Standardising pest fauna monitoring protocols for improved data collection and decision making.

A project to provide standardised ecological field survey and monitoring protocols to strengthen the evidence base for assessing and quantifying the impact of pest fauna on conservation and restoration programs.

This 18-month project will develop standardised field survey protocols for the Australian Government to assist land managers, ecologists, and environmental consultants to collect consistent and comparable monitoring data on the distribution, density, and impact of Australia's key medium-large pest fauna species. Standardised data collection complemented by FAIR[1] data sharing will help create transparent and streamlined ecological monitoring data that are compatible across natural resource management (NRM) projects, regions and jurisdictions, enabling robust decision-making and adaptive management of pest fauna.

A modular approach for streamlined data management

The Australian Government is working with the NCRIS-enabled Terrestrial Ecosystem Research Network project (TERN Australia), to co-design a suite of ecological monitoring protocols alongside a data exchange standard.

TERN's data aggregation systems and survey protocols have been well-tested and implemented using a modular approach Australia-wide since 2012. In addition, a complementary suite of protocols are in development in collaboration with the Australian Government, focusing on vegetation, soil, fauna, and condition measures.

The pest fauna protocols will focus on standardising the data collection for seven key species; feral cat, fox, wild dog, pig, rabbit, goat and deer (multiple species). These species impact our natural ecosystems through predation, herbivory, and land degradation, and impair restoration efforts.

The modular approach of the data collection protocols will enable individual projects to collect information that is relevant to their project, whilst not requiring projects to collect information beyond the scope of their project needs.

A data exchange standard, under development by TERN and the Australian Government, will support better access to, and reuse of, data from environmental monitoring and surveillance projects. The Australian Government is implementing a nationally federated repository to store and share environmental data for use by proponents, regulators and the community. Overall, the entire process from designing monitoring projects, conducting the monitoring, managing and accessing the data, and analysing the effectiveness of NRM outcomes/impact assessments, will be more streamlined, consistent, automated and robust.

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[i] FAIR data: meeting the principles of findability, accessibility, interoperability, and reusability.

Photo: Feral Camel, Pilbara, Western Australia (Photo: TERN, 2016)

Standardising data collection protocols

Drawing on existing extensive knowledge in this area, this project will ensure service providers and ecologists collecting field data have ready access to comprehensive instructions for a suite of standardised collection protocols. Providing web-based applications will enable data and photographs to be entered in the field and provide access to web-based portals to curate and manage data collected.

The standardised pest fauna monitoring protocols will be used to support future Australian Government NRM programs that benefit the environment, farms and communities. In addition, the protocols will be publicly accessible for use by other environmental land managers and environmental consultants.

Through the development of new standardised methods, the Australian Government's program delivery teams will engage with communities and NRM regions across Australia to deliver more harmonised and scientifically robust NRM activities.

For further information, please visit:
www.tern.org.au/pests-protocols
or email TERN at tern@uq.edu.au

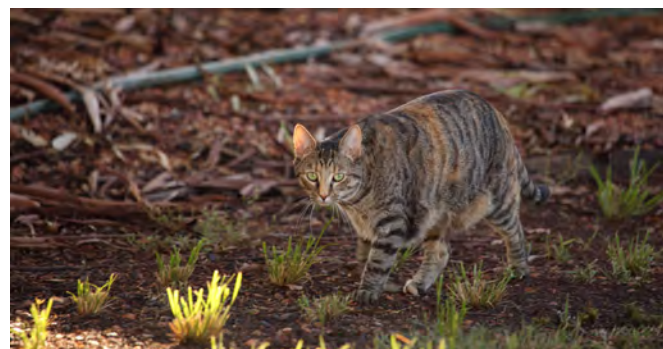Photo: Feral Goats, Mt Lofty Ranges, South Australia (Photo: Sally O'Neill)

Photo: Feral cat, Milparinka, New South Wales (Photo: Chris Watson).