



Department of
Primary Industries and
Regional Development

Protect
Grow
Innovate

MyPestGuide®

Forest surveillance activities in Western Australia

Laura Fagan, Development Officer DPIRD
Forest Pest Webinar, PSNAP 2 Feb 2023



Department of
Primary Industries and
Regional Development

Acknowledgement of Country

We acknowledge the Whadjuk Noongar people in Western Australia as the Traditional Owners of the land we're meeting on today and pay our respect to their Elders past, present and future.

Summary



Forest surveillance activities in WA



MyPestGuide[®] Reporter App and a NEW tool to assist forest surveillance practitioners



Lessons learned from the TREEmendous Biosecurity Blitz 2022



Forest surveillance activities in Western Australia

Priority tree pests detected in WA

Myrtle rust



Credit: Dr Louise Morin, CSIRO

Massive host range including many endemic and rare native species (Myrtaceous)

Polyphagous shot-hole borer



Credit: Department of Primary Industries and Regional Development

Both an agricultural and environmental pest, due to its wide range of host species

Priority tree pests in WA

European house borer



Credit: European House Borer adult beetle (©2023 DPIRD).

Serious pest causing structural damage to the built and natural environments.

European wasp



Credit: ©2023 Pia Scanlon DPIRD

A serious social, environmental and agricultural pest as it poses a safety risk due to foraging habits, aggressive behaviour and hidden nests.

Priority tree pests not in WA

Citrus canker



Credit: Timothy Schubert, Florida Department of Agriculture and Consumer Services, Bugwood.org

Hides on illegally imported fruit, plants and cuttings. Ruins fruit.

Citrus/Asian longhorned beetles



Credit: Art Wagner, USDA - APHIS, Bugwood.org

Hides in illegally imported plants, timber, and wood used in pallets and packaging. Bores holes and reduced fruit production or kills tree.

Priority tree pests not in WA

Fire blight



Credits: ©1999 Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org; © 2015, Bruce Watt, University of Maine, Bugwood.org)

Bacteria ooze out of the infected host plant tissues. Whole orchards can be destroyed.

Dothistroma needle blight

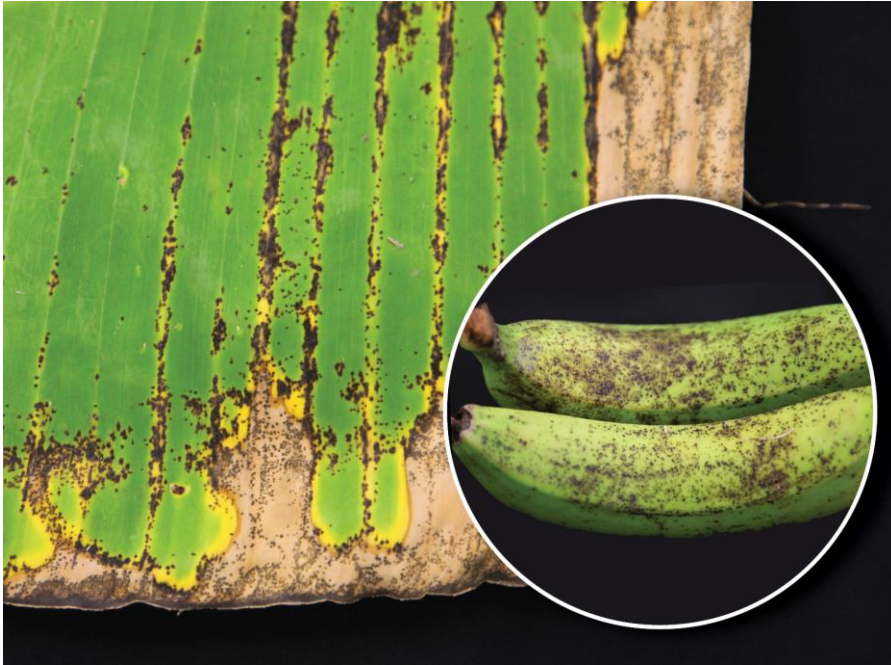


Credit: Lindsay Bulman, Scion (The New Zealand Forest Research Institute) New Zealand

One of the most serious diseases to pine forestry globally, causing devastating losses.

Priority tree pests not in WA

Banana freckle



Credit: 2013 Jose Liberato, Northern Territory Government

Fungal disease of bananas affecting plant productivity and marketability.

Brown marmorated stink bug



Credit: Timothy Schubert, Florida Department of Agriculture and Consumer Services, Bugwood.org

Major pest in food and trees.
Shelters inside in large numbers
inside buildings and vehicles

Priority tree pests not in WA

Glassy-winged sharpshooter



Credit: Glassy-winged sharpshooter adult and nymphs (©2022 Pat, iNaturalist)

As a vector of *Xylella* diseases it is a serious threat to Australia's viticulture, citrus, stone fruit, nut and nursery industries.

Spongy & Codling moths



Credit: Karla Salp, Washington State Department of Agriculture, Bugwood.org.

Masses of moths cause serious defoliation and tree death. Stings make fruit unmarketable.

Myrtle rust

Myrtle rust, *Austropuccinia psidii* is a serious disease that infects and kills species belonging to the Myrtaceae plant family.

Eucalyptus and oil mallee plantations, apiculture, cut native flowers, garden industry, and tourism are likely to be affected if myrtle rust spreads into the natural landscape and badly damages it.

Good quarantine, hygiene and surveillance will be essential to preventing further spread.



Myrtle rust



Over 1800 of Western Australia's iconic and native plant species are at risk!

The disease will likely affect commercially important plants.

Delimiting surveys and a stakeholder awareness campaign is planned for this year.

