

Robotic traps can poison feral cats to save rare Australian wildlife

By Michael Slezak, The Guardian, adapted by Newsela staff on 04.29.16
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Feral cats eat the food that people brought them at the seaside promenade of Old San Juan, Puerto Rico, July 21, 2004. Feral cats have become a big problem in Australia. AP/Herminio Rodriguez

Robotic killing machines that detect feral cats and spray their fur with poison have been deployed in the Australian desert. Once the poison is on their fur, the wild cats essentially lick themselves to death.

Feral cats are one of the biggest threats to many of Australia's endangered species, killing millions of animals every day throughout the country. Controlling these cats has proved to be difficult.

It took John Read, an ecologist, seven years to invent and produce four of the robotic "grooming traps." After extensive testing, he has switched on the first trap in a nature reserve in South West Queensland, close to the center of Australia.

"Cats are hard-wired to hunt," Read said. They can kill dozens of animals a night, but they are also reluctant to eat bait since they prefer to kill an animal themselves.

Cats' Grooming Is Their "Achilles' Heel"

"This trap targets the cats' Achilles' heel," Read said. Being careful groomers, cats will lick off almost anything that gets on their fur. Read thus developed a trap that takes advantage of this behavior in an attempt to get their numbers under control.

The trap uses four rangefinder sensors to detect when something moves in front of it. These sensors use lasers to measure the size and shape of moving objects to gauge if the objects are feral cats.

If something is taller than a cat – such as a dingo – it will trigger the top rangefinder, shutting down the trap. Similarly, a rangefinder at the bottom needs to be able to see between a cat's legs in order to release its poison. This prevents short-legged animals that move close to the ground, such as wombats, from triggering the trap.

Finally, two rangefinders on each side of the front of the trap need to be triggered at the same time. This simultaneous triggering indicates that something the length of a cat has moved in front of the trap.

Native Species Can Resist Plant's Poison

Read said there are two other ways the trap can avoid hurting native animals.

Firstly, the poison being used is a type called "1080," which occurs naturally in some Australian plants. As a result, native animals are less likely to be affected by it. Cats, however, are not native to Australia, having appeared on the continent only after Europeans arrived. Read said a dose of "1080" poison was able to kill three cats, but unlikely to kill a native animal.

Second, the trap relies on the animal licking the poison off its fur, which cats would reliably do. Few other animals are likely to do the same.

The traps are also equipped with speakers. These play recordings of animals that cats might prey on, including the sound of rats, which could attract cats to the area.

Trap First Tested Just With Photos

Read initially conducted trials in enclosed spaces before performing a small field trial of an earlier model. He then installed the new optimized grooming trap in "camera-only" mode earlier this year. That allowed him to test what animals would activate the trap by taking a photo instead of spraying poison.

Earlier this month, the first live grooming trap was switched on in the 56,000-hectare (216-square-mile) Pullen Pullen reserve. Pullen Pullen was bought by the conservation group Bush Heritage Australia to protect the night parrot. This nocturnal parrot from central Australia was thought to be extinct until it was rediscovered in the 1990s.

Sanctuary For Endangered Night Parrots

Read was also beginning to switch on his traps in two other locations in Australia.

“The three trial locations are all part of the same trial to test and optimize the traps before we will hopefully redesign and manufacture 50 or more traps for a bigger trial at a wider range of sites,” he said.

Read said more than \$450,000 had been spent developing the traps. The funding came from several sources, including Bush Heritage Australia and the South Australian government.

Rob Murphy, of Bush Heritage Australia, said the feral cat-killing traps were a key piece of the new Pullen Pullen night parrot reserve.

“Sanctuary at Pullen Pullen reserve is critical for this special bird that still could be lost forever if we don’t work together for the long term to protect it,” he said.