

INVESTIGATING WEEDS IN YOUR GREEN SPACE

Education resource



Mt Albert Grammar Students identifying weeds Photo: Landcare Research



Department of
Conservation
Te Papa Atawhai

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A. Introduction



A weed is an unwanted plant, growing in the wrong place. Weeds cause problems because they are hard to kill or spread faster than they can be controlled. Invasive weeds are causing major problems in New Zealand, taking over habitat for native plants. Examples of invasive weeds include: **climbing asparagus**, **moth plant**, **wild ginger**, **old man's beard** and **buddleia**.



What makes a plant a weed?

Often weeds or their seeds are brought to New Zealand from other countries. This can either be accidentally or intentionally.

In the past, people brought weeds to New Zealand before they understood what the consequences might be (eg gorse).

Many weeds today are planted by unknowing locals as garden plants but are then spread by birds or other means to neighbouring forests and sensitive native habitats.

Around 70% of our weeds have 'escaped' from gardens.

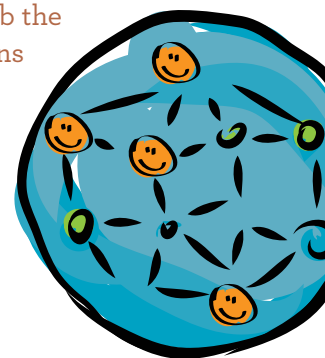
Why are weeds a big problem for NZ?

Weeds compete with native plants for resources and threaten our unique ecosystems. There are about 250 types of invasive weeds in New Zealand. These weeds can damage and smother native trees and plants and take over their habitat. They can even change water flows and alter the landscape.

Big picture

You are connected to birds, insects and other native animals in your local environment.

Weeds can disturb the fragile connections between native plants, animals and people. Dealing with plant pests can enhance native biodiversity.





Science

Living World: Planet Earth and Beyond L1 and 2: Interacting systems: Describe how natural features are changed and resources affected by natural events and human actions

Living World: Ecology

L3 and 4: Explain how living things are suited to their particular habitat and how they respond to changes, both natural and human-induced

Nature of Science: Investigating in science, Communicating in science, Understanding about science, Participating and contributing

Science capabilities: Gather and interpret data, use evidence, critique evidence, interpret representations and engage with science

Minor curriculum links:

English: Listening, Reading and Viewing

Why gather data about weeds in your green space?

Gathering data about weeds will help to understand how weeds are affecting the green space. Eliminating and controlling weeds will significantly enhance the biodiversity in your local environment and allow native/ endemic plants and animals to thrive. You can use your data to contribute to the scientific community through worthwhile weed citizen science projects on **iNaturalistNZ** and the **iNaturalist app**.

Key concepts

Using this resource: Investigating weeds in your green space, students can:

- gather and interpret data about weeds living in a local green space
- identify and learn about introduced weeds and how they affect native plants and animals
- begin to understand how weeds have an impact on the environment and wider ecosystem.

Key vocabulary

- weed • competition • invasive weed • ecosystem • endemic
- native • introduced

Weed	A weed that is unwanted and causing problems for native plants and animals. Weeds can also cause problems for human health (eg causes allergies) and agriculture (growing crops).
Competition	(in biology) When animals or plants compete with each other for natural resources eg food, shelter
Ecosystem	An ecosystem is all of the plants, animals and other living and non-living things interacting with each other in a particular place.
Invasive weed	A weed that spreads through landscapes causing major problems to native plants and threatening their survival.
Endemic	Animals that have evolved in New Zealand and are only found here.
Native	Animals have arrived in New Zealand by themselves and are found here as well as in other countries.
Introduced	Has been brought to New Zealand by people.

B. Suggested learning sequence



1. IDENTIFY A LOCAL GREEN SPACE in your school or community

Explore the local green space using the **Exploring your local environment resource**



2. EXPERIENCE BIRDS IN YOUR GREEN SPACE

Explore and investigate birds living in your green space using the **Experiencing birds in your green space resource**



3. EXPERIENCE INVERTEBRATES IN YOUR GREEN SPACE

Explore and investigate invertebrates in your green space using the **Experiencing invertebrates in your green space resource**



4. EXPERIENCING NATIVE TREES IN YOUR GREEN SPACE

Explore and investigate native trees in your green space using the **Experiencing native plants in your green space resource**



5. INVESTIGATE INTRODUCED PREDATORS IN YOUR GREEN SPACE

Explore and investigate introduced predators in your green space using the **Investigating animal pests in your green space resource**



6. INVESTIGATE WEEDS IN YOUR GREEN SPACE

using this resource.

Getting to know weeds in your green space

Students have outdoor experiences to spark their interest in weeds.

