

## Response to requests for general consultation on applications to introduced biological control agents for Japanese honeysuckle (APP201710 2013; APP20396 2015).

A successful application was made to EPA in 2013 for approval to introduce the Honshu white admiral butterfly, the first biological control agent for Japanese honeysuckle. Before that application was prepared, the views of range of organisations was sought:

- Department of Conservation
- Environmental organisations and the general public
- Non-governmental organisations and professional bodies
- Regional and Unitary Councils and Territorial Authorities
- Primary production organisations
- Other

Many of the comments made by respondents at that time are also relevant to the current application and are reproduced here. This process was repeated in 2014, in preparation for the current application. The responses are presented here.

### Department of Conservation

#### David Havell (2014)

*Oberea shirahatai* is a longhorn beetle found on Lonicera honeysuckles and relatives such as Himalayan Honey suckle, Japanese Honeysuckle belongs to the order Dipsacales and family Caprifoliaceae, neither the order or family contain New Zealand native or endemic plants and thus *Oberea shirahatai* which is restricted to feeding and reproducing in plants in family Caprifoliaceae is unlikely to have little or no direct risk to New Zealand biodiversity values. Feeding trials and other data is available from Landcare.

[http://www.landcareresearch.co.nz/\\_data/assets/pdf\\_file/0011/77843/Summary\\_host\\_testing\\_Oberea.pdf](http://www.landcareresearch.co.nz/_data/assets/pdf_file/0011/77843/Summary_host_testing_Oberea.pdf) ; <http://www.landcareresearch.co.nz/science/plants-animals-fungi/plants/weeds/biocontrol/approvals/current-applications/japanese-honeysuckle>

Tom Belton has prepared a detail report on Japanese Honeysuckle for the introduction of other biocontrol agents for Japanese Honeysuckle, Tom's report is applicable to the application of Longhorn Honeysuckle beetle. Some addition comments are provided in this report.

In summary Japanese honeysuckle is a highly invasive species which has a wide spread distribution in many parts of New Zealand. Ongoing control has occurred at some sites for over 15 years, small isolated infestations can take several years to eradicate. While there has been some success at eradicating some small isolated infestations and reducing local impact in relative small areas, intensive control over large sites and regional eradications are unlikely because of the large number of infestations, the extent of infestations, long distance dispersal of propagules, (2 -22km), infestations



Figure 1. Japanese Honeysuckle sites obtained from the DOC weed database based on DOC records and national herbarium records.

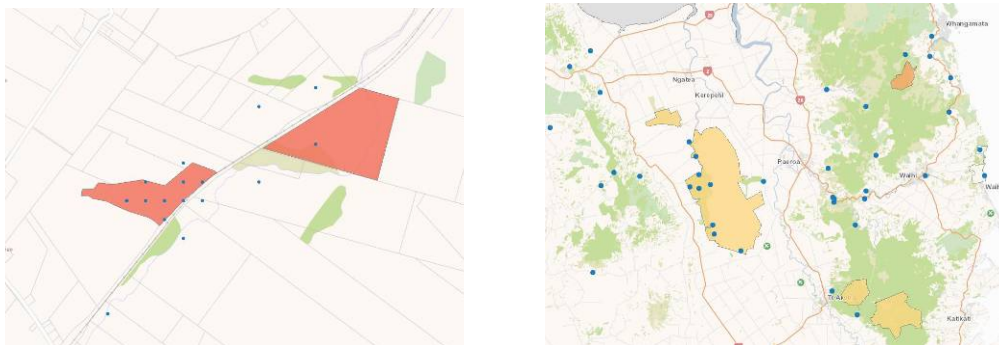


Figure 2. Japanese Honeysuckle locations in the Koputaroa, and Kupuatai wetlands, biodiversity management units.

### *Impacts.*

Japanese Honeysuckle readily climbs and smothers trees, small trees and shrub, flax and grasslands, Figure 3. Any low growing vegetation in suitable environments for Japanese Honeysuckle is at risk. The wide geographical extent of Japanese Honeysuckle from Northland to Stewart Island, from coastal bush and swamp, to inland podocarp forest and peat bogs indicates a wide range of small plant species and ecological processes such as natural regeneration in open areas are at risk. i.e. wetland plant communities, dune-wetlands, forest margins. Such sites are known to contain a range of threatened species including ferns, orchids and shrubs, wetlands are also national priorities for protection. Japanese Honeysuckle also occurs in naturally uncommon ecosystems such as volcanic thermal shrub lands, gumlands and domed bogs.