Stop the spread of myrtle rust

Eradication is not feasible.

Spores are easily spread by wind, humans, animals, and movement of infected plant parts.

Disturbances such as fires or storms, and the subsequent flush of regrowth, can provide ideal conditions for infection.

Researchers are trying to understand the impacts on individual plant species and communities, to develop long term and robust management strategies.

Polyphagous shot hole borer PSHB



Impact

- Urban/amenity trees – loss of canopy cover
- Fruit & tree crops – yield loss, adapt to manage
- Environmental impact unknown



Tree removals

No known effective chemical treatment

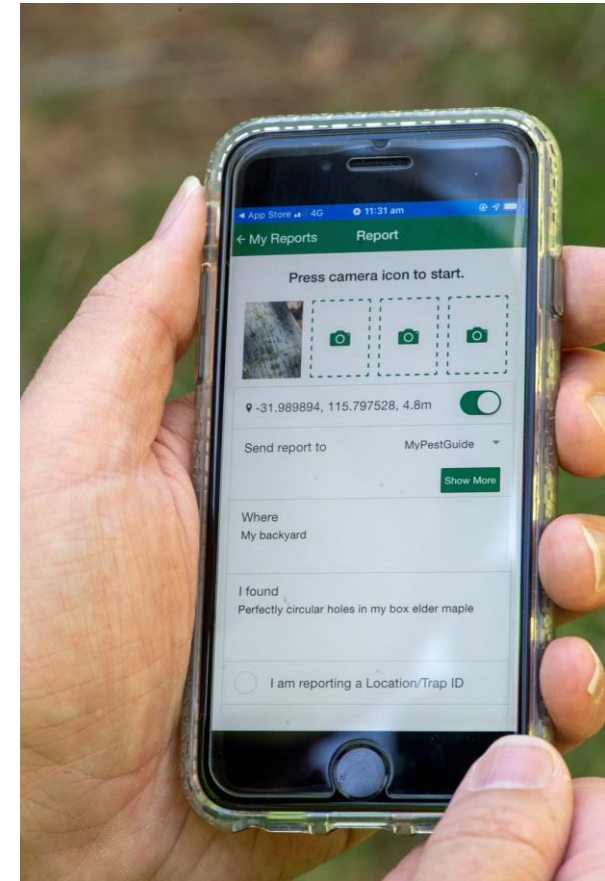
- Chemical treatments can protect, but not effectively treat or eradicate

Management of infested trees is the best way to eliminate beetles

- Chipping $\leq 2.5\text{cm}$ = 99.9% kill rate
- Remove & stump grind infested box elder maples (*Acer negundo*)
- Other species assessed on a case-by-case-basis



Key Messages



MyPestGuide® team member, S&C Biosecurity Officer and PSHB Subject Matter Expert working together in a coordinated way using a risk-based approach to make critical decisions to attempt to eradicate PSHB.