Planning an investigation

Start or continue a learning inquiry about weeds. Students reflect on knowledge and then ask questions about weeds.

Gathering and reflecting on data about weeds in your green space

Survey and identify weeds in your green space. Students add to their knowledge, reflect on predictions, and use and evaluate their evidence/ data about weeds.

Finding out more about weeds and how they change an ecosystem

Students identify how weeds could change local ecosystems.

Sharing knowledge and taking next steps

Students share their findings with the community and then take the next steps in exploring and enhancing their green spaces.



7. COME TO CONCLUSIONS AND LEARN HOW TO ENHANCE BIODIVERSITY
in your green space with the **Enhancing biodiversity in your green space resource**



8. FORM AN ACTION PLAN
for your green space using the **Tools for action resource**

Symbols used in this resource



This symbol represents New Zealand Curriculum links included in the resource.



This symbol represents a hands-on, outdoor learning experience. These experiences encourage student connection to the natural world.



This symbol represents student activities to learn about plant pests and reflect on their hands-on, outdoor learning experiences.



This symbol represents inquiry-based learning experiences.

C. Introducing weeds in your green space



Noticing leaves and weeds

Take students into an area with plants and trees (preferably within your green space) to observe leaves.

Weeds are unwanted plants.

Collect different leaves from the ground or pick gently (only one leaf from each plant).*

- What do students notice about the different leaves? How do they feel, smell and look?
- Compare and contrast several leaves. Create leaf rubbings or displays of your samples. What is the same or different about your leaves?
- Investigate which leaves are from weeds and which are native plants, using resources on page 14.



* It is possible for some weeds to cause skin reactions. Others are poisonous and contact with skin should be limited, eg woolly nightshade. It is advised to check which weeds might be a problem before starting your activity. Advise students to not taste weeds and to use gardening gloves if desired. For more information on potentially irritating or poisonous weeds see: www.nzpcn.org.nz and www.poisons.co.nz.

Weed alert

Take photos of several suspect weeds.

Weeds often grow too well compared to other native plants and can smother plants and trees. Some weeds can change the structure of a green space or forest.

- Are there any areas of garden/ bush in your green space that look completely different to other areas? Are there any plants that look as if they don't belong there?
- Can you see any vines or plants in your green space growing up or climbing over other plants and trees?
- Can you see some plants that seem to have taken over an area, spreading like crazy?

These could be WEEDS. Photograph your suspect weeds.



Banana passionfruit (left) weighing down tree and collapsing it. Wandering willie (right) is taking over this habitat, preventing other seedlings from growing.

Use your photos and samples to identify your weedy suspects using these resources:

DOC's information on weeds: doc.govt.nz

Weedbusters website: weedbusters.org.nz

See page 14 for other ID resources or contact your local council to find a relevant weed guide.

D. Planning an investigation about plant pests



Learning more about weeds in New Zealand

Reflect on your inquiry so far. Review any previous questions from students about weeds from the previous DOC resources. In groups or individually, discuss students' further questions/ wonderings. Identify what students would like to find out more about.

Use these information sheets to find out more about DOC's priority weeds. These information sheets describe 13 common weeds threatening native habitats, that you and your community can help bring under control.

1. Banana passionfruit
2. Buddleia
3. Climbing asparagus
4. Darwin's barberry
5. English ivy
6. Japanese honeysuckle
7. Moth plant
8. Old man's beard
9. Spartina
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These information sheets can be used as part of a literacy programme to introduce the context of weeds before students start their own learning inquiries. They could be part of a reading programme, used as prompts for writing reports/explanations, or as tools for group research or an integrated science lesson.

Ideas for getting to know more about weeds

View this video about extreme weed control: [doc.govt.nz](https://www.doc.govt.nz)

This clip shows some common examples of weeds such as climbing asparagus, wild ginger and how they affect the native plants on Te Hauturu-o-Toi/Little Barrier Island in the Auckland region.

For other introductory ideas about weeds and visual downloadable puzzles to familiarise students with several weeds, see Landcare Research's weed resource: [landcareresearch.co.nz](https://www.landcareresearch.co.nz)

Wilding pines

View this video about wilding pines in Wakatipu: [youtube.com](https://www.youtube.com)

Learn about problems with wilding pines in the lower South Island, their effects on native ecosystems and how rangers control them.

