

**WESTERN SYDNEY**  
UNIVERSITY



Hawkesbury Institute  
for the Environment

# Plants, Animals and Interactions Research

RESEARCH THEMES



# Research Focus

In this theme, our research focuses on the interaction between plant and animal biology and the effects that changing environmental systems have on those interactions.

As one part of an environment changes, there are unpredictable and unforeseen flow-on effects that impact on the way that plants and animals function. Our research explores important aspects of these functions, with a particular emphasis on such change under an environment of rapid change from a variety of human and natural factors.



## RESEARCH ACHIEVEMENTS

Our research is already providing insights and solutions to complex, high-impact environmental problems. In late 2010, there was widespread defoliation and dieback of Grey Gum eucalypts around Western Sydney. Researchers undertook significant analysis of the problem with local councils and state governments to determine the reasons behind the dieback.

This research has identified a new species of psyllid whose populations dramatically increased after the breaking of the drought. Early research indicates that psyllid populations were encouraged by changes in tree physiology following rehydration.

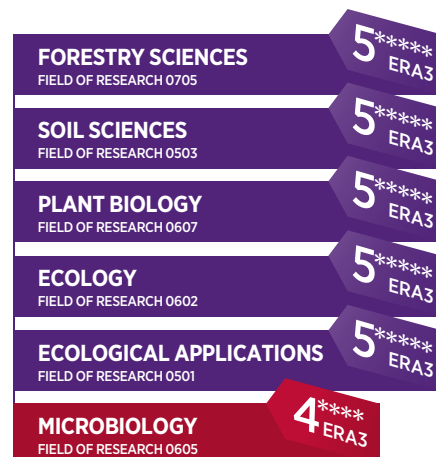
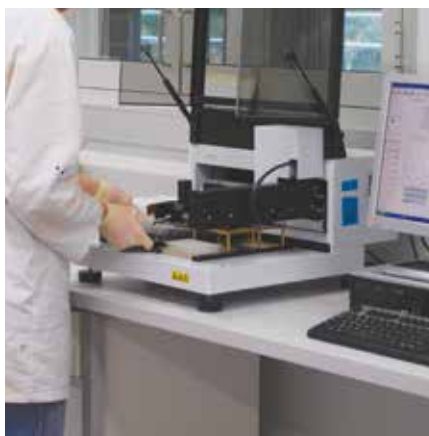
“Complex environmental changes require in-depth understanding of effects on plants, animals and ecosystems...”

These changes are exacerbated by widespread urban encroachment into remnant forest that impacted on psyllid-predator interactions, resulting in widespread damage to large stands of trees across Sydney and New South Wales.

## OUR VISION FOR THE RESEARCH THEME

Australia faces some distinct environmental challenges as plants, animals and their interactions respond to a changing environment. Our research is working towards understanding how key species and entire ecosystems will respond to constantly changing environmental conditions.

Through this research, we will be able to provide insights into the selection and design of future crop species, manage important invasive species with new technologies, and provide evidence-based strategies for ensuring conservation of key species.



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