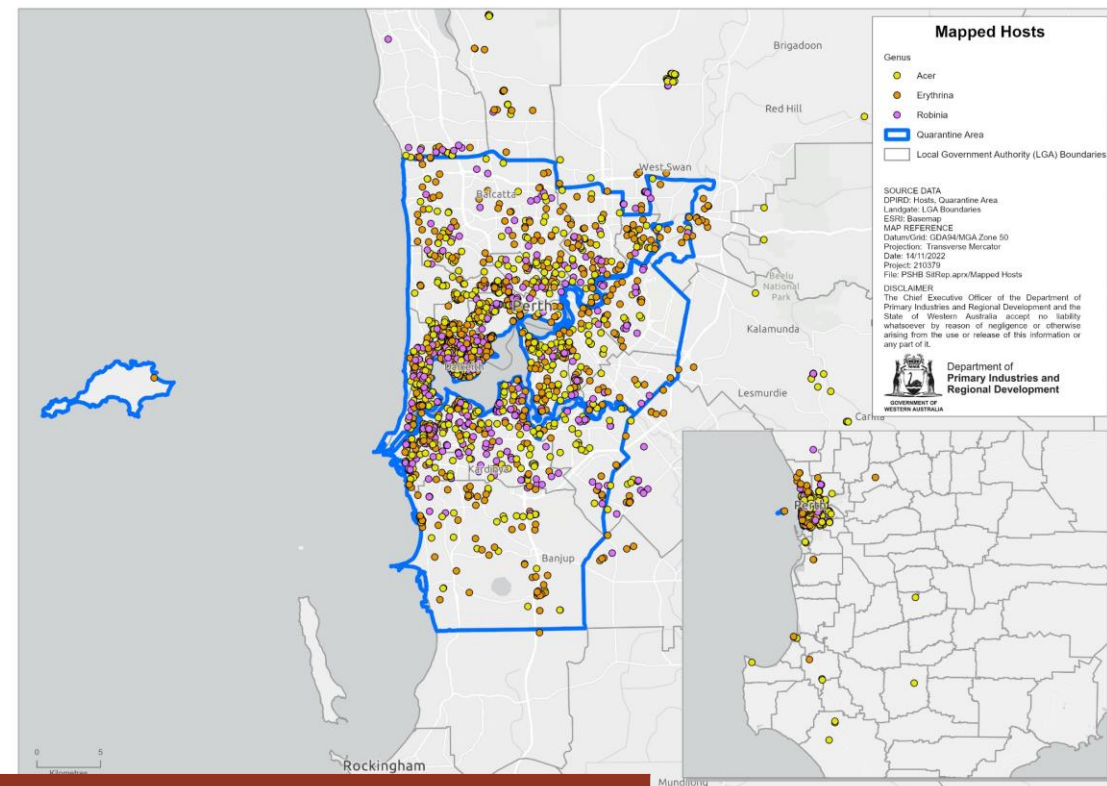
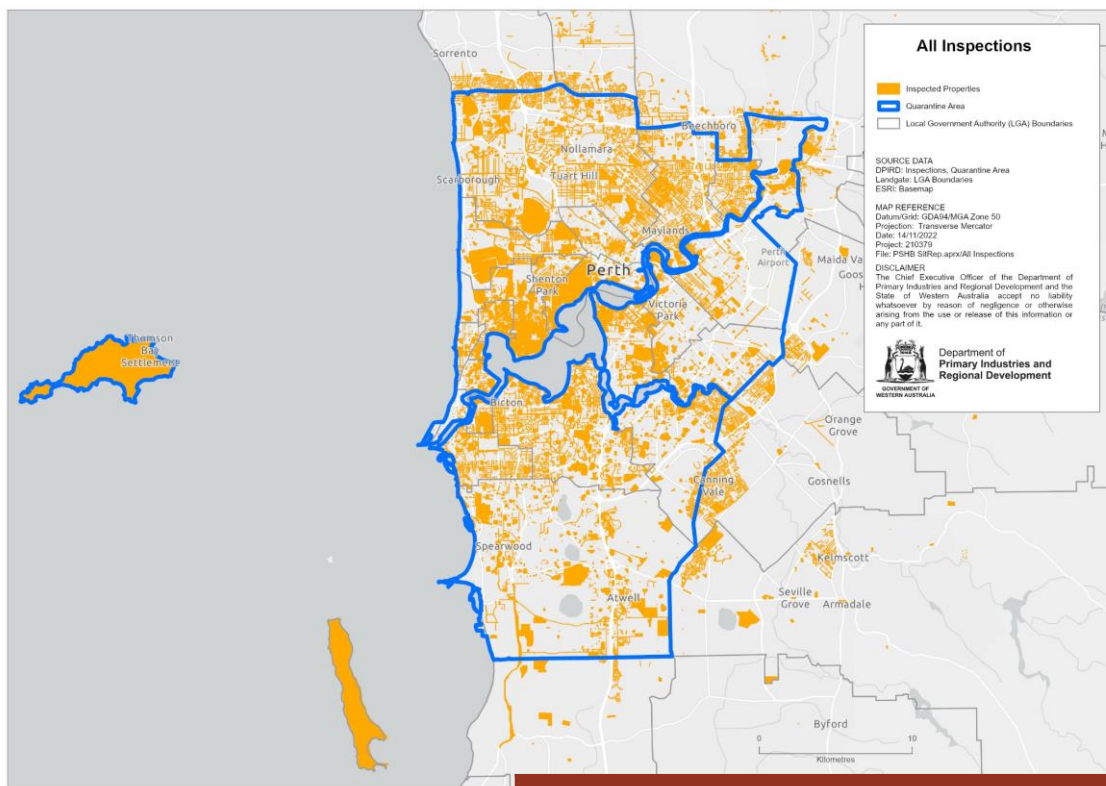
MyPestGuide® Reporter
App for PSHB



Reporting pests and unfamiliar organisms is important



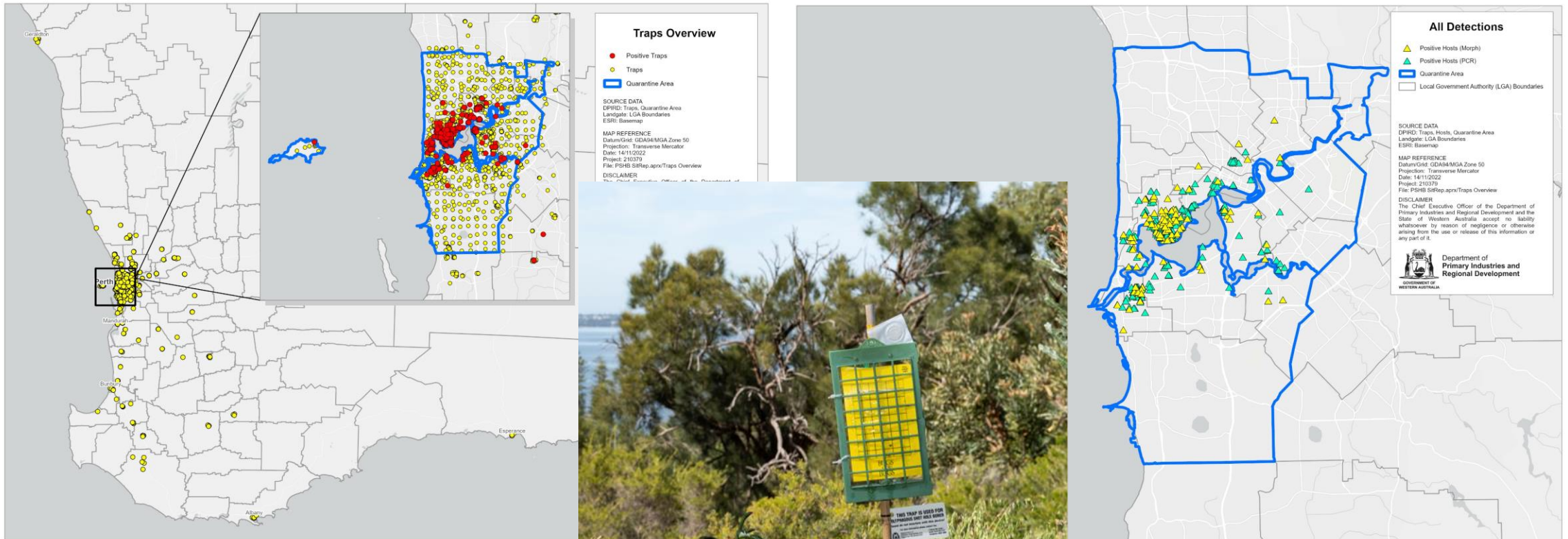
Surveillance for PSHB



Current as of September 2022

Highly susceptible reproductive hosts	
Common name	Scientific name
Box elder maple	<i>Acer negundo</i>
Robinia, black locust	<i>Robinia pseudoacacia</i>

Surveillance for PSHB



Current as of September 2022



European house borer EHB

Hylotrupes bajulus is a destructive pest of seasoned (dry) coniferous softwood like pine, fir and spruce.