E. How weeds change an ecosystem

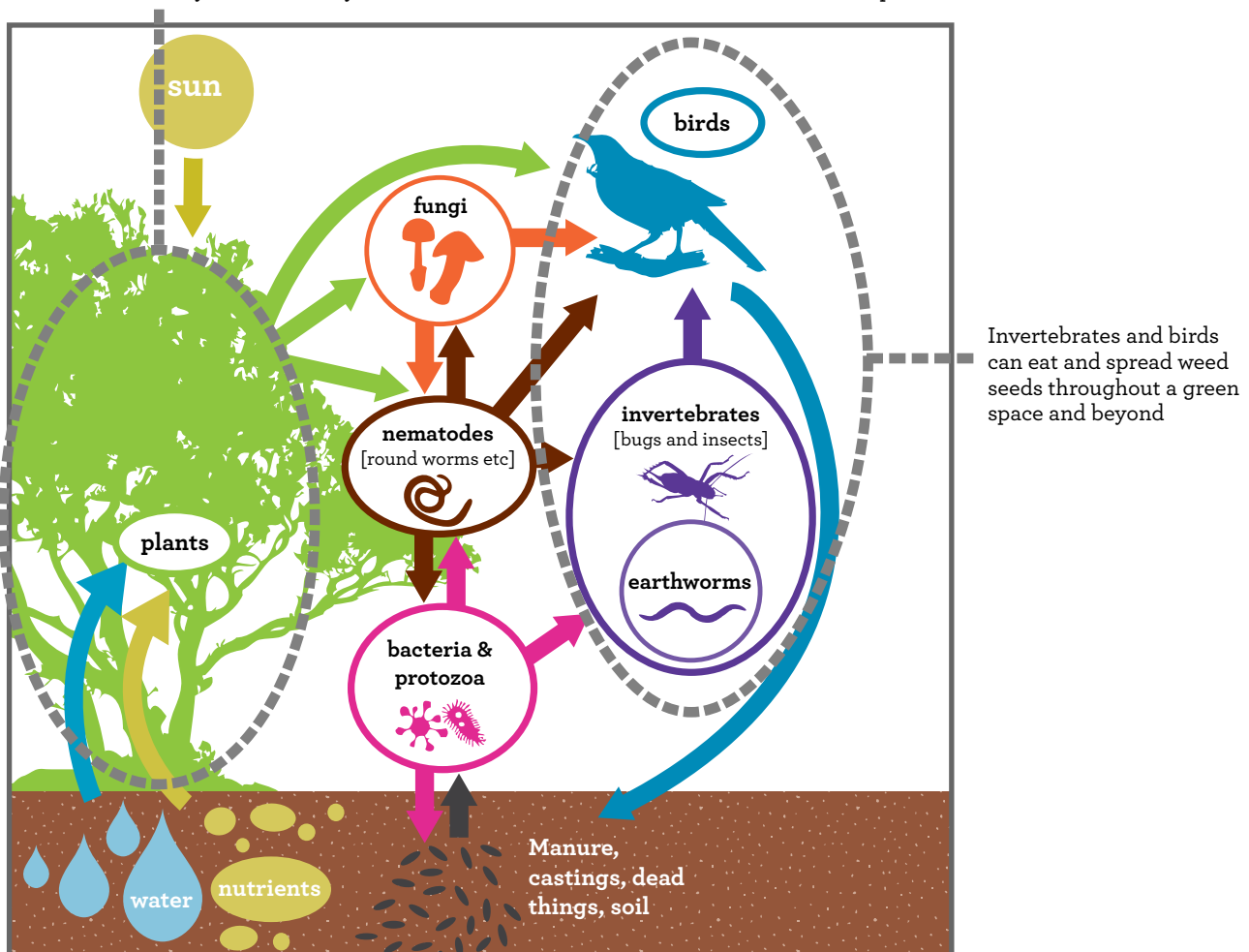


Weeds can affect an entire ecosystem

Students could label potential effects of weeds on an ecosystem diagram like the one pictured [[non-annotated copy](#)].

See example below:

When weeds grow instead of native plants in an ecosystem, the whole ecosystem can be affected. Weeds can replace native plants, or stop them regrowing. Weeds can remove native plant foods such as nectar and fruit for animals in the ecosystem. This may affect the numbers of native birds and invertebrates present.



Changes in an ecosystem due to weeds can cause many other disturbances.

Discuss with students what other changes could occur when native plants are replaced by weeds in an ecosystem (this change could have consequences anywhere in an ecosystem, eg any animal in the environment could be affected by the plants changing as their shelter, nesting sites and food sources may be affected).

See: doc.govt.nz for further information about how weeds can affect forest ecosystems.

F. Gathering and reflecting on data about weeds



Explore your green space for evidence of weeds

Identifying weeds in your green space can help us understand what threats are present for native plants.

Looking at the shape, size and colour and textures of leaves and trees/plants can give clues when identifying plants and weeds.

