

REPORT ON A VISIT TO THE MONTEBELLO ISLANDS, AUGUST 1995

INTRODUCTION

Personnel were:

Pilbara Region	Peter Kendrick, Regional Ecologist
	Fran Stanley, Reserve Management Officer, Islands
Science & Information Division	David Algar, Research Scientist
	Phil Fuller, Senior Technical Officer
Engineering Branch	Steve Grenfell, Mechanical Supervisor
WATSCU / SID	Andrew Burbidge, Director WATSCU

The visit took place from 14 to 25 August 1995. Phil Fuller, Steve Grenfell and Andrew Burbidge flew by WAPET charter to Barrow Island on Monday 14 August and then to Varanus Island and onto Hermite Island the same day in an Apache Energy Bell 206 Jet Ranger. Peter Kendrick, Fran Stanley and David Algar flew by Apache Sikorsky 76 from Karratha to Varanus and then to Hermite by Bell 206. David Algar returned to Karratha via Varanus on Saturday 19 August, Peter Kendrick and Fran Stanley returned to Karratha via Varanus on Wednesday 23 August, and Phil Fuller, Steve Grenfell and Andrew Burbidge returned to Perth via Barrow Island Friday 25 August.

The aims of the visit were:

1. To test techniques for the eradication of Black Rats (*Rattus rattus*) on un-named island to the east of Stephenson Channel and north of Hermite Island (here termed East Hermite Island) which has an area of 58.2 ha, using newly designed rat bait stations and granulated Talon rat poison (ICI Chemicals). Black Rats occur on almost every island in the archipelago.
2. To develop a prescription for the eradication of Feral Cats (*Felis catus*) from those islands on which it occurs, and to check the distribution of cats in the archipelago.
3. To plan the logistics of a complete eradication of rats and cats in 1996.

RAT ERADICATION, EAST HERMITE

Rat bait stations (bright red ACI bottle Y23 3107 W.A. with cap fitted and two x 43 mm holes cut towards the top of each side) were laid on a 50 m grid on East Hermite Island. When located on sand, two 3 mm diameter wires (390 mm long with a 80 mm return hook) were used to pin the bottle to the ground using the rat entrance holes as fixing points. When placed on limestone rock, Selleys "All Clear" was applied to the base of the station to glue it to a relatively flat rock.

Four staff (Peter, Fran, Steve, Andrew) laid about half the bait stations on the afternoon of 15 August. The remainder were laid and 200 g Talon (one cup) placed in all stations on the morning of 16 August. All bait stations were checked and re-baited as necessary on the morning of 19 August and again on the morning of 22 August.

At discussions held during and after the job was complete, the following procedures were developed for the eradication in 1996.

1. Four people to lay stations; all must have compass, 30 bottles, 'All-Clear' tube and dispenser, spare tube of 'All-Clear', wire stakes, flagging tape, drinking water. Group leader and at least one other to have knife.
2. Group leader to indicate start point for each person at 50 m intervals along side of island before stations are laid; each person to carry different coloured flagging tape and mark beginning and end of each transect. First station at each side of island must be clearly visible from just above high tide level.
3. Four people to walk abreast across island, re-form and walk abreast back again—no one is to go off on their own. Put most experienced person at the rear end of the four; group leader to be at the leading end. Each of the four should have a different colour flagging tape and the colours should be in the same order for the length of a given island to assist in locating transects.
4. Bait stations must be laid on both sides of island near high water mark; if more than 10 to 15 m to go to HWM or cliff edge then add another station. Try to put station on flat ground. If on slope, then sides with holes must be parallel with slope (ie, handle upwards).
5. In areas with high vegetation, add a piece of flagging tape (in correct colour) to vegetation near bait station.
6. When re-baiting, add one and a half cups (300 g) to stations when all or almost all bait consumed.

