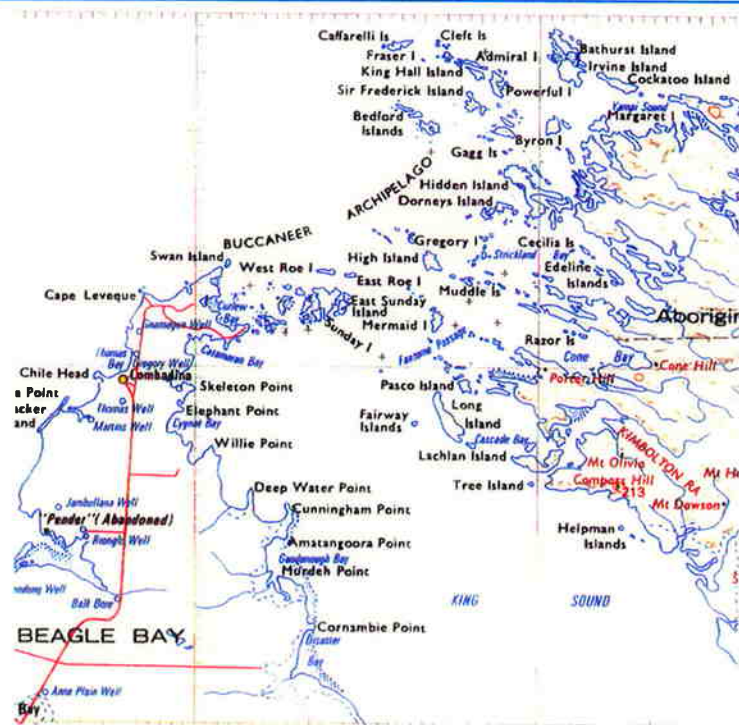

Human Concerns and Natural Values in the Buccaneer Archipelago: A resource document



Prepared by:

Guy Wright
for the

Department of Conservation and Land Management
November 1990

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ABBREVIATIONS

AHA	Aboriginal Heritage Act 1972-80
BAA	Bardi Aborigines Association
BHP	Broken Hill Pty. Ltd.
CALM	Department of Conservation and Land Mangement
DAS	Department of Aboriginal Sites
GNAC	Gulingi Nangga Aboriginal Corporation
NPNC	National Parks and Nature Conservation Authority
WDPAC	Western Desert Puntukurnuparna Aboriginal Corporation

Nb. Map 1 is attached to the back cover.

Errata

P.62 Detail on vegetation will be found in Burbridge
et al 1987, which has not been included in an Appendix.

P.103 is blank due to a printing error.

Acknowledgements and list of contributors

The following people contributed to this project in some way.

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1. Introduction

This is the report of a project designed to investigate the human and natural values in one of the most remote, scenic, culturally important, environmentally important, and potentially vulnerable areas of Western Australia, the Buccaneer Archipelago at the north end of King Sound.

The report was commissioned as a "resource document," meaning that it was meant to be an educative work, describing the various interests, and making some suggestions as to how they might be considered by a future planning study. It is important that this general educative function be understood as distinct from an "expert report" or a "management report," which might be expected to yield precise scientific and cultural information in the first case, or a programmatic set of rules and regulations in the second. The purpose of this report, and the research on which it is based, is to find out who has interests in the Buccaneer Archipelago, what the nature of those interests are, and to relate this information to the known natural resources and conservation values in the study area. However, since I was asked to make *suggestions* as to how the interests of stakeholders could be reasonably considered in a planning study, I have drawn a number of general conclusions in Section 9.0 and have made a series of specific suggestions in Section 10.0.

By commissioning a resource document the Department of Conservation and Land Management (CALM) has been able to introduce its interest in the area before embarking on the more formal steps of convening a consultative committee and drafting a planning strategy. As a social anthropologist with an interest in both the aspirations of Aboriginal people and in maritime and

fishing cultures, I was initially hopeful that such an approach would properly inform people as to CALM's interest in the area, serve as an introduction to the planning process, and provide an opportunity for people to clarify and explain their own interests. Thus, before gaining approval from the Bardi Aborigines Association (BAA) to undertake the work, I was able to write to them explaining that I felt that CALM was doing the right thing in making a genuine attempt to find out people's interest in the area, at the very beginning of the planning process.

