

**The fox DNA project** – using the genetic tools typically used in forensics to design more effective fox control.

*The Fox DNA Project is an Australia-wide study of the genetics of feral foxes. The project's goal is to improve our understanding of fox movement patterns, so that control operations can take them into account and be made more effective.*

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The feral fox is a major pest in Australia, costing \$227.5 million annually in stock and biodiversity losses as well as money spent trying to control them.

A long-standing goal of land managers is to find the most efficient and cost-effective way to control foxes. An important question is – at what scale should control take place so that controlled areas are not immediately re-invaded by foxes from surrounding regions?

A key to this is to determine how far foxes move. The problem is that measuring movement patterns in foxes is very difficult.

New DNA-based methods can provide excellent information on fox movements, while requiring much less effort than other techniques. They work by measuring how the relatedness of foxes decreases with their distance apart.

In this project we are attempting to generate a genetic map of foxes throughout Australia. It will allow us to identify precisely the relevant scale at which fox control should take place, region-by-region, Australia-wide. The use of such 'biologically meaningful' management units is similar in concept to catchment-based management for water resources, and similar "genetic mapping" projects conducted on feral pigs and feral rats have been highly effective.

It's an ambitious plan, and to be successful we are asking members of the public, sporting shooters, landcare groups, local councils, and government agencies to provide samples of foxes they shoot, trap, or find as roadkill.

To make it easy, we have developed some easy-to-use kits that fit into a small padded envelope, and which contain all the information and equipment required to take samples. They easily fit into a glove box or toolkit. Once a sample is taken, it is put into a reply paid envelope and sent for analysis at the University of Western Australia.

There is a website ([www.foxDNA.animals.uwa.edu.au](http://www.foxDNA.animals.uwa.edu.au)) where the results will be published as they become available – enabling participants to see how their samples have contributed to the overall project and to find out about the management implications of the results.

If you would like to contribute or to find out more, see [www.foxDNA.animals.uwa.edu.au](http://www.foxDNA.animals.uwa.edu.au), or call Dr Oliver Berry on freecall 1800 633

#### *Agencies supporting this research*

The Fox DNA Project is funded by the Invasive Animals Co-operative Research Centre and the National Feral Animal Control Program (Bureau of Rural Sciences).

The IA CRC is a government and industry funded enterprise that aims to counteract the impact of invasive animals through the development and application of new

technologies and by integrating approaches across agencies and jurisdictions. Other pest species of interest include carp, cane toads, wild dogs, rabbits, mice and many others (see [www.invasiveanimals.com.au](http://www.invasiveanimals.com.au)).

The Bureau of Rural Sciences (Department of Agriculture, Fisheries and Forestry) provides the scientific advice that delivers better decisions by Government and better outcomes for rural industries and communities.