Restoration plantings are also at risk from Japanese Honeysuckle as these tend to contain small shrubs/trees open areas.



Figure 3. Japanese Honeysuckle smothering *Myrsine australis*, *Coprosma robusta*, and regenerating shrub land.

### *DOC Honeysuckle Control Programmes.*

Standard control methods used by DOC include cut and paste with Vigilant gel, spray with generalist herbicides such as glyphosate, triclopyr, clopyralid and metsulfuron methyl, and herbicide treatment of regrowth following physical removal.

Japanese Honeysuckle is managed as part of general weed programmes to protect recreational and biodiversity values in at least 30 DOC areas. Specific Japanese Honeysuckle programmes to protect site values such as threatened orchids and native snail habitat occur in at least 4 sites, costs range from \$3218 (37 hectares) to approximately \$10,517 (28 hectare site). At least four Japanese Honeysuckle eradication programmes have occurred on the DOC sites, one of these was discontinued because of not all infestations could be targeted. Four small Japanese Honeysuckle infestations were eradicated on Rangitoto Island which took over 6 years. Several isolated infestations may have been eradicated at Port Craig in Southland, where Japanese Honeysuckle spread at least 380 metres from an old house site. Data on the ongoing West coast eradication – weed led programme has been supplied by Tom Belton.

As Tom Belton and others note Japanese Honeysuckle has a high weed control priority under the DOC prioritisation system, and occurs in areas where biodiversity and conservation values are at risk, but at most sites where Japanese Honeysuckle occurs there is little if any control and conventional control is regarded as impractical. There are several reasons for this.

### **Cost**

For some sites effective control could cost several hundred thousand dollars per year i.e. the infestation at Kopuatai is 2111 hectares, at \$375 per hectare per year a Japanese Honeysuckle programme could cost \$791621 per year. Given that a Japanese Honeysuckle programme may need to be maintained for 10 years or more, a programme at site such as that required at Kopuatai could cost several million dollars...

### **Ongoing spread from adjacent infestations**

Japanese Honeysuckle sites may spread from at least 200 m to a kilometer away, where a region has high numbers of infestations and infestations are large and may extend over hectares ongoing invasions will negate any control.

### **Detection.**

Missed infestations. Small shoots are often hard to find among flax, grass and shrubs.

### **Persistence.**

A single infestation can take from 3 to 6 years to eradicate.

### **Site complexities.**

Some sites contain biodiversity values too sensitive for herbicides to be used extensively, or the site is difficult to access i.e. peat bogs.

Given that current control methods have limited applicability over large landscapes and in sensitive sites, and that control of Japanese Honeysuckle needs to be applied over large landscape scale to be effective, *Oberea shirahatai* is likely to have tactical benefits in reducing the impact of Japanese Honeysuckle on biodiversity values.

### *Other benefits of Oberea shirahatai.*

Landcare feeding trials indicated that Himalayan Honeysuckle –*Leycesteria formosa* is also a host for Honeysuckle longhorn beetle. Himalayan Honeysuckle is a widely distributed invasive species which has some impact on shrubland and low stature plant communities at least in the short term, and can sometimes form thickets.

Himalayan Honeysuckle also occurs in areas where threatened plants are present, and in priority Biodiversity management units.

Additional control of Himalayan Honeysuckle which increases natural recovery of disturbed areas, and reduces the impact of Himalayan Honeysuckle on threatened species will be beneficial to native biodiversity

**Tom Belton, Technical Advisor, Threats, Department of Conservation, Hokitika (2013)**

Re: Proposed introduction of the white admiral butterfly (*Limenitis glorifica*) for the biological control of Japanese honeysuckle (*Lonicera japonica*)

Please find below the Department's response to your request for feedback on the proposed introduction of the white admiral butterfly for biological control of Japanese honeysuckle. I have responded to each of your questions.

