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Do Something for the Environment: Boorna Waanginy

Education Resource



4 - 9 OCTOBER
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WESTERN AUSTRALIA

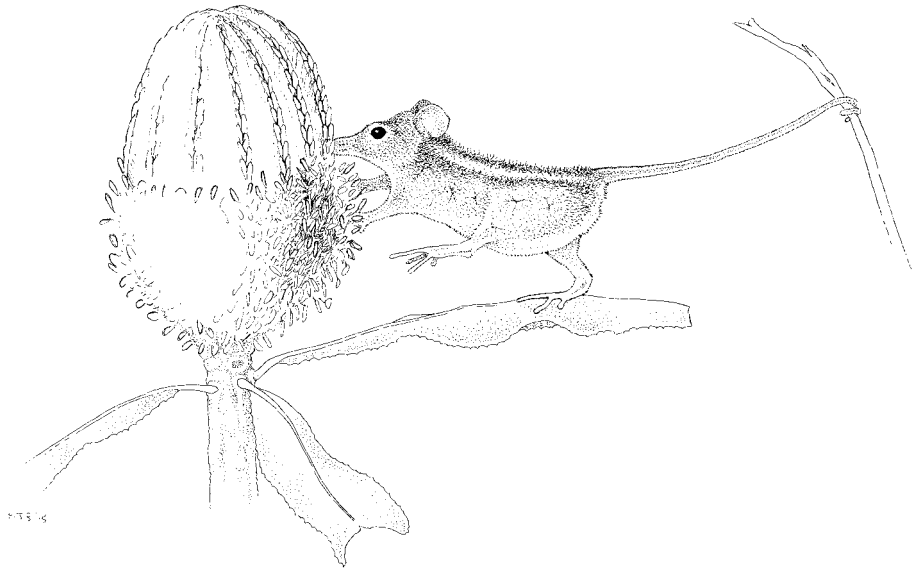
WESTERN
AUSTRALIA
WALKING ON A DREAM



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WELCOME



Welcome to the Boorna Waanginy Education Resources for 2023. This is one of three complementary sets of activities to support your learning.

Background

Australia's South-West is one of the most extraordinary areas of biodiversity in the world, but it is under threat. Boorna Waanginy: The Trees Speak celebrates this fragile and complex environment through science and Noongar culture, considering how all perspectives must work together to preserve our natural world. In 2017 and 2019, hundreds of thousands of people saw Boorna Waanginy. Due to extraordinary popular demand, a renewed and updated Boorna Waanginy returns to Kings Park as part of EverNow in 2023, and you can be part of it!

Do Something to help the Environment

- Practical projects big and small. These can be scaled from individual to whole school projects.

Learn about a species

- Each participating student or class chooses a species they commit to learning about and caring for.
- Classes research their species, using the activities in the resource as a guide. This can be accessed from the EverNow website.

Make Something to Display at Boorna Waanginy 2023

- Create an artwork to become part of the massed display in Kings Park

The **Learn about a Species** resources provide a series of activities you can use to investigate local biodiversity. Start by researching and then choosing a local species. The activities will help you to understand your species, its importance in the ecosystem and what you can do to ensure its survival. If you commit to caring for your species, the **Do something to help the Environment** resources provide practical activities that can be conducted as individual, group, class or whole school projects. You can **Make Something to Display at Boorna Waanginy 2023** using creative ideas provided by Festival artists.

The resources are flexible – you can choose to engage with the activities as much or as little as you want. You can choose to learn about your species, create an artwork, conduct a revegetation project, or all of these! Share your work with Perth Festival and become part of Boorna Waanginy 2023.

ABOUT THIS PACKAGE

Make a difference and celebrate with Boorna Waanginy

The purpose of this resource is to give your students a chance to make a positive, long-term impact on the environment which we all share. This program focusses your class on actions to protect and enhance biodiversity.

Students identify areas in their school, home or community where biodiversity could be increased. They research and develop a plan to achieve their aims. With support from parents, community organisations and local councils, students can put their plans into action, becoming drivers for real change in their communities.

Through writing about and publicising their project students can also create an online digital footprint contributing to the movement for protecting our environment, native animals and plants and empowering a sense of what is possible.

Objectives:

- Directly support biodiversity in our gardens, verges and suburbs
- Build a sense of community by linking with councils, conservation and other community groups
- Create a digital footprint to share your work and fuel the movement for change

Outcomes:

- Students develop research and collaboration skills
- Students develop an understanding of the importance of biodiversity and raise awareness in the community
- Students recognise that they can take action to improve their world
- Local biodiversity is increased

Why is the Environment so Important?

Western Australia is a biodiversity hotspot. Our biodiversity is among the highest in the world but is now under threat, with a danger that we may lose many of our unique species of plants and animals.

The ground beneath us supports the biodiversity for which we are famous. By looking after the ground beneath our feet and making sure we maintain the habitats that species depend on, we care for all the living things who share this land with us.

People feel better, are healthier and heal more quickly in areas of high biodiversity. Plants help to cool our cities, filter our air, maintain our climate and improve our mood. Areas of high biodiversity have lower rates of diseases and pests.

By looking after the environment around us, we look after people and the planet we depend on.

ABOUT THIS PACKAGE [CONT.]

How Can We Help the Environment?

Every person can choose to support the environment. Even small actions such as planting a seedling, maintaining native vegetation and stopping our environment becoming polluted, support biodiversity.

How will you choose to care for your local environment? Consider the activity options below for an opportunity to involve your school. You may find that collaborations between classroom teachers and specialist Art, Science / Sustainability, IT or Design and Technology teachers work well. You may like to involve the whole school, a selection of classes, or even advertise to families as an activity to do at home. You may already be helping biodiversity at your school. We'd like to know about that too.

Below are some ideas that could spark learning opportunities for you and your students. Forge links with other community members who are choosing to nurture our unique biodiversity. Then post your project on social media and celebrate with Boorna Waanginy as we recognise the network of people joining the movement of change.

Imagine if every person decided to take steps to care for the ground beneath them. Collectively, we can change the way we live and teach others to care. You and your students can be part of that change for the better.

How Do We Create an Online Digital Footprint and Encourage Others to Join Us?

Take action and make a difference, share photos of your initiatives, set up a social media site or join an environmental organisation. Your project could also be featured in EverNow's Boorna Waanginy : The Trees Speak in October 2023!

Tag EverNow as follows:

@evernow_wa

Please ensure you adhere to social media policies for your school.

EverNow reserves the right to re-share images posted on social media. Please ensure that all people featured in the photographs have provided their permission for their images to be used and that no names are used.

CURRICULUM LINKS

Do Something to Help the Environment activities can be adapted to suit any primary school year level, and secondary students up to Year 10. These activities link to cross-curriculum priorities Sustainability and Aboriginal and Torres Strait Islander histories and cultures, as well as the following curricula:

- Humanities and Social Sciences (H +SS)
- The Arts (A)
- English (E)
- Languages (L)
- Science (S)
- Mathematics (M)

Potential Curriculum Links:

Activities	Cross-Curriculum Priorities		General Capabilities						Learning Areas										
	Primary	Secondary	Sustainability	Aboriginal and Torres Strait Islander Histories and Cultures	Literacy	Numeracy	ICT Capability	Critical and Creative Thinking	Personal and Social Capability	Intercultural Understanding	Ethical Understanding	English	Mathematics	Science	Humanities and Social Sciences	The Arts	Health and Physical Education	Languages	Technologies
Design a Garden	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Sowing Seeds	✓	✓	✓		✓		✓		✓	✓	✓	✓	✓	✓	✓				✓
Plant Your Garden	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
Research and Create a Sensory Garden	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
Rehabilitate a Garden	✓	✓	✓				✓	✓		✓			✓	✓					✓
Clean-Up	✓	✓	✓				✓		✓										
Find a Forgotten Corner	✓	✓	✓	✓			✓		✓	✓				✓	✓				✓
Join Forces with your Local Council	✓	✓	✓	✓					✓	✓				✓	✓				✓
Approach Facilities and Organisations	✓	✓	✓					✓	✓	✓				✓	✓				✓
Creature Constructions	✓	✓	✓			✓		✓	✓	✓		✓	✓						✓
Begin an Initiative in your School	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Surveying your Success	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓			✓
Solutions for Change	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓

