



European red fox (*Vulpes vulpes*)

Biology and Ecology: Although 3 colour morphs (red, silver or black and cross) are generally recognised worldwide, the red morph is most common in Australia. In general, throat and abdomen are white, lower legs and ears are black and a bushy tail is tipped in white. This animal exhibits a wide geographic and sub-species variation in size, as body length can range from 45 to 90cm, tail length from 30 to 55cm and body mass from 3 to 14kg¹.

Habitat: Foxes occur in a variety of habitat types, including arctic tundra, desert, temperate forests, boreal forests, meadows, grasslands, agricultural and urban environments. They attain their highest densities in human-dominated habitats. Foxes are not found in tropical climates.

“ In Australia red foxes are considered a pest animal, although they can be useful for sport hunting ”

In other regions of the world they are farmed commercially for their fur, a business that generates millions of dollars a year.

Nutrition: The red fox is predominantly carnivorous; an opportunistic predator on a variety of species (birds, reptiles, medium and small mammals), but also an effective scavenger, consuming carrion and rubbish, and a range of fruits, vegetables, eggs and insects when they are seasonally available.

Reproduction: Females are monoestrous with a 1-6 day oestrus cycle. In Australia, breeding occurs between June and October. Litter sizes range from 1 to 12, with average litter sizes being 3 to 6 pups. Litter sizes can increase with higher food availability and with age of females.



Lifecycle stages: Parturition occurs after a gestation of 51-53 days. Lactation lasts for approximately 5 weeks and weaning occurs gradually. Females can breed before one year of age, however, in areas of high density most yearlings do not produce pups. Red foxes can live up to 9 years, although few individuals live more than 6 years in the wild, with many not surviving beyond 2 years. Dispersal commences in late summer and continues through to the onset of breeding in winter (December to May in Australia). Males disperse further than females and dispersal distances tend to be related to habitat type, usually < 50km, with shorter dispersals (< 10km) in urban fox populations.

Biological & behavioural weaknesses: Red foxes have few natural predators in Australia, with most mortality occurring because of human activities or drought. Cubs can be vulnerable to birds of prey and dogs, and there is some evidence that local populations can be suppressed by predation from dingoes.

Original distribution: Native to Europe, Asia, North Africa and boreal regions of North America, the red fox has been introduced into Australia and temperate regions of North America. They are now the most widely distributed carnivore in the world.

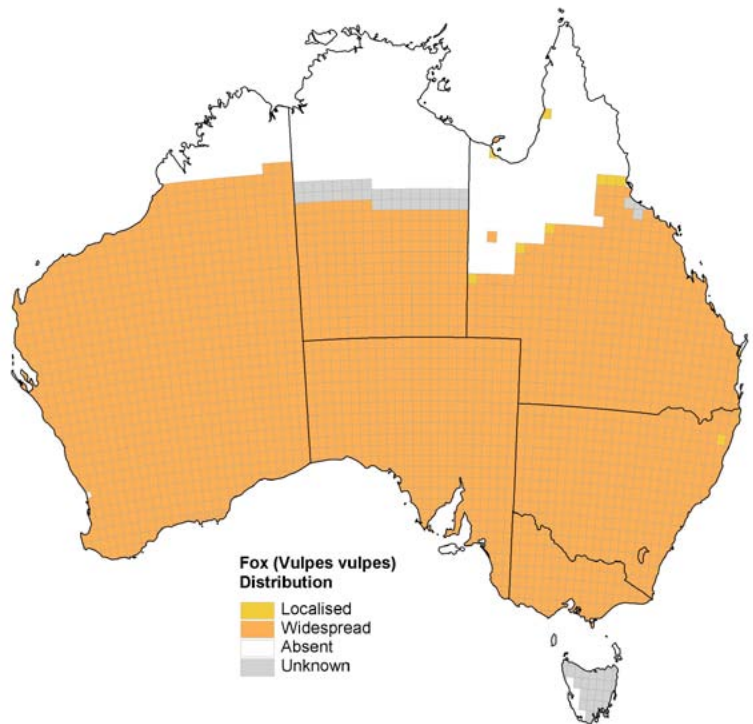
Current Australian distribution: Red foxes were introduced into Australia in the 1850s and have spread across 76% of the continent, except the far tropical north². The fox has recently been introduced to Tasmania.

Spread pathways: The colonisation of the red fox began in Victoria, and then spread north and west. Evidence suggests that the fox spread most rapidly across the inland saltbush and mallee country, and more slowly in the forested ranges near the coast. The rapid spread of foxes in Australia was linked to the spread of the European rabbit *Oryctolagus cuniculus*, and assisted by deliberate human introductions to new areas.

Economic Impacts: Red foxes pose a threat to livestock, as they prey on poultry, lambs and kids. The total annual cost of foxes to Australia's environment and economy is estimated to be \$227.5 million³. In high density areas they may also be a health risk to humans and pets, through transmission of diseases such as distemper, parvo virus and mange.

Environmental Impacts: Red foxes are a primary cause in the decline and extinction of many small and medium-sized rodent and marsupial species in Australia. They also prey on many bird species. Of the threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999*, foxes are considered a threat to 14 species of birds, 48 mammals, 12 reptiles and 2 amphibians⁴.

Social Impacts: The main social impacts of red foxes are not direct impacts, but rather flow out of the economic and environmental impacts. However, some direct social impacts can occur. Examples include psychological distress caused by fox predation on household pets, poultry and livestock, and trauma from vehicle accidents. The increasing diversity of rural land use and rural residents may also cause intra-community conflicts⁵.



References:

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