EHB can cause major structural damage to buildings, furniture, pallets, crates, boxes and dunnage.

European house borer EHB



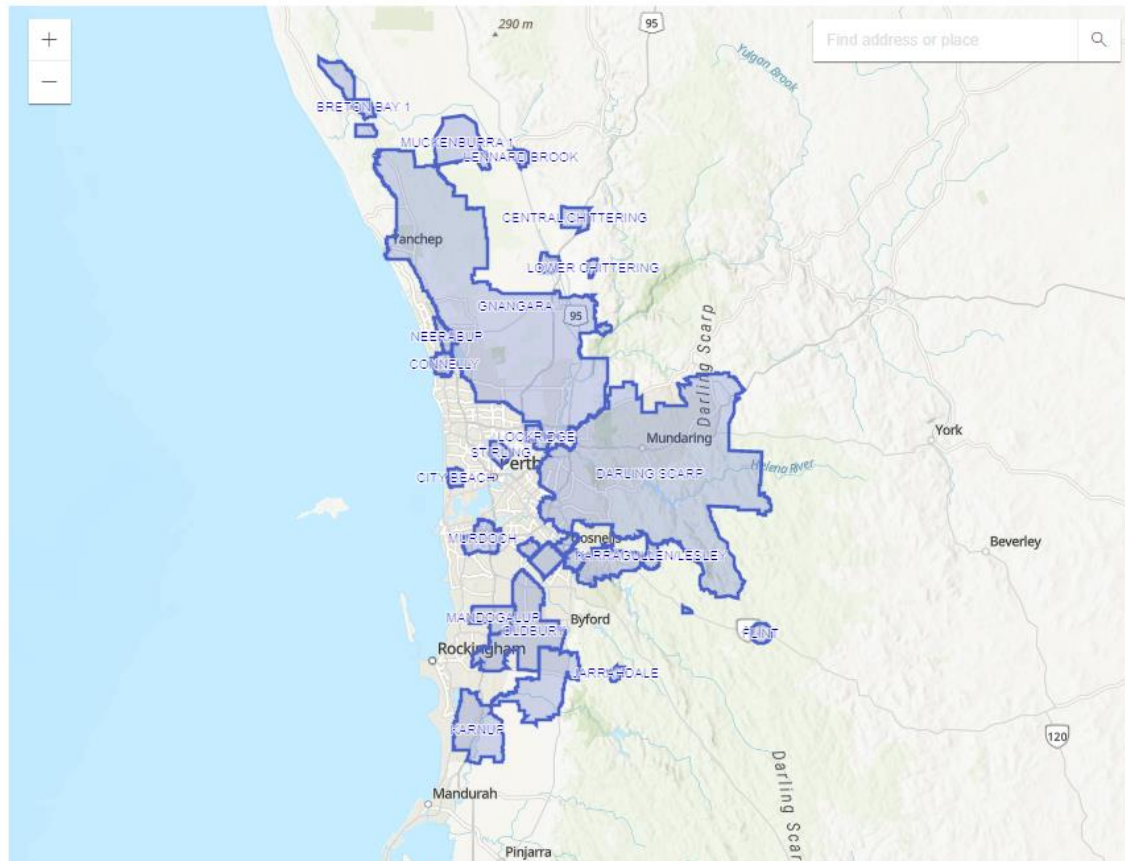
European house borer: Maps of Restricted Movement Zones

Maps of Restricted Movement Zones (RMZ) are current and are subject to change. Please check back regularly.

The maps are revised when new European House Borer (EHB) finds result in an expansion of current RMZ boundaries.

To see if a location falls within an RMZ, type the address in the search function area (click the magnifying glass).

For a full description of RMZ road boundaries please see [RMZ border descriptions](#).



Surveillance grid overlayed
from Lancelin in the north to
Harvey in south

Includes 6829 surveillance
points

Covering ~17,000 square kms

More intense surveillance was
done in southern and northern
buffer zones.

[European house borer home](#)

[About European house borer \(EHB\)](#)

[What to look for](#)

[Larvae and beetle photos](#)

[Pine tree photos](#)

[European house borer - response video](#)

[Management strategies](#)

[Regulations](#)

Maps

[Restricted Movement Zones \(RMZ\)](#)

[Border Descriptions](#)

[EHB news](#)

European house borer EHB

Prevention

- When building use treated pine (hazard level H2 or higher) or other non-susceptible materials.
- Ensure homes built with untreated pinewood are inspected by an accredited pest controller with EHB training.



Build your home with treated pine



Untreated pine

Storage

- Store pinewood in a secure building or keep fully enclosed in plastic wrapping.



Wood wrapped in plastic

Movement

- **Do not** remove pinewood from plantations and parkland areas.
- **Do not** collect pinewood placed on verges for local government collection.