*What is the extent of Japanese honeysuckle infestation on conservation land?*

Japanese honeysuckle is distributed from Northland to Stewart Island. It occurs widely on public and private land, and is still relatively common as a cultivated plant in older gardens despite its Unwanted Organism status and being listed on the NPPA. On Public Conservation land Japanese honeysuckle predominantly occurs on marginal sites including forest, scrub and open sites in riparian areas, along roadsides, around settlements, in coastal areas, and around farmland and exotic forestry areas.

*What are the environmental and ecological impacts of the weed in the conservation estate, and what do you see as the future threat?*

In the conservation estate Japanese honeysuckle has significant impact on native ecosystems, and particularly on marginal areas which are also often highly visible and accessible to the public which can affect people's experience of these places. The DOC weeds database gives Japanese honeysuckle a "weediness score" of 31, which is relatively high. This is comparable to the scores of other significant ecological weeds such as kahili ginger (31), elaeagnus (31), blackberry (31), Chilean rhubarb (30), Contorta pine (30), marram (32), old mans beard (34) and tree privet (32).

Japanese honeysuckle can infest forests but has most impact climbing over shrublands or low canopy trees, especially on forest margins. It may form a complete blanket over small trees and shrubs e.g. manuka, hebe and ribbonwood in coastal situations. Trees and shrubs can be killed by competition from Japanese honeysuckle, and native seedlings are unlikely to establish. It is seen as an increasingly troublesome species of shrubland, forest margins and open roadsides.

*What is the current management regime on conservation land and how successful is it?*

Current management is generally limited to physical and chemical methods, often in combination. Physical methods usually involve cutting stems with the aim being to detach honeysuckle plants which are smothering native canopy species. This has the advantage of reducing the need for herbicide use and reducing herbicide damage to host trees and shrubs. Cut stems remaining in

contact with the ground can then be sprayed or swabbed with herbicide. This can be labour intensive work.

Chemical methods alone usually involve spraying, either from the ground or from a helicopter. This often depends on the scale of the control operation and available resources, but other issues such as accessibility are a factor. Several herbicides are suitable for Japanese honeysuckle control, including glyphosate, metsulfuron methyl, and triclopyr. Follow up to control regrowth and surviving stems is necessary, usually for several years at each site.

*What are the current management costs to the Department? Are there any weed-led projects that could provide hard data?*

Only one DOC weed-led project targeting Japanese honeysuckle occurs in the country, and this is in the Franz Josef Area (source: DOC's weed report and review spreadsheet). Japanese honeysuckle was identified as being present but scarce in the Area, and a weed-led project to prevent establishment was initiated in 2001. There are 8 known infestation sites within the Area, all which are small localised infestations of only a few plants. Some of these sites have been eradicated and are under surveillance. The cost of this programme is low at around \$2000 per year.

Several of DOC's site-led weed control projects across the country include Japanese honeysuckle as a target species amongst a suite of other weeds controlled at the same sites. For this reason it is not possible to extract an accurate estimate of the cost to the Department of controlling the Japanese honeysuckle alone, however it is likely to be in the order of tens of thousands of dollars nationally. It is likely that more resources would be spent on Japanese honeysuckle control if control methods were available that were less labour intensive (than manual cutting) and posed less risk (than spraying) to desirable host plant species.

*.Any other comments that you think might be relevant.*

While Japanese honeysuckle is widely distributed throughout the country, its range is extending and its impacts increasing. A control initiative that will reduce the spread and impact of this weed and reduce costs of conventional control is welcomed.

## **Environmental organisations and the general public**

### **Clinton Care, Monarch Butterfly Trust (2014)**

But about Honshu White Admiral butterflies (*glorifica limenitis*) and Southern Monarch butterflies (*danaus erippus*) as control agents of Japanese honeysuckles and moth plants ???

Caterpillars of these butterflies are better control agents of these difficult weeds, than wandering small beetles.

