**Responses from Maori to App 201710, and responses to previous applications**

**Respondent 1**

*I guess my concerns for introduced species are around threats to our native species in all shapes and forms even when it comes down to breeding,( numbers long term wise ). Environmental wise Human Health wise, information on the Butterfly will be helpful.*

Tēnā koe

Thanks for contacting Lynley Hayes with comments regarding the proposal to introduce the Honshu white admiral butterfly for biocontrol of Japanese honeysuckle. The only conceivable risk to native insects is that some natural enemies (parasitoids and predators) may increase if they can feed on the Honshu white admiral. We don’t think this will lead to harm for populations of native species for two reasons:

1. "Generalist" natural enemies (e.g. wasps or praying mantids) that feed on many insect species are unlikely to be greatly affected by the presence of just one more food source. Because the Honshu white admiral only feeds on honeysuckle, any effect would only occur right where this plant is growing anyway
2. Relatively specialised enemies such as butterfly parasitoids are more likely than predators to increase significantly due to the presence of a new food source like the white admiral. However, because the admiral only feeds on honeysuckle, parasitoid numbers are only likely to be elevated close to abundant honeysuckle. No native butterflies feed on Japanese honeysuckle so there will be no effect there.  Red and yellow admiral butterfly larvae feed on Ongaonga and/or other nettles, and these do occur in regions where Japanese honeysuckle is a weed. However, the number of sites at which nettles and honeysuckle grow closely together in New Zealand must be limited.  Ongaonga probably mostly grows where honeysuckle is absent, and so there will no effect there at all.

Even if butterfly parasitoids did increase, they may have no effect on native butterflies. For example, the impact of the introduced cabbage white butterfly parasitoid (*Pteromalus puparum*) on red admiral numbers was considered minimal when studied by Mandy Barron, and she estimated that even if the parasitoids increased by 20% the impact would still be minimal. All this indicates that the likelihood of any interactions having an adverse effect on the national population of either red or yellow admiral once released in New Zealand is low.

So overall any disadvantages to native insects of releasing the white admiral are likely to be insignificant nationally while the potential advantages to native biodiversity of better controlling Japanese honeysuckle are significant.

I hope that answers the questions you raised with Lynley, but let me know if you would like me to call you to discuss it further.

Naku, na

*Thanks heaps Richard,*

*Is there a Health issue to Humans as well if chemicals were used historicly to address the Japanese honeysuckle, I think that Im refering to chemicals from the POP,s variety.*

*Once again, thanks for letting me be a nuisance.*

*Naku noa,*

Kia ora

The attached factsheet gives the Auckland Council recommendations for herbicide treatment of honeysuckle.  It is probably pretty representative of the control techniques employed.  It is probably fair to say that most of the honeysuckle that is causing concern around the country is not treated at all, but on the other hand, the Regional Pest Management Strategies of some regional councils require occupiers to treat, and I know that other organisations such as QEII Trust have definitely instituted targeted control projects.

So, I guess the exposure of humans as a result of honeysuckle treatment is real, but is probably not large compared to other environmental sources of exposure to chemicals.

I have not written this section of the application yet, so thanks for helping me get my thoughts in order!

**Respondent 2.**

Kia Ora Richard,

Thank you for your very prompt reply. I have scheduled you for …We are based at Marae - …

Look forward to meeting with you.

No reira

*Q. Is the weed bad enough to consider this action?*

*Q. Is it a problem for Golden Bay, now or in the future?*

Response - Japanese honeysuckle is an emerging weed.  It is present throughout New Zealand, but has only become a weed of significance in the past 10 years. I understand that a recent survey of regional council biosecurity managers placed this weed as fourth in their weeds of concern. The emergence of  this weed is most evident in North Island regions, but there seems no reason why populations should not also build in more southern regions in future. .

Q*. Is the agent safe enough and effective enough?*

Response - Evidence that this control agent is safe to introduce to Aotearoa will be presented in Section 6 of the application.

Q. Iwi have responsibilities in other rohe

Response - Although Japanese honeysuckle does not occur everywhere in Aotearoa, the application will assume that the weed will eventually get  everywhere, and that the butterfly will spread itself there also.