Dead pinewood in a plantation

360 **regulatory engagements** with 151 properties

153 on-site inspections

- ✓ 39 first inspections
- ✓ 50 final inspections for treatments done

Staff achieved a 51% increase in the no. of final inspections/disinfestations

European house borer EHB

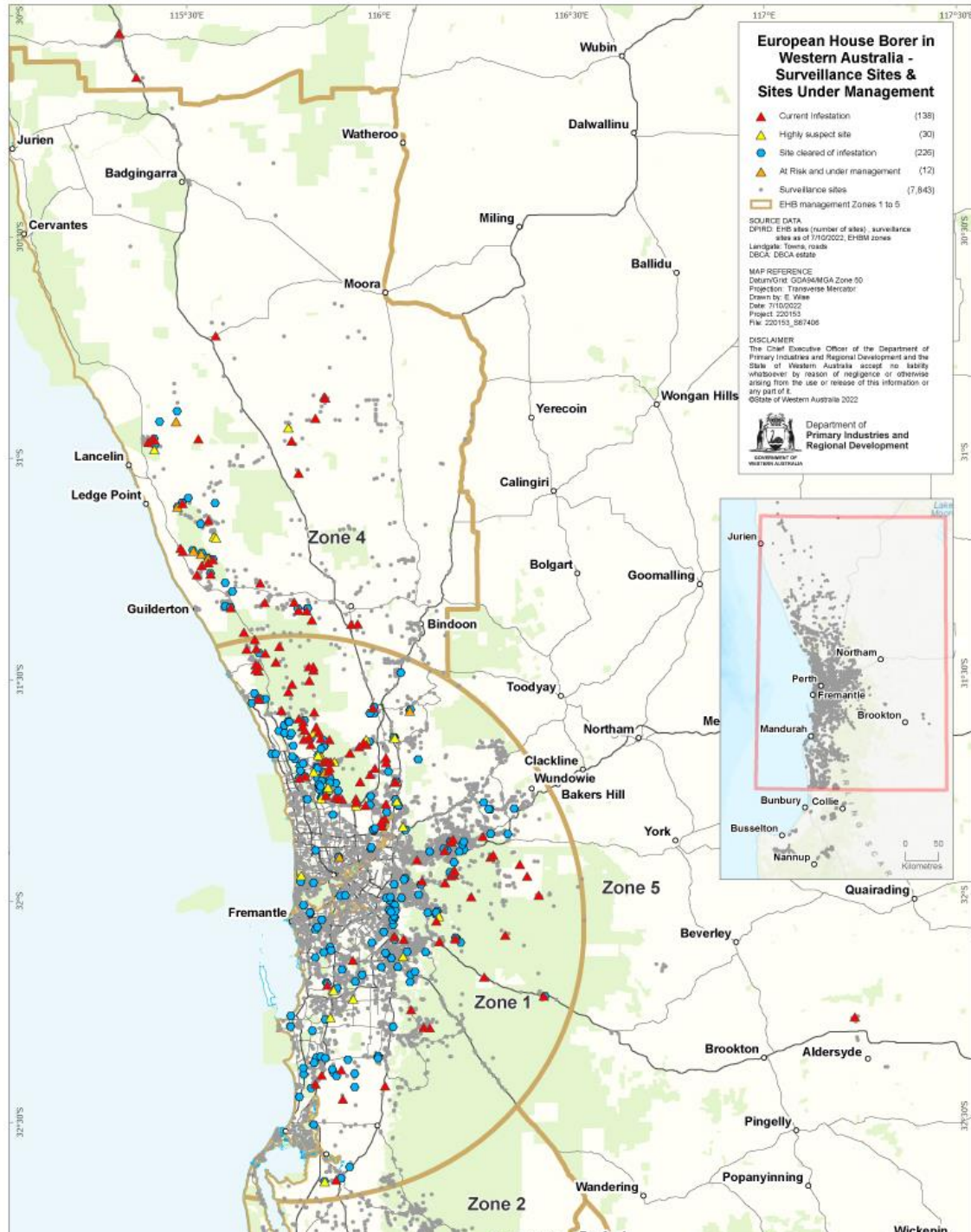
FPC & DBCA stakeholder engagement

20+ engagements held to progress treatment of EHB infestations on managed lands

PaDIS and MyPestGuide[®] enquiries

✓ 115 EHB | 481 borer | 1712 PSHB

No EHB were found in homes or other buildings; all new infestations were found in pinewood within the broader environment.



