

## Home Threat Realised

**The threat to Perth homes** from European House Borer (EHB) has been elevated, with infested pine trees for the first time being seen as the likely source of house infestation.

The infestation was found in a Brigadoon home, which is a suburb close to Perth's Gnangara/Ellenbrook area.

EHB larvae and one exit hole were found in untreated structural pine timber beams supporting a second storey floor. Over time the infestation could have caused the floor to collapse.

The find comes on top of continued success of the EHB Response, which is committed to containment and surveillance with a view to EHB eradication.

Already 113 out of 144 infested properties have been cleared of EHB host material in an effort to minimise the migration of EHB to susceptible wood materials, including houses built or renovated with untreated structural pine.

However, the Brigadoon house infestation has reinforced the need for home owners to be vigilant for signs of EHB, and to provide continued support for the removal of host materials, including live pine trees, from identified Priority Management Zones (PMZ).

### Costs

The EHB Response team acknowledges community concerns about the level of government funding allocated to the EHB Response to date. However, a

Benefit Cost Analysis, conducted with assistance from the Australian Bureau of Agriculture and Resource Economics, showed that a nil control approach would create economic damage across Australia to an amount of \$2.4 billion over a 30 year period and more than \$6 billion over 100 years.

In fact, a cost benefit analyses shows a cost:benefit ratio of 64:1. That is, every \$1 spent on eradication will eliminate \$64 worth of damage and timber treatment across Australia.

Even limited containment would cost Western Australia approximately \$345 million over 30 years. In comparison, the cost of eradication from 2004 to 2021 (17 years) has been estimated to be only \$50 million, and this cost is currently funded through a national cost sharing agreement by all States and Territories, and the Federal Government.

### Delaying Pine Tree Removal

Removal of pine trees as the primary food resource for EHB remains the best means of ensuring EHB does not become a serious concern for home owners or others dealing with untreated pine products and timbers.

While the risk in the hills region is reduced due to homes being built primarily with non-susceptible materials, such as jarrah, there remains the chance that EHB from infested areas may migrate to newer suburbs.

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**Timbers exposed! EHB infestation in these untreated pine timbers could have been disastrous if not discovered (right). EHB larvae were found in several pieces of timber (left), causing significant damage (centre).**

WA – working to eradicate a pest

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In Ellenbrook, for example, housing development commenced in 1992 and many houses have been built with untreated structural pine framing, particularly those built since 2000.

Previous migration of original EHB populations from the hills region to Gnangara is considered likely as DNA testing indicated populations to be closely related.

The prevailing easterly and south-easterly winds in Perth summers, which coincide with the EHB flight season, and the presence of pine tree host bridges (some infested) between the two areas, have added to the speculation that further migration is possible.

### Summer Temperatures

Speculation that high summer temperatures in Perth roofs will prevent the laying of EHB eggs and larvae development has not been evident in initial investigations.

Internal temperatures of timbers in volunteer Perth roofs have to date not exceeded 60°C, but have reached between 50°C and 55°C, which is not high enough to kill beetles or larvae.



**Removal of host materials such as live pine trees remain the best option to minimise EHB damage in Western Australia and achieve eradication.**

Purpose built research roofs were completed last year by the Department of Agriculture and Food (DAFWA) to assess the survival of EHB in high temperatures. Some indicators showed EHB survival in all phases of development, although further research is needed.

DAFWA suggests that the lack of infestations in roofs is due to the fact that untreated pine has only been used since 2000, and that it is too soon to see infestations because of the EHB long life cycle.

### Surveillance Options

EHB's long life cycle can result in a slow build-up of EHB populations and a low rate of natural spread. For this reason public argument has been made that pine tree removal in infested areas can be delayed to allow for further research in surveillance options.

This suggestion is not supported by the specialist Scientific Advisory Panel (SAP) overseeing the EHB program for national and State Government partners. Any delay of host material removal will only lead to further spread and increase the risk of eradication failure. Without eradication, other States in Australia would also become at risk.

A major problem in surveillance options is that EHB is difficult to detect due to larvae being able to bore through timber without breaking the surface. It is only when they emerge as beetles that exit holes can be seen.

DAFWA EHB Research Officers have been developing alternative detection options since 2004. Surveillance options to date include the use of trap logs, development of EHB acoustic sensing device prototypes and the training and use of EHB detector dogs.

However, effective completion of surveillance research will be long term, and in the end will most likely only play a role in verifying EHB eradication from previously infested areas.

### The Future

The removal of healthy trees from infested areas will never be without good reason.

Additionally, the use of treated pine in the future will not change the fact that current untreated pine may already be or may become infested.

The public are urged to remain vigilant. Listen and look for signs of EHB and call the hotline for further information.

# Acoustic Prototype Ready

Imagine a device that can identify the 'crunching' sounds of European House Borer larvae (EHB), and then tell your computer where to find it.

Five prototypes of an acoustic sensing device for EHB larvae have been completed. It is hoped adjustments to the prototypes will be completed by the end of the year, and that 1000 devices will eventually be used throughout EHB affected areas in Western Australia.

Acoustic detection will provide a non-destructive method of detecting EHB before the adult beetle emerges. Additionally, when used on trap logs, which provide an alternative food source in areas where dead pine has been removed, the device will be a useful tool in verifying eradication of EHB infested areas.

The prototype acoustic device is a small box – 8cm long, 5cm wide, and 3cm thick – which houses hardware circuitry and microphones set to identify, characterise and differentiate the sounds of EHB larvae.