Activity 1: Design a Garden

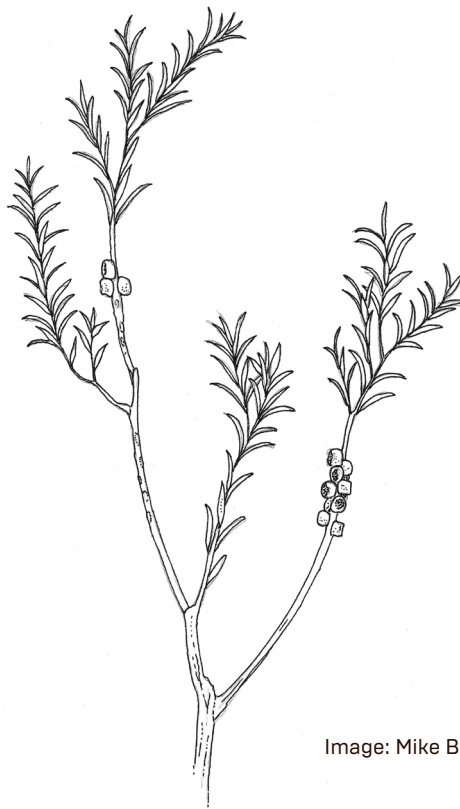


Image: Mike Bamford

Activity

Create a design for a new native garden. It could be large or very small. What would you want to consider? Research plant types for the area or conduct a survey of the area to see which plants are thriving with minimal maintenance. Which species are native and which species will encourage native animals to the area? If you have bushland nearby, you may wish to walk through to see which plant species show evidence of animals feeding or sheltering in them. Consider aesthetics, what would enhance the existing site? Do you need trees for shade, smaller plants to allow sunlight in, or a combination of both? Construct your plans using a suitable method such as a sketch, model or computer-generated plan.

This activity could be conducted with a hypothetical garden area or using a school, home or council area identified for replanting. You could then proceed to plant your garden using an agreed plan.

Resources

- The Water Corporation's site lists waterwise, low maintenance garden ideas: www.watercorporation.com.au/Waterwise/Waterwise-plants
- The Your Home website has tips for designing sustainable native gardens: <http://www.yourhome.gov.au/housing/landscaping-and-garden-design>
- Check the APACE suburb selector tool for a list of plant species native to your area: www.apacewa.org.au/suburb-selector/
- If you would like to see what a plant looks like, search for it in Florabase: Florabase.dpaw.wa.gov.au/
- The Wildflower Society of WA also has information about plants that you may find helpful: <http://www.wildflowersocietywa.org.au/>
- Choose for Black-Cockatoos: <https://birdlife.org.au/how-to/plant-for-black-cockatoos/>
- ReWild Perth has a wealth of information and ideas: <https://www.perthnrm.com/project/rewild/>

Activity 2: Sowing Seeds

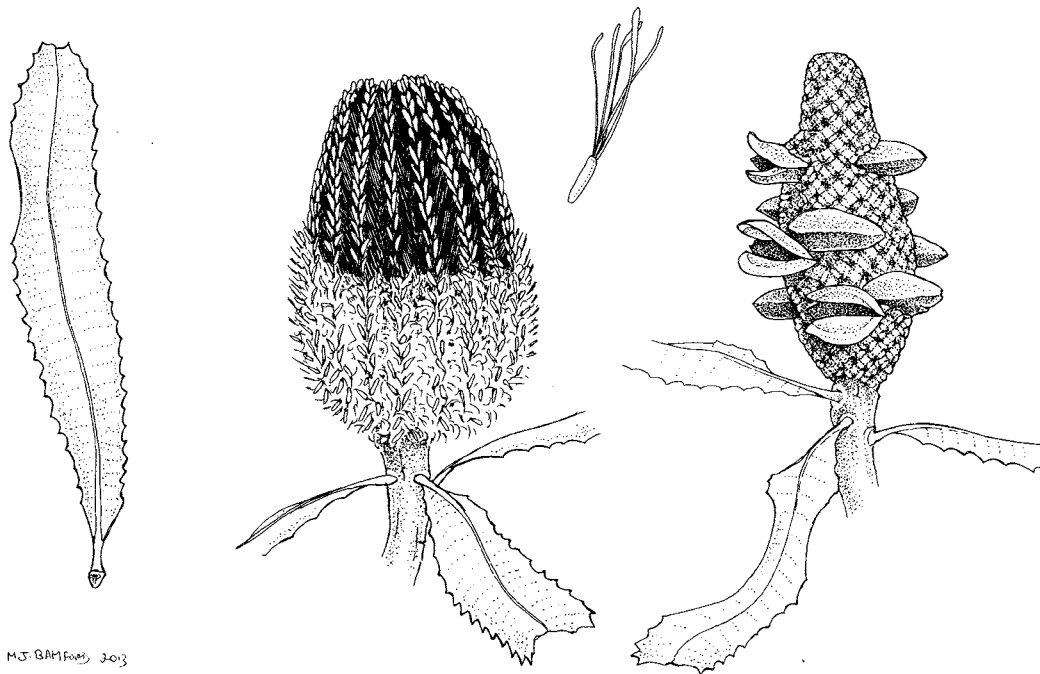


Image: Mike Bamford

Activity

Growing native seedlings is a wonderful way to learn about plant growth, while helping biodiversity. Your students can record the seeds' germination and growth and take responsibility for their care. Once seedlings are growing well, your students can either take them home to plant in their gardens or contribute them to the *Boorna Waanginy* garden at your school or council area.

Planting Seeds

If you have a native garden or bushland on school property, you could collect seeds of local provenance. Seeds need to be collected when they are ripe and ready to be released from the pods. These seeds could simply be scattered where they are to grow, or each student could plant one in a pot to observe its growth more closely. You need permission to collect seeds or cuttings from any areas outside your property.

Native seeds may also be sourced from nurseries. Quick growing seeds of Wattles such as Coojong Acacia saligna or Red-eyed Wattle *A. cyclops*, or Running Postman *Kennedia prostrata* work well. Your local native nursery may have other local seeds available. Check the APACE suburb selector tool for plant species native to your area. Your council may also have access to local native seed.

Many native seeds germinate after fire, so they may need smoke treatment or soaking in boiling water to germinate. Ask your native nursery for guidance or see the references below.

Activity 2: Sowing Seeds (cont.)

Taking Cuttings

You can take cuttings from many native plants. Tar bush *Eremophila glabra* is a coastal species that strikes well from cuttings. Check the APACE suburb selector tool for plant species local to your area.

- Procedure for Taking a Cutting
- Using secateurs cut a 10cm piece of the plant which includes some woody stem
- Snip off the lower leaves and trim the few remaining leaves to half their size
- Dip the base of the cutting in honey to prevent fungus and stimulate growth
- Plant the lower third of the plant in potting mix
- Place the pot in a shadehouse or protected area, watering it when the soil surface becomes dry
- Watch for signs of growth!

You may wish to consider:

- Gloves
- Sun protection
- Care of seedlings at weekends – does your school have a greenhouse?

Resources

- Growing native seeds and cuttings: https://www.redland.qld.gov.au/info/20286/native_gardening/640/growing_native_plants_from_seeds_and_cuttings
- Propagating native seeds: https://parksaustralia.gov.au/botanic-gardens/schools/learning-resources/Plant_propagation_including_pre-treating_seeds_with_techniques_such_as_smoke_soaking_and_abrasion : <https://anpsa.org.au/plant-propagation/>
- APACE Suburb Selector: <https://apacewa.org.au/suburb-selector/>

Activity 3: Plant Your Garden



Image: Mike Bamford

Activity

Plant a native garden for your home or school. How will you source your plants? Will you grow them from seed, take cuttings or purchase seedlings? Will your local council or plant nursery donate some? Will you need to raise funds? Also consider if and how the garden will require ongoing care. Talk with the gardening staff and ask for their advice and support while your garden becomes established.