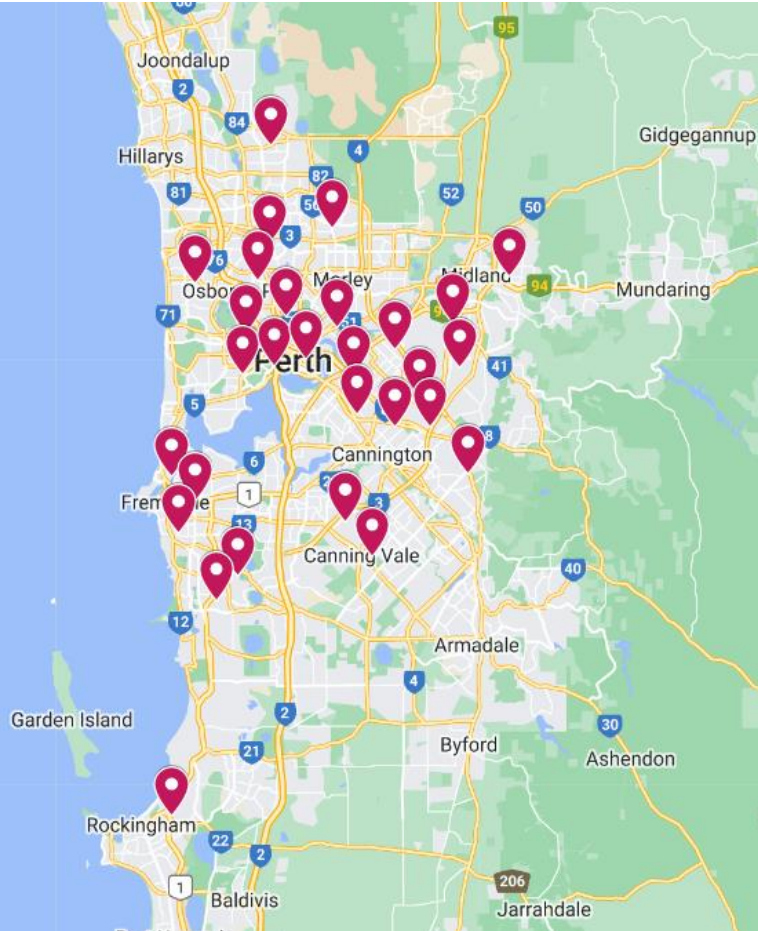


**NATIONAL
FOREST
BIOSECURITY**

Surveillance in high-risk areas

Western Australia

Surveillance in high-risk areas Western Australia



x31 sites selected (including Bunbury and Albany, not shown)



Panel trap used in the early days of EHB



Panel trap used for detecting Asian longicorn beetle, ALB

Surveillance in high-risk areas Western Australia



NATIONAL
FOREST
BIOSECURITY

Visual inspections and trapping programme has been outlined by PHA; DPIRD Biosecurity Officers have received basic training - Oct 2022

Use of pine and hardwood lures for pine pests and longicorns has been confirmed

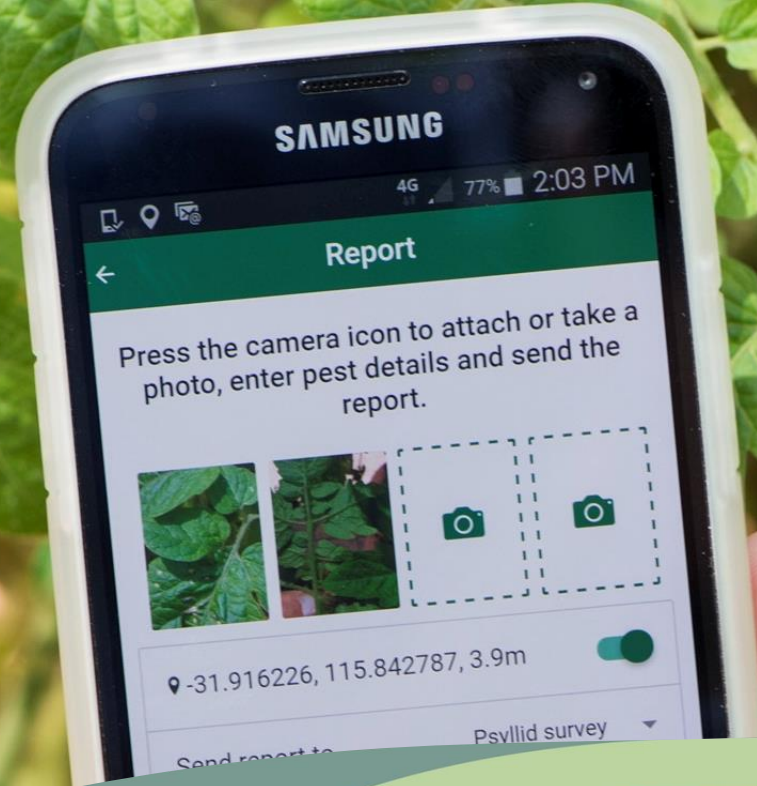
- x50 alpha pinene UHR lures – have been purchased (generic spp.)
- x50 monalt lures – have been purchased (*Monochamus* spp.)
- Asian longhorn beetle lures – to be purchased (*Anoplophora glabripennis*)

Data collection procedures + training packs – PHA to provide updated version

- MyPestGuide® Reporter > WA forest surveillance project for targeted data
- MyPestGuide® Trees > National forest surveillance project for public reports

AUSPestCheck™ data transfer procedures – PHA to provide updated guidelines

- Pending set up of a project to transfer data into



MyPestGuide[®] Reporter

...and a NEW guide to assist forest surveillance practitioners coming soon!

Report pests using the MyPestGuide® Reporter app




To download the app:
Open Google Play or Apple Store
and search for:
mypestguide



MyPestGuide® surveillance system

Report

Press camera icon to start.



📍 -31.988678, 115.884824, 12.0m

Send report to MyPestGuide

Where
On my stink bug trap in my South Perth backyard.

I found
A bug that I am concerned is brown marmorated stink bug. I am sending a sample.

I am reporting a Trap/Location ID

MUW300118

Please ensure this code is written or printed on the trap.

I am sending a sample

300118CXQ

Please write the above Sample ID (date/letters) on container, package securely to minimise the biosecurity risk and send to the address on the next page.

I agree to share my report
If you agree to share your report, non-personal details, photo and map will be searchable on the MyPestGuide website thereby enhancing community engagement.

Continue

Community reports



Like Reply · 4 hrs

Cathy Cathy Hi Shane, submit this photo to the Ag Dept. by pressing the 'Create a report' button on the MyPestGuide website <https://agspsrap31.agric.wa.gov.au/mypestguide/#/>, say where you found it and what suburb and it will go to their team of entomologists

MyPestGuide
AGSPSRAP31.AGRIC.WA.GOV.AU

Like Reply · Remove Preview · 1 · 3 hrs

Shane O'Reilly Cathy Cathy done, thank you.