## **Non-governmental organisations and professional bodies**

### **Gareth Eloff, Genevieve Bannister, QEII National Trust (2014)**

Since 2010, we have only had 5 externally funded projects targeting Japanese honeysuckle, Chinese privet or tree privet. We have had no projects targeting Moth plant. 4 of those 5 targeted Japanese honeysuckle with 1 also targeting Chinese privet. 1 project targeted Tree privet alone. The total amount granted to those projects from the Biodiversity Condition Fund was \$105,948.07 +GST. QEII National Trust spent \$11,620.56 +GST in monitoring and administration of those projects. The landowners spent \$62,695.56 +GST towards this control and Hawke's Bay Regional Council contributed \$9,975.13+GST towards 3 of those projects as the work took place in their area.

Below please find an initial assessment of the extent of the records for each of the species you listed broken down to the three regional councils you mentioned. Please note, that this is largely based on a presence/absence recording and not an in depth analysis of the degree of infestation. In all cases, it would appear as if the species are targeted for progressive control or containment, meaning an ongoing attempt to control and eradicate where possible, unless part of a greater landscape wide eradication program which Genevieve could highlight if they exist.

JH

Total number of covenants recorded	830
Waikato Regional Council	266
Hawkes Bay Regional Council	25
Northland Regional Council	57

### **Pat Waite, interim Chief Executive, QEII National Trust (2013)**

See separate pdf

### **John Liddle, Chief Executive, Nursery and Garden Industry New Zealand**

NGIA appreciates the early consultation in this matter.

NGIA will appreciate being kept informed throughout the process.

Please note that the data referenced to Gaddum M. 1999 New Zealand Plant Finder 2000 in Standish, R. J. 2002 Prospects for biological control of Japanese honeysuckle *Lonicera japonica* Thunb. (Caprifoliaceae), should not be construed as definitive data for the New Zealand Nursery and Garden Centre industry. Gaddum (no longer published) relied on catalogues being made available to her by the industry. Consequently the voluntary nature of such referencing did not truly reflect industry statistics eg. Reference to six garden centres stocking "Ornamental *Lonicera japonica* varieties [sic – correctly cultivars]" (at that time) was likely to have been very low.

## **Relevant content from an email to John Liddle, Chief Executive, Nursery and Garden Industry New Zealand from Richard Hill following a meeting on the current proposal**

Thank you very much for meeting us last week. It was extremely useful..... I understand the following from our discussions:

### General

- All growers protect nurseries so damage during production of stock is not a serious issue
- Reduction in the utility of garden plants by biocontrol would lessen demand, reducing revenues for growers and retailers
- Non-native plants grown for ornamental purposes should be seen as part of our heritage, and should be valued along with other biodiversity

### Japanese honeysuckle

- Nothing much to add since last application
- Use CV names throughout so growers can identify with the test plants.
- Send information about the relative risk scores (Quentin is in the last stages of publishing this paper. I have copied below the abstract from a recent conference on the technique).

A question was raised about the feeding score data presented. These showed much lower levels of feeding on non-target plants compared to target privet. I have checked this with Quentin Paynter. The scores are total feeding marks per sleeve. Foliage of each plant was housed in a cloth sleeve and insects were added. The figures compare the amount of feeding on targets and non-targets that occurred over the time of exposure. As abundant foliage was provided, this represents a measure of the inclination of the insect to feed, rather than the availability of leaves to feed on.

I hope this reflects what we discussed. If I have it wrong, or have omitted something, or if you have any other comments, please let me know.

## **Regional Councils**

### **Randall Milne, Southland Regional Council (2014)**

Privets and Moth plant are not an issue in Southland.

Japanese honeysuckle is a Risk Assessment Pest Plant in our RPMS. We haven't spent money on controlling it, and I'm not aware of other agencies down here that have. Its distribution seems to be restricted to gardens at present.



**Shane Grayling, Senior Biosecurity Officer, Bay of Plenty Regional Council (2014)**

All three species are listed as Restricted Pests under our current RPMP, in our RPMP this means the plant is either too widely spread, therefore fails the cost-benefit analysis, or its environmental impacts are not deemed high enough to warrant active management. Japanese honeysuckle is extremely widespread, Privet is relatively widespread, moth plant is not particularly widespread but on the increase. Restricted pests are not required to be controlled by landowners and BOPRC's role is to provide advice and education to those wanting to control the pests of their land

Due to the classification in the RPMP, BOPRC to not collect information on spatial distribution or control effort either internally or externally:

Cost benefit analyses - ... none for Japanese honeysuckle unfortunately

Levels of infestation, real costs of control - We do not collect this information currently due its classification in our RPMP.