Contact your local council. Many councils provide local native plants to residents and schools or may offer to help remove weeds on verge areas or provide mulch. Local plant nurseries can be approached to sponsor the project. A local hardware store may offer to donate supplies. Parents may have skills or equipment that they could provide.

You may wish to consider:

- Gloves
- Sun protection
- Disposal of weeds

Resources

- The Water Corporation's site lists waterwise, low maintenance plants and garden ideas: <https://www.watercorporation.com.au/Waterwise/Waterwise-plants>
- The Your Home website has tips for designing sustainable native gardens: <http://www.yourhome.gov.au/housing/landscaping-and-garden-design>
- Find your local council here: [walga.asn.au/About-Local-Government/Online-Local-Government-Directory.aspx](http://www.walga.asn.au/About-Local-Government/Online-Local-Government-Directory.aspx)

Activity 4: Research and Create a Sensory Garden

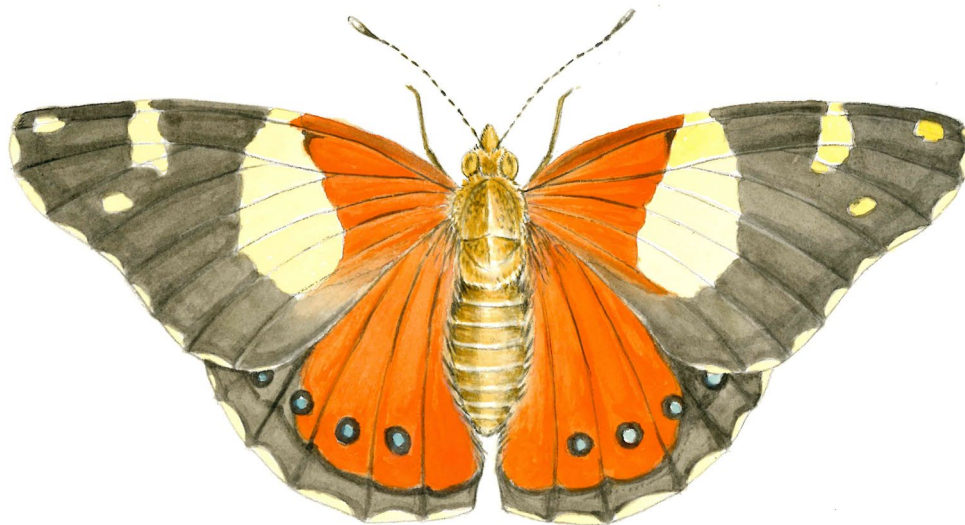


Image: Mike Bamford

Activity

Create a native garden that provides for each of the senses. Using local native plants will help you to see colourful native butterflies and hear chatty native birds as they feed in the garden. This activity is particularly helpful for learning about the five senses. You may choose to focus on plants for butterflies. Creating a butterfly garden is a great way to explore life cycles.

Research local plants and animals from your area. Which local plant species attract butterflies or birds? Which plants are perfumed? Which plants have soft or textured leaves? If you have bushland nearby, consider a nature walk to collect information about the features of local plants.

Consider adding features such as an artistically designed bird bath or insect hotel to add interest to the garden. By providing more resources for animals, you will also increase biodiversity.

You may even like to offer to assist another organisation such as an aged care facility to install a sensory or butterfly garden. See 'Approach Facilities and Organisations' for more ideas and information.

Resources

- Sensory Gardens: <https://www.betterhealth.vic.gov.au/health/healthyliving/gardens-for-the-senses>
- A UK reference. The principles are the same, just use local plant species: <https://www.theguardian.com/teacher-network/teacher-blog/2013/jun/13/build-sensory-garden-green-schools>
- Butterflies and their food plants: <https://library.dbca.wa.gov.au/static/FullTextFiles/631822/participants%20files/Field%20Sessions/butterflychart.pdf> Planting gardens for birds: <https://www.birdsinbackyards.net/places>
- Plant selection:
- <https://apacewa.org.au/suburb-selector/>
- <https://florabase.dpaw.wa.gov.au/>
- <http://www.wildflowersocietywa.org.au/>

Activity 5: Rehabilitate a Garden



Image: Mike Bamford

Activity

Identify a garden that needs care. This might just be a matter of weeding, mulching or trimming an existing garden. Consider the needs of the existing plants and look for ways to increase the garden's value for wildlife.

A forgotten corner can become a haven for wildlife!

Students could record wildlife using the garden before and after rehabilitation. Which species have increased? Have any become less common? How has usage by people changed? What do people think of the new garden? Design and conduct a survey to help you find out.

Why are weeds a problem? How can you control them without harming other species? Are weeds always bad? If you remove weeds, what should you provide in their place? The references below may be used to guide your research.

Resources

- Natural weed control methods: <http://www.abc.net.au/gardening/factsheets/beating-the-weeds/9436840>
- Invasive weeds in bushland: <https://weeds.org.au/>
- Weeds and Wildlife: theconversation.com/hold-the-spray-some-garden-weeds-are-helping-native-wildlife-47848
- Plant species that attract butterflies: <https://library.dbca.wa.gov.au/static/FullTextFiles/631822/participants%20files/Field%20Sessions/butterflychart.pdf>
- Planting gardens for birds: <https://www.birdsinbackyards.net/places>
- How to design a survey: <https://www.sciencebuddies.org/science-fair-projects/references/how-to-design-a-survey>

Activity 6: Clean-Up

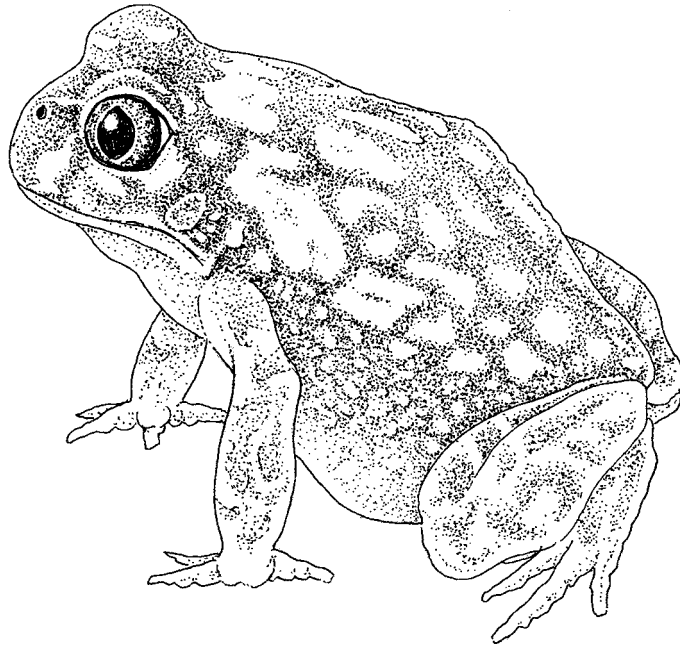


Image: Mike Bamford

Activity

Litter pollutes the environment and can be dangerous for wildlife. Encourage students and staff to participate in an organised clean-up with an organisation such as Clean Up Australia, your local council or organise a rubbish clean-up around your school. Consider the following:

Gloves

- Sun protection
- Sharps (container and safety procedure)
- Appropriate disposal of items collected. Which can be recycled? Which must be added to landfill?
- Emergency contacts/procedure
- Attend an existing clean-up with an organisation such as Clean Up Australia

Remember to tag [@evernow_wa](#) and your partner organisation so that we can recognise your efforts.

Resources

- Clean Up Australia: www.cleanup.org.au
- Recycle Right: <https://recycleright.wa.gov.au/>
- Sir David Attenborough's message and BBC Plastics Watch: <http://www.bbc.co.uk/programmes/articles/I1CnCQR0GJfkDgJs57sR5Ps/plastics-action>

Activity 7: Find a Forgotten Corner... and Restore it!



