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By the mid-1950s the only known quokka colonies on the mainland were small ones confined to the densely vegetated swamps, on the western edge of the Darling Scarp, which afforded some protection from predators.

Pigs

The second feral animal whose impact on quokkas is likely to have been severe, is the wild pig. The arrival of the fox introduced a new and voracious predator to the quokka, but the pig became a direct competitor for its habitat. Pigs like swamps, and once a mob of wild pigs has rooted, wallowed, and trampled a swamp into a satisfactory condition, the place, as far as quokkas are concerned, is uninhabitable.

Fire

The last major factor in the quokkas' environment changed by the arrival of European society was, and still is, the frequency with which fire moves through the forest. Fire changes the structure and composition of vegetation in the forest, and this in turn affects animals dependent upon a specific habitat.

If an area of forest is burned too often, animals which prefer dense vegetation will disappear. If the forest is not burned, the smaller shrubs and scrub, which generally have a fairly short life span, die off, and will not return until a fire sweeps through and stimulates their seed to germinate.

The effect that fire has on fauna populations is currently the subject of much research, and the interrelationships have yet to be fully described.

Research

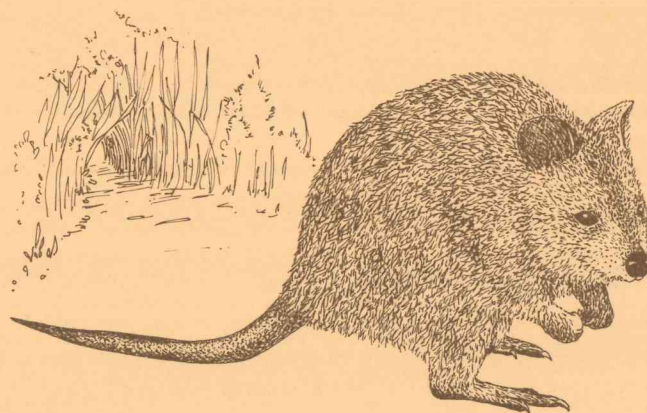
Research into quokka populations on the mainland recommenced in the early 1970s near

Dwellingup. At this time quokkas were regarded as extremely scarce, and those colonies identified, such as a small group near Byford, were thought in some circles to be below the critical population level needed for the long term survival of the species.

The furtive nature of the mainland quokka, and the impenetrability of their selected abode, made sightings extremely rare and no successful method of trapping them had been devised.

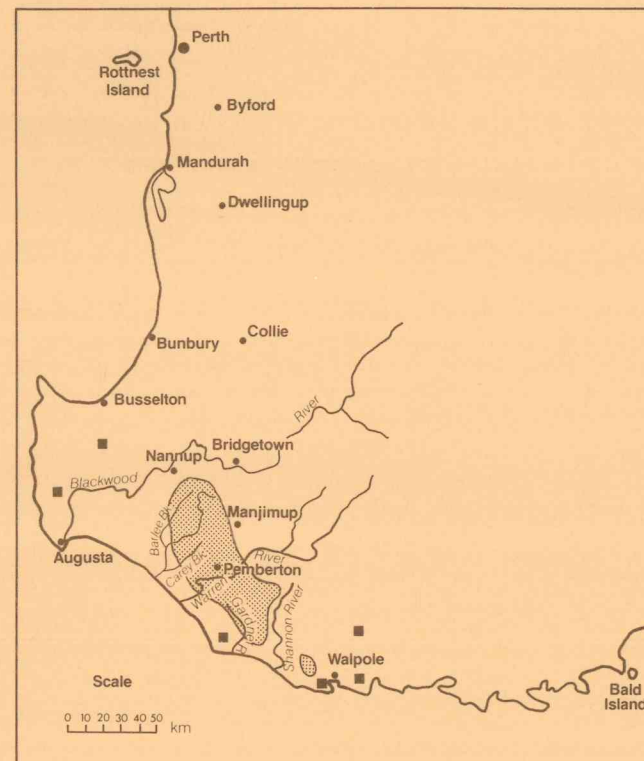
Once the trapping problem had been overcome, a population survey could commence in earnest, and it was discovered that colonies of quokkas were far more numerous and widespread than had previously been thought.