A wireless radio transmitter within the device has been developed to send a signal to a hardware radio receiver, which when attached to a computer can access specific software that can listen to and analyse the signals being transmitted. The software can also identify the trap log from which the sound has been transmitted.

The five prototypes will be laboratory assessed to determine effectiveness in various situations, such as detecting different EHB larvae sizes, distance from the microphone, distinguishing between other borer sounds and successful transmission.

After laboratory testing and modifications, further testing will be carried out in the field before considering the mass production of a user friendly and practical device. Further research on the device is expected to take up to two years.



**DAFWA Technical Officer Danica Collins demonstrates the acoustic sensing technology prototype, transmitter and software.**

The acoustic sensing project is being coordinated by The Department of Agriculture and Food EHB Response Research and Technical Services team, Danica Collins, Lisa Vagg and Robert Cunningham, at South Perth.

Engineering expertise has been provided through Associate Professor Adam Osseiran at Edith Cowan University and engineering Masters student, Ivo Jacquemai. Mr Jacquemai designed the hardware needed to listen for and record sounds, as well as the signal processing software required to identify EHB chewing signals.

# Area Freedom Verification Commences

Thirty three out of 89 infested Priority Management Zones (PMZ) in Western Australia are now cleared of host material, including live pine trees and dead pine material. This means that the verification process of these cleared areas can now commence.

The Emergency Plant Pest Response Plan for EHB (Volume 2) estimates that clear felling of pine trees in infested PMZs will be achieved by 2015.

Verification of cleared PMZs will be undertaken with a newly defined and intensive network of untreated pine trap logs, which will act as an alternative food source for any remaining EHB. Up to 10,000 trap logs may be deployed. The trap logs will be checked regularly by detector dogs, and in the long term through acoustic sensing technology (*see article this edition*).

After the last known EHB has been detected and destroyed, the logs will be used to monitor any remaining EHB activity. If no activity occurs for a period of six years, then confirmation of eradication will be achieved.

# Industry Consultation Continues

Since the first discovery of EHB in 2004, the Department of Agriculture and Food has conducted ongoing consultation with relevant industry groups to ensure they are aware of the current regulations and their responsibilities in EHB eradication.

In addition to regular meetings of the Industry Consultative Committee and the Inter-Agency Consultative Committee, the EHB Response team meets with other groups based on an industry or regional need. Two such recent meetings involved the Demolition Industry of Australia and the Independent Liquor Traders to discuss issues that members need to be aware of in relation to EHB.

The EHB Response is continuing to search for and identify organisations with access to or influence over EHB host materials, such as dead pine wood or untreated pine, who may benefit from more information on EHB and regular meeting updates.

Any enquiries from interested groups are welcome.

## REMEMBER

**LISTEN** for scraping sounds

**LOOK** for larvae, beetles and their exit holes

**CALL** the EHB hotline on 1800 084 881



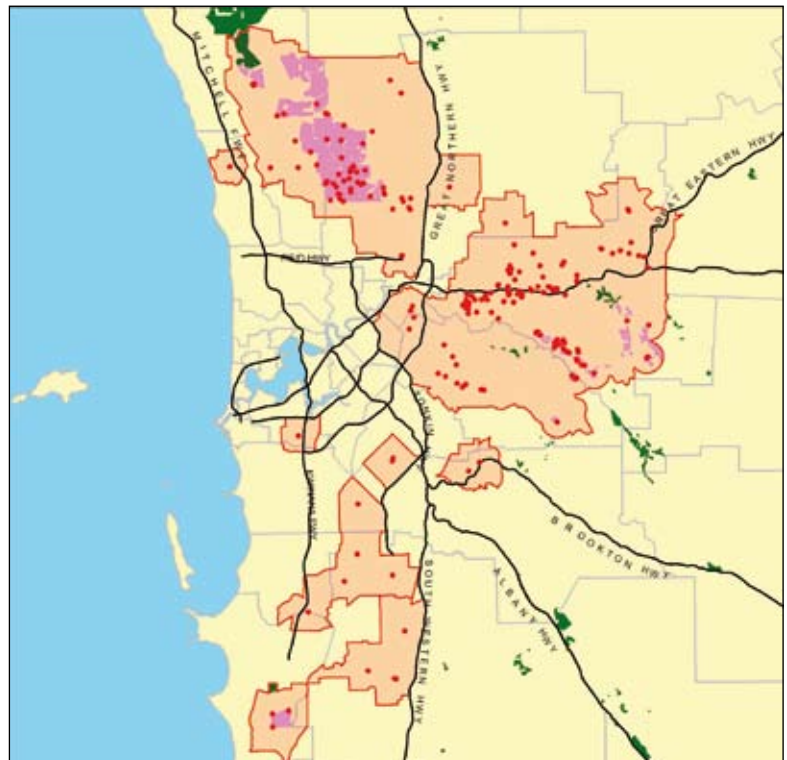
## European House Borer Response Update

May 2009

- Legend**
- EHB CONFIRMED SITES
  - EHB RESTRICTED MOVEMENT ZONE
  - EHB AFFECTED PLANTATIONS
  - PINE PLANTATIONS
  - SHIRES



**REFERENCE**  
Datum: Geocentric Datum of Australia 1994  
Projection: Universal Transverse Mercator  
Southern Zone 50



Department of  
Agriculture and Food



Report any suspected EHB activity to the  
Department of Agriculture and Food – **Freecall Hotline**

# 1800 084 881

For more information visit [www.ehb.wa.gov.au](http://www.ehb.wa.gov.au)