Image: Mike Bamford

Most suburbs have forgotten areas of land which are only mown weeds or dry soil. With a little care and replanting they can become important refuges for biodiversity and help to link gardens and reserves together. Hiding in your suburb there may be a verge, a drainage sump, even a strip of land tucked behind the shops that you could rescue!

If everyone adopted a small public space in their area and revegetated it, the boost to biodiversity would be enormous.

Activity

Using Google Maps' satellite setting, ask your students to scan aerial photos of the area around your school for spaces that appear unused and lacking vegetation. Areas that could link up remnant bushland or link to existing native gardens are particularly valuable.

Students could draw a plan, identifying areas which could be replanted and showing how their suburb could look if revegetation took place.

Taking Action:

Choose one area that you would like to target. Firstly, you need to determine who owns the land and seek their permission and help to revegetate it. Council or other government land is often the most likely option. If you are not sure who owns the land, then contact your local council or check with Landgate.

The environmental or schools' liaison officer at your local council is often a good person to contact because they will understand the value of your project and will know who to talk to within council.

Activity 7: Find a Forgotten Corner... and Restore it! (cont.)

Think about applying for grant funding or partnering with parents and local residents to help build community and raise the profile of your project. Demonstrate the value of your project to local residents. Think about a letter drop or residents' get together in your revegetated space. Community support is important for the long-term success of local projects.

Take 'before' and 'after' photos so that you can see the difference that you make.

Remember to tag [@evernow_wa](#) and any community partners in social media posts so that we can see the great work you do.

Resources

- Google Maps – use the satellite setting: <https://www.google.com.au/maps/>
- Landgate: <https://www0.landgate.wa.gov.au/>
- Older students may wish to search the Landgate site for information and map layers: <http://www0.landgate.wa.gov.au/maps-and-imagery/interactive-maps>
- Find your local council here: <https://walga.asn.au/About-Local-Government/Online-Local-Government-Directory.aspx>
- Places to apply for grant funding: <http://www.nrm.wa.gov.au/grants/other-grants.aspx>
- <http://www.environment.gov.au/about-us/grants-funding>

Activity 8: Join Forces With Your Local Council



Image: Mike Bamford

Ask your students to compose a letter inviting your council to assist in your project or offering to help with one of theirs. Students could also brainstorm other local businesses and community groups who may be able to help them achieve their aims.

Activity

Contact the environmental or schools' liaison officer at your local council to see what you can do in your local area. Your council may have identified areas that require help from volunteers to increase their value for biodiversity. This will often involve:

- Tree planting
- Weeding
- Mulching
- Litter clean-up
- Environmental education
- Indigenous education

Take 'before' and 'after' photos so that you can see the difference that you make.

Remember to tag [@evernow_wa](#) and your local council in social media posts so that we can see the great work you do.

Resources

- Find your local council here: <https://walga.asn.au/About-Local-Government/Online-Local-Government-Directory.aspx>

Activity 9: Approach Facilities and Organisations

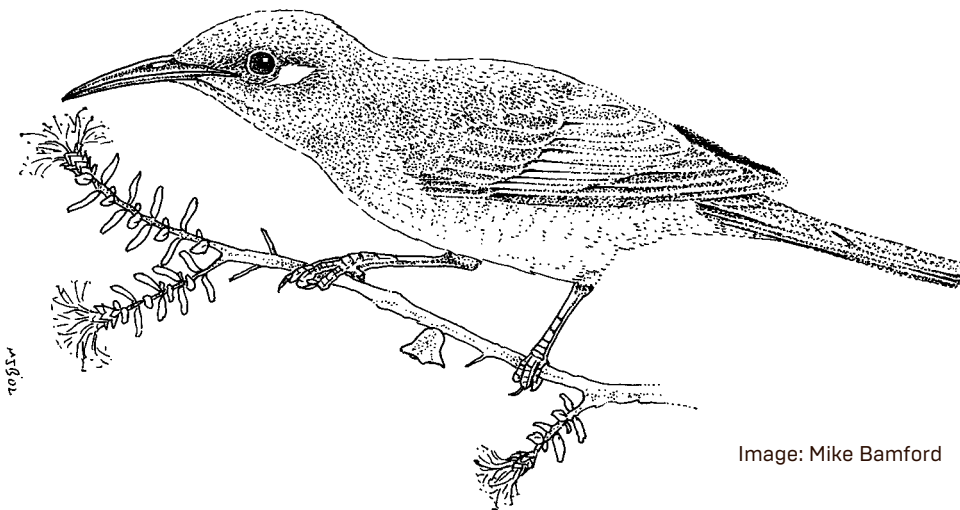


Image: Mike Bamford

Activity

Contact local organisations and offer to help. For example:

Construct a sensory native garden at a local aged care facility

Aged care facilities usually encourage partnerships with local schools as the residents benefit from contact with children and the children learn from and enjoy the company of elders in the community. Creating a sensory native garden in an aged care setting enriches the lives of residents and children and supports biodiversity!

Garden areas in aged care facilities are important opportunities for residents to experience nature. The sights and sounds of native birds, colourful native wildflowers and butterflies can be enormously valuable. The Sowing Seeds and Sensory Garden activities would link well with this activity.

Establishing a relationship with an aged care facility will provide many learning opportunities. Students could create posters about native species in the garden and display them for residents and their families. They could arrange a garden party for the residents to enjoy their new garden.

Help at a planting day for a volunteering organisation

Volunteer groups such as Greening Australia, Conservation Volunteers Australia and Trillion Trees organise planting days and need volunteers to help. Check their websites or email them to register your interest in helping with projects in your area.

Volunteering WA can link you with opportunities in your area. Search for activities on their website: <https://www.volunteeringwa.org.au/#/>.

Remember to take a photo and tag [@evernow_wa](#) in any social media so we can see how you are helping biodiversity and contributing to your community.

Activity 9: Approach Facilities and Organisations (cont.)

Resources

- Check for aged care facilities in your area: <https://www.agedcareguide.com.au/nursing-homes/wa>
- Sensory Gardens: <https://www.betterhealth.vic.gov.au/health/healthyliving/gardens-for-the-senses>
- A UK reference. The principles are the same, just use local plant species: <https://theguardian.com/teacher-network/teacher-blog/2013/jun/13/build-sensory-garden-green-schools>
- Greening Australia: <https://greeningaustralia.org.au>
- Trillion Trees Australia: <https://trilliontrees.org.au/>
- Volunteering WA: www.volunteeringwa.org.au/#/

Activity 10: Creature Constructions



Activity

Design and construct a solution to support local wildlife in your area. Ideas may include:

- Nesting boxes
- Insect hotels
- Bird baths
- Frog bog
- Fish pond
- Lizard logs
- Quenda cabin

Think of the features that would encourage creatures to use your construction. Use recycled materials where possible.

Insect hotels may be constructed from a variety of readily sourced materials. You can use recycled plastic drink bottles, ice-cream or yoghurt containers, plastic tubes or paper straws and decorate them with brightly coloured bottle caps, or use natural materials such as recycled wood, twigs, clay and bamboo for a more natural design.

Once constructed, students can either take them home or install them in the school garden where they can be admired and observed for signs of activity.

Activity 10: Creature Constructions (cont.)

Native bees are most active in spring, summer and early autumn. They will readily use holes in wood, clay, bamboo and even paper straws. Different species require different materials and sizes of holes. Provide a range of holes from 3 – 12mm diameter and from 50 – 200mm deep. In south-western Australia, round nesting bees such as blue-banded bees need a patch of bare sand or sandy patches between paving bricks in which to dig their nests.

Be resourceful. Many creature homes can be constructed using recycled materials. Hardware stores may offer to contribute equipment for nest boxes or ponds. Local community sheds may be able to assist with construction. Parents may have skills or equipment that they could provide.