Studies are currently being conducted at Manjimup by the Research Branch of the Forests Department, and are designed to discover the habitat requirements and distribution of the mainland quokkas in that area. This information will be used in future Forest Management programmes to ensure the continued survival of the quokka on the mainland of Western Australia.



Where to see a Quokka

The nature of the quokka, and its chosen habitat, makes sighting and photographing them in the wild extremely difficult. There are confirmed colonies of quokkas, currently under observation, in much of the State forest between Manjimup and Pemberton. However, the best place to spot a quokka is Rottnest Island, where many are tame enough to be fed by hand.



■ Distribution of Quokkas in the High Rainfall Forest of the South-West

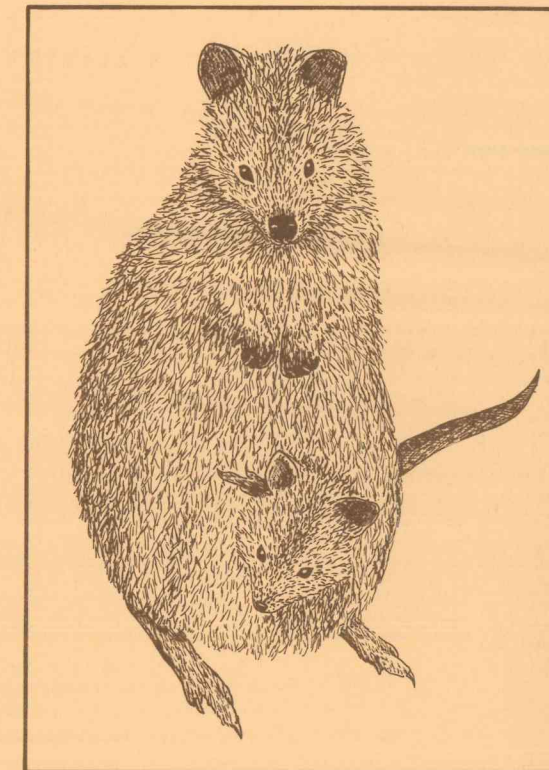
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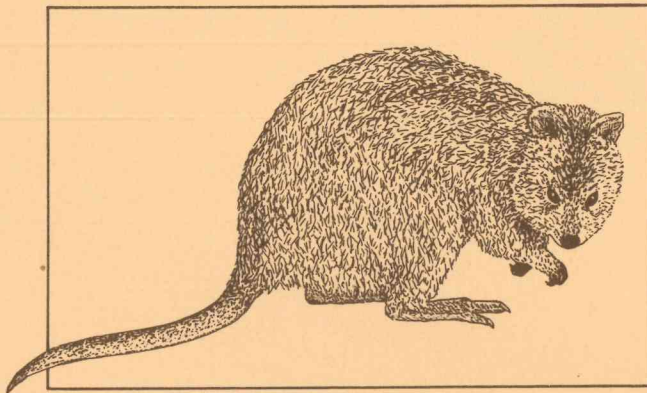


Fauna Series



Quokkas in the Southern Forests

Forests Department of Western Australia



Quokkas in the Southern Forests

Introduction

Many people associate the quokka (*Setonix brachyurus*) solely with Rottneest Island.

It was there that the Dutch sea-captain Samuel Volckersen first recorded the animal in 1658, describing it as “a wild cat, resembling a civet cat, but with browner hair”, and thus making it the second species of kangaroo to be definitely recorded in Australia.

William de Vlaming, another Captain of the Dutch East India Company, whose trading empire monopolised the spice trade with Indonesia for over a century, landed on Rottneest in 1696, in search of a lost trading vessel. He and his crew mistook the quokka for an over-sized species of rat, and gave the island the name it still has today—“Rat’s nest”.

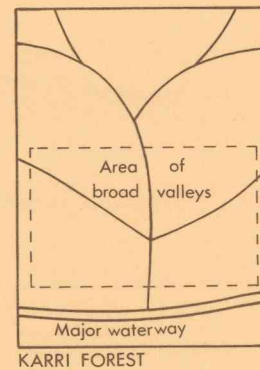
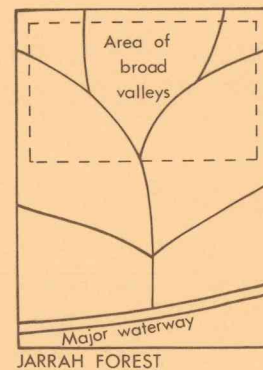
Quokkas were present on the mainland at the time of the first white settlement, and were apparently numerous. An indication of their distribution at the time comes from the diaries of John Gilbert, who often acted as a specimen collector, during his travels, for the naturalist Gould.

