

Western Ringtail Possums Regional Surveys



Images courtesy of G Harewood and Biota Environmental Sciences

In 2019, as part of development for Bunbury Outer Ring Road (BORR) project, Main Roads made the decision to expand its environmental investigations, beyond the project scope and in turn, provide an invaluable resource for environmental managers, regulators, universities, researchers and environmental groups across Australia and the world, working to protect the future of the Western Ringtail Possum.

The surveys were recognised in December 2020 by the Institute of Public Administration Australia (WA), winning its award for Best Practice in Social Corporate Values.

Background

Western Ringtail Possums are only found in the south west of Western Australia. Threats to Western Ringtail Possum include habitat loss and fragmentation from development, introduced predators, climate change, fire and logging.

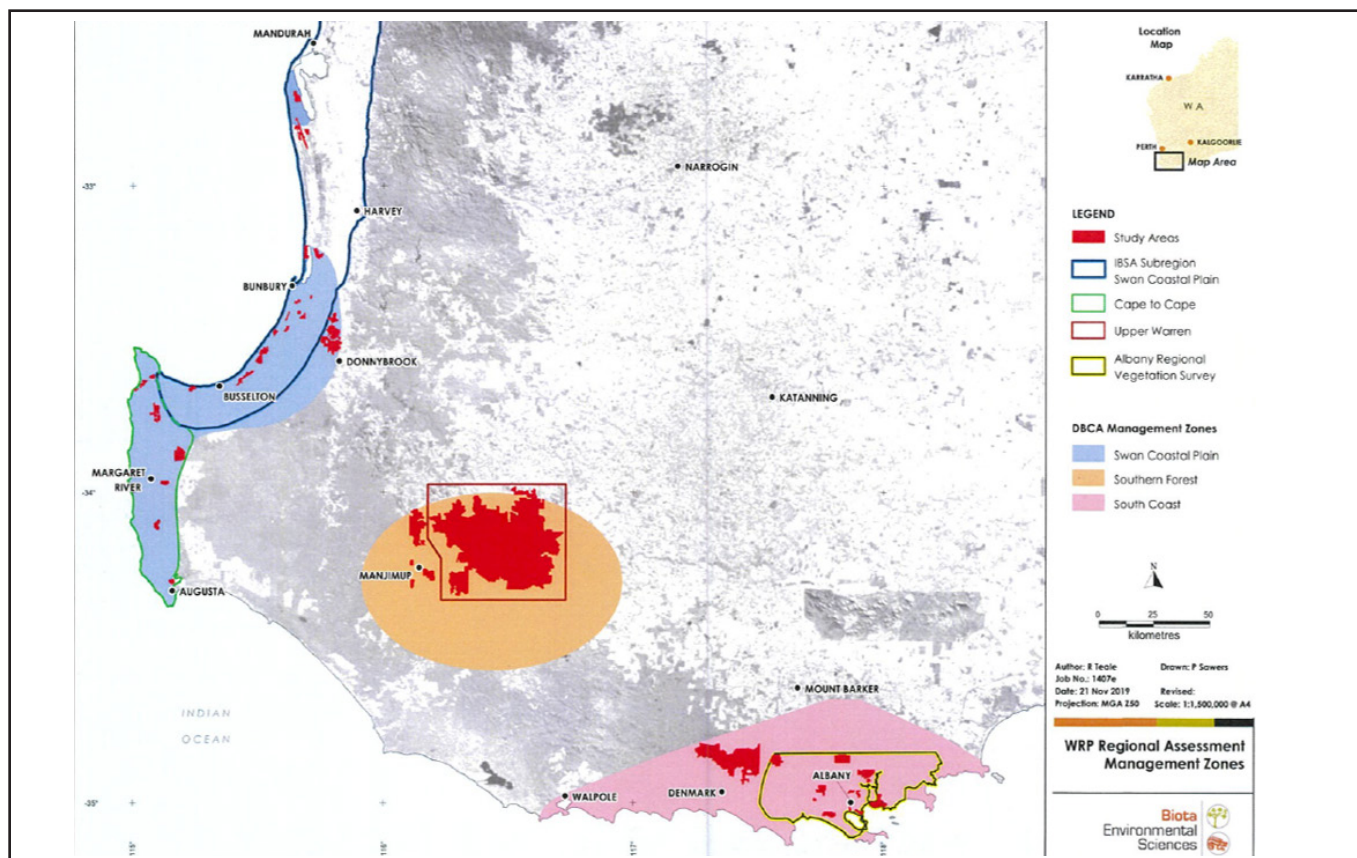
In 2017, the International Union for Conservation of Nature assessed the conservation status of the species as "critically endangered" - a step away from "extinct". In May 2018, the Federal Department of Agriculture, Water and the Environment also listed the species as critically endangered.

Main Roads Environment team recognised a gap in the information available for the population and location of Western Ringtail Possums in the region. The team spearheaded a campaign to conduct a Western Ringtail Possum Regional Survey Project beyond the scope of the BORR project to include the entire South West and Great Southern regions, from Lake Clifton to Albany.

The lack of reliable information on Western Ringtail Possum populations has been a key impediment to the development of effective conservation efforts to protect the animal.

The Surveys

Between August 2018 and August 2019, Main Roads Environment worked with consultancy Biota Environmental Sciences to develop the survey methodology.



The survey included walking 1,287 kilometres of transects, over an area of 114,234 hectares, across 40 sites to survey Western Ringtail Possum populations.

A transect is a straight line through an animal's habitat through which the team travels, recording sightings along the way. For the survey, the transects were generally 75 metres apart and were walked for approximately 6 hours after sunset. Each member of the survey team walked transects using GPS to navigate and accurately record animal sightings.

The Project's use of innovative survey techniques led to the trial of aerial drones with heat sensing cameras to locate Western Ringtail Possums in vegetated areas along Bussell Highway near Busselton.

The Results

The survey utilised a methodology originally developed by the University of St Andrews in Scotland and was adopted for the project following consultation with the Department of Biodiversity, Conservation and Attractions and the Western Ringtail Possum Recovery Team.

The survey team used line transect distance sampling to estimate Western

Ringtail Possum density, which takes into account the probability of detecting the animals being surveyed and the size of the area being examined.

The survey data indicated a population estimate of 20,118, from the survey sites. This estimate is six times more than the 2015 population estimate of 3,400 mature individuals for the entire species.

There are likely to be many more Western Ringtail Possums in the overall population as the Regional Western Ringtail Possum estimate did not include surveys in all available habitat, and excludes possums around inland forest rivers, in urban and peri-urban areas or agricultural areas.

The results of the regional survey also address some of the information gaps identified in the Western Ringtail Possum Recovery Plan, and provide a useful framework to understand the trends in population abundance and distribution into the future.

A Collaborative Approach

The Western Ringtail Possum Regional Survey project represents a new benchmark in best practice for estimating the species population and demonstrates what is possible through genuine

collaboration between government, industry and environmental advocates.

To ensure the best outcomes, Main Roads consulted with or employed the services of:

- Department of Biodiversity, Conservation and Attractions;
- Western Ringtail Possum Recovery Team (includes researchers from the University of Western Australia, Edith Cowan University, representatives from the local community, South West Catchments Council, Forest Products Commission, Nature Conservation Margaret River Region and the Cities of Mandurah and Busselton);
- Biota Environmental Sciences (environmental consultancy specialising in biological surveying), and
- Analytical Edge (statistical consultancy).

Further information

To find out more about Main Roads' environmental practices and initiatives, visit our Environment page at mainroads.wa.gov.au

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