We would get approximately 100 calls a year regarding privet, calls are generally regarding the impact of privet on allergies and they are generally not convinced other factors could be the exacerbator. Generally they are unimpressed when we explain the fact there is no requirement for landowners to control and we will not control the plants.

We only get a few calls a year regarding honey suckle and moth plant and they are usually wanting information on how to control.

We have had the odd caller concerned about the impact of moth plant sap as a irritant and wanting BOPRC to enforce landowner control.

**Darion Embling, Biosecurity Officer, Waikato Regional Council (2014)**

Sorry we don't any data on this plant. It's very widespread and not a plant we manage.

**Phil Karaitiana, Biosecurity Team Leader – Plant Pests, Gisborne District Council (2014)**

The three targeted weeds are presently listed in the RPMS for the Gisborne District Council and have a "Limited Control" status. Essentially weeds in this category are widely spread, established in suitable habitats and cause adverse effects in specific areas. Council's approach is on awareness, education, identification and advice to landowners on suitable control options to manage infestations. Control of such weeds is at the landowners discretion and costs....

All three targeted weeds have a negative impact in this region environmentally, socially and economically. The proposal to introduce biological control agents to assist in controlling any of the three targeted weeds in my view is supported as the potential benefits from successful control outcomes outweigh any risks and costs.

Unfortunately I do not have any cost benefit information to assist with your proposal. I hope the information is helpful none the less.

**Richard Grimmett, Wellington Regional Council (2014)**

Cost benefit analyses - No cost benefit analyses available as this is listed as a KNE species in the Greater Wellington Regional Pest Management Strategy

Information about levels of infestation, real costs of control, anything with real dollars - There are no figures for this species as it is nearly always included in multispecies contracts (many other species at the same time) Overall the levels of infestation for the entire region would be low.

No great public concern about this plant has been raised, but to those in the Pest Plant control industry this plant as a rambler/climber is well recognised as serious threat to biodiversity. Any site of high biodiversity with this species present must have it controlled as it is capable of changing the ecosystems within any site. It can tolerate a wide range of conditions and light, produces high amounts of viable seed and has a wide range of dispersal methods.

While there are no figures available for this plant the potential is well recognised as an environmental pest plant and is actively controlled at a number of high value sites. In the Wellington region it is too far gone (too expensive to control all sites) an effective bio-control program would reduce the threat this plant poses to all sites where it is present, high, medium and low priority biodiversity sites. There are a good number of plants scattered throughout the region so an agent would be able to disperse with limited effort and cost.

**Wayne Cowan, Senior Biosecurity Officer, Greater Wellington Regional Council (2013)**

We have done extensive work on JH in Trelissick in the past as stand alone contracts but so far this year I have targeted it in only one reserve, Keith George. The TA's still do quite a bit of work on this species as well, particularly in Wellington.

Cost of control depends on if you have to do an initial cut out of the canopy before spraying and if so costs can exceed \$5k a hectare depending on terrain and maybe \$2k per hectare just to spray regrowth, again depending on topography and vegetation cover.

Even if the agents were to significantly affect growth and impact if the plants continued to seed then Biodiv would still target them, killing weeds is doing God's work after all.

**Rob Simons, Biosecurity Officer, Marlborough District Council**

Japanese honeysuckle has fully naturalised in the Marlborough region. Many infestations exist on river banks and in wasteland within or near vineyards. This does limit options for chemical control. Japanese honeysuckle is a greater concern than old man's beard due to its evergreen nature combined with its ability to completely smother native vegetation.

The Marlborough District Council's Biosecurity section fully supports the proposal for introducing the white admiral butterfly as a biocontrol agent against Japanese honeysuckle.

**Darin Underhill, Biosecurity Team Leader, Hawke's Bay Regional Council**

Japanese honeysuckle is well established in Hawke's Bay, with areas north of Napier being particularly badly infested. In these areas JH is having an impact on native vegetation, where it gets well established, by smothering trees and smaller plants. As time goes by and the infestation increases, this impact will increase.