Q. At what place in the process would iwi like to participate so that iwi can get their heads around proposals early?

 Response - I understand that this relates not only to specific proposals but to access to general principles to help iwi in the process. This is a general question and it may not appropriate to address it in the application.  I will raise it with Landcare Research and EPA, and see what they have to say. You asked me what other iwi have said about this and other proposals.  I recently made a summary of the types of issues that have been raised about over 10 proposls over 6 or 7 years. I attach a largely unedited file that simply lists the issues that have been raised in recent consultations.

You mentioned Convolvulus as a serious issue for Golden Bay.  I checked, and found that the pink flowered version with a white stripe right down the petal is a native species (which doesn't stop it being a weed in places) and there are two other native species as well.  while the pink flowered species is exotic and invasive, the white-flowered variety is a native. The two main weedy species have white or pink flowers.  I know that biocontrol of convolvulus is a project underway in Europe, but I suspect the presence of a native species would make a biocontrol option very difficult. I will talk to Landcare Research about it.

If I think of other issues I should raise in response I will contact you again.

**Respondent 3**

Not only do we support this initiative we would like to be involved in rearing and distributing this agent.

Given the threat to native habitat loss any measure to lessen the impact of Japanese honeysuckle is og immeasurable benefit to both native and cultural values associated with these habitats. The benefits to the whole environment by limiting JH are too numerous to mention in this small space. If only the importation of JH had as rigorous a process we may not have been in this situation to begin with! Any restoration of native eco-systems can only enhance natural resource values to Māori.

For ROM our inclusion can and would be beneficial on a number of fronts for both the success of the introduction but also in the acknowledgement and enhancement of our Rangitaanenuirawa (Kaitiaki) responsibilities for our Rohe which comprises the bottom 1/3 of the NI.

Again, for ROM being included in active management of our land and waters adds value to all aspects of our lives and roles.

Generation of economic benefit - For us, most of the JH occurs on reserve land for which we have a management role. This land often has no economic value

Other outcomes – Capacity building as environmental managers.

**Respondent 4**

*I agree to this process, but in my area we are suffering with broom. It seems to take over the gorse. That’s the trouble, we get rid of one nuisance and another is there. But is this butterfly like the one that attacks our vegetable garden.*

*The land is a taonga to everyone so we need to look after it. Our environment needs help from us, but I think we need to list the things that are dangerous but the information we get from you about this I don’t think is enough.*

*Adverse to indigenous F&F – could be to other plants. Not sure*

*Land , Natural habitats, other natural resources – Would help our land care*

Response:

Tēnā koe

Many thanks for your response to our request for comment on the proposal to introduce the Honshu white admiral. It is lovely to be in touch with you again

I noted your comment that you would like more information about the project, and some reassurance about the safety of native and vegetable plants. I enclose information from the Landcare Research website, and a copy of their recent newsletter. I also enclose several photos o JH infestation, and the (rather spectacular) butterfly. There are no native plants even remotely related to Japanese honeysuckle, so the possibility of even incidental damage to natives is really remote. The question of whether garden ornamental honeysuckles will be susceptible is a bit trickier, and will be dealt with in depth in the application.

I was printing some for another purpose, so I enclose some pages from the Landcare Research ‘Biological Control of Weeds Handbook’. You might be interested.

**Respondent 5**

*If you don’t hear from us we will wait until the application is lodged with the EPA*

**Respondent 6**

*The honeysuckle is destroying the native flora and is having a negative effect on our waterways by creeping along the banks and causeway. If there can be guarantees that the introduced species will not have an adverse effect then it good to eradicate the honeysuckle.*

**Respondent 7**

Questions

*Thank you for the opportunity to comment on the proposed application to
introduce the Japanese White Admiral butterfly as a biocontrol agent for
Japanese Honeysuckle.

We expect to make a submission on this application in due course, but in the
meantime we wanted to foreshadow a matter which always is of concern to us,
that is, the risk to native species (both plant and animal) and to
interactions within foodchains which include such native species, from a
release of this exotic butterfly. We note the comments that although the
butterfly larvae are only 'quite host plant specific', they 'will not affect
any native plant species in New Zealand'. We will be closely examining the
host testing data for evidence to support this claim.

We look forward to receiving and submitting on this application.

Nga mihi*

Responses
Limenitis is extremely difficult to work with .  The mating and oviposition
behaviour is so complex and refined (and sometimes takes place at 50 m in
the air) that quality oviposition tests are not possible. I guess Limenitis
was described as 'quite host-specific' because while starvation tests show
the butterfly is restricted to two sub-families of the Caprifoliaceae,
Landcare Research cannot rule out that it will feed on honeysuckle species
other than Japanese honeysuckle  (Lonicera and possibly Leycesteria).  This
is a conservative view as this butterfly is not known from such hosts in
Japan.

