MONTEBELLO ISLANDS - RAT ERADICATION AERIAL POISONING OPERATION, OCTOBER 1999

MOSAIC G2 NUCLEAR TEST 1952 MONTEBELLO ISLANDS

DEPARTMENT OF CONSERVATION AND LAND MANAGMENT, WESTERN AUSTRALIA

DEPARTMENT OF CONSERVATION , NEW ZEALAND

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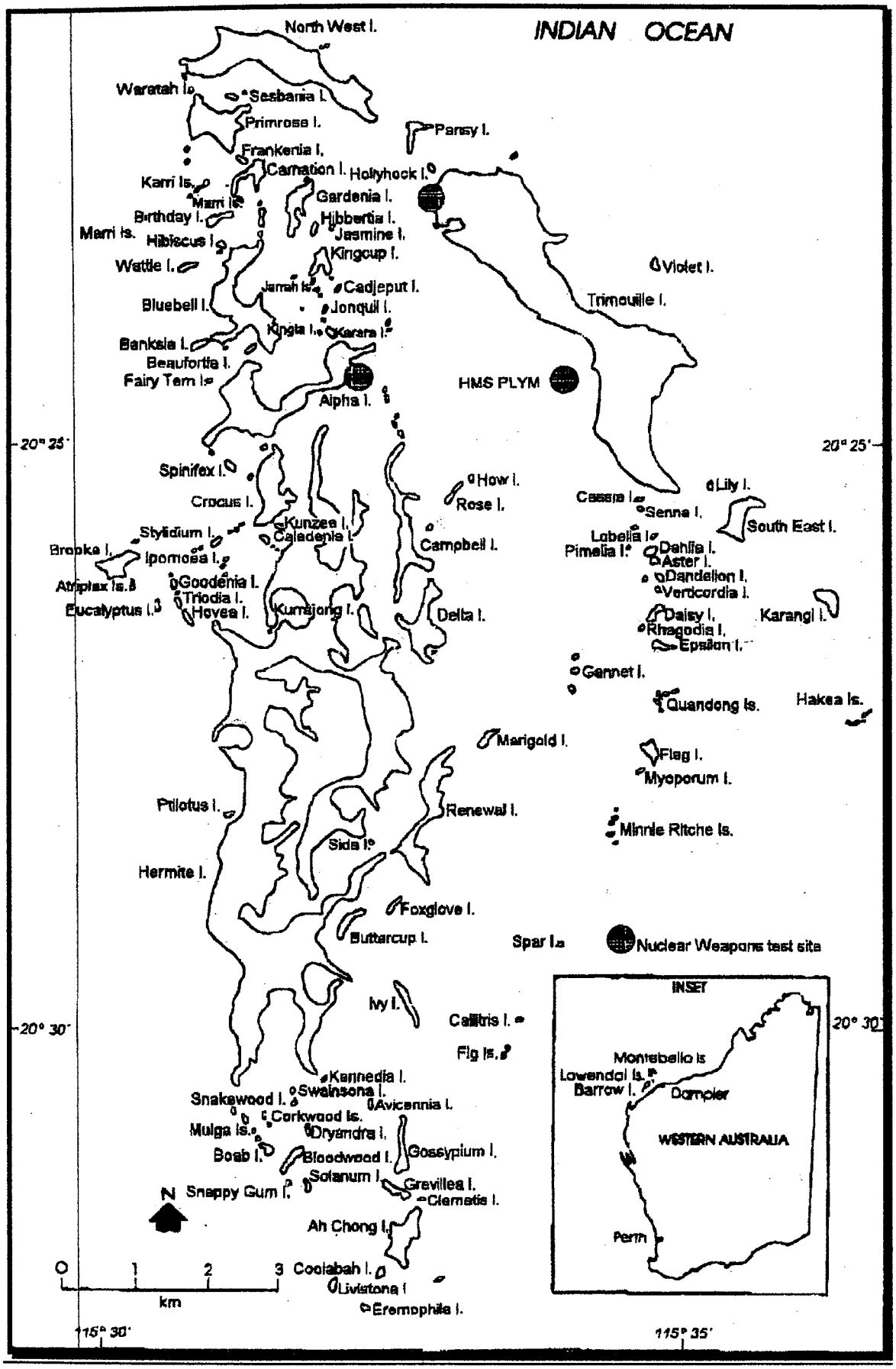

Montebello Island Group

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1. INTRODUCTION

The Montebello Islands are situated off the north western coast of West Australia. The archipelago comprises 120 islands and small rock stacks. The islands were the site of three British nuclear tests in the early 1950s. Currently they are administered by the Department of Conservation and Land Management (CALM) from the Karratha Office.