Currently JH is only designated as a Total Control Plant around Lake Tutira, which means all JH within 1km of Lake Tutira must be controlled. JH is also targeted in some QEII blocks as well as other some high value biodiversity areas. Control in these targeted areas has been successful but are ongoing and will be so into the foreseeable future. However there are huge areas with JH infestations in, with no current control.

Current management costs to control the areas above are approximately \$20,000 per year.

Japanese honeysuckle is out of control in Hawke's Bay with large infestations present in some very difficult areas to control it in. It is also not easy to kill and is very persistent.

A successful biological control programme is the only way that this weed can be contained and its impact on biodiversity reduced, current control practises either won't work or will be too expensive.

**Primary production organisations**

**Mark Ross, Federated Farmers of New Zealand (2014).**

In relation to your request I put a message out to our members and so far have only received feedback from one farmer (see below). I realise that this is not overly helpful and will try to chase up further.

We will definitely comment on the submissions and supportive of your on-going work.

"we have both privets and honeysuckle, these are mostly controlled by the hedge cutter with larger privets chainsawed out and stumps painted. Honey suckle also sprayed when we spray blackberry in the hedges"

“after googling Moth plant we also have that on the boundary growing in our shelter belt and having been wanting to control it and as the paddock was a sacrifice paddock this year the seed were really obvious across the paddock”

**Mark Ross, General Manager Policy and Advocacy, Federated Farmers of NZ (2013)**

We have looked into this proposed application and would be in a position to support.

Our bees industry group were a little concerned as Japanese Honey Suckle is pollinated by bees but we don't believe it's a key plant.

Given how bad a weed it is we see more benefit in managing/eradicating than saving.

**Bill Dyck, Forest Biosecurity Manager, Forest Owners Association (2014)**

I have canvassed some of our members to see how much of a problem honeysuckle, privet and the moth plant are it and it seems the answer is "not much". However, there was no adverse response to releasing biological agents to control these weed pests and only positive comments.

**Bill Dyck, NZ Forest Owners Association (2013)**

The Japanese honeysuckle isn't a significant issue for plantation forestry in general but is a nuisance weed in some North Island forests. Where it does occur it is not specifically sprayed but is controlled by standard pre- and post-plant sprays. The costs to the industry are in the order of \$ten's thousands per year but generally along with other pest plants. There is no opposition from the FOA members canvassed to pursuing a biological control option.

**Peter Reid, PanPac Forests**

We are a HB forestry company with approx. 40,000 ha of land under our control.

This weed has been noted of is spread into new areas place it has an environmental Impact on the greater ego system.

**Other**

**Akihiro Konuma, Biodiversity, NIAES, Japan (personal communication to Quentin Paynter 2013)**

Following species may be sold commercially at least:

Lonicera x heckrottii, Lonicera nitida, Lonicera periclymenum, Lonicera sempervirens, Lonicera serotina, Lonicera tatarica, Lonicera x tellmanniana,

I haven't found any record of pest status of glorifica for the species yet. Nobody cares about this probably.

**Quentin Paynter, Landcare Research, Auckland (personal communication 2013)**

The surveys was for ranking NZ weed targets (I asked councils and DOC conservancies to rank their top ten weeds to get a list of most important weeds so I could score NZ weeds by importance & amenability to biocontrol as per the Aussie ranking project).

Councils which rank JH highly (+ contacts - OMITTED) are:

Marlborough (worst weed)

Taranaki 3<sup>rd</sup> – 7<sup>th</sup> worst (depending on respondent)

Waikato (4<sup>th</sup> worst)

Hawke's Bay (7<sup>th</sup>)

Greater Wellington (3<sup>rd</sup>)

Auckland (5<sup>th</sup>)

Gisborne (8<sup>th</sup>)

DoC Conservancies which rank it highly are

Tongariro-Whanganui-Taranaki Conservancy 3-9th (depending on respondent)

East Coast BOP (7<sup>th</sup>)

West coast (4<sup>th</sup>)

Waikato (10<sup>th</sup>)

Nelson/Marlborough (6<sup>th</sup>)

Auckland (10<sup>th</sup>)