Based on observations of tracks, rats were judged to be fairly abundant on East Hermite, especially in areas of white sand with *Spinifex longifolius*, at the time the baiting operation commenced. On the first re-bait day, about 10% of stations had the Talon bait totally consumed and a further 50 to 60% required some re-filling. On the second re-bait day, no bait stations were empty and very few required topping up. Fresh rat tracks were still common on the first re-bait day, but were almost absent on the second.

The only significant problem observed was that rats enlarged the holes in some bait stations. This was overcome by replacing those stations on the second re-bait day—approximately 10% of bait stations had to be replaced. ACI will be approached to see if they can suggest a solution.

An Osprey nest on East Hermite Island contained three young birds (one larger than the other two) at the time of baiting. During re-baiting we noted that the two smaller chicks had died. The nest was inspected again on 24 August and the remaining chick appeared strong and healthy. We were concerned that the chicks may have died from secondary poisoning; however, there is no evidence to support this. Ospreys almost always fail to raise one or two chicks when three chicks are hatched—one or two of the smaller chicks do not survive. The literature and our own observations suggest that Ospreys eat fish, not land vertebrates. Inspection of the nest on East Hermite revealed only fish remains, not rats. Rat baiting on Barrow Island apparently lead to secondary poisoning deaths of Brahminny Kites. This species occurs in the Montebellos in low numbers and similar secondary poisoning can not be ruled out. Other raptors present at the Montebellos include Australian Kestrels, Black-shouldered Kites and White-bellied Sea-Eagles. Breeding of these species occurs at any time during the cooler months and it would not be possible to program Montebello Renewal to completely avoid breeding.

Laying and baiting the approximately 210 bait stations on East Hermite took four people about six hours; this included carrying bottles, bait and other gear from the Zodiac. Had dumps been present the job would have taken less time, probably about

four to five hours. Re-baiting took four people two and a half to three hours; on these days a fifth person was available to run the Zodiac along the island and resupply the workers.

It is planned that Peter Kendrick will return to East Hermite during late September to check for rat sign.

FERAL CATS

David Algar and Phil Fuller set cyanide lines for three nights on the southern part of Hermite Island in an attempt to establish cat density and look at the types of prey being consumed. No cats were killed. Feral cat eradication procedures will be the subject of a separate report by David Algar.

Andrew, David and Fran inspected Trimouille and North West Islands on Friday 19 August. No cat tracks were seen. On Monday 21 August, Peter, Fran, Phil and Andrew inspected North West, Primrose, Bluebell, Alpha, Crocus, Campbell and Delta Islands. No cat tracks were observed. These observations are consistent with those of the visit that took place in May-June 1995, except for the lack of cat sign on Trimouille Island. If cats are now absent on Trimouille, eradication need be carried out on only one island—the 1021.8 ha Hermite. However, searching for cat tracks at Trimouille and other larger islands will be necessary again in 1996—this can be carried out while rat baiting operations are in progress.

A problem arose concerning the carrying of cyanide on helicopters operated by Helicopter Resources for Apache Energy. On arrival at Karratha airport, David Algar advised Wormald Security staff, who were checking all baggage for transport to Varanus, that he was carrying a small amount of liquid sodium cyanide, made up in wax capsules. Wormald Security staff allowed it onto the S76 helicopter. At Varanus Island, the Bell 206 pilot also queried the presence of the cyanide, but after establishing that only a small quantity was present made no further comment.

Two days later, Pilbara Regional Manager Chris Muller advised us that the Sikorsky S76 pilot had complained about the cyanide, stating that it should not have been carried aboard helicopters. Chris Muller advised us that he had been in contact with Apache Energy and other organisations to discuss the issue. Andrew Burbidge also spoke to Apache Island Field Supervisor Ivor Alexander and explained the routine training and safety procedures that CALM has established for cyanide use. We were advised by Apache that all chemicals to be carried in future should be declared well in advance of a flight.

