-invasion from adjoining areas.
- Wasp control at a landscape scale can only be achieved through biological control.
- Over the past 6 years the *Vespula* Biocontrol Action Group, supported by Landcare Research and funded by the Sustainable Farming Fund has been working to identify suitable wasp biocontrol agents to achieve landscape scale wasp control.