Alongside this, phylogenetics show that there are no native species in the
same order (Dipsacales) let alone the same family as Japanese honeysuckle.
There is therefore no risk to native plants.

While adult butterflies will range widely, the immature stages will only
occur where host plants exist.  The only mechanism for interactions appears
to be via shared parasitoids. The other admirals only have 3 parasitoids.
The most important of these is the pupal parasitoid echthromorpha.  This has
a very wide host range, and adding one more host (with a distribution
restricted by host food) is very unlikely to significantly influence E.
densities.  If Pteromalus puparum (introduced parasitoid for white
butterfly) attacks Limenitis, any affects will be restricted to where
honeysuckle and the foodplants of other admirals coincide (nettles).  There
is an egg parasitoid.  No-one knows whether it is specialist to admirals, or
generalist.  Whichever, the arguments above also cover that.  The egg
parasitoid of red admiral is NOT thought to be a a key factor in dynamics.
Even if Japanese honeysuckle becomes very common, interactions with other
fauna will be limited to the margins of the ngahere. Honeysuckle is thought
to threaten lower habitats like wetlands, and any interactions (if they
exist, but probably don't) here might be more ubiquitous.

Does that help?

The link again is
[http://www.landcareresearch.co.nz/science/plants-animals-fungi/plants/weeds/](https://webmail.plantandfood.co.nz/owa/redir.aspx?C=5294a01879854857938de7af66529d1a&URL=http%3a%2f%2fwww.landcareresearch.co.nz%2fscience%2fplants-animals-fungi%2fplants%2fweeds%2f)
biocontrol/approvals/current-applications/japanese-honeysuckle
click on the links for host plant selection criteria and host range testing

I also attach a ppt presentation that makes the figures clearer.  I hope you
can open it

**Unedited unsorted responses to previous applications**

Moth plant

Consultation on this proposal revealed the following potential adverse effects that are of particular significance to Māori (Appendix 1):

Effects on native flora and fauna

Risk of *Colaspis argentinensis* becoming a pest

Direct adverse effect on land from larval activity

Indirect effect on people and their resources through environmental damage

The use of native agents to fulfill this role instead

Prospects for success

Trad1

Adverse effects to Māori cultural and spiritual values could theoretically arise from two sources: 1. reducing the amount of tradescantia in native forest ecosystems by biological control 2. introducing the insect to the forest ecosystems of Aotearoa

Woolly nightshade

The CIA (Appendix 4) stressed the role of tangata whenua as kaitiaki of mauri. It stated that while science can reassure tangata whenua, uncertainty of agent behaviour in new environments makes tangata whenua cautious. It identified seven issues for the applicant to address:

The long-term implications of the introduction of the lace bug for flora and fauna

The safety of poroporo, an acknowledged rongoa

The potential damage to mauri through environmental change created by the introduction of the lace bug

Local indigenous knowledge in the centre of origin

The safety of kumara

The monitoring of effects

The value of consultation

CNG

Benefits

No potential benefits of the proposed introductions were identified by Māori in pre-application consultation because the primary aim of consultation was to identify risks and costs. The benefits detailed in other parts of Section 7 apply to all. As 2.8% of the total area of sheep/beef, sheep, beef, and dairy farmland defined as „grassland‟ in 2002 (not including tussock and *Danthonia* for grazing) belongs to Māori Incorporations and Trusts (Appendix B) it is assumed that at least 2.8% of all benefits gained from improved production in grassland will be captured exclusively by Māori (http://www.maf.govt.nz/statistics/primary-industries/index.htm). These benefits may be substantial (see Section 7.4).