Weed survey

- Choose a manageable area of your green space where you think there may be weeds to conduct a basic weed survey.
- Wearing gloves can minimise skin irritations and injuries. Ensure you discuss health and safety with students before your weed survey and complete a safety plan according to your school's guidelines.
- Divide the area up between groups of students. Adult helpers accompanying each group can be useful assets to help with identification and ensure learning is optimised.
- Record findings and make a note of where any weeds were found. For unknown weeds, take photos and use resources below or upload photos and observations to **iNaturalistNZ/ iNaturalist App**. Scientists monitor this website and can help with ID, when available.
- After the survey, work together to create a map of the area and label where weeds are located within it. This can be useful for funding applications and to help with planning weed control.
- The following tools may be useful to identify weed species:
 - **Weeds information sheets** for the DOC target 13 (dirty dozen) weeds in New Zealand.
 - **iNaturalistNZ**
 - **Weed ID resources** on page 14



Mt Albert Grammar students identifying, collecting and recording weeds. *Photo: Landcare Research*

For more information about Mt Albert Grammar's Citizen Science project, visit www.landcareresearch.co.nz.

Reflecting on data

Create a visual display of weeds found in your green space.

Reflect on data using the following questions:

- Which are the most common weeds in your green space?
- Which are the most concerning and why?
- What were the limitations of your survey and how could it be improved next time?

G. Plant pests resource list



Websites and online resources

DOC information on weeds: doc.govt.nz and weed control web pages:

doc.govt.nz

Weedbusters: weedbusters.org.nz

Biotechnology hub- biocontrol theme: biotechlearn.org.nz

'Wanted' posters for the weeds: www.doc.govt.nz

Weeds identification help

Weedbusters weed list: weedbusters.org.nz

Ag Pest weed search: agpest.co.nz

Massey University weeds database: massey.ac.nz



Books/ booklets

An illustrated guide to common weeds in New Zealand by Roy, Popay, Champion, James & Rahman (Manaaki Press)

Plant me instead booklets (these show alternative plants to grow where weeds are found): weedbusters.org.nz

School Journals

Changing landscapes, School Journal: Pt2 No.1 2007

Killer plants, SJ: Pt2 No.1 2010

Other resources

Landcare Research weeds teaching resource: landcareresearch.co.nz

Learn more about biocontrol of weeds using these Landcare Research education resources: landcareresearch.co.nz

Weedbusters teaching resource by Bay of Plenty Regional Council: boprc.govt.nz

Videos

Science Learning Hub's video of a scientist talking about the spread of weeds around Waikato River: sciencelearn.org.nz

H. Sharing knowledge and next steps



Sharing findings

Weedbusters unite

Students could create presentations, speeches, assembly items, newsletters or blogs to share information about which weeds they have found in their green space. They may want to contact community groups or families in the area to share information and work together to stop the spread of weeds.

Contribute to the science community with citizen science

iNaturalistNZ/ iNaturalist citizen science projects

Record and share your weed findings with others using **iNaturalistNZ**.

See 5. Investigating introduced predators resource, for more information about using **iNaturalistNZ** and **iNaturalist App**.

Join the NatureWatchNZ projects:

DOC dirty dozen weed species to record the distribution of the main invasive weed species in NZ: **iNaturalistNZ**.

If your weed is not one of the dirty dozen DOC weeds, share with the iNaturalistNZ weed project: **<https://inaturalist.nz/projects/the-dirty-dozen>**

Going further

Seriously unwanted weeds

Some weeds are a dangerous threat to our biodiversity. For this reason there is a list of strictly monitored invasive plants that are banned from being sold or distributed in New Zealand (the NPPA – National Pest Plant Accord). Some of these are ‘controlled species’ that should be dealt with as soon as they are found. More information about the NPPA can be found here: **biosecurity.govt.nz**.

If you find a weed that may be a serious threat to our biodiversity, notify your regional or local council or contact the Ministry for Primary Industries (MPI) via the Exotic Pests and Diseases hotline (0800 80 99 66).



Take the next steps towards environmental action

Use [Resource 7 - Enhancing biodiversity in your green space](#) to reflect on the species found in your green space and to form a plan for which species you will target for increasing biodiversity and eliminating weeds.