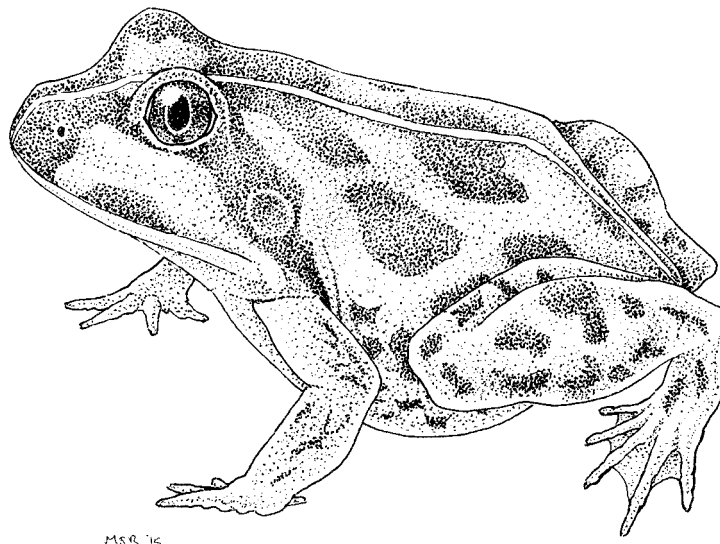


Image: Mike Bamford

Resources:

- Nest boxes: <https://www.birdsinbackyards.net/Nest-Box-Plans-0>
- Bird baths: [birdsinsbackyards.net/Bird-Baths](https://www.birdsinbackyards.net/Bird-Baths)
- Frog Bogs and Ponds: <https://landcareaustralia.org.au/wp-content/uploads/2016/05/Creating-a-frog-pond-12.9-LR.pdf>
- <https://perthzoo.wa.gov.au/get-involved/do-your-part/frog-friendly-garden>
- <https://sustainability.ceres.org.au/resource/frogs-frogs-frogs/>
- Examples of Insect Hotels: sgaonline.org.au/insect-hotels/
- growveg.com.au/guides/insect-hotels-encourage-beneficial-insects-into-your-garden/
- ABC Gardening Australia, note that Blue-banded bees nest in sand in south-western Australia: <http://www.abc.net.au/gardening/factsheets/bee-hotel/9440586>
- Nature Studies Blog: <https://backyardbiol.blogspot.com/>

Activity 11: Begin an Initiative in Your School



Image: Mike Bamford

Activity

Begin a new initiative or start a trend in your school. This could include ideas such as introducing:

- Recycling programs
- Worm farms
- Waste-free lunches
- Environment related student leadership roles
- Ongoing rehabilitation projects – talk to your local council to set this up

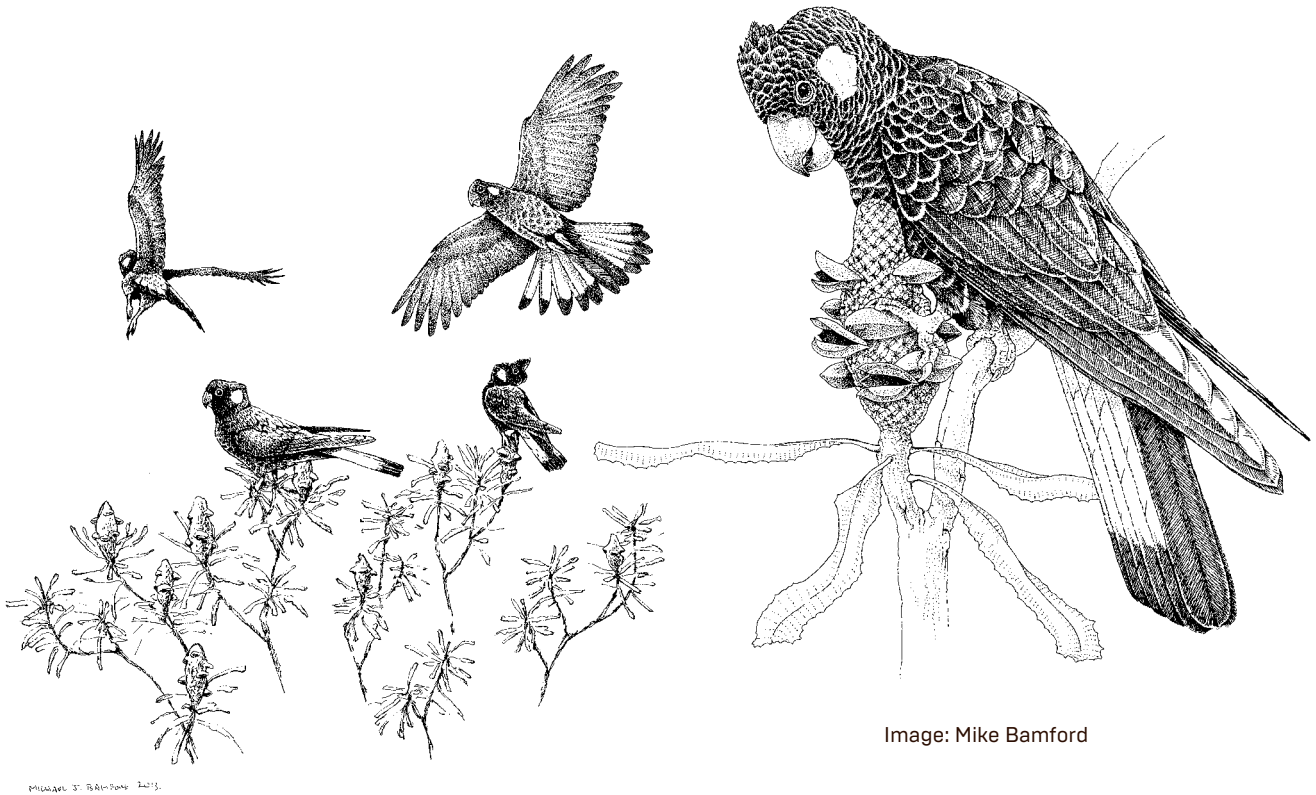
Develop a plan to make this possible.

Remember to share your initiative with us. Tag [@evernow_wa](#) so we can recognise your work.

Resources

- Sustainable Schools WA Education Resources: <https://myresources.education.wa.edu.au/programs/sustainable-schools-wa>
- Wastewise program: <https://www.wasteauthority.wa.gov.au/wss>
- WA Waterwise program: www.watercorporation.com.au/home/education/waterwise-schools-program

Activity 12: Surveying Your Success



Activity

How successful is your biodiversity project? Use scientific method to set up a monitoring program and measure your success. *Remember to share your findings to [@evernow_wa](#)*

Monitoring is an important way to assess the progress of environmental rehabilitation. Write a scientific report or contribute your records to an online database.

What is your aim?

For example: 'to provide more Banksias for Carnaby's Black-Cockatoo' or 'to create a garden for native butterflies'.

What will you measure?

You could simply take photos at intervals. Have a standard point and direction so that you can compare the photos to assess growth. You could measure the growth of your Banksia seedlings, or count the number that are surviving, or count the number of cockatoos that you see. For the butterfly garden, you could measure the plants, count the numbers of seedlings sprouting or count the number of caterpillars or butterflies that you see. Look for evidence of native animals. The numbers of chewed leaves and nuts are great indicators that insects and birds have found your garden!

How will you communicate your results?

You could write a report, make a poster or signage to display your results or create a PowerPoint presentation. *Remember to share your findings to [@evernow_wa](#)*

Activity 12: Surveying Your Success (cont.)