The Aboriginal component of the work has not gone as planned. However, the process of negotiating the terms by which the work could, or could not, be carried out, has provided a focus which has worked to help Aboriginal interests clarify their positions in relation to the Buccaneer Archipelago. The depth and complexity of the issues relating to the Buccaneer has become apparent. Aboriginal people from two distinct polities, with similar, if slightly differing histories and perspectives, have been forced to come to terms with the fact that other people have an interest in an area that they have always considered inalienably, theirs. They are justifiably concerned that the powerful interests of large bureaucracies and big industries may shoulder Aboriginal interests aside unless they are carefully guarded. Consequently, the fact that this study has become something of a focus for Aboriginal questioning of the changes for the Buccaneer that it undoubtedly portends, is not necessarily a bad thing. In terms of the general purpose of the project as a tool to discover and describe the important and underlying issues regarding the Buccaneer, it is probably a very good thing.

In terms of the other, non-Aboriginal, human interests in the Buccaneer Archipelago area, the project has been somewhat more straightforward. My job has been to find out what these interests are, and to suggest how they might be reasonably considered by a

planning study. I have contacted representatives of the various interests and have tried to present their point of view, while showing how most of the interests need not be in fundamental conflict with each other, or in conflict with conservation needs.

2. Contract and terms of reference

The report is written to fulfil the requirements of an agreement between myself and the Department of Conservation and Land Management (CALM) to prepare a resource document on the natural and cultural resources of the Buccaneer Archipelago.

For the purposes of the study the Buccaneer Archipelago is defined as shown in Map 1. The study area includes the ocean and waters as well as the islands, but follows the coastline on the mainland.¹ This resource document is to be a major reference document for a planning study to be carried out in the near future. As the planning study is to recommend on the major land (and water) uses of the area and which organisations or agencies are to be responsible for managing which areas, the resource document is intended to provide information helpful for this purpose. The specific terms of reference were to:

¹ Whether the area follows the high water mark or the low water mark is a matter of importance in this area of extreme tidal range, especially given that many useable and interesting resources occur in the inter-tidal zone. The matter of which level is included in the study area will depend on how the area is to be vested. For my purposes I have assumed that the area to the high water mark is within the study area.

- a. Identify the relevant stakeholders and account for their interests and expectations, and suggest how these concerns maybe reasonably considered in the planning study.
- b. Identify the major biological, cultural and social resources of the study area.
- c. Identify the major issues of concern to the stakeholders and provide material that maybe the basis for discussion between them and the managers of the physical and biological resources of the area.
- d. Where possible, locate geographically the stakeholders' interests and concerns in a manner which is useful to environmental planners, but without disclosing aspects of the stakeholder's interests which they may want to remain confidential.

The CALM officer to whom I am directly responsible regarding this project is Dr. Barry Wilson, Director of Nature Conservation. In the day to day administration of the project, he has been represented by Mary Colreavy, Policy Advisor with responsibility for Aboriginal affairs.

Prior to carrying out fieldwork associated with the project, I discussed with Dr. Wilson the expectations he would have. Specifically, we agreed:

- a. That the main focus of the project was to be on the marine portion of the study area, but that the islands and adjoining coastline were also of significance to the study;

- b. That the most important consideration for the study was the human and commercial component, and that I should concentrate most of my efforts upon the needs and expectations of Aboriginal people who live within the study area and have strong traditional attachments to it. This was appropriate particularly since I am a social anthropologist and not a natural scientist.
- c. That I would not disclose Aboriginal cultural information without the knowledge and approval of the people concerned.
- d. That I should work closely with the Bardi community at One Arm Point and that I should make use of the community rangers and others through funds provided by the ANPWS via CALM to the Bardi Aborigines Association.

The contract was signed in September 1989 and completion of this report was then expected in June 1990. Since the project timing straddled the wet season when transport was expected to be difficult, it was necessary to split the field component of the research into three trips. This extended timing fit well with the initial intentions of the project in that it allowed a significant amount of time for people to consider the project and its implications. It was also hoped that Aboriginal people could be employed during this time in collecting basic data, using money provided for this purpose from the Australian National Parks and Wildlife Service (ANPWS). I was to provide general supervision of this work throughout the period.