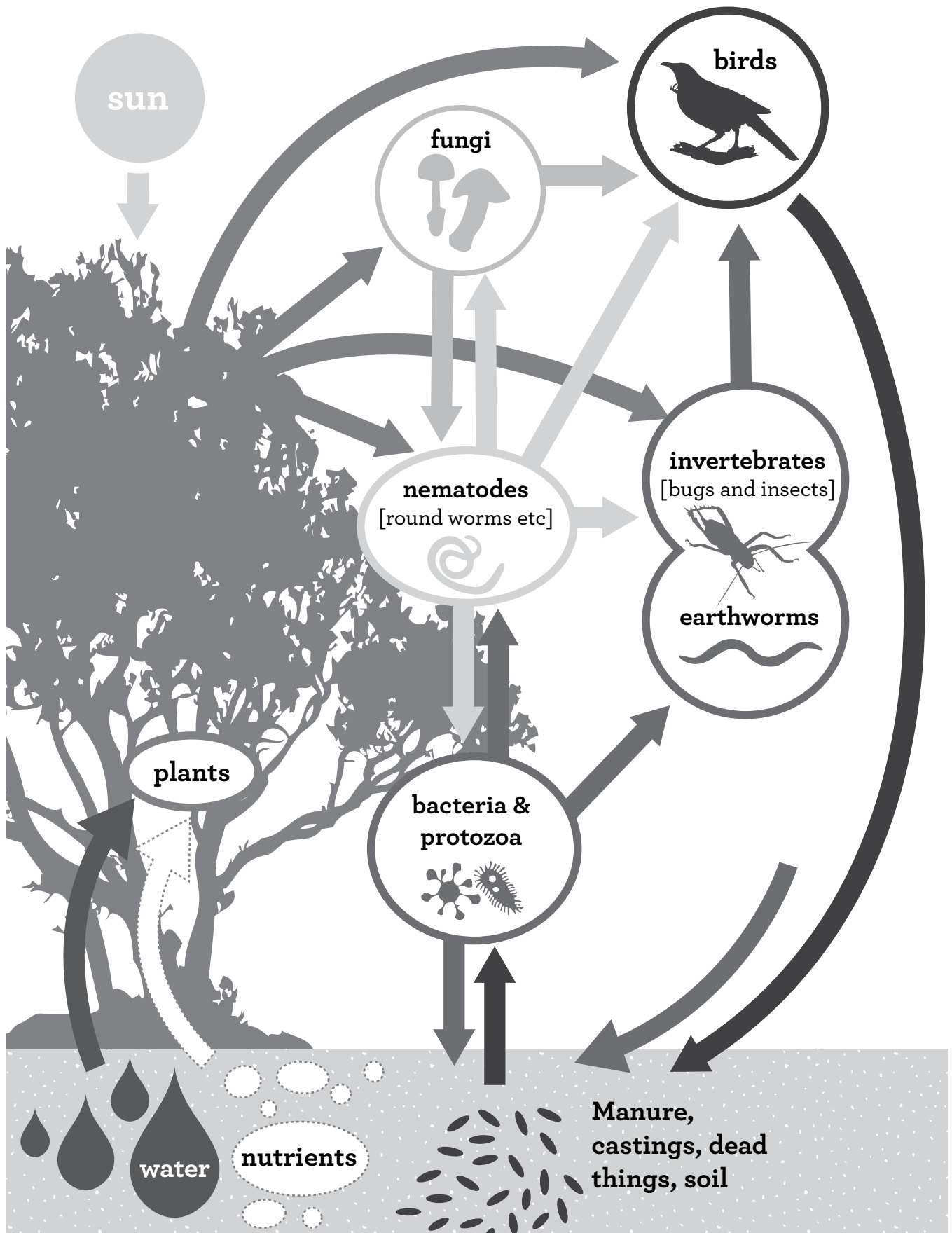
Continue learning about weeds. Network with others who are involved with weed control and conservation.

Use the [Resource 8 - Tools for action resource](#) to organise and plan an environmental action which will target the weeds you have found in your green space and enhance native animal and plant life.

See doc.govt.nz for information on how to become a Kiwi Guardian and learn how you could help with weeds.



Weeds changes to an ecosystem



1. Banana passionfruit

Passiflora (taxonia sub-group)

What is banana passionfruit?

Banana passionfruit may sound like a treat – but this invasive weed takes over green spaces and competes with native plants. It grows like a vine over other plants and trees, threatening their survival.

Why is banana passionfruit a problem for New Zealand?

These weeds grow up into the light using other plants as support. As banana passionfruit lean on other plants they smother them. They block the light and stop native seedlings growing.



How do I know it's banana passionfruit?

Banana passionfruit has furry, three-part leaves with toothed edges. The stems are hairy.

It may have large, thick-skinned fruit which can be green, yellow or pinkish, with fleshy orange-red seeds. It looks a bit like passionfruit inside! Large pink flowers appear in summer.

How does it spread?

Banana passionfruit spreads easily because animals such as birds, possums and rats eat its fruit and disperse the seeds.

Banana passionfruit came from South America.



For more-detailed information about banana passionfruit and how to control its spread, see: weedbusters.org.nz.