Like Reply · 3 hrs

















Write a reply...

Zoe Forde I have been stung by one of those but i never knew what it was called man did it hurt

Write a comment...


MyPestGuide® Reporter app

Community reports

 <p>11/09/2015 at 10:00AM Found outside on pavement, Kensington WA...</p> <p>Details</p>	 <p>07/09/2015 at 11:33AM Cleavers survey...</p> <p>Details</p>	 <p>07/09/2015 at 9:23AM Cleavers survey...</p> <p>Details</p>	 <p>06/09/2015 at 5:16PM On a protea...</p> <p>Details</p>
 <p>05/09/2015 at 1:26PM In my garden...</p> <p>Details</p>	 <p>05/09/2015 at 4:49PM Italian flat parsley...</p> <p>Details</p>	 <p>05/09/2015 at 2:17PM Found a few of these in my potato patch...</p> <p>Details</p>	 <p>03/09/2015 at 4:16PM My backyard...</p> <p>Details</p>
 <p>03/09/2015 at 2:32PM Hay paddock...</p> <p>Details</p>	 <p>03/09/2015 at 2:02PM Kennedy ranges ...</p> <p>Details</p>	 <p>03/09/2015 at 12:11PM Damage in a table...</p> <p>Details</p>	 <p>28/08/2015 at 3:48PM Found this bug in my car...</p> <p>Details</p>
 <p>28/08/2015 at 1:23PM I have found these bugs and larvae in my bedrooms and bathrooms and kitchen over the last month. I L...</p> <p>Details</p>	 <p>24/08/2015 at 10:01AM Mami floorboards in new house at Roleystone...</p> <p>Details</p>	 <p>22/08/2015 at 5:41PM Is this lucerne flea? In wheat variety mace...</p> <p>Details</p>	 <p>22/08/2015 at 1:03PM Backyard orange tree...</p> <p>Details</p>

Works with the online community portal and links field guides to educate and inform people about pests.

Open




SAMPLE ID:
Project: MyPestGuide

Where:
I was picking tomatoes in my home veggie patch.

I found:
This bug was on one of my hardwood tomato stakes.

Response:
It is native a Robberfly (Diptera: Asilidae). They are powerfully built, bristly flies with a short, stout proboscis. Asilid flies are very fast flying, notoriously aggressive predators; they feed mainly or exclusively on other insects and as a rule they visit in ambush and catch their prey in flight. In general robber flies attack a very wide range of prey, including other flies, bees, beetles, butterflies and moths, various bees, grasshoppers, and some spiders. Many Asilidae when attacked in turn do not hesitate to defend themselves with their proboscides and may deliver intensely painful bites if handled incautiously. ASZ

Location:
-32.127252, 115.998280

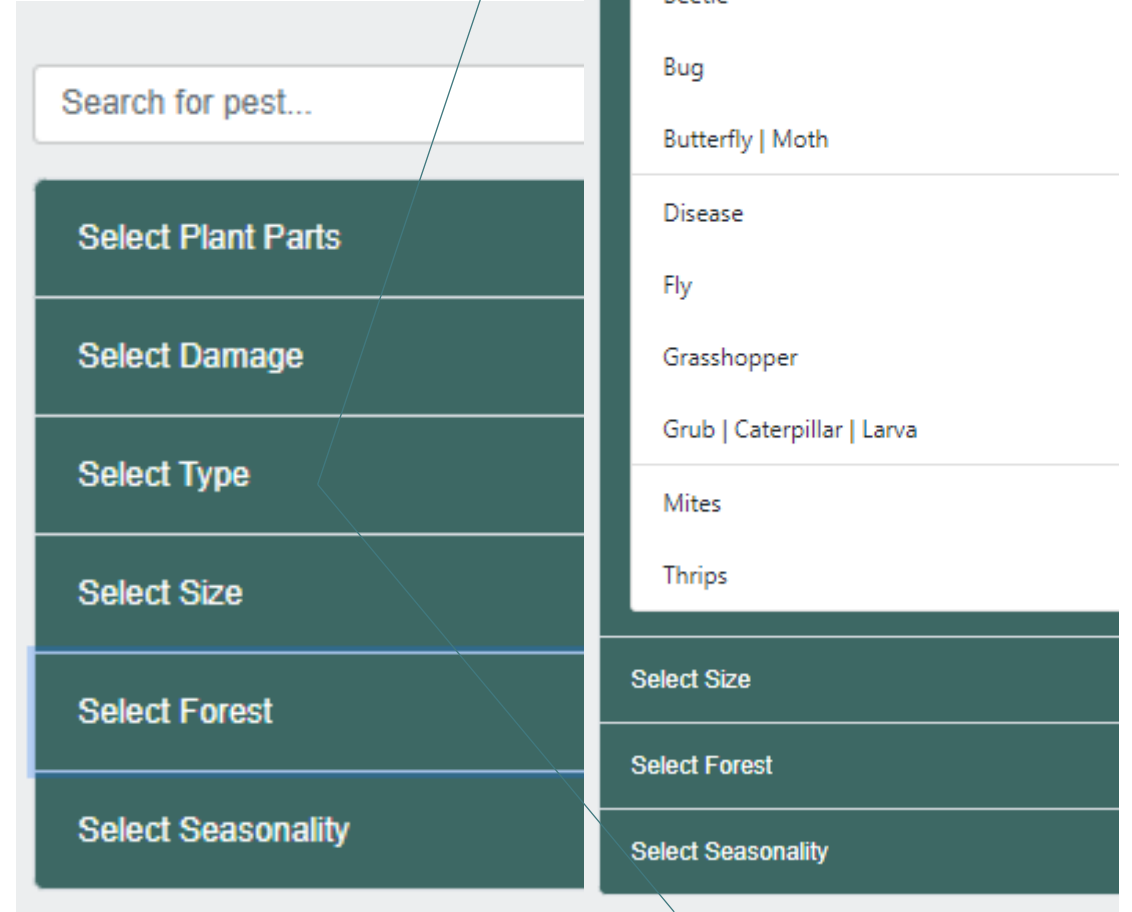
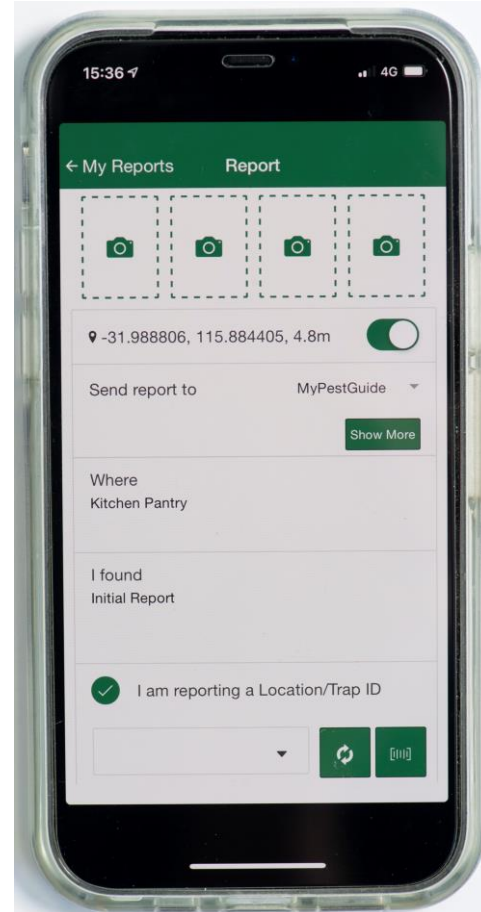