As planned two main field trips were completed in October and April/May with a one week trip in February, and another trip was

made in July. Due to the circumstances described below, the nature and timing of the latter field trips were altered substantially from the original plan.

2.1. Background to the study

The contract between myself and CALM was developed in consultation with the Bardi Aborigines Association (BAA) through the Bardi Council. CALM appeared to have developed a good relationship with the BAA through a series of contacts associated with fieldwork by Dr. Wilson, Dr. Bob Prince who researches turtle and dugong populations in the area, and through Ms. Colreavy who was involved with discussing various management proposals with the community. They had apparently held a number of meetings at the One Arm Point community to explain their concerns about resolving difficulties which had arisen from recommendations that several of the Buccaneer islands be vested as A Class nature reserves. CALM were concerned that the reserve status would create a regulatory arrangement that was too restrictive to allow the continued use of the islands by the people of One Arm Point and that this would be unfair given their obvious interests in the area. CALM was aware that the BAA had requested that most of the larger islands of the archipelago be reserved with the Aboriginal Lands Trust (ALT) for the use and benefit of Aborigines. CALM officers expressed to me a wish that some form of equitable arrangement could be worked out that would satisfy the needs of both conservation and the aspirations of Aboriginal people.

2.2. The October trip

As planned the first trip took place between 3 October and 17 October and was taken up almost entirely with travelling by boat

throughout the study area with three senior men from the One Arm Point and Djarindjin communities, plus the two community rangers from One Arm Point. The rangers had been asked to introduce me to senior people in the community, especially traditional owners, and to arrange their participation in a series of trips that would acquaint me with the study area. The trips would serve as an introduction to the area and the people in it. A number of other older men, including other traditional owners, were asked by myself and the rangers if they wanted to participate in the trips, but they declined. Given that CALM had arranged my contract in consultation with the Bardi Council I felt reasonably certain that most concerned people at One Arm Point would be aware at least of the general aims of the project.

I felt it would be potentially useful for both the Aboriginal people and planners to have a reliable Bardi/Djawi nomenclature for the Buccaneer Islands. The men were keen to detail the Bardi/Djawi placenames within the study area, in the hope that a record might preserve information that is in danger of being lost, since young people are not now learning as much of this information as their elders would like. The information could also be used for future naming of places and islands. It would also provide a good opportunity for these senior men to express to me the general importance of the Buccaneer islands in terms of their economic, recreational and cultural use.

I have since collated the Aboriginal place name data collected in October and lodged it with the men who gave it to me. Over 130 names were collected, many of which, with approval from Aboriginal people, could be used as gazetted placenames.¹

¹ This information could be made available to CALM or other government planners with permission from the relevant Aboriginal people. Approaches should be made via the BAA, and the GNAC Buccaneer Sub-Committee should be informed.

Until the October field trip neither myself or the relevant people in CALM were aware of another significant Aboriginal presence on the eastern shore of King Sound, at the community of Larinyuwar at the head of Cone Bay (See Map 1). This was a newly established community, but it already had significant infrastructure in the form of housing, a store and ablution facilities. With the rangers and the senior men from One Arm Point, I visited the Larinyuwar community twice during the October trip, and stayed one night. It was obvious the community would be a permanent and substantial presence in the Buccaneer area.¹ I explained to a number of senior people I met there, that CALM had an interest in the management of the area and that my study was simply to find out who had interests in the area and what the interests were. No formal meetings were held.

Following the October field trip CALM and myself discovered that the Gulingi Nangga Aboriginal Corporation (GNAC), was forming, with state funding provided via the Aboriginal Affairs Planning Authority (AAPA). GNAC has a mandate to represent the interests of people who are traditionally affiliated with the coastal Kimberley linguistic groups, Ngarinyin, Wororra and Wunambal. The people at the Larinyuwar community came under Gulingi Nangga's charter, but the Bardi and Djawi people at One Arm Point did not at this time.

I made one overnight trip to One Arm Point in November. I was in the Broome area on other business and felt it was a good opportunity to maintain my contact with the community.