The Montebello Renewal Operation is part of the Western Shield Project. The Operation aims to remove all cats and rats. Locally extinct mammals and birds and some highly threatened mammals from the mainland will then be reintroduced.

Rat eradication was undertaken on the Montebello Islands in 1996. This poison operation was a bait station operation using 12,000 bait stations. This operation was considered a success until May 1999 when rats (*Rattus rattus*) were found in small numbers on three Islands - Hermite, Campbell and Delta. Campbell and Delta Islands were re-poisoned with hand spread bait, however, Hermite at 1022ha was too large to re-bait with the remaining toxin left on the islands and with the available manpower.

The decision was made to complete the operation with an aerial application of rat bait. As this method had never been used before Andrew Burbidge approached the New Zealand Department of Conservation (DOC) for assistance. DOC was able to help with supplying a bucket to spread the bait and to supply expertise on the ground.

2. SUPPLY OF RESOURCES

ICI the Australian manufacturers of Talon rat bait were approached by CALM to supply the bait. This bait has a toxic loading of 50ppm, in a very small pellet form roughly the size of chicken feed and has never been aerially applied. (Cost A$9130 per tonne in Perth.)

Animal Control Products NZ (ACP) were also approached to supply Pest Off 20p baits. These baits were not registered for use in Australia, however, an EUP could be issued for its use on off-shore islands. CALM obtained the necessary approvals from the National Registration Authority to import and use ACP bait on the Montebello Islands. (Total cost landed in Perth NZ$31,258 for ten tonnes of bait.)

With difference in costs between the baits and the suitability of the NZ bait for aerial delivery an order was placed with ACP to supply and ship 10 tonnes of Pest Off bait to Perth.

As aerial baiting for rats had not been undertaken before in Australia and there were no baiting buckets available locally. DOC (Simon Mowbray) was approached by CALM to see if a suitable bucket could be sourced for the Montebello operation. Initially the option of leasing a bucket was looked at, however, the operators approached all wanted maximum dollars for their buckets to cover all expenses. Lakeland Helicopters (New Zealand) were approached and offered to build a bucket for cheaper than the lowest lease quoted. This offer was passed on to CALM.

As the budget allocations had not been finalised at this stage the offer to buy a bucket was accepted subject to the approval of the budget. When the budget allocation was made Lakeland Helicopters did not have enough time to manufacture a bucket before the bait was to be sent to Australia. So, after some

As the budget allocations had not been finalised at this stage the offer to buy a bucket was accepted subject to the approval of the budget. When the budget allocation was made Lakeland Helicopters did not have enough time to manufacture a bucket before the bait was to be sent to Australia. So, after some discussion (and arm twisting) Lakeland Helicopters offered CALM one of there own working buckets. This offer was accepted.

ACP shipped the bait and bucket in the same 40 foot container. The container was loaded then the bait was covered with large plastic sheet. This was suspended above the bait to stop condensation from falling on the bags and the pallets of bait were only wrapped on the sides, to allow for air movement. The bait arrived in Perth in perfect condition.

After the bait arrived in Perth it was unloaded into storage before being trucked up to Onslow to meet up with the barge for shipment to the islands.

The bucket for spreading the bait needed 24volt power and air supplied at 60+psi from the helicopter. Prior to leaving New Zealand we found out that the Australian based helicopter to be used for the operation had both of these outlets removed. Helicopter NZ manufactured a wiring loom and a break away air system which was taken to Australia in the pilots baggage and fitted on the tarmac at Karratha airport. This system worked perfectly with the bucket.

Figure 1 - Barge unloading Montebello Island

3. OPERATION NOTES

3.1 Preparation

1. Bait and Bait spreading bucket sent from New Zealand to Perth, West Australia;
2. Simon Mowbray to Perth,17/10/99;
3. Bait and Bucket clears Customs and arrives at Trucking firm,20/10/99;
4. Bait and Bucket Departs Perth for Onslow,22/10/99;

5. Bait and Bucket arrives Onslow and loaded onto Barge,24/10/99;
6. Fly to Karratha Simon Mowbray, Andrew Burbidge , Roger Armstrong, 0/99;
7. Transfer to Montebello Islands,25/10/99- Dave Sauman (Helicopter New Zealand), Simon Mowbray (DOC), Andrew Burbidge (CALM), Roger Armstrong (CALM).

3.2 Bait Spreading Operation

The operation on the Montebello Islands started on Monday the 25 October with the arrival of the bait and bucket on the Island. The barge arrived to coincide with the full tide so the bait, bucket, fuel etc could be unloaded onto a rock ledge on Hermite Island (Figure 1). This operation was completed with no problems. The helicopter was used to move a new generator into place and too move drums of water up to the hut.

