

Take your students outside

Biosecurity surveillance activity

Join the Peri-urban Environmental Biosecurity Network (PEBN) in some citizen science to learn about some of NSW' target invasive pests and make sure they are not present in your school grounds or backyard.

Getting outdoors for some hands-on learning is a great way to engage your students in syllabus learning. This short activity will help students understand the needs of living things, how adaptations make some environments more suitable for particular species than others and how management of different areas can impact the social value and sustainability of those areas. Along the way your students will pick up some working scientifically and design thinking skills as well as mapping and collecting field notes.

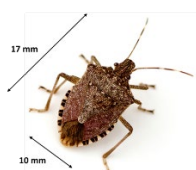
There is an optional worksheet available for students to record their work. The worksheet is available as a pdf for printing and in Word to allow any changes you need to make to suit your context.

Steps:

1. View the PowerPoint introducing the activity and complete the intro questions.
2. Complete a sketch map of the surveillance area.
3. Plan your surveillance activity.
4. Undertake surveillance.
5. Review findings – identify any target pests.
6. Submit report through the MyPestGuide Reporter app – even if you didn't find any target pests!

We suggest this activity is suitable for a single session but there are also links to more detail at some stages. You can use these to extend student learning.

Safety note: Red-imported Fire Ants are dangerous pests; their sting is very painful and they swarm when disturbed. At the time of publishing (October 2020) they are not (?) found in New South Wales and you are very unlikely to find them in your school grounds. They are found in Queensland and a lot of effort is being put into controlling them there and stopping them from entering NSW. If you hear of an outbreak in NSW, especially one in your region, do not encourage students to search for them. Instead we recommend you [look for mounds of dirt or nesting sites](#) and photograph them for reporting to MyPestGuide.



Step 1 - View the PowerPoint.

The PowerPoint (slides 1 to 14):

- Introduces the idea of a surveillance program as a scientific skill for people studying a range of factors affecting the environment and primary production (optional links to more information)
- Presents the five target pests that the PEBN are looking for now in peri-urban areas.
- Encourages students to participate in citizen science programs.

The PowerPoint includes links to fact sheets that provide more detail about the pest and what to do if you believe you have found them in your site.  Click this symbol on the slide to open the fact sheet.

The fact sheets are:

Cane toads: <https://extensionaus.com.au/periurbanenvirobiosecurity/wp-content/uploads/sites/21/2021/02/J20-025-Factsheet-Cane-toad-D2.pdf>

RIFA: <https://extensionaus.com.au/periurbanenvirobiosecurity/wp-content/uploads/sites/21/2020/10/J20-025-Factsheet-Fire-ant-D2.pdf>

Exotic bees: <https://extensionaus.com.au/periurbanenvirobiosecurity/wp-content/uploads/sites/21/2020/10/Exotic-bees-factsheet.pdf>

Red eared slider turtle: <https://extensionaus.com.au/periurbanenvirobiosecurity/wp-content/uploads/sites/21/2020/10/J20-025-Factsheet-RESTurtle-D3.pdf>

Brown marmorated stink bug: <https://extensionaus.com.au/periurbanenvirobiosecurity/wp-content/uploads/sites/21/2020/10/J20-025-Factsheet-BMSBug-D4.pdf>

Step 2 - Complete a sketch map of the surveillance area.

Find your site on an online mapping program. If it is a large area it is a good idea to either limit your search area or to divide the area amongst groups or individual students.

The worksheet provides space for students to draw a sketch map of the area. For younger students focus on recording larger features and recording their relative size eg buildings and playgrounds, older students will be able to record more details and perhaps some particular features to check.

Step 3 - Plan your surveillance activity.

Your planning will establish:

- Decide on your surveillance area.
- Identify some features of the area that you think are likely locations of the pests you are looking for.
- Make a plan for –

- will this be a timed activity?
- will students work in groups or as individuals?
- will each group/individual check every area or concentrate on a particular zone?
- how will students record their findings?

During your planning discuss the important safety issues:

1. Instruct students not to lift logs or rocks to check underneath. You may choose to help them look under these likely hiding places by cautiously lifting these items yourself while wearing gloves and having students wait well away from the area. Return any moved items to their original locations – these are important habitats and homes for many insects that play a valuable part in a healthy ecosystem.
2. Instruct students not to touch any animals, they might be beneficial natives that may be harmed by being handled. They could also be species that have the potential to hurt students including some species of spiders and ants or even snakes.
3. A good approach is for students to use a stick or ruler to move leaves or leaf litter, take a quick photo of anything they find and move on.

Recording the site information and other details on the field survey form ensures that you will have any information that you need when making a report to the MyPestguide app. Discuss with students why each of the items is needed to help identify species and what it contributes to our understanding of the ecosystem.

Discuss how the weather might affect what you find on your surveillance ie is the weather suitable for the target species to be out and about?

Step 4 - Undertake surveillance.

Get outside and see what you can find!

A form for recording findings is included on the worksheet. If you decide not to use this ask students to record/photograph any insects or animals that they find, where it was found and what it was doing.

Note: Biosecurity staff have a better chance of identifying insects if the photo is as clear as possible. These helpful tips are from the Botanic Gardens Biosecurity Network website:

- Don't use the zoom on your device as this degrades image quality. Instead get physically closer with your mobile device.
- Don't use flash as this may make your photo blurry.
- Watch the direction of light and avoid taking photos with light shining into the lens.
- Set the resolution of your phone's camera as high as possible.
- Capture images of fruit, flowers, leaves and the whole plant if you are photographing a plant.
- Photograph the surrounds of the plant if you are reporting the absence of a pest or disease

Source: <https://extensionaus.com.au/botanicgardensbiosecurity/how-to-use-the-mypestguide-reporter-app/>

Step 5 - Review findings – identify any target pests.

Discuss with students the insects and animals that you found during your surveillance.
Review the photos or notes that were recorded.

Are there any sightings that you think might be one of the target pests?

Remember students that not finding the target pests is a good thing!

Step 6 - Submit report through the MyPestGuide Reporter app – even if you didn't find any target pests!

It is just as important to report the absence of target pests as if you had found something you think might be a target pest.

- How to report to the Peri-urban Environmental Biosecurity Network using the MyPestGuide Reporter™ app
- <https://extensionaus.com.au/periurbanenvirobiosecurity/reporting-is-easy-to-pebn/>
- Video on how to use the download and use the MyPestGuide Reporter™ app - https://youtu.be/Nr_eavLh7DA

In the comments section note that you are reporting on a school activity and our staff will do their best to respond to your students to thank them for participating in the surveillance program.

Thank you for taking part in the important work. Remember, you can continue this work and submit a report through app at any time!

Syllabus mapping

This activity can support students in working towards the following outcomes:

ST3-SCI-01 - uses evidence to explain how scientific knowledge can be used to develop sustainable practices

HS3-GEO-01 - examines global citizenship and how people organise, protect and sustainably use the environment, using geographical information

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