The next field trip was organized to coincide with a meeting at One Arm Point, on February 27th, between the Gulingi Nangga

¹ The Larinyuwar community has plans for substantial expansion and this is being supported with ATSIC funding. Community members see it expanding eventually to a size similar to One Arm Point.

organisation and the Bardi Aborigines Association. The principal concern of this meeting was whether the Bardi/Djawi people should join with GNAC to present a united voice on matters affecting the Buccaneer. The GNAC representatives argued that their organization was well prepared to deal with land issues since they had access to anthropologists and a lawyer who specialized in land matters. They argued that a joint BAA/GNAC committee to deal with management issues in the Buccaneer ought to be administered by them for these reasons.

The meeting agreed that there was sufficient interest in setting up a sub-committee to deal with the Buccaneer issue to warrant another meeting, at Mowanjum, near Derby, when the road became passable for the One Arm Point bus. Suggestions were made that the committee could be composed of five or six people from each of the two communities within the study area who own traditional territory within the Buccaneer Archipelago. These people would represent the interests of all traditional owners.

At the February meeting I had the opportunity to explain to a wider number of people the purpose of my project, and the steps that CALM envisaged following from my report through the planning strategy stage. It became clear that there was a good deal of misunderstanding of the project within the One Arm Point community. Few people were aware of the current status of the islands in the Buccaneer, and what were the future possibilities for management of the islands.

At a meeting of the Kimberley National Parks and Reserves Committee in Derby on 11 April 1990, quite strong statements were made by a number of Aboriginal people representing the One Arm Point and Larinyuwar communities, who were principally concerned with the idea that appropriate Aboriginal people should have primacy in terms of tenure and management in the

Buccaneer. I was not present at this meeting, but the minutes were made available to me. There was a perception that during the October field trip the three older Aboriginal men with me were not clear as to the purpose of the trip. This has surprised me, since during the trip we discussed what we were doing on virtually a daily basis. The trip was a very convivial and happy one, and there was no indication that the people misunderstood its purpose. Upon reflection, what may have happened is that the importance, or meaning, of what we were doing became exaggerated in some people's minds as the Buccaneer project rapidly escalated into the "Buccaneer issue." I think a misunderstanding developed that my study was somehow a "be all and end all" study, rather than simply the first, information gathering step in a series of continuing consultations. Given the experience of Aboriginal people with government and others in the past, I sympathize with their worry and concern. I also accept that "information gathering" is never a value free exercise where the information gathered concerns matters that people hold dear.

Later, I heard there was concern that my terms of reference were considered too broad, and that some Aboriginal people felt that the Aboriginal interests in the Buccaneer should occupy the whole of my attention on the project.

During further meetings between Gulingi Nangga representatives and Bardi and Djawi people at One Arm on 15-16 May at which Mary Colreavy and myself were present, a motion was passed as follows:

That the contract between CALM and Guy Wright be recinded and a new contract be struck between Guy Wright and Gulingi Nangga Aboriginal Corporation for Guy to work soley on Aboriginal interests in the

Buccaneer Archipelago. Details of research studied to be specified by GNAC at earliest possible date.

Note: GNAC to negotiate with CALM regarding ownership of information already collected.

Gulingi Nangga has a requirement that all work on Aboriginal matters conducted on land for which it represents Aboriginal interests, must be controlled by Aboriginal interests. Although the contract by which I was employed was drafted in consultation with the BAA, and my employment was ratified by them, CALM remained my employer.

Since Barry Wilson had by now gone on leave, Chris Haynes, Director - Parks, Recreation and Planning, replied to the motion in a letter to GNAC containing the following:

- a. ... while I am not prepared to rescind the contract as you requested, I am prepared to impose additional conditions which I hope may satisfy Aboriginal concerns about the project:
- b. Mr. Wright to be asked to make no further investigations on behalf of CALM into Aboriginal interest in the Buccaneer Archipelago.
- c. Mr. Wright should complete his investigations into non-Aboriginal interests in the Buccaneer Archipelago, e.g. fishing, tourism, local government
- d. Mr. Wright to provide to the Gulingi Nangga sub-committee an advance copy of those part (s) of his report dealing with Aboriginal interests. Mr. Wright is to liaise directly with GNAC sub-committee regarding which material is appropriate for inclusion in the final report to CALM.