CALM maintain a base on the Islands that is fully provisioned with food, water and all modern conveniences to make living on the Islands as pleasurable as possible.

On Monday afternoon we calibrated the bucket to 3kgs per hectare. The bucket is calibrated using different size orifices.

The Differential Global Plotting System (DGPS) unit owned by CALM turned out not to have a base station, so the swathing system could not be used. This problem was minimised by changing from 100 metre flight swaths to fifty metre flight swaths. This allowed for a 50 percent overlap and minimised the chance of gaps in the coverage. The bucket had a 100 meter spreading swath with the bait supplied.

The Montebello Island Group is a very difficult shape for an aerial poison operation, with a very difficult coastline shape. So, the islands were divided into blocks that were easier to fly. Each island was separated to monitor the bait usage.

Figure 2 - Kiwi pilot Dave Sauman

Aerospatiale 350BA Helicopter and Lakeland Helicopters (New Zealand) bucket

The main baiting operation was started on the morning of 26 October. The operational load for the helicopter was 400kgs of bait per load. The helicopter was supplied by Helicopters Australia and was flown by a Kiwi pilot Dave Sauman from Helicopters New Zealand (Figure 2).

After the first run the motor on the bucket started to play up, stopping for no obvious reason. When the engine cover was removed it became obvious that the bucket had been sprayed with salt water during its trip to the island. A call was made to Lakeland Helicopters to see if they had any idea as to what may be the problem, all avenues were checked but still the bucket stopped on average once per run. As the terrain is fairly flat the pilot was able to land and restart the bucket when stoppages occurred. When a stoppage occurred the line was flown again. One day was lost to the bucket problems.

The second day of flying completed the major part of the baiting operation leaving only small areas to be completed by hand. These were finished by hand spreading the bait from the helicopter, so as to minimise the amount of bait that was spread into the water.

During the course of the operation we were approached by staff from the pearl farm and asked to stop spreading the bait as they were worried about its affects on the pearls. Andrew Burbidge refused to stop and spoke with the pearl farm owners in Perth by satellite phone.

Day three completed all hand baiting and two more islands were covered using the bucket. Bait usage was right on target for the whole operation and apart from the problems with the engine on the bucket, the operation ran very smoothly.

The bucket motor was to be serviced on return to the mainland to find out what the problem may have been. Following my arrival home the problem was discussed with Lakeland Helicopters. As the bucket had been used and serviced prior to shipment the only reason they could give was that the pilots flight profile may have been jamming the float in the carburettor, starving the motor for fuel. This was a problem that was discussed with the pilot during the operation and he modified his flight pattern and the bucket reliability did improve after that.

The bait was loaded into the bucket by hand from a platform built of pallets (Figure 3). Each load was 16 x 25kgs bags. The loading was completed with 2 people loading and one person collecting the bags. The helicopter was refuelled from 200 litre drums. The operation was completed with only three staff on the ground.

Figure 3 - Bait loading with hut in background

The following Islands were baited during the operation: Hermite, Renewal, Campbell, Delta, Kurrajongs, Alpha, Bluebell, Brooke, Marigold, Foxglove, Buttercup, Ivy and all of the small rock stacks around these islands. The total area baited was about 1500 hectares.

4. CONCLUSION

As this operation was far from home base we were bound to experience a few problems - this is just Murphy's law. The difficulty of visualising an operation while still in New Zealand cropped up with the Islands being nothing like I visualised them.

The problem with the bucket may not have happened if we had time to flight check everything prior to arrival on the islands.

If these operations continue in Australia a working DGPS system in the helicopter is important. Flight times were long with some very long ferry flights. If bait had been held on some of the further away islands this may have cut down flight times.

Even with the few problems that happened the operation ran very smoothly and every one worked well as team. CALM and DOC have a lot of expertise that should be shared between the two agencies.

Acknowledgements

I would like to thank all the people involved in helping with my involvement with the operation especially Andrew Burbidge for his great hospitality and thoroughness of planning that made the operation run so smoothly. Special thanks to Janet Owen, Ian McFadden and Jim Henry (DOC) for giving me the chance to participate in the operation.

Thanks to Derek Lowe from Lakeland Helicopters for their assistance and help in sending the bucket to Australia. Thank you to Bill Simmons from ACP for supplying another batch of great bait and for loading the container so the bucket and bait arrived in good condition.

Special thanks to the team (Figure 4) on the island Andrew Burbidge, Dave Sauman, Roger Armstrong for the support in this successful operation.

Figure 4 - Left to right: Dave Sauman (HNZ), Roger Armstrong (CALM), Andrew Burbidge, (CALM), Simon Mowbray (DOC)