

Summary of response to consultation with Māori over the proposed introduction of horsetail weevil

Responses to consultation with Te Herenga

The following message was sent to Te Herenga via the newsletter in October 2015. No responses were received.

“Before the end of 2015 the Lower Rangitikei Horsetail Control Group (LRHCG) wishes to submit an application to the EPA for approval to release a weevil for the biological control of field horsetail.

The applicant

The LRHCG represents a diverse group of land owners and managers who have a significant problem with field horsetail, and who have come together to try to find a better solution. The group includes arable and pastoral farmers, and representatives from the aggregate extraction industry, district and regional councils, and the NZ Landcare Trust. Landcare Research is the science advisor.

Where is field horsetail?

Field horsetail is an ancient plant that is relatively unchanged since the age of the dinosaurs. This plant reproduces by spores rather than seeds, and is native to Europe, Asia and North America. Field horsetail was first recorded in New Zealand in 1922 and can thrive in many habitats from wet, poorly drained areas of fields and grasslands, wetlands and stream edges, to well drained fields, orchards and crops, and even sandy or gravelly sites like roadsides, rail tracks and beaches. Infestations have been recorded from Kawhia, Havelock North, New Plymouth, Wanganui, Lower Rangitikei, Marlborough, Nelson, and the West Coast. The total amount of land infested nationwide is unknown. Horizons Regional Council has described the recent rate of field horsetail invasion as “phenomenal and unstoppable, with vast potential for further spread”. As well as spreading by wind-blown spores new infestations can also develop from small root or rhizome fragments spread by machinery, shingle extraction, cultivation or flooding.

What does field horsetail do?

Once established, field horsetail can form pure stands that exclude other plants. While grazing animals will often avoid eating the plant, those that do eat it can develop ‘equitosis’ which can prove fatal in horses. Field horsetail develops extensive underground rhizomes which are resistant to herbicides, making this weed extremely difficult and expensive to control. In grazed areas unpalatable horsetail replaces forage biomass, reducing productivity. It can modify native habitats, displacing flora and fauna. The aerial shoots and the rhizome can bind naturally mobile substrates such as river shingle, changing patterns of waterflow.

<https://www.horizons.govt.nz/assets/publications/managing-our-environment/publications-pest-plants-and-animals-2/horsetailbookletweb.pdf>

The proposal

Biocontrol now appears to be the only cost-effective and sustainable option for managing this plant. A feasibility study undertaken in 2008 found that field horsetail was likely to be a safe biocontrol target because there are no native or economically important plants in New Zealand that are closely related to it, and many natural enemies are already well known in Europe. The first control agent to be developed is the field horsetail weevil, *Grypus equiseti*. Adults extensively damage aerial plant parts and larvae feed within the stem and tunnel down to damage the rhizome.

Is field horsetail weevil safe?

Testing of this agent was completed recently, and results show that no native or economically valued plants are at risk. The application will explain that the weevil is not expected to displace any native or valued flora or fauna. Successful biological control would help stem the spread of the weed, help protect native habitats from the weed, and reduce herbicide use.

More information on the weed and the project can be found here:

<http://www.landcareresearch.co.nz/science/plants-animals-fungi/plants/weeds/biocontrol/approvals/current-applications/field-horsetail>

Consultation

If you would like to learn more, or if you have any issues you would like to raise, please call Richard Hill (021 1376919). He can provide any other information you might need."

Responses to consultation with Hapū

In November 2015, the message below was distributed to 7 people belonging to 7 hapū in the area of the Manawatu/Whanganui region most affected by field horsetail. There have been two responses. One was followed up and concluded by phone. Several of the people contacted were present at a meeting attended by the administrator of the Rangitikei Horsetail Group, and the project was discussed. This dialogue will continue as the application is submitted to ensure that any further input is captured during the submission process.

"Ngā mihi anō ki a koutou

Consultation on biological control of field horsetail

Field horsetail is a weed from Europe that has been present in New Zealand for almost 100 years. It is most common in the Rangitikei and Manawatu districts, but could survive anywhere in Aotearoa. It got established in the Rangitikei riverbed, and since 2000 it has begun to spread. It started by invading in the river bed, but is now spreading to neighbouring farmland. Until a few years ago it was transported widely in gravel extracted from the riverbed, and is now beginning to invade farms from road workings in the region.

Field horsetail grows fronds over 50cm tall. It is only a problem in your region at present but will eventually get everywhere. It will become a serious issue for native plants in some wetlands and stream margins. It is not good for stock, and if it reaches about 30% of forage it will reduce production. It can get into vegetable gardens, civic plantings, reserves and other places.

At a field day last week we saw creeping rhizomes of horsetail growing over a half metre below ground. Herbicides can't kill these deep rhizomes so there are no workable control measures at present except killing the tops three or four times a year, mostly with herbicides. This is not feasible over wide areas, or in the long-term.