Resources

Citizen Science Projects

- Atlas of Living Australia: www.ala.org.au
- INaturalist Australia: <https://inaturalist.ala.org.au/>
- Contribute bird records to Birddata: birddata.birdlife.org.au
- Take part in the Aussie Backyard Bird Count: <https://aussiebirdcount.org.au/>
- Contribute records to the Australian Museum's FrogID project: <https://www.frogid.net.au/>
- Native Bees: <https://www.aussiebee.com.au/>
- If you have access to Facebook, search for the 'Native bees of Western Australia' Facebook page
- Find other citizen science projects here: <https://citizenscience.org.au/ala-project-finder/>

Activity 13: Solutions for Change - Real-World Solutions STEM Education Opportunity

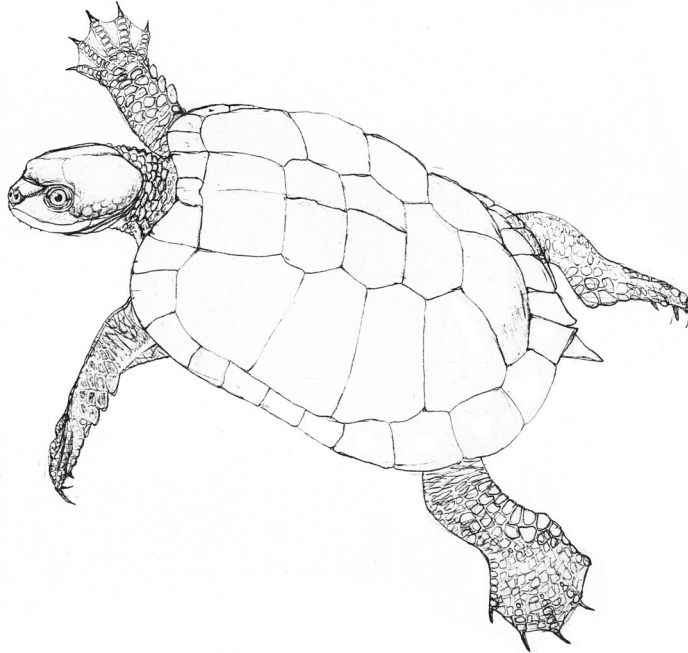


Image: Mike Bamford

Activity

Take the journey to develop and implement significant change! In this activity teachers will stand aside and encourage students to choose their own direction while skilfully asking the questions that will lead students to achieve curriculum objectives and develop skills for life.

1. Define a real-world problem that is affecting native plants and animals in your region
2. Discover the cause of the problem and current methods being used to help
3. Dream about some bigger ideas for greater change and improvement
4. Design solutions and refine your idea or product ready for real-life use
5. Deliver your solution and carry through with your ideas
6. Debrief and reflect on your solution: what was great? What would make it even better?

Describe or share examples and tag @evernow_wa

This activity engages students in a problem-solving process called Solution Fluency developed by artist and writer Lee Watanabe-Crockett.

Resources

- WA Gould League has a Real World Solutions resource. Download from this page: <https://www.wagouldleague.com.au/realworldproblemsolving>
- Parks and Wildlife (DBCA) Plants and Animals – check the dropdown menus for links to more information: <https://www.dpaw.wa.gov.au/plants-and-animals>
- Older students can check the Danjoo Biodiversity data platform for a list of recorded species in their area: bio.wa.gov.au/dandjoo

RESOURCES

What Should I Choose?

Looking for inspiration? You can start small and build on the project, following your students' interest and the time available. Look at these examples of projects that students have undertaken:

Examples of Sustainable Schools Biodiversity projects:

- <https://myresources.education.wa.edu.au/programs/sustainable-schools-wa/action-learning-areas>
- Ardross Primary: Students replaced their verge lawn with a garden of local native plants to support biodiversity. Children grow seedlings and then plant them as part of wheat belt revegetation projects.



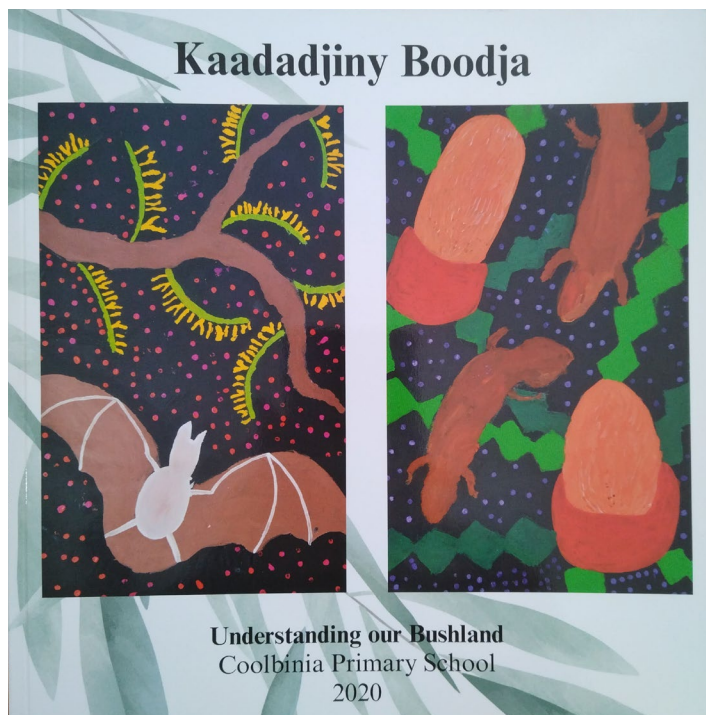
Ardross Primary

Images: Bruce Ivers

- Coolbinia Primary: Students care for and study the school bushland and all students Kindy – Year 6 participated in the project. They worked with Indigenous artists and Elders to create signage and artwork. Students then wrote the book Kaadadjiny Boodja (Understanding the Bushland). Books available from Coolbinia Primary School.

Your School:

Every contribution is valuable. Don't be daunted if your school can't commit to a large project. Any action that your students take will be acknowledged and valued. Every plant that is nurtured, every forgotten corner that is tended will contribute to Boorna Waanginy 2023.



RESOURCES (CONT.)

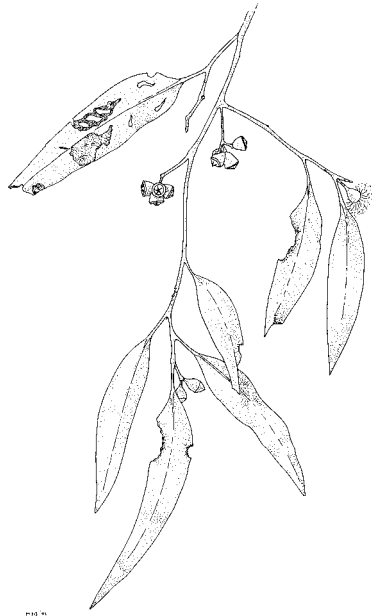


Image: Mike Bamford

Where to Find Local Native Plants?

The following community nurseries grow local native plants and seeds. Some 'Friends of' groups have their own nurseries. Your local commercial nursery may also stock a selection of local native plants.

- APACE Nursery: www.apacewa.org.au
- Check your soil type and check which plants are local to your area using their suburb selector (have water plants too): <https://apacewa.org.au/suburb-selector/>
- Kings Park: Membership and Plant Sales. Check the website for details: <http://www.friendsofkingspark.com.au/friends-plant-sales/>
- Trillion Trees Nursery: <https://trilliontrees.org.au/nursery/>
- WA Wildflower Society: <http://www.wildflowersocietywa.org.au/>
- Eastern Hills Wildflower Society: Also has propagation group and a seed bank. <http://www.wildflowersocietywa.org.au/branches/eastern-hills-branch/>
- WA Wildflower Society Northern Suburbs Branch: Landsdale Nursery, run by volunteers, Saturday mornings. <http://www.wildflowersocietywa.org.au/branches/northern-suburbs-branch/>
- Friends of Yellagonga: Nursery next to NS Wildflower Society Nursery at Landsdale Farm School, run by volunteers, has local wetland plants and is open on Saturday mornings. <http://www.friendsofyellagonga.com.au/>
- WA Landcare Network: Can put you in touch with 'Friends of' Landcare groups in your area <http://landcarewa.org.au/>
- You can also google commercial native plant companies such as Lullfitz, Zanthorrea, and the Australian Native Nurseries Group.

