

to aid detection. "It's like having a GPS on four legs!" he added.

Mr Austin encouraged the commencement of a trial program to undertake detection monitoring in key locations utilising professionally trained detection dogs.

"Also, a trial of a dedicated Wildlife Canine Detection Unit for wildlife trafficking in key areas in Australia would provide alarming statistics of this callous treatment of our wildlife," he said.

As police investigations have shown wildlife trafficking often has the same route as narcotic trafficking, if a canine carried out routine wildlife detection, it has the potential to also sniff for narcotics.

Take a look at Kenya's innovative technique – a "potential game-changing technology" - known as RASCO (Remote Air Sampling for Canine Olfaction), which can help dogs to detect illegal wildlife products more easily, according to the World Wildlife Fund.

The way it works is initially, air is suctioned out from a targeted shipping container before being passed through filters. The trained dogs are then presented with the filters and are able to sniff out even the tiniest amounts of ivory, rhino horn and other illegal wildlife products. They have been trained to sit if a specific illegal wildlife part is detected, meaning that a container holding illicit items can be easily identified.

According to WWF, so far expert sniffer dogs have been successfully detecting

illegal wildlife products (including ivory) from various containers in Mombasa port and in transit, by going from container to container. Not only could this new technology address some logistical challenges found in previous methods (ie high volume of containers and hot working conditions for the dogs) but is also quicker and easier for both officers and dogs and can be carried out in climate-controlled rooms. This means that a higher volume of containers can be 'sniffed out' in more comfortable conditions for the dogs.

RASCO is championed by WWF, TRAFFIC and Kenya Wildlife Service (KWS), which has been using sniffer dogs since 2015 with ongoing technical and management support from the African Wildlife Foundation who sourced and trained the dogs and trained KWS handlers.

CAPTIVE BRED OR CAUGHT FROM THE WILD?

Another revolutionary 'wildlife protection' tool is being developed by the University of New South Wales in collaboration with Taronga Conservation Society, University of Technology Sydney and the Australian Nuclear Science Technology Organisation (ANTSO).

Dr Kate Brandis, research fellow at the Centre for Ecosystem Science of UNSW, said: "Laundering of wild animals as being bred in captivity is a big issue. Identifying where these animals come from helps with wildlife law enforcement. We have developed a revolutionary way to

determine if a confiscated animal is being illegally trafficked."

The new technique identifies chemical markers in keratin (such as quills, feathers and hair) that establishes with more than 96% accuracy whether the animal has been eating a natural, wild diet or a captive diet. Trade of animals is restricted to no trade or in some cases, if bred in captivity, legally allowed to be traded. What researchers have found is happening is animals are being taken from the wild and the paperwork being forged to show they've been bred in captivity and are passed off as captive bred.

"For wildlife conservationists, it's been immensely frustrating knowing that animals are being caught in the wild and passed off as captive-bred with forged paperwork, but with no way to prove it," she said.

Dr Brandis said previous techniques haven't been able to show whether an animal has been captive bred or wild caught.

"Unless you have a long history of parental information, you can't tell using DNA if a reptile came from the wild or raised by a breeder. That's what our tool can do - tell you the difference," she said. "With this information, authorities can go down the path of enforcement. Our tool will also give validity that the animal has been captive bred."

Dr Brandis said more funding is needed to continue with their research.

"We are also talking to collaborators in south east Asia where laundering is happening, and with partners in Malaysia," she said.

Looking into the future, the challenge of protecting native Australian wildlife is immense. To help combat wildlife trafficking, Australian government departments and agencies investigating wildlife trafficking are encouraging the public to report suspected breaches of international wildlife trade laws. If you see something suspicious, you can flag it here:

- www.australia.gov.au/borderwatch
- www.crimestoppers.com.au
- Wildlife Witness APP

MORE INFORMATION

Which species is native to Australia?
www.ala.org.au

Which wildlife is protected under Australian environmental law?

www.environment.gov.au/epbc

Do you need a permit?

www.environment.gov.au



¹ <https://phys.org/news/2018-04-australia-mammal-extinction-worsen-scientists.html>

² UNEP-INTERPOL Report: *The Rise of Environmental Crime*

³ www.abc.net.au/news/2018-05-15/black-market-demand-fuelling-native-animal-smuggling/9724140

⁴ www.anao.gov.au/work/performance-audit/managing-compliance-wildlife-trade-provisions-environment-protection-and
www.anao.gov.au/work/performance-audit/monitoring-compliance-epbc-act-follow
<https://science.sciencemag.org/content/356/6340/800>