REPORT: FERAL PIG SURVEY AND BAITING EXERCISE ON SUNDAY ISLAND 1989

By

GREG CAMPBELL (Technical Officer)

INTRODUCTION

A population of feral pigs survives on Sunday Island in the Buccaneer Archipelago. Banana plants and mango trees also thrive at the island's abandoned mission settlement. Increases in illegal visits by Asian fishermen, combined with the traditional visits to the island by local aboriginals, present a risk of exotic disease introduction.

The visit to the island by a team of APB and Department of Agriculture staff was funded by the National Australian Quarantine Strategy (NAQS). The APB team was to survey the island to assess the distribution and density of the feral pig population and attempt its eradication by baiting with compound 1080. The NAQS had requested that a veterinary officer be present to obtain samples at autopsy for subsequent disease testing. A plant pathologist and an entomologist were to examine and sample the old mission garden area for fruit parasites and diseases.

FERAL PIGS

Background

APB protection branch staff from Derby had visited the island late in 1988 and conducted a ground survey of the western half of the island. There was no surface water at that time but the moist alluvial soil in the old settlement gardens was found to be much disturbed by pigs and was thought to be the main centre of activity. Since the pig activity was associated with the banana patch bananas were considered to be a possible free feed material for a pig baiting exercise.

Derby APB staff contacted the research section to discuss the feasibility of 1080 baiting and the problems that might be involved in using bananas as a bait material. The research section accordingly developed a means of administering compound 1080 to bananas (Appendix) and also consulted experts at the W.A. Museum to assess possible risks to non-target fauna (Appendix).

The Exercise

Access to the island was by helicopter (Hughes 300) and the first visit was made on Monday 8th May. The island was searched at low altitude (5-20m) with two observers looking for pigs, tracks, pads, wallows and pools of fresh water. Following significant rain (200mm) in April, fresh water was widely available in small rocky pools and seepages at the bases of sandstone scree slopes, particularly through the central and south-western parts of the island. In the more fertile areas a thick cover of tall grasses (*Sorghum* and *Heteropogon*) made the search for tracks difficult.

The majority of fresh tracks found were in the old garden area and in the adjacent *Pandanus* and mangroves. Free feed of bananas and apples was put out at 7 sites in this area and wheat at one site. The free feed was positioned beneath trees and vine thickets to reduce scavenging by birds (Appendix). Over the next three days the feed was checked daily and the island further searched by air and on foot to identify all areas of pig activity and to attempt an assessment of pig numbers.

Results

Recent pig activity (less than 1 month old) was restricted to the old settlement, Waterfly Creek and the coastal areas in between. Tracks of 2 or 3 pigs were also seen in mangrove mud in a creek at the north-western end of the island but their age was difficult to determine.

Only 2 pigs were seen. One was a large boar found close to a feed site although no feed was taken. Another large boar was sighted, shot from the helicopter and autopsied by the veterinary officer.

Tracks and digging indicated the pig population to be living as individuals or in small groups of 2 or 3. All tracks appeared to be of adult pigs. The extent of current activity and amount of sign suggest a maximum population of around 15 animals.

The late extension to the wet season and the resulting profuse plant growth provided good conditions for pigs and both pigs seen were in excellent body condition.

A major focus of pig activity during this visit was the wild passionfruit (*Passiflora* sp.). This vine, itself an introduced species, appears to be a seasonal dietary staple Pig droppings collected were almost entirely composed of passionfruit seeds and skins, as were the stomach contents and faeces of the animal which was shot Droppings older

than one month contained many small seeds (yet to be identified). Digging by pigs was found in the soil of the old garden site, lower slopes of sandstone ridges and in mangrove mud adjacent to the prop roots of the *Rhizophora* sp. It was not clear what food items were being taken. As on Sir Graham Moore Island (Ryan, G. 1986 and APB Report 1988) the pigs appear to rely largely on plant material.

The dense mangrove thickets and the crevices of the large sandstone boulders along some ridge slopes would provide ample shelter from high summer temperatures.

Observations and Discussion

The eastern half of Sunday Island and East Sunday Island consist of exposed rugged sandstones and steep bare coastal slopes, unfavourable habitat for feral pigs. Pig sign was not found in these areas. Recent activity was restricted to the south-western corner of Sunday Island. Old pig diggings were found along the more fertile areas of the valleys on the western portion of the island (see Map) indicating that some movement does occur. Although feral pig distribution appeared restricted, the population was not concentrated and no evidence of large groups was found.

At this time the abundance of natural food (passionfruit) may have made our free feed (bananas, apples, wheat) unattractive to the pig population. No birds were observed to visit the free feed sites although several bananas were gnawed by rats. The size of the tooth marks indicated the black rat (*Rattus rattus*). The precaution of burying the free feed once feeding had established (Appendix) would still seem to be valid.

This exercise, together with the attempted baiting on Sir Graham Moore Island (APB Report), indicate that 1080 baiting is not an effective control technique where time is limited and pig populations are small and sparse. Wild food is abundant and significant time would need to be spent on free feeding if pigs are to eventually accept free feed and bait materials.

At this time of year the pigs on Sunday Island were present as a scattered population in a limited area; hunting with dogs would be the next obvious choice as a control/ eradication measure.