2. Buddleia

Buddleia davidii

What is Buddleia?

Buddleia is a flowering plant which quickly takes over areas and competes with native plants. Also known as butterfly bush, it grows to about 3 metres tall.

It is an invasive weed which is causing problems in New Zealand.

Why is buddleia a problem for New Zealand?



This weed grows very well in a variety of places, such as rivers, streams, forests and bare land. It invades areas where there are native plants, threatening their survival.

Buddleia can intensify flooding when it grows in and near rivers, changing water flow.



How do I know it's buddleia?

During summer, buddleia has purple/ white flowers growing in clusters. Its flowers are orange inside.

The leaves are long, hairy and thin (6–20 x 3–8 cm). Stems are also hairy.

How does it spread?

Buddleia spreads by wind, water and through soil. Because the seed spreads in all these different ways, buddleia can quickly take over new habitats.

Buddleia comes from China.



For more-detailed information about buddleia and how to control its spread see:

weedbusters.org.nz.

3. Climbing asparagus

Asparagus scandens

What is climbing asparagus?

Climbing asparagus is a weed in New Zealand. It grows in many forests, parks and gardens. It is an invasive plant that covers other plants and can take over large areas where native plants grow.

Why is climbing asparagus a problem?

This weed can smother native plants and cover the ground, preventing seedlings from growing. It can grow tightly around the stems of native trees, strangling their trunks.



How do I know it's climbing asparagus?

Climbing asparagus has soft small leaves which branch off the stem. It has very thin, wiry, branching stems that wrap around other plants.

The flowers are white and tiny. In spring to summer it produces small orange fruits.

How does it spread?

Birds spread the seeds. Pieces of stem can also regrow. Dumping this weed can also cause it to spread.

Climbing asparagus comes from South America.



For more-detailed information about climbing asparagus and how to control its spread see: weedbusters.org.nz.

4. Darwin's barberry

Berberis darwinii

What is Darwin's barberry?

Darwin's barberry is an invasive weed that invades forests, stream-sides (riparian areas) and farmland. It is an evergreen shrub that can grow to 4 to 5 metres high.

Why is Darwin's barberry a problem?

This weed can take over areas, stopping native plants from growing.

Weeds change the habitat for native animals, making it more difficult for them to survive.

Darwin's barberry also causes problems for the forestry industry.



How do I know it's Darwin's barberry?

It has shiny, smooth leaves that have toothed edges. They are hard and spiky. The flowers are yellow and grow in bunches. Berries start to appear early in summer. They are green at first and then become purple-white.



How does it spread?

This weed spreads easily when birds and other animals like possums eat the seeds and carry them to other places through their droppings. Seeds can also be spread by soil and water.

Darwin's barberry comes from Chile and Argentina.



Unripe berries



Ripe berries

For more-detailed information about Darwin's barberry and how to control its spread see: weedbusters.org.nz.

5. English ivy

Hedera helix

What is English ivy?

English ivy is a climbing vine with hairless, dark green or green/ white leaves. It is an invasive weed which takes over areas and competes with native plants.

Why is English Ivy a problem for NZ?

English ivy can cling to and climb over almost any surface. It is a weed that started in New Zealand gardens, but spreads easily into the wider environment, taking over areas where native plants grow. This weed climbs over plants and trees to reach very high in the forest, smothering and even killing them.



How do I know it's English ivy?

Ivy's leaves feel papery and have different numbers of lobes (sections of the leaf). The lobes grow out from the centre of the leaf. As seedlings the leaves are thin but they become thicker as the plant grows bigger.

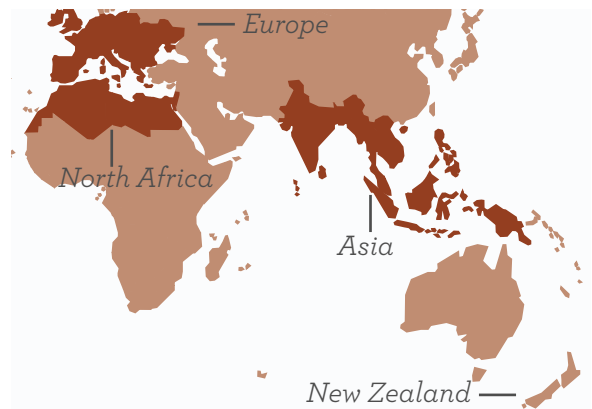
Flowers are tiny and difficult to see. They grow in groups and are yellowish-green. They become purple or black small berries.

How does it spread?

This weed's seeds can be spread by birds. People plant ivy and sometimes dump it with other weeds in green spaces. This

causes most of the spread of English ivy in New Zealand.