RESOURCES (CONT.)



Image: Mike Bamford

Garden Design

- The Water Corporation's site lists waterwise, low maintenance garden ideas: Waterwise - Water Saving Tips & Advice <https://www.watercorporation.com.au>
- The Your Home website has tips for designing sustainable native gardens: <http://www.yourhome.gov.au/housing/landscaping-and-garden-design>
- Check the APACE suburb selector tool for a list of plant species native to your area: Suburb Selector - Apace WA <https://www.apacewa.org.au/suburb-selector/>
- If you would like to see what a plant looks like, search for it in Florabase: Florabase.dpaw.wa.gov.au/
- The Wildflower Society of WA also has information about plants that you may find helpful: <https://www.wildflowersocietywa.org.au/>
- The Australian National Botanic Garden has information about plants, including propagation: <https://www.anbg.gov.au/>
- ReWild Perth has a wealth of information and ideas: <https://www.perthnrm.com/project/rewild/>

Taking Cuttings

- Growing native seeds and cuttings: https://www.redland.qld.gov.au/info/20286/native_gardening/640/growing_native_plants_from_seeds_and_cuttings
- Australian Native Plant Society: <https://anpsa.org.au/>
- Plant propagation: <https://anpsa.org.au/plant-propagation/>

RESOURCES (CONT.)

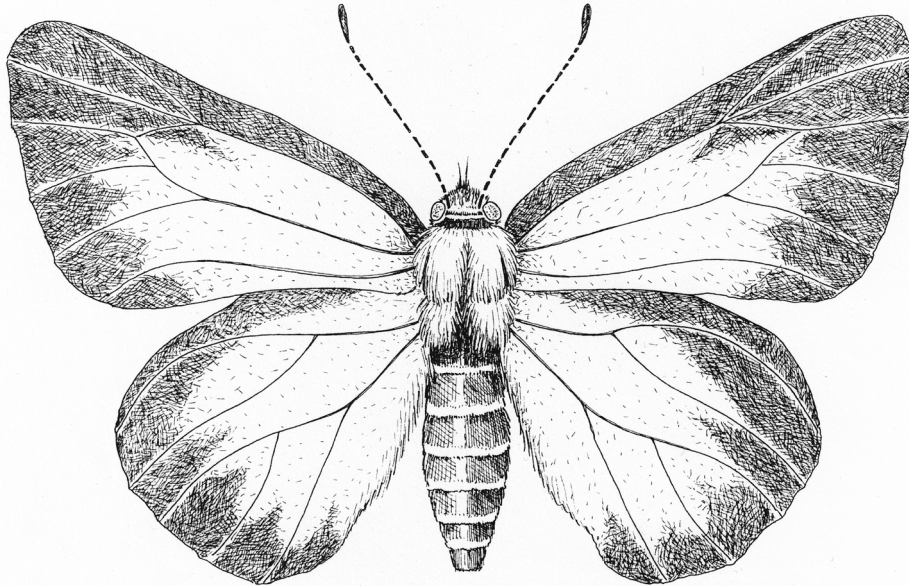


Image: Mike Bamford

Sensory Gardens

- Sensory gardens: <https://www.betterhealth.vic.gov.au/health/healthyliving/gardens-for-the-senses>
- A UK reference. The principles are the same, just use local plant species: <https://www.theguardian.com/teacher-network/teacher-blog/2013/jun/13/build-sensory-garden-green-schools>

Planting gardens for birds:

- Creating Places for Birds | BIRDS in BACKYARDS : <https://www.birdsinbackyards.net/places>
- Choose for Black-Cockatoos: <http://www.birdlife.org.au/projects/southwest-black-cockatoo-recovery/choose-for-black-cockatoos-planting-initiative>

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Weeds

- Natural weed control methods: <http://www.abc.net.au/gardening/factsheets/beating-the-weeds/9436840>
- Invasive weeds in bushland: <http://www.environment.gov.au/biodiversity/invasive/weeds/help/gardeners.html>
- Weeds and Wildlife: theconversation.com/hold-the-spray-some-garden-weeds-are-helping-native-wildlife-47848
- Google Maps: <https://www.google.com.au/maps/>
- Landgate: <https://www0.landgate.wa.gov.au/>

RESOURCES (CONT.)

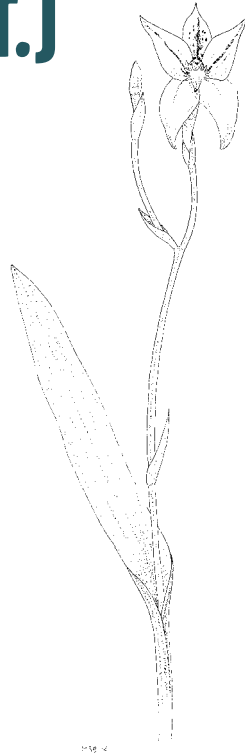


Image: Mike Bamford

Councils, Partner Organisations and Funding Agencies

- Find your local council here: walga.asn.au/About-Local-Government/Online-Local-Government-Directory.aspx
- Greening Australia: <https://www.greeningaustralia.org.au/six-tips-to-boost-biodiversity-in-your-backyard/>
- Trillion Trees Australia (volunteering and native nursery): <https://trilliontrees.org.au/>
- Volunteering WA: www.volunteeringwa.org.au/#/
- Clean Up Australia: www.cleanup.org.au
- Recycle Right: <https://recycleright.wa.gov.au/>
- Wastewise program: www.wasteauthority.wa.gov.au/programs/wws/
- Waterwise program: www.watercorporation.com.au/home/education/waterwise-schools-program

Constructions for Creatures

- Nest boxes: www.birdsinbackyards.net/Nest-Box-Plans-0
- Bird baths: birdsinbackyards.net/Bird-Baths
- Nature Studies blog: <https://backyardbiol.blogspot.com/>

Frog bogs and ponds:

- <https://landcareaustralia.org.au/wp-content/uploads/2016/05/Creating-a-frog-pond-12.9-LR.pdf>
- <https://perthzoo.wa.gov.au/get-involved/do-your-part/frog-friendly-garden>
- <https://sustainability.ceres.org.au/resource/frogs-frogs-frogs/>

Examples of Insect Hotels:

- sgaonline.org.au/insect-hotels/
- growveg.com.au/guides/insect-hotels-encourage-beneficial-insects-into-your-garden/
- ABC Gardening Australia: <http://www.abc.net.au/gardening/factsheets/bee-hotel/9440586>

RESOURCES (CONT.)

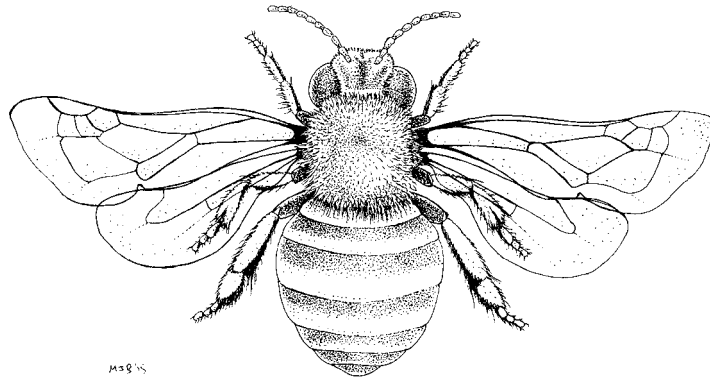


Image: Mike Bamford

Citizen Science Projects

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- If you have access to Facebook, search for the 'Native bees of Western Australia' Facebook page
- Find other citizen science projects here: <https://citizenscience.org.au/ala-project-finder/>

Real World Solutions

- WA Gould League: <https://www.wagouldleague.com.au/realworldproblemsolving>

Biodiversity

- Federal Department of Climate Change, Energy, the Environment and Water: dcceew.gov.au/environment/biodiversity
- Western Australian Department of Biodiversity, Conservation and Attractions: <https://www.dbca.wa.gov.au/>
- Parks and Wildlife (DBCA) Plants and Animals – check the dropdown menus for links to more information: www.dbca.wa.gov.au/management/threatened-species-and-communities
- Danjoo biodiversity data platform - search for records of species in your area: <https://bio.wa.gov.au/dandjoo>
- CSIRO Biodiversity: <https://www.csiro.au/en/research/natural-environment>
- Perth Zoo: <https://perthzoo.wa.gov.au/conservation/research>
- Western Australian Museum: <https://museum.wa.gov.au/>
- The WA Naturalists' Club: <https://www.wanaturalists.org.au/>
- WA Gould League: <https://www.wagouldleague.com.au/>
- WA Gould League educational resources: <https://www.wagouldleague.com.au/educationalresources>

RESOURCES (CONT.)