**Risks and costs**

**Potential impacts on native daisies, puha, or other native species** The cultural importance of puha (*Sonchus* species) was emphasised by several respondents (Appendix A). The applicants acknowledged this sensitivity when planning host-range tests for both agents. Seeds of *Sonchus kirkii* and *S. oleraceus* were grown in Europe, and their susceptibility to both agents was measured in field tests. The results of these and other tests are presented in Appendix C and summarised in Section 7.1. Neither species is at risk from *Ceratapion onopordi* or *Cassida rubiginosa*. Scientifically sound and internationally accepted protocols for selecting a representative panel of test plants have been established (Wapshere 1974) and were used in this case. The concerns raised by Ngāi Tahu about „functional similarity‟ between plants (Appendix A) are taken into account when host-plants are selected for testing using these protocols. There is growing confidence amongst researchers that relatedness alone is an adequate indicator of the relative risk posed to non-target plants by specialist control agents and that the numbers of test plant species requiring testing could be reduced, and that plant structure, biochemistry and seasonality need only be considered within the relatedness framework (Briese & Walker 2002; Briese 2003). The reasoning behind the selection of plants to be tested against *Ceratapion onopordi* and *Cassida rubiginosa* can be found in Appendix C and in Section 7.1. The relationship between thistles and native New Zealand daisies is summarised in Appendix A. The results of tests are summarised in Section 7.1.

**Adverse effects of new organisms on existing faunal relationships** Risk of attack to non-target native plants was a primary concern for all respondents. Host-range testing indicates that these insects will not feed on plants outside the thistle tribe, and no native plants are at risk of attack. The evidence for this conclusion can be found in Appendix C, and the conclusions are summarised in Section 7.1. **Monitoring** Te Rūnanga o Ngāi Tahu advocated monitoring of population build-up and dispersal, effectiveness of control, and non-target impacts (Appendix A). The simple programme planned to monitor the establishment and spread, and to identify obvious effects on non-target native plants growing in release sites, is presented in Section 5. The applicants consider this to be the appropriate level of research for this stage of the project. It is always desirable to measure the success or otherwise of biocontrol agents, but this process is difficult to plan. Once released, agents usually persist at low density for some years, and can barely be detected. Population build-up to the point of equilibrium density (and therefore maximum impact) usually takes many years, and it is not valid to conduct field research to define the impact that the agent will have until this equilibrium density is reached. Just how many years this will take is rarely predictable. Investment in detailed monitoring (even of population build-up and dispersal) at this stage of development is not justifiable scientifically or economically. Reliable measurement of agent impact is long-term, time-consuming and expensive, and is beyond the planning horizon of most science funding bodies (which are not usually interested in funding this style of research anyway). This research is certainly beyond the present resources and scope of the applicant. The presence of non-target damage on non-host plants is the simplest measure of non-target effects, and such observations will be made at release sites. However, absence of such damage may simply reflect the rarity of agents in the early years of establishment, and more reliable assessment of such effects must also wait populations‟ build-up. The same argument applies to measuring the impact of agents on established food webs. The difficulties here are compounded by the almost total lack of information about the „steady state‟ of such webs in New Zealand against which to measure change.

**Predicting future agent behaviour** Respondents expressed the view that new organisms should not be introduced because it is impossible to predict future risks to the environment and especially to native species (Appendix A). There are two issues here. The population growth of introduced species is governed by the effects of any resident natural enemies the new organisms might attract, and how developmental and reproductive rates of the new organisms react to the new climate. For these reasons, the applicants acknowledge that whether a species establishes in New Zealand, how quickly populations build up, and the final equilibrium population density likely to be achieved are questions that are difficult to predict. However, it is important to distinguish these population processes from the physiological processes that govern host plant selection by individual insects. These behaviours are governed by genetics and are only amenable to evolutionary change, not changes in climate or environment. Sound knowledge about these host selection processes are gained through host-range-testing experiments, and these results can be used reliably between countries and between climates. There are no examples known of weed control agents changing host range between climates.

**Biological control and integrated pest management** Biological control is not promoted as a „one-stop‟ alternative to other forms of weed management. Should these agents prove to be so effective that thistles are no longer a problem to pastoral farmers anywhere, then alternative (and less desirable) management techniques such as herbicide application will become redundant. However, it is more likely that control will establish gradually, and effectiveness will vary from place to place and from time to time. Other control methods will still be required. The benefits of successful biological control will be to reduce the area treated or the frequency of treatment, or to allow the use of more environmentally friendly methods. The level of benefit that would result from integrating biological control and more conventional management techniques is difficult to predict (Section 7.4). **Consultation with local iwi before first release in any area** This is a generic issue relevant to all weed biological control projects, and has been taken up with regional councils and Landcare Research.

Successful biological control of Californian thistle would eventually lead to reduction in the use of herbicides. Reduced herbicide application would reduce the risk of contamination of water and land, issues of great importance