English ivy comes from Europe, North Africa and parts of Asia.



For more-detailed information about English ivy and how to control its spread see: weedbusters.org.nz.

6. Japanese honeysuckle

Lonicera japonica

What is Japanese honeysuckle?

Japanese honeysuckle is a climbing plant that is an invasive weed. It was introduced to New Zealand for gardeners to use as hedges but it spread and grew in places it was not supposed to be.

Why is Japanese honeysuckle a problem?

This weed grows quickly, climbing over other plants. It forms thick mats, smothering native plants as it goes and preventing seedlings below it from growing. It can even make tall trees collapse.

Other weeds such as moth plant can use Japanese honeysuckle as support to grow over.



How do I know it's Japanese honeysuckle?

Japanese honeysuckle has soft, rounded, oval leaves. The shiny, dark green leaves grow in pairs, opposite each other. Long yellowish white flowers (2-5 cm) grow from spring to autumn. They smell nice and sweet. The flowers become black berries.

How does it spread?

This weed's seeds can be spread by birds and possums. People sometimes dump it with weeds in green spaces. This causes Japanese honeysuckle to spread.

Japanese honeysuckle comes from Eastern Asia, including Japan.



For more-detailed information about Japanese honeysuckle and how to control its spread see: weedbusters.org.nz.

7. Moth plant

Araujia hortorum

What is moth plant?

Moth plant is a harmful vine which can grow over other plants and trees, changing habitats and causing problems.

Why is moth plant a problem?

This weed climbs up to the top of native trees, smothering them and weighing them down. It also blocks light for other plants. Moth plant can spread quickly, taking over large areas. Butterflies, moths and bees can get stuck in the sticky flowers.



Photo: Weedbusters



Photo: Cam Walker

How do I know it's moth plant?

Leaves are shield shaped: narrow at the ends and wider at the top. Moth plant is a fast-growing vine that climbs up other trees and shrubs.

In summer or autumn you may see white-pink flowers or large pods (fruit as big as a fist). Moth plant stems have sticky, white poisonous sap.

How does it spread?

Moth plant spreads very easily because each pod contains about 250-1000 seeds that can parachute in the wind and travel large distances.



Photo: Weedbusters



MOTH PLANT IS POISONOUS (ESPECIALLY THE WHITE SAP AND SEEDS). IT CAN CAUSE SKIN PROBLEMS AND IRRITATIONS. USE GLOVES WHEN HANDLING MOTH PLANT.

For more-detailed information about moth plant and how to control its spread see: weedbusters.org.nz.

8. Old man's beard

Clematis vitalba

What is old man's beard?

Old man's beard is a weed that has been a problem in New Zealand for many years. It is an invasive vine that can grow up to 20 metres tall.

Why is old man's beard a problem?

Old man's beard grows very quickly compared to native plants and can grow in huge clumps.

This weed is dangerous for our forests. It can smother and kill all plants from the highest trees to the little seedlings on the ground.



How do I know it's old man's beard?

The weed gets its name from its seeds which are grey and hairy. During summer to autumn the white flowers appear.

The leaves are papery and grow in groups of 3-5. Leaves grow opposite each other, with one at the end of the stem. The thin bark can be easily rubbed off the long, pale stems.



How does it spread?

Old man's beard spreads its seeds with the help of wind or water. Pieces of stem can also grow when moved to other areas.

Old man's beard comes from Europe and south-west Asia.



NOTE: Old man's beard can be confused with Native Clematis (*clematis paniculata*). For a comparison, see www.terrain.net.nz

For more-detailed information about old man's beard and how to control its spread see: weedbusters.org.nz.

9. Spartina

Spartina anglica, S. alterniflora

What is spartina?

Spartina is a clumping grass that grows about a metre high. It is also called common cord grass or salt-water cord grass. Spartina is an invasive weed which takes over coastal areas and competes with native plants.

Why is spartina a problem?

It invades mangroves, mudflats and estuaries taking over the inter-tidal zone. It forms big clumps that hold mud (sediment). This raises the level of the land and can change coastal ecosystems. Bird and fish habitat is damaged by Spartina.

Spartina is very hard to get rid of and even survives fire.

How do I know it's spartina?

Spartina has stems that grow together and stand upright. It looks like a very large grass.

It has long, flat, narrow leaves about 10–45 cm long that are ribbed on top.

The flowers are produced in groups in spiky tops of the plant. The seed heads are not often seen in New Zealand.



How does it spread?

Spartina's stems can creep underground and spread easily, over wide areas.

It can also spread through flooding and livestock.

Spartina comes from North America and England.