Map Satellite
Kalamitcott Garden Supplies
Map data ©2017 Google, Terms of Use, Report a map error

MyPestGuide[®] Trees



- Easy pest reporting tool
- All-in-one field guide
- Auto connects to Reporter
- Uses filters to ID
- Includes management advice
- Reports go to an expert
- ID is validated by an expert
- Experts reply to you!
- Receive notification in app
- Share report to social media



MyPestGuide[®] Trees

coming soon!



Elm yellows

Elm yellows is caused by a phytoplasma (a type of bacteria) that affects the phloem disrupting nutrient flow. This causes leaves to yellow, early opening of buds and witches broom symptoms (excessive branching from buds).



Elytroderma needle cast

Elytroderma needle cast is a fungal disease of pines. The disease affects pine needles causing them to redden and fall from the tree. Witches broom like symptoms may also be seen. Ponderosa and other pine species affected.



Endothia stem canker

This is a canker causing pathogen that affects Eucalypts and Corymbia.



Erinose mites

Tiny mites that cause leaf distortion. Damage more common on young plants



Eucalypt leaf blight

Causes leaf blight to eucalypts



Eucalypt leaf skeletoniser

Larvae are small (2–25 mm), hairy and yellow with brown markings. Characteristically larvae have a chain of old black head capsules on top of their head (added to after each moult). The small hairy larvae feed gregariously on the upper and lower leaf blade



Eucalypt weevils

Eucalypt weevils are dark coloured and between 12 and 14 mm long. Larvae are yellow to orange with black spots and reach up to 14mm in length. Larvae are leaf feeders and heavy infestations can cause defoliation and dieback.



Eucalyptus stem canker

Small necrotic lesions develop on young green stem tissue. These lesions coalesce to form large cankers that exude gum. Epicormic shoots develop below the girdling canker and, in severe cases, trees die.



Eucalyptus tortoise beetle

Adults ~10 mm long, orange with yellow pattern when viewed from above. Larvae 2-5 mm long, yellow-green becoming orange and black as they mature.



Eucalyptus variegated beetle

Round-shaped leaf eating beetles, with short legs have slightly enlarged tips. Adults vary in colour yellow-golden backs, red or even black forms. underside is black. Young larvae are black, but stages are yellow cream coloured developin



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Department of
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Lesson learned from the TREEmendous Biosecurity Blitz

[agric.wa.gov.au/
biosecurity-blitz](http://agric.wa.gov.au/biosecurity-blitz)



24 September
to 24 October 2022

TREEmendous Biosecurity Blitz 2022

Pre-event: media releases, radio, social media and printed articles to invite people to register online

Event

- One webinar for DPIRD staff (work hours)
- One webinar for the public (evening)
- One workshop for industry stakeholders
- Two workshops for the public

- ❖ 52 people attended the workshops
- ❖ 148 people joined the webinars

DPIRD team explained signs and symptoms of the ten priority pests people were likely to observe in park or bushlands.

Printed materials were handed out during the workshops or instructions provided digitally on how to use MyPestGuide[®] Reporter to report pests to DPIRD.

Lessons learned



Advertise early (>1month) for people to register.

Provide easy links to important dates and activities.

Keep activities simple and repeatable to improve data.

Engage with recreational users not staff or teachers.

General and targeted surveillance activities are not the same; consider when developing comms/activities.

Audiences aren't interested in the pest per se but the activity, so focus on what's fun!

Absence reporting & awareness requires more effort.

469 people registered | 1252 pest reports were received | no new exotic pests



Questions?

Thank you

dpird.wa.gov.au    

Important disclaimer

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