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## Eavesdropping on the environment

Ever wondered what happens in the bush when no humans are around?

These secret sounds will be secret no longer thanks to a world-first project to build the most ambitious soundscape ever recorded in Australia.

A nation-wide effort, the Australian Acoustic Observatory (known as the A20) comprises 400 microphones across 100 sites recording audio 24 hours a day, seven days a week for five years.

Once complete, the total amount of data collected by the A20 will equate to two petabytes of data, which would take 2000 years to listen to in full.

The ability to compare ecosystem health over a five-year period will provide valuable insights into the effects of climate change on ecosystems around Australia, as well as information about species distribution, fluctuations and overall health.

The project is a collaboration between Queensland University of Technology (QUT), Charles Sturt University, James Cook University, the University of New England and The University of Queensland, alongside a range of other stakeholders including conservation organisations, Aboriginal groups and government.

Conservation not-for-profit Bush Heritage has 60 solar-powered audio monitors set up across 16 of its reserves in a range of ecosystems. These include Queensland's Channel country, South Australia's arid rangelands and New South Wales' dry rainforest and inland floodplains.

The data collected will allow Bush Heritage and the other A20 participants to:

- **Target key species.** Using algorithms, scientists will be able to isolate the calls of certain vulnerable or endangered species and search through the entire data set for those specific audio fingerprints. This could help monitor species at risk or inform feral predator control.



### Media enquiries

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### Images

[Click here for high-resolution photos](#)  
of A20 sites including Bush Heritage  
reserves and species protected.

- **Measure population numbers.** Insight into baseline population numbers will provide easy access to see seasonal spikes and dips, or impacts caused by events like bushfires.
- **Evaluate conservation success.** Knowing more about species will feed back to the land managers on the effectiveness of their conservation strategies.

Bush Heritage's Head of Science and Conservation, Dr Rebecca Spindler, said the A20 was a powerful tool for environmental good.

“Sound provides incredible insight into animals that can be hard to monitor, like rare birds who roost during the day and call after dark, or frog species in dry and remote areas that are only active for a few weeks after rain. By working in partnership with the A20, we're all able to further our conservation goals in myriad ways. This collaborative, Creative Commons style of approach is one that will only bring benefits to our environment.”

A20 lead, QUT Professor Paul Roe, said the data collected would have far reaching benefits long into the future.

" As the impacts of climate change intensify, it's crucial we have a comprehensive understanding of the changes experienced by our environment. The Australian Acoustic Observatory does just that. By allowing us to access the landscapes and species Bush Heritage protects at the click of a button, the project opens up possibilities for global knowledge sharing and learning.”

### About Bush Heritage Australia

The Australian bush is a place of outback wonders and rugged beauty. Founded by Dr Bob Brown in 1991, Bush Heritage is an independent not-for-profit that buys and manages land, and partners with Aboriginal people, to protect our irreplaceable landscapes and magnificent native species. Together with our partners, we protect 8.86 million hectares – that's more than all of Tasmania.

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