**IF YOU SEE SPARTINA,
CONTACT YOUR LOCAL
DOC OFFICE FOR ADVICE**

For more-detailed information about spartina and how to control its spread see: weedbusters.org.nz.

10. Wandering willie

Tradescantia fluminensis

What is wandering willie?

Wandering willie is a weed. It spreads like crazy over the forest floor, covering the ground. This weed smothers other plants, changing the ecosystem. It can even grow in the shade.

Why is wandering willie a problem?

Wandering willie is a threat to New Zealand forests and plants. It is very hard to get rid of and overtakes the forest floor so that nothing else can grow.

This weed smothers small plants, seedlings and other living things and threatens their survival. It can also intensify flooding on riverbanks.



How do I know it's wandering willie?



Wandering willie has shiny, hairless, oval leaves with pointed ends. The soft stems are in connected pieces (segments). The flowers are small and white and usually appear in summer. No fruit is produced in New Zealand.

How does it spread?

This weed spreads very easily. Even a small piece of a stem will regrow and can survive in shade. The stem pieces spread through water, livestock, plants, with people and in waste.

Wandering willie comes from South America.



SOME PEOPLE CAN HAVE SKIN REACTIONS TO WANDERING WILLIE. YOU MAY CHOOSE TO WEAR GLOVES WHEN HANDLING.

For more-detailed information about wandering willie and how to control its spread see: weedbusters.org.nz.

11. Wild ginger

Hedychium gardnerianum

What is wild ginger?

Wild ginger is an invasive weed which grows quickly in forests and other habitats, causing problems for many native plants in New Zealand. It can grow up to 2 metres tall.

Why is wild ginger a problem?



Wild ginger can take over forest areas. It forms large mats of tubers (tube-like thickened stems) as it grows. These big tubers can smother native plants and stop light getting to them, threatening their survival.



How do I know it's wild ginger?

Wild ginger has thick stems with large, shiny, thick leaves growing out from them. In summer and autumn big, yellow flowers with long red stamens (stalks in the middle of flower) grow up from the stems. These pleasant-smelling flowers later become orange fruits.

How does it spread?

Wild ginger seeds can spread through birds moving them. It can also spread and grow through underground stems called 'rhizomes'.



Wild ginger comes from South Africa.



For more-detailed information about wild ginger and how to control its spread see:

weedbusters.org.nz.

12. Wilding conifers

What are wilding conifers?

Conifers have cones instead of flowers. A wilding conifer is an introduced tree that is self-sown and growing where it is not wanted. These conifers have little value as timber, and take over areas where native plants and animals are naturally found.

The 10 wilding conifers are: Lodgepole/contorta pine, European larch, Dwarf mountain pine, Corsican pine, maritime pine, Ponderosa pine, Scots pine, bishops pine, radiata pine and Douglas fir.

Why are wilding conifers a problem?

These weeds take over landscapes. They change the soil and block the light, stopping native seedlings growing. When wilding conifers take over a landscape, the land is no longer suited to native animals or plants.

Without rapid action wilding conifers will infest 20% of New Zealand within 20 years.



How do I know it's a wilding conifer?

There are 10 different wilding conifers. These all have different features and can be difficult to recognise. For more information on how to spot wilding conifers, see: doc.govt.nz.

How do they spread?

When the cones of conifers open, they spread their seeds through the wind. The seeds can travel a good distance and are not fussy about where they grow.

Wilding conifers come from a variety of places including Europe and North America.



For more-detailed information about wilding conifers and how to control its spread see: doc.govt.nz.

13. Woolly nightshade

Solanum mauritianum

What is woolly nightshade?

Woolly nightshade is a quick-growing, invasive weed. It can quickly take over open habitats. Plants can grow up to 10 metres high.

Why is woolly nightshade a problem for NZ?

Woolly nightshade plants grow closely together, shading out any native plants and threatening their survival.

It is also poisonous to people.



How do I know it's woolly nightshade?

Woolly nightshade has soft, furry leaves. They are large and oval in shape.

Stems are a grey colour and are covered in light hairs. Purple flowers with 5 petals and yellow centres grow in groups at most times of the year. These become green-yellow berries. Woolly nightshade can also have an unpleasant smell.

How does it spread?

Even though the berries are poisonous to people, kererū and other birds can safely eat them, spreading seeds over large areas through their droppings.

Each plant produces thousands of seeds, which also fall and grow around parent plants.



Woolly nightshade is from South America.



CAUTION: WOOLLY NIGHTSHADE BERRIES ARE POISONOUS. LEAVES CAN IRRITATE THE SKIN, EYES AND THROAT. USE GLOVES WHEN HANDLING.

For more information about woolly nightshade and how to control its spread see: weedbusters.org.nz.