

Fox DNA News

The Fox DNA Project, freecall 1800 633 097

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An update on the Fox DNA Project

Welcome to the second newsletter for the Fox DNA Project. The end of the project is almost in sight, with only the analysis of results left before completion.

The final count for samples collected is close to 3,600 and we would like to thank you sincerely for helping with this huge endeavor.

From our preliminary results we are optimistic that our goal of assisting

with the development of more effective fox management strategies will be possible.

During this project additional related projects have been investigated, including determining the numbers of foxes on Phillip Island (Victoria), and the origins of foxes in Tasmania.

You can read more about these projects further in this newsletter.

Once again we'd like to thank you for your interest in this pest control project with a difference. Without your support and assistance from about 1000 other participants it would not have been possible.

Please continue to check our website for updated results.

Cheers,

Oliver Berry,
& the Fox DNA team

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An adult male fox in good condition (despite the drought) near Pinaroo, South Australia (photo: Joe Tomkins)

This project is supported by:



Invasive Animals CRC



Australian Government
Bureau of Rural Sciences
Natural Heritage Trust



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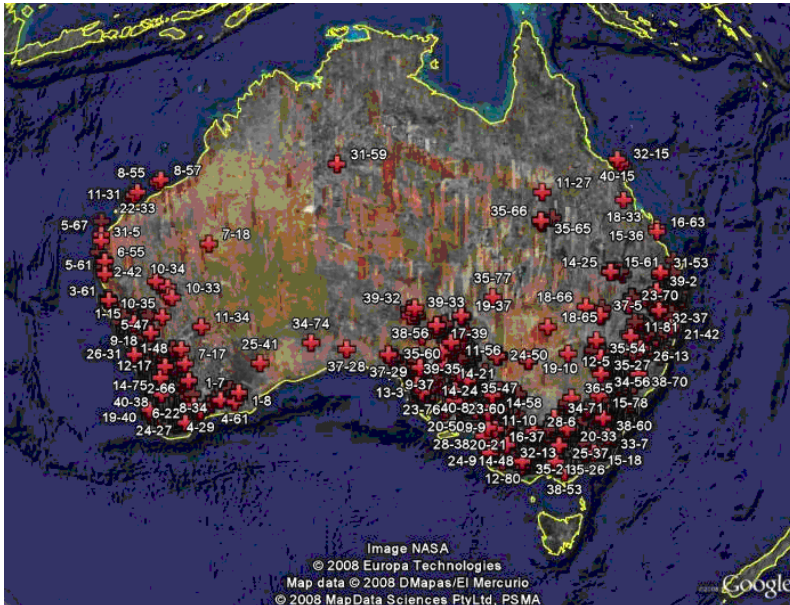


Figure 2: Google Earth image of all samples collected.

Find your sample on Google Earth!

All 3,600 samples have now been catalogued, had their DNA extracted, undergone the PCR process and genotyping and are now in analysis.

This unfortunately is a time consuming and complicated process, but while you await results, why not locate your sample using Google Earth (Figure 2).

By visiting the Fox DNA Project website www.foxDNA.animals.uwa.edu.au and selecting the "results" link, you can

download a small file that enables you to view the map seen in Figure 2. You can then use the Google Earth program to zoom in and around the landscape to locate your sample and see where fellow fox DNA collectors were working.

As you'll see, the coverage of samples has been excellent.

NB. Please let us know if you notice any location errors!

Additional Projects: Phillip Island

Thousands of people visit Phillip Island (south east of Melbourne) each day to view the famous Penguin Parade. In fact, it has been estimated that this tourist attraction has an annual revenue of approximately \$96 million!

Unfortunately foxes take a heavy toll on the fairy penguins. In the last century they reduced the number of penguin colonies from twelve to only one.

Fox control programs are currently under way on the island, but their success has been difficult to measure because foxes are so elusive – making it difficult to accurately estimate their numbers.

It also hasn't been clear whether the island fox population is isolated from the mainland or is

continually being "topped up" by immigrants.

Samples from culled foxes have been collected for the past fourteen years. These present a unique opportunity to look at genetic changes in the island's foxes through time.

Population genetic theory predicts that the smaller a population is, the more rapidly their genetic composition will change because they are more susceptible to chance fluctuations.

This phenomenon is known as genetic drift, and it provides us with an indirect way to estimate the number of foxes present on the island, and in doing so, to evaluate the effectiveness of control measures.



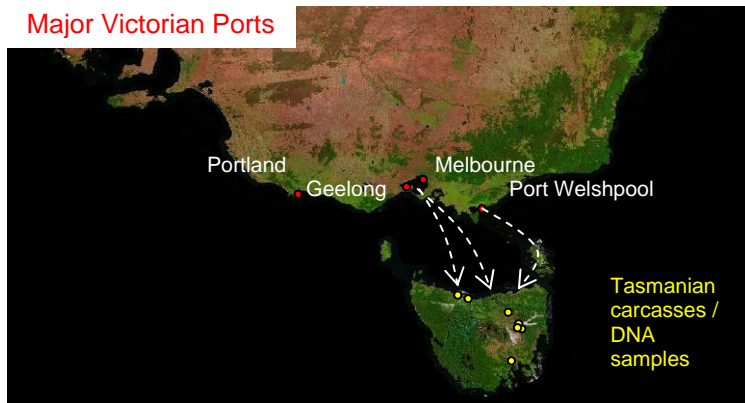
The dramatic coast of Phillip Island near "The Nobbies" (photo: Yvette Hitchen)

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Wildlife Forensics: The origins of Tasmania's foxes

Tasmania has, until recently, been fox-free. This has brought enormous economic and biodiversity benefits to the island.

However, this may be about to come to an end because a

handful of fox carcasses and over 1000 sightings have been made since 2001, suggesting that foxes are now resident in the Apple Isle.

We are working on

whether these incursions results from a single introduction followed by breeding, or multiple independent entries.

Whichever of these scenarios is true should influence how management of the incursion is handled.

Our analysis requires reference data from the mainland and we are making use of over 600 Victorian samples collected as part of the Fox DNA project.

Preliminary results suggest that at least some of the foxes did not enter from the Melbourne docks (i.e. accidentally onboard

freighters), and that more than one entry is likely to have occurred.

Watch this space as we continue to investigate this important problem.

Project supported by:



DPIWE Tasmania

Future Projects: Wild Dog DNA Project

Each year wild dogs cost the Australian economy approximately 66 million dollars.

A broadscale study of wild dog population structure and movement patterns is currently under way in Western Australia.

Like the Fox DNA Project, the wild dog study aims to determine how far dogs move in different parts of the state and to identify independent "management units".

The study will also map the distribution of pure dingoes and their hybrids, so that wildlife managers are better able to preserve the unique heritage of the dingo.

It is hoped that 3000 samples from Western Australia can be collected. This will be the most comprehensive study of wild dog populations ever conducted.

If you would like to assist in the Wild Dog DNA project a sampling kit can be requested from the website:

www.wilddogdna.animals.uwa.edu.au or contact the project coordinator, Danielle Stephens on carey01@student.uwa.edu.au or (08)6488 3425.



A wild dingo at home in the north-west Kimberley, WA. (photo: Rob Davis / Kimberley Land Council)