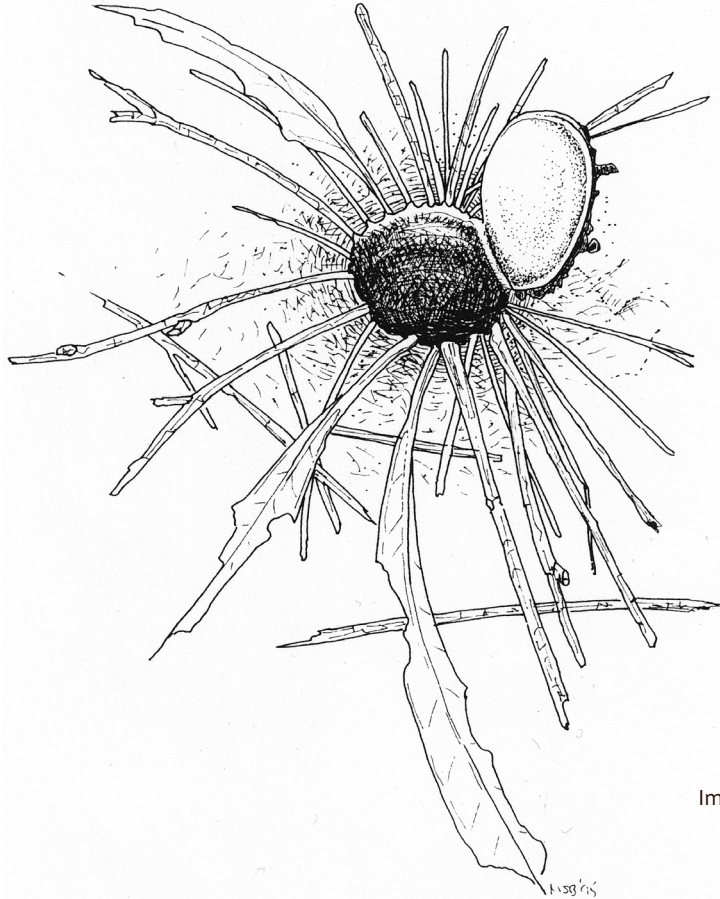


Image: Mike Bamford

Sustainability

- WA Sustainable Schools WA Education Resources: <https://myresources.education.wa.edu.au/programs/sustainable-schools-wa>
- Sir David Attenborough's message and BBC Plastics Watch - War on Plastic: <https://www.bbc.co.uk/programmes/articles/11CnCQROGJfkDgJs57sR5Ps/war-on-plastic>

Cultural Significance

- Noongar culture: <https://www.noongarculture.org.au/>
- Kaartdijin Noongar education resources: <https://www.noongarculture.org.au/education/>
- South-West Aboriginal Land and Sea Council: <https://www.noongar.org.au/>
- Dept of Education: <http://det.wa.edu.au/aboriginaleducation/detcms/portal/>
- Aboriginal languages - Department of Education: <https://www.education.wa.edu.au/aboriginal-languages>
- The 50 Words Project: <https://50words.online>
- ICOMOS: <https://australia.icomos.org/>

RESOURCES (CONT.)



Image: Mike Bamford

Endangered Species

- Current Endangered species list, Australian Department of the Environment and Energy: <http://www.environment.gov.au/cgi-bin/sprat/public/publicthreatenedlist.pl>
- WA Threatened species list <https://www.wa.gov.au/service/environment/conservation/threatened-species-and-communities>
- IUCN Red List of Threatened Species: <https://www.iucnredlist.org/>

Plants

- APACE native plant list by suburb: <https://apacewa.org.au/suburb-selector/>
- WA Herbarium. Information about native plants: <https://florabase.dpaw.wa.gov.au/>
- Wildflower Society of WA: <https://www.wildflowersocietywa.org.au/>

Birds

- Birdlife Australia: <http://www.birdlife.org.au/all-about-birds>
- Birds in Backyards: www.birdsinbackyards.net/
- Sir David Attenborough's The Life of Birds: <https://www.pbs.org/lifeofbirds/>
- Aussie Backyard Bird Count: <https://aussiebirdcount.org.au/>

RESOURCES (CONT.)

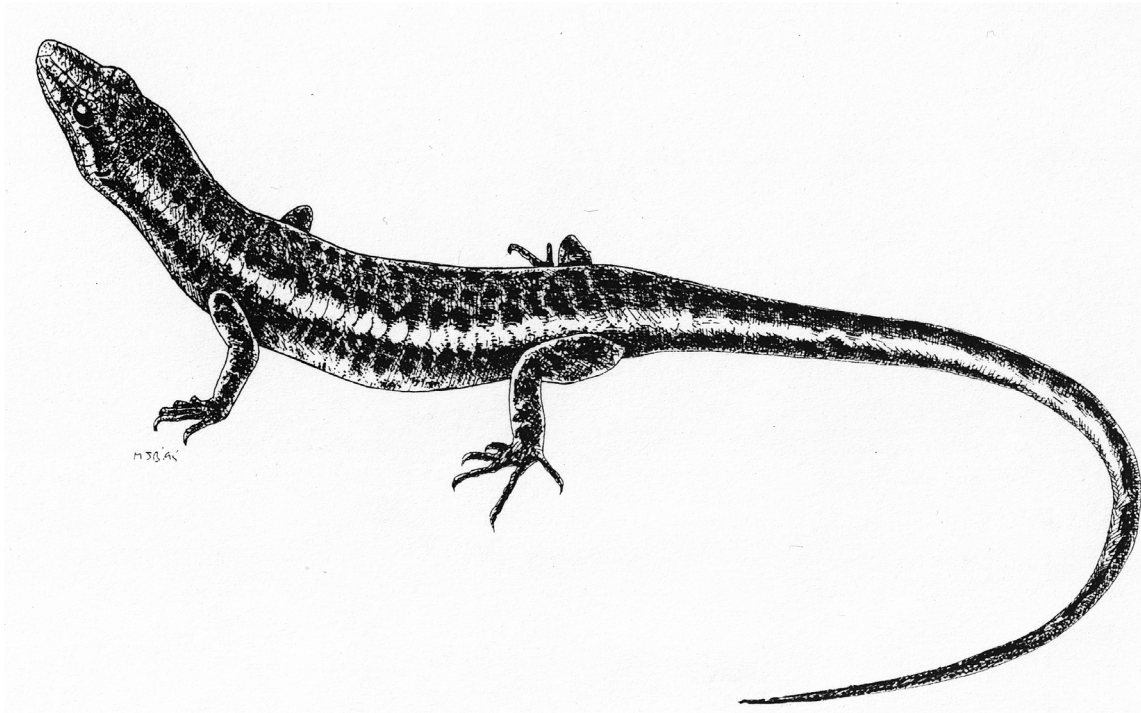


Image: Mike Bamford

Taxonomy

- How to name species:
<http://www.abc.net.au/news/science/2016-08-05/how-to-scientifically-name-species/7681634>

Scientific Illustrations

- On scientific illustration: <https://theconversation.com/what-makes-a-good-scientific-illustration-10037>
- Zoological illustrations from Colonial Victoria:
<https://museums victoria.com.au/article/a-glimpse-into-the-past/>