LOGISTICS FOR OPERATION "MONTEBELLO RENEWAL"

Steve Grenfell and all other people present contributed towards a list of jobs that need to be carried out to raise the facilities at the CALM "Hurricane Hill" hut on Hermite Island to a standard necessary for its continual occupation by around nine people for three to four months. Of particular importance are the provision of a reliable diesel 240 volt generator (the existing petrol generator can be used as a back up only), the installation of a Reverse Osmosis plant for fresh water supply, the erection of canvas screening on the verandah to provide protection from the frequent strong winds, the erection of additional shelving for storage in the hut, and the installation of reliable communications (CALM VHF link to the

Karratha Regional Office, plus marine VHF with seaphone, plus a mobile telephone with remote antenna).

A list of materials and equipment needed for the operation was also prepared. Both these lists will be used in the re-calculation of the amount of money needed to complete the job. A long list of jobs that require attention between now and May 1996 was also prepared. Clarification of Steve Grenfell's future within CALM and his availability for 'Montebello Renewal' is required.

ACKNOWLEDGEMENTS

This visit could not have taken place without the logistic support of Apache Energy and WAPET. We are most grateful for their help.

Andrew Burbidge, Peter Kendrick, Fran Stanley

August 1995

TO DO LIST, AUG 95

1. Talk to Apache about
 - (a) crew changes via Barrow + Karratha
 - (b) fresh food supply
 - (c) sharing a jet ranger for our work
 - (d) emergency medevac and cyclone evacuation plans
 - (e) emergency repairs to equipment - generators, RO plant, outboards, etc.
2. Talk to WAPET about
 - (a) crew changes ex Perth
 - (b) barge
 - ~~(c) barging *Pseudorca* Onslow to Barrow~~
 - (d) emergency medevac and cyclone evacuation plans
3. Talk to Customs about
 - (a) transport of equipment from Dampier
 - (b) towing *Pseudorca*
4. Talk to Dave Mell about
 - (a) costs of transport of *Pseudorca* by road to Onslow or Dampier
 - (b) No. of crew and costs
 - (c) no of people licensed to carry (710) & no. of life jackets, can Allan Shields drive?
5. Recalculate dump positions from grid over air photos, recalculate flying time to place dumps including trips to pick up excess gear from islands that are finished.
6. Work out food requirements for total operation
- ~~7. Talk to Don Kratzing of Ampolex re possibility of help.~~
8. Seek sponsorship from Sellys for "All clear" Universal co-polymer sealant (250 tubes) (work out number needed, say used 4 tubes for 225 bait stations on East Hermite, total bait stations = 12000, = 53 times larger area, $53 \times 4 = 212$).
Selleys Chemical Co. Pty. Ltd,
1 Gow St, Padstowe, NSW 2211
9. *Can we put seaphone antenna or mobile telephone antenna up mast?*
10. Work out grid walking directions for each island.
- ~~11. Invent Operation name, eg "Operation Monte", "Operation Recovery", "Operation Renewal",
"Montebello Renewal"~~
12. Photocopy 2 sets air photos so we have field copies and copies for *Pseudorca*; put dump sites on them, plus angle of transect and seal. ?laminare photos/copies (Karratha College library?)
13. Get written clearance re radiation hazards on Trimouille and Alpha for volunteers.
14. Get written statement re use of Talon by people over three weeks. (Poisons information Centre + ICI)
15. Ask ACI what other colours available ? fluorescent pink. Ask ACI re stronger rat proof plastic. Ask ACI about highr holes.
- ~~16. Write to John re availability of Steve Grenfell for 1996.~~
17. ? get Geoff Kregor for two weeks at start to help with setting up hut and equipment.
18. Calculate overtime involved.
19. Work out staff schedules and availability, check with Chris Muller re Pilbara region staff commitments to Montebellos work.
20. Talk to Chris Muller re availability of staff and overtime/time-in-lieu.
21. Look into dust masks.
22. Write contingency plan for cyclone during following summer (eg, put staff on islands with shovels to bury spilled bait).
23. Ask ICI about dust reduction with Talon.
- ✓ 24. Check with Communications Branch re seaphone and/or mobile telephone with remote antenna.