Gilbert wrote “[The quokka] . . . is abundant in all the swampy tracts and thickets that skirt the south-west coast, where they are destroyed in great numbers by the natives who fire the bush, then spear the escaping wallabies.”

Ecology

The quokka is a small wallaby of the Pademelon family, with a short tapering tail, short foot, small rounded ears, and a reddish-brown shaggy coat, which becomes paler on the underbelly.

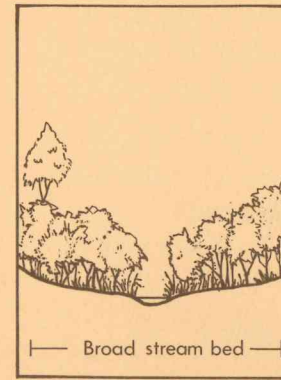
On the mainland quokkas are extremely shy and far more wary than their island cousins. They occur in small colonies, usually consisting of no more than one or two dozen individuals, and form their runs in areas of dense vegetation, often near streams and gullies. The quokkas favour stream valleys, with broad, flat beds which allow the dense protective layer of vegetation they require.



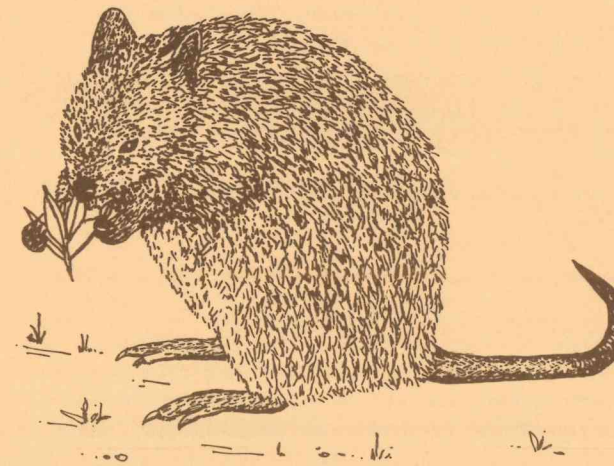
In the jarrah forest, colonies of quokkas generally seek cover in the dense ti-tree thickets, in the upper reaches of the stream systems, and in the swamps on the western side of the Darling Range.

In the karri forest, broad valleys, found in the lower reaches of the stream systems, near the major waterway into which the streams drain are their preferred abode.

Quokkas are also common in the dense coastal scrub and swampy flats of the south-west coast.



Radio-tracking by Forests Department research workers has shown that the quokkas spend most of their daylight hours in the safety of the dense creek vegetation. At dusk they start to become active, and many leave the confines of their runs, and move up onto the adjacent ridges in search of food.



History

During the latter half of the nineteenth century, the European settlers in Western Australia began to spread out, clearing land for agriculture, timber, and towns, and bringing with them a variety of domestic animals.

Hunting quokkas on weekends became a popular pastime which continued into the 1930s. The hunters would send small dogs into the swamps where quokkas lived, and wait at the entrance to their runs with a club or gun. As the quokkas were flushed from their hiding places, they would be despatched for dog meat, or for the sheer sport of the thing.

Then, sometime during the 1930s, and for no obvious reason, the quokkas virtually disappeared from the mainland. Only on the two island sanctuaries, Rottneest and Bald Island, were large quokka populations still known to exist.

The reasons for this population crash, which occurred amongst many species of native animals on the mainland at the time, are still not fully understood, but several factors have been identified which may, in some measure, have contributed towards it.

Foxes

The first event which has severe implications for the long term survival of the mainland quokka, was the appearance and spread of feral animals.

The European fox (*Vulpes vulpes*) introduced to the eastern states as quarry for the hunt meetings of the landed gentry, sometime during the 1870s, began to follow the exploding rabbit population across Australia. The first foxes started to appear in W.A. between 1912 and 1920. By 1934 they had penetrated the south-west forest and coastal regions, and by the mid-1940s were established in the east and north Kimberleys. There is little doubt that a substantial portion of their diet consisted of small native animals, when these were available.