

Rabbit Eradication on Islands off the W.A. Coast

by Clifford Young

Mistaken Island

A rabbit eradication programme being carried out jointly by the Agriculture Protection Board and the Department of Fisheries and Wildlife on islands off the Western Australian coast is proving very successful.

Seven islands which previously had heavy infestations of rabbits have now been cleared of the pests with the result that the islands' natural vegetation and wildlife is regaining a foothold.

Many of Western Australia's offshore islands are important breeding sites for seabirds and marine mammals such as seals. In some cases the islands harbour species of animals which have been long extinct on mainland Australia. Much of the vegetation is also often unique and, as with the animals, exists in a delicate balance with the environment in its fight for survival.

The presence of rabbits on these islands endangers the existence of all other animals and the islands vegetation. The rabbits burrow into the thin soil cover or take over existing burrows made by nesting seabirds. They denude large areas of vegetation leaving the islands open to wind and soil erosion. This also means less cover and feed for the islands natural inhabitants.

Rabbits were originally introduced to some of the islands off the coast by fishermen and seafarers as a food source. The rabbits subsequently proliferated to the detriment of the native animal and birdlife.

Early attempts to control the rabbits using myxomatosis failed as the animals showed strong resistance to the disease, probably through the introduction of animals from the mainland which had already built up

an immunity from previous exposure to the virus.

Further attempts to eradicate the rabbits were carried out using bait mixed with 1080 poison (sodium monofluoroacetate).

To ensure its success, pre-baiting over a period of several days was generally carried out before adding the poison, and the programmes were carried out in late summer when natural food on the islands was low.

Before deciding on the use of 1080 poison to rid the islands of rabbits, extensive tests were carried out to ensure the bait used would not be eaten by other fauna. The tests showed that few if any other birds or animals found on the islands ate carrots except the rabbits and some introduced species of rats (*Rattus rattus*). Carrots, chopped into small pieces, were therefore used as the predominant bait.

To guard against secondary poisoning, field staff visited each island immediately following the poisoning programme to find and remove the rabbit carcasses. Any remaining carrots were also destroyed.

Among the islands on which the 1080 baiting programme has proved successful are the Green Islets located between Lancelin and Jurien Bay, Morley, Wooded and Leo islands in the Houtman Abrolhos Group, Carnac Island off Fremantle and Mistaken Island near Albany.

Carnac Island, which lies five nautical miles south-west of the Port of Fremantle and covers an area of 16 hectares, was the first island to be treated under the poisoning programme. Rabbits were originally introduced to Carnac Island by early American and/or French whalers some time before 1827 as a source of food. Their presence on the island was noted by Charles Frazer, a colonial botanist, who visited Carnac in 1827 and reported "an abundance



▲ A rabbit warren on South Island of the Green Islets Group showing area around it completely cleared of vegetation through browsing.



▲ Aerial photograph of Carnac Island in April 1969, shortly after poisoning programme against island's rabbits. Note large areas of bare earth where vegetation has been devastated by rabbits, particularly along beachline. (Photo courtesy Agriculture Protection Board)

▼ Aerial photograph of Carnac island in May 1971, two years after the island's rabbits were eradicated. Compared with earlier photograph, much of the island's vegetation has regrown and is thicker over the whole area. (Photo courtesy Agriculture Protection Board)





▲ Wooded Island in the Houtman Abrolhos is an important nesting site for many seabirds which are largely dependant on the island's vegetation. This island was treated against rabbits in 1973. Vegetation on Wooded Island is now lush and among the birds found, there is the Lesser Noddy (below right) and the Bridled Tern (insert) (Photos — C. Young)

of hares, seals and mutton birds" on the island.

Far from being considered a pest by the early colonists, the rabbits were viewed as a valuable asset as shown by the publication of a warning in the *Perth Gazette* of 1842 which stated rabbits were not to be shot or removed from the island without the permission of the Fremantle Harbour Master.

