



Monitoring feral pig populations on a landscape scale in the Western Downs region using field camera networks

The success or failure of feral pig management programs typically comes from numbers of pigs dispatched and/or the amount of effort put in. However, in many cases, feral pig populations in an area are not known. This lack of understanding and inability to effectively evaluate pest management programs led to the development and implementation of Western Downs Regional Council's (WRDC) Vertebrate Pest Monitoring Program in 2014.

Using motion cameras, the WRDC was the first local government in Queensland to establish permanent monitoring sites to benchmark pest animal populations and their activity.

The WRDC's pest management program aims to:

- i. Improve the delivery of coordinated pest control activities through the development and support of landholder pest management groups and
- ii. enable the monitoring of vertebrate pest populations and activity to better evaluate outcomes from control programs.

The program commenced with 20 cameras. It now consists of 93 permanent cameras and covers 38,000 km², with thousands of images captured weekly. Over 1500 landholders, local government, industry groups and NRM bodies now collaborate in this program.



Machine learning software and neural networks are used to generate pest activity indices in near real time. The technology automatically reads images, records selected data into a database and converts complex ecological data into numerical form. This information is then graphed so it can be easily understood. Not only is data on feral pigs captured, information is also obtained for other invasive and native species.

The majority of WRDC's field cameras are located in areas that allow for connection to the mobile network. Land managers, on whose land the cameras are located, can receive notifications on their mobile when a species of interest pass the camera. Information can also be easily shared and distributed to management groups and WRDC.

Importantly for WRDC, this software has saved many, many hours of labour in manually viewing and recording of data and increased data accuracy.

The camera monitoring sites throughout the region are providing many opportunities for strategic, coordinated and effective pest and natural resource management as well as increased engagement of land managers.

It is possible to quantify pest activity baselines, capture population changes after control events, illustrate long-term trends, predict potential future pest activity and identify hotspots of pest activity throughout the region. This ensures a more structured, proactive and targeted approach to pest management.

Management groups in the WRDC region conduct coordinated pest management activities, including aerial shooting, trapping and baiting using 1080 and sodium nitrite. Since 2014, more than 30,000 feral pigs, 10,000 wild dogs and 1500 hectares of priority weeds have been destroyed. In addition, 130 kilometres of exclusion fencing has been erected with support from Council.

The continued collaboration and coordination of control programs and the ability to monitor and record pest activity across the region to measure outcomes have been the key to shaping community opinion and changing behaviours of land managers.

Pest management groups now drive local government programs and inform priorities rather than the other way around.

For further information, please contact [Chris Gaschk, Western Downs Regional Council](#).