APPENDIX

1080 Administration

Prior to the Sunday Island trip I investigated the problem of administering 1080 to bananas. Bananas at various stages of ripeness were injected with water. It proved impossible to inject 5.0 ml of solution without splitting the skin and allowing the solution to leak away Using a syringe with a long needle it was possible to deliver 1.0 ml safely.

The 1080 solution that would have been used in the field contains 200 mg 1080/ml. A total dose of about 10 mg/kg should be lethal (P. O'Brien 1988) so a 40 kg pig would need to eat 2 bananas to be killed. Risks to non-target species would be considerable.

Non-target Fauna

Museum records indicated that only two species of ground living small mammals were known on the island. The introduced black rat *Rattus rattus* and the native grassland rat *Melomys burtoni*. The smaller grassland rat has a diet of insects, grass stems and seeds and is considered unlikely to feed on large fruits. It is however very sensitive to 1080 (McIlroy 1982) and to minimize the exposure of this and other non-target species to the bait, the bait should be buried. Free feeding by feral pigs would need to be encouraged by first placing bait above ground and then burying it once free-feeding began. Pigs will readily dig up buried bait and so the baiting success should not be affected by this action.

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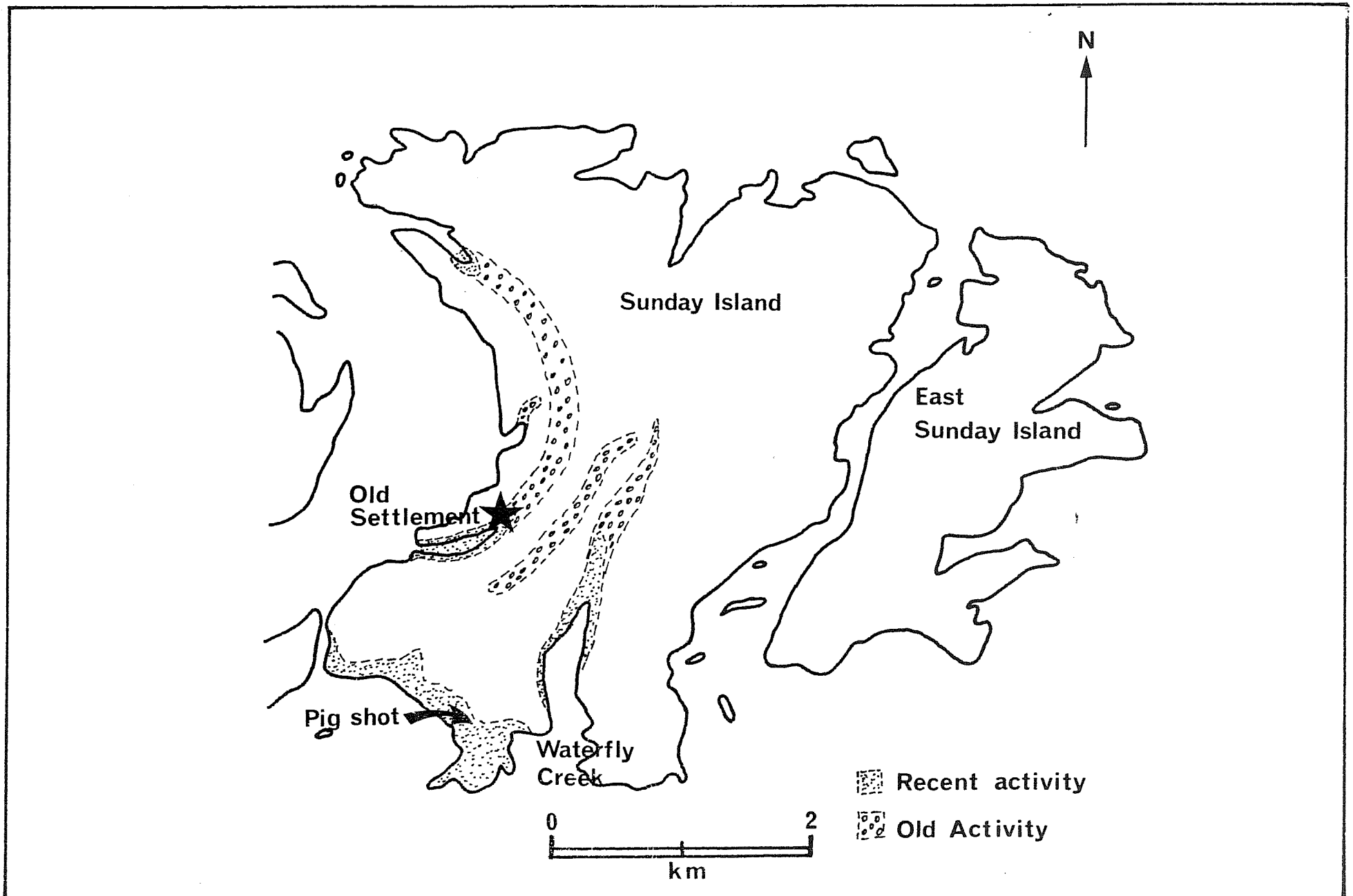
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