

2b Introduced dune plants and weeds

Getting to know our sand dune community

Objectives for today

- Today we will look at some of the plants that have been introduced into the sand dune plant community.
 - What are these plants?
 - How are introduced plants different to native plants?
 - Why are introduced plants a problem?

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How is an introduced plant different to a native plant?

- A **native** plant is one that is found living naturally in New Zealand. It was not introduced by humans.
- An **Endemic** plant is also a native but lives nowhere except New Zealand.
- An **introduced** plant is one that people have brought to New Zealand. Introduced plants are also sometimes called **exotic** plants.

Introduced plants threatening our local native plant communities

- Introduced plants that are threatening our local native plant communities are known as pest plants or WEEDS!
- Weeds can compete with, and even threaten survival of some native species in dunes.
- The weeds described on the following slides are the most damaging species currently found in dunes and presented in decreasing order of potential for harm.

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WEED: Marram grass

Ammophila arenaria [80cm]

- Marram grass is an introduced sand binding plant from Europe.
- It was deliberately planted around New Zealand in coastal areas as a 'dune stabiliser'.
- Marram grass builds steep high foredunes.
- Native plants build long low dunes.
- High dunes formed by marram grass dominate the smaller dunes produced by our native sand binders, spinifex and pīngao.



Image: www.nzpcn.org.nz

WEED: Evergreen buckthorn

Rhamnus alaternus [2m to 5m]

- Confined to the Tauranga District so far.
- Grows vigorously in either sun or shade, on dunes or inland, often overwhelming and destroying neighbouring plants.
- Easily mistaken for some native species (e.g. pōhutukawa, *Pittosporum*) due to the variably shaped dark green leaves.
- Copious seeds are spread by many species of birds.
- Auckland Regional Council has allocated \$3 million to control spread in that region.



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WEED: Pampas grass

Cortaderia selloana and *C. jubata* [up to 4m]

- Pampas is now more common than the similar (native) toetoe due to the large volumes of wind dispersed seed.
- Pampas is a much larger plant than native toetoe, with leaf edges that will cut skin more easily.
- Otamarakau has the largest stand of pampas on the coast.
- Herbicide control is standard practice.



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WEED: Kikuyu

Pennisetum clandestinum [normally about 30cm]

- An invasive grass, with long runners that can smother native plants.
- Often found in areas extensively modified by humans.
- Kikuyu does not trap blowing sand as effectively as the native species.
- Salt-water tolerance is less than native front dune plants, which will be tested in trials using granular salt to control this weed amongst more desirable species.
- There are many other introduced grasses that are weedy on the dunes



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WEED: Lupin

Lupinus arboreus [up to 3m]

- This Californian native was introduced to assist the growth of pine forests, for early control of dune erosion.
- Lack of natural control organisms in NZ meant lupins flourished and overwhelmed remaining natives.
- The natural arrival of a wind borne fungus (lupin blight in 1986) caused a significant reduction to lupin populations.
- Control is important as our native plants maintain the dune buffer in a far superior manner.
- Hand pulling or swabbing freshly cut stumps with a suitable herbicide are the most effective methods.



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WEED: Moth plant

Araujia sericifera [climbing vine, up to 10m]

- The invasion potential of this plant means control of any existing ones is important.
- It is relatively common in Tauranga, but also starting to appear in Whakatāne.
- Copious light, silky, wind borne seeds are released from the pear shaped pods late winter.
- It has poisonous milky sap that bleeds from any damaged parts; so protective gloves should be worn if pulling plants by hand, with ripe pods placed carefully in a bag for disposal.

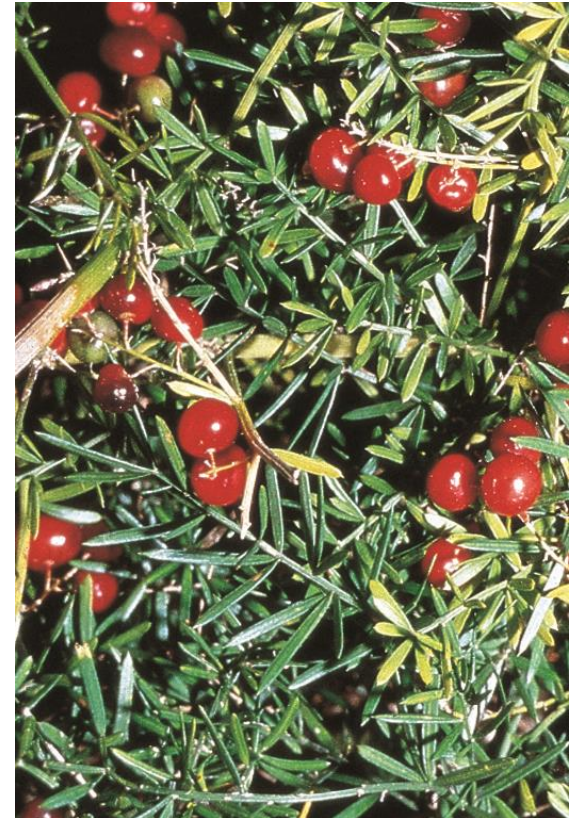


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WEED: Bushy asparagus

Asparagus densiflorus; Smilax, Asparagus asparagoides [vines]

- These plants are both difficult to control due to the many belowground tubers.
- Both also produce small red berries containing up to nine seeds each, which are spread by birds.
- Bushy asparagus should be handled with care as it contains many hidden thorns.
- Apart from human harm, smothering and displacement of native species are the reasons for control being necessary.
- Herbicide spraying is the current practice, but salt application will be trialled.



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WEED: Japanese spindle tree

Euonymus japonicus [up to 7m]

- This evergreen shrub is spreading into dunes from home gardens, by birds spreading the numerous orange coloured fruit.
- The garden plants often have yellow variegated leaves, but seedlings revert to green.
- Spread of these shrubs is not as rapid as evergreen buckthorn, but there are enough seedlings emerging to warrant control being carried out, before the population is overwhelming.
- Swabbing the freshly cut stump with a suitable herbicide is the most effective method.



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Early management of dunes in NZ

- During the 1800s and for most of last century, people planted marram grass and lupins to stabilise dunes
- Large areas of our dunes have been modified by housing development, recreational activities, farming practices, beach mining as well as weeds and pests.
- These disturbances have changed the stability of dunes, and sometimes resulted in dune degradation.

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Where to get more information?

- For more information on controlling these plants, you can contact your local pest plant officer from Bay of Plenty Regional Council, or a city or district council reserves officer.
- Or visit one of these websites:
 - New Zealand Plant Conservation Network Website
<http://www.nzpcn.org.nz>
 - Weedbusters Website
<http://www.weedbusters.org.nz>

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For more information contact:

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- 1125 Arawa Street, Rotorua
- 6 Rata Street, Mount Maunganui

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Bay of Plenty Regional Council in partnership with Tauranga City Council; Whakatane, Western Bay of Plenty, and Opotiki District Councils; and the Department of Conservation.