Biological control is the only control method that could manage the effects of this weed safely in the long-term. The Lower Rangitikei Horsetail Control Group, with support from MPI Sustainable Farming Fund, proposes the introduction of the horsetail weevil from the UK. The larvae of this insect burrow down the stem and feed in the deep rhizome, breaking it up. The weevil only attacks horsetails in Europe and Landcare Research has confirmed this in the lab. No native plants are at risk, and because it spends so much of its life underground it won't interact significantly with the native fauna. This information will be presented in the application for the decision-making committee to consider.

The Group is keen to consult with Iwi and Hapū about this proposal. The idea has already been presented to Te Herenga, the EPA national Māori network, but now we want to hear local opinions. The benefits are reasonably obvious but we would like to hear what concerns you about the proposal. If you want more information send me an email, or, give me a call (021 1376919). The application will be submitted early next year, but contact me at any time and I will pass your views on to the EPA.

If you want to know more about the project, or the Group, look at “

[Relevant responses to consultation on applications to introduce biological control agents for weeds submitted in the last 8 years](#)

The comments by Māori correspondents have been categorised under the following headings:

- Direct effects on native plant species
- Indirect effects on native flora and fauna, and other valued species
- The need to monitor future effects
- Effects on cultural and spiritual values
- Specific benefits to Māori
- Predictability of effects
- Integration of control methods, and indigenous solutions
- Herbicides and biological control
- Aversion to the introduction of new organisms
- Lack of capacity precludes comment

Other comments can be found in the Cultural Impact Assessments prepared in response to past applications to introduce control agents for broom and woolly nightshade.

Direct effects on native plant species

- ...whether these beetles could switch to our softer-leaved native understorey plants

Indirect effects on native flora and fauna, and other valued species

- What level of confidence is there re:little/no overlaps between weetaa, native beetles, and Tradescantia leaf beetle ecology
- Any comments we have would be similar to those we expressed for the dung beetle application
- Are there human health concerns involved?
- All introduced species have impact on the native flora and fauna.
- On a personal level I don't mind that biological controls are used to combat such as these.
- My reservations will be what potential impacts will they have on our native fauna/flora.
- ...does not oppose these applications...but urges caution when introducing foreign organisms; blackberry/gorse, weasels/rabbits etc. come to mind
- We are aware these organisms are put through rigorous tests but sometimes many years pass before these things break out of their natural cycle and become further pests and equally as bad as their host plant....predator switching...

Predictability, effectiveness and the need to monitor future effects

- What is the contingency should the population / if the agent looks for other prey?
- What is the history and success rate of biocontrols?
- How will the potential toxic effects in the food chain be monitored and/or mitigated
- ...request for reports on monitoring and analysis of this biocontrol
- If you don't have the money to monitor post - release, then you don't have the money for the project.
- What happens if at some point in the future we have to bring something else in to control the insects we are introducing?
- TRONT will continue to advocate for the inclusion of monitoring provisions....
- ...rigorously monitored throughout....
- Is the agent safe and effective enough?
- Impossible to predict future impacts.

Effects on cultural and spiritual values

- How do potential ecosystem changes affect the mauri of the ngahere?
- Effects on ongoing management of cultural and natural resources by Māori – kaitiakitanga.... we need all the information in order to make an informed decision.
- What happens to the new organism's whakapapa when it is taken from its home, where it is a native species?
- ...protocol to relocate the mauri of an agent
- If Māori resources are affected so are the people – loss of flora and fauna, loss of cultural identity, loss of clothing for Papatuanuku, loss of native vegetation, and increase of runoff if not filtered.'
- Te Taiao ki au, ki au te Taiao'
- Ongoing management by Māori of our cultural and natural resources relies on
- kaitiakitanga/protection. ...We must be certain of the potential impacts on our resources.'
-Iwi have responsibilities in other rohe...

Specific benefits to Māori

- Will there be employment opportunities in the introduction?
- We would like to be included in any development
- While we did not bring (the weed) here, it is here now. So we have to address it. We have to think about what is best.
- We see that both of these plant pests pose a threat to our native ecosystems and are happy for the release to go ahead. Containment or eradication in the north is preferable to actions later in the south.'
- ..threat to our plants in all stages and forms..
- We would like to participate...
- We would like to be involved in...

Integration of control methods and indigenous solutions

- Are there native species that could fill the role?
- How will Māori be able to peer - review this work?
- Have other forms of intervention been investigated?
- The benefits of (the target weed) on the landscape must be taken into account.
- Are there such already in our indigenous arsenal and if so can we bolster their numbers?
- The best approach to controlling these weeds is a multi-faceted approach that incorporates a range of methods
- That's the trouble, we get rid of one nuisance and another is there.

Herbicides and biological control

- What is the impact of not intervening?
- I do not have a problem with your proposal; there are much worse things happening that I am dealing with.
- Health issue if herbicides were used...

Aversion to the introduction of new organisms

- I would rather nothing like this was brought into the country
- We have grave concerns regarding the importing of any exotic insects
- No, because of the unknown impacts that could occur, not now, but perhaps later.

Lack of capacity precludes comment

- We appreciate your communication on this matter; however, due to capacity issues we are unable to engage further with you on this issue.'