However, rabbit numbers on Carnac declined between the turn of the century and the 1950s and it was not until 1965 that serious attempts at controlling their numbers were undertaken. In July of that year, trials to determine the bait preference of Carnac's rabbits and to select a bait material which would not affect the island's native fauna were begun.

In 1969 the erosion problem caused by partial denudation of the island by rabbit grazing had reached serious proportions and a programme of complete eradication rather than control was decided

upon. In May 1969 pre-baiting was carried out which involved laying large quantities of unpoisoned carrots over the island on three separate days to ensure all the island's rabbits were feeding on the material.

Poisoned carrots were then laid and the island inspected the following day. More than 60 carcasses were picked up and a further inspection of the island in June the same year failed to show any evidence of live rabbits.

By the end of 1969, low-level aerial photographs of the island showed much of its vegetation had begun to recover.

The news was welcomed by naturalists as Carnac Island is an important seabird refuge and nesting site. Thirty-three species of birds have been recorded on the island of which at least eight species breed there. The island is also noteworthy as the only area of overlap between the breeding ranges of the Little Penguin (*Eudyptula minor*) and the

Wedge-tailed Shearwater (*Puffinus pacificus*).

Carnac also contains the greatest concentration of Tiger snakes (*Notechis ater occidentalis*) in Western Australia, and is internationally important as a source of venom for scientific research.

▼ Lesser Noddys on Wooded Island.





▲ A field officer laying a pre-feed bait trail on South Island, Green Islets Group.



▲ Mistaken Island's rabbit population resisted several attempts to eradicate them using poisoned carrots but the last rabbit was finally killed in March last year. (Photo courtesy Agriculture Protection Board)

Following the successful elimination of rabbits from Carnac Island, similar procedures were used on Morley and Wooded Islands in the Houtman Abrolhos Group in February 1973, North and South Islands of the Green Islets Group in May 1974, Leo Island, also in the Abrolhos Group, in May 1976, and Mistaken Island off Albany in March last year.

Although the combined efforts of the Departments of Fisheries and Wildlife and the Agriculture Protection Board have eliminated the rabbits from those islands, it hasn't always been easy.

The last island to be treated, Mistaken Island, resisted three attempts to poison all its rabbits before success was eventually achieved early last year. The first major attempt to kill the rabbits was carried out in May 1977 when poisoned carrots were laid over the island. Although many rabbits were found dead after the programme, along with several of the introduced species of rat (*Rattus rattus*), an inspection of the island later that year showed numerous signs of

rabbits still in occupation.

In March 1978 the island's rabbit population was estimated at more than 200 and a second poisoning programme using 20 kilograms of chopped carrot pieces mixed with 1080 was carried out. Many rabbits were killed but again enough survived to repopulate the island.

A third attempt the following year was equally unsuccessful.

A fourth and final programme was launched against the rabbits in February 1980. This included pre-feeding a total of 300 kilograms of unpoisoned carrot pieces over five nights before a further 180 kilograms of poisoned carrots were laid over the island on the first of March.

An inspection the next day showed 60 percent of the bait had been eaten and numerous rabbits were found dead. Another inspection one month later could find no signs of rabbits living on the island and it was reported that there had been a dramatic change in the vegetation. Areas of moss which were formerly devastated were now growing untouched and no new ring-barking of trees was observed.

However, the full success of the February programme was not evident until December last year when a further inspection of the island was carried out. The island's vegetation was well on the way to full recovery, many previously bare patches of sand were covered with new growth and there were no fresh signs of rabbits.

Although during the inspection the only seabirds seen on the island were Little Penguins (*Eudyptula minor*), it is hoped that other species previously recorded breeding on the island, including Fleshy-footed Shearwaters (*Puffinus carneipes*), Great-winged Petrels (*Pterodroma macroptera*) and White-faced Storm Petrels (*Oceanites marinus*) will return to the island as the environment continues to recover.

The Department of Fisheries and Wildlife is now investigating other offshore islands to determine if any further rabbit problems exist in which case similar eradication measures may be considered.