

Early detection of new invasive weeds on islands



Lighthouse keepers often established a garden — some of the garden plants escaped. Lighthouse islands have more naturalised species than their unlit neighbours.

Islands with starling roosts are more likely to be re-invaded after a weed has been controlled.

Weed surveillance aims to detect new weed species early — when they have newly arrived, are freshly naturalised, or recently established in an area. Early detection allows for early control and improves the chances of eradication — imperative on islands with high conservation values.

Weed surveillance is of particular benefit on islands with:

- Weeds present on nearby islands or mainland
- A history of garden cultivation
- Starling roosts

regular surveillance



early detection



prompt action



successful eradication

(see Weed Surveillance Plan for the New Zealand Department of Conservation)



Surveillance on islands — challenging

- Difficult to get to — erratic surveillance
- Infrequent visitors — casual observations few
- Multipurpose trips — wrong season for weed spotting
- Difficult terrain — hard to spot and control weeds
- Unknown plant — a weed or a threatened species?

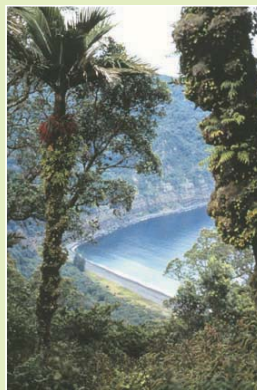


'Are you a threatened species or a weed? Shall I pull you out?'

Benefits of early detection

When pampas grass plants were spotted on **Raoul Island** they were promptly pulled out. This prevented pampas grass from colonising Raoul's open coastal faces and ousting native species. Ragwort too could have readily colonised Raoul's coastal slopes but the single plant found near Mahoe Hut was pulled out and ragwort hasn't been seen since. When *selaginella* was found a couple of years ago it was sprayed immediately.

Lotus was spotted around the old meteorological station on **Campbell Island** and promptly sprayed. Regular checking has not found it since.



Raoul Island

When DOC staff found *selaginella* on **Stewart Island**, the first step was an advertising campaign. More infestations on private property were reported and DOC controlled these the following summer.

Similarly, German ivy was treated soon after it was found on Stewart Island — now all that is required is yearly checking and control of any regrowth.



Stewart Island

Wellington Botanical Society found some brush wattle in the mid-1980s and hacked them out. DOC removed the other enclaves found over successive years so now **Mana Island** is free of adult plants of this weed.

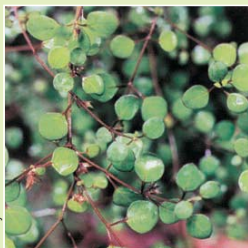
One site of prickly hakea was found on **Hen & Chickens Islands** in 1996 and the plants were pulled out immediately. They had already set seed, so it took a further two seasons of pulling out seedlings but it has been successfully eradicated.



Mana Island

Seven years ago banana passionfruit was found and controlled on **Kapiti Island**. Now there are no adult plants left on the island of this weed which smothers bush on the adjacent mainland.

At **Paengaroa** mainland island, ivy was found smothering *Teucrium parvifolium*. Ivy control was started by volunteers and then snowballed. A decade later, only odd bits of ivy are found and the future of the threatened plant is secure.



Teucrium parvifolium

Cost of being late

A large infestation of moth plant was found on **Cuvier Island** and removed. The next year a thick carpet of seedlings appeared. Eradication will be difficult because the infestation was found so late.



Moth plant

On **Hen & Chickens Islands** moth plant was first recorded in 1996 — a mammoth infestation. Tardy detection, plus re-invasion from the mainland, means eradication is unlikely. The same for Mexican devil, mist flower and pampas grass which were not seen to be ecologically damaging until too late.

Recently Darwin's barberry was recognised as an invasive weed on **Stewart Island** and a control programme started; eradication will be difficult because barberry has been on the island for years.



Darwin's barberry

Evergreen buckthorn was first recorded on **Rangitoto Island** in the 1920s. How much easier to have controlled that single infestation than the now dense coastal fringe of evergreen buckthorn.

Ten years ago veld grass was found on **Kapiti Island**. No action was taken so now it is widespread along Kapiti's coast, competing with low-growing native plants.

Pampas grass was found on **Cuvier Island** in 1993, but not until 1998 were there resources to start control. By then pampas grass was firmly established.



Mexican devil

Mexican devil was present on the **Poor Knights** about 1970 but control did not start until 1994 with several thousand plants controlled each visit. Eradication would have been a cinch had it started sooner.

Conclusion

Prompt detection and eradication of weeds minimises ecological damage.

To improve the chance of finding any weeds present on islands:

- Search where weeds are likely to appear
- Alert all island visitors to watch out for and report new weeds
- Develop a weed search list for each island

Prompt action is enhanced by:

- Up-to-date plant species list
- Botanist to advise on the status of any plant found
- Database on ecology and control of weeds