2.3. Programmes that were initiated

A further consideration in the alterations to the contract with me, was that the contract for money to be supplied by ANPWS to the BAA for Aboriginal involvement in the project under Contract Employment Project AW11, became difficult to maintain. CALM agreed to renegotiate the contract for a longer period of time if this was acceptable to the joint sub-committee. Principally, this money would be used to retain the One Arm Point ranger, Vincent Angus who was working on a number of projects designed by me, with his help.

These included:

- a. **A safety station/visitor survey arrangement.** Five stands were to be built and placed at boat launching sites. Before leaving shore, people would view the chart on the stand, which was marked into nine sectors each representing a 1:50,000 mapsheet. They would indicate on a sheet of paper which sectors they were planning to travel to, the number of people in the boat, their expected time of return and their planned activities. The ranger or other designated person would empty the boxes everyday and check that boats were not overdue. If there were overdue boats, a search could be started in the indicated sectors. This arrangement was thought by the rangers and myself to be useful in increasing the safety of community members who often travel in the study area in boats of questionable seaworthiness. The other information would provide good data on actual use of the Archipelago and would be made available to CALM.

b. **Trochus survey.** Using the same map sectors as for the Safety/Visitor survey, trochus collectors would be asked to indicate for each trip:

- the number of tides worked in each sector
- the number of pickers working from each boat
- the number of two gallon buckets collected
- the month of the year

This information could provide the basis for very detailed and reliable catch/effort data on the trochus fishery. It would give the community the opportunity to plot its own catch/effort curve and note possible changes in the abundance of this most crucial of local commercial molluscs; it could give CALM data on the population dynamics of the major marine commercial catch in the Buccaneer; it would provide the Department of Fisheries with a significant improvement in the determination of maximum sustainable yields for trochus.

c. **Survey questionnaire.** A questionnaire was developed by me and administered by Vincent Angus to a substantial number of people at One Arm Point before being stopped at the request of the Gulingi Nangga/Bardi joint sub-committee. It asked about the uses people made of the islands, whether they were traditional owners, about people's observations of the natural environment and their opinions on the abundance of various species, including trochus, turtle and dugong. It also asked whether the informants were aware of CALM's interest in the Archipelago, and of their opinion of this interest. (See Appendix 2)

I had arranged, as part of the project, to work in with Ms. Karina Magro, a Ph.D. student from the Department of Zoology at the University of Western Australia in order to collect some data on the distribution of coral reef formations and trochus.

Specifically we were going to attempt a ground truthing of a thematic satellite image of the Buccaneer. With the collapse of my original contract this turned out not to be possible. However, Ms. Magro has continued her research into the population dynamics of the trochus, supported in part by the BAA. Hopefully, her observations of the marine environment will be available in the future.

While in Derby to collect information on non-Aboriginal interests in the Buccaneer, I arrived while the joint Buccaneer sub-committee was meeting. After this meeting, Brad Nesbitt, coordinator of GNAC, was able to inform me that the committee's wish was that I discontinue all work on Aboriginal matters relating to the Buccaneer, including collating the data collected via the questionnaires and following through on the trochus and safety station programmes. Ms. Colreavy was also in Derby and recommended that I follow the committee's wish. Consequently, the programmes that were in progress were stopped, and the One Arm Point community sent back the remaining moneys in contract AW11.

As a consequence of the above series of events my ability to report in detail on what was to be the main focus of the study, namely the Aboriginal interest, has been severely curtailed. However, as the first term of reference for the study was that I should,

Identify the relevant stakeholders and account for their interests and expectations, and suggest how these concerns maybe reasonably considered in the planning study.

I will reserve the right to write about Aboriginal interests in a general way and especially as they relate to the general question

of how the various human concerns may be reconciled between themselves and with the environmental concerns in the Buccaneer Archipelago. This should be possible, in a limited way, based on general observations without giving details about Aboriginal culture or use of the Archipelago that the sub-committee may not wish revealed for cultural and/or strategic reasons.

The GNAC sub-committee has expressed the view that: ***"Because the report is based ... on limited information and general observations we feel it has resulted in a report which does not fully address Aboriginal interests in the Archipelago. We feel this may lead to misunderstandings by the reader as to Aboriginal interests in the area."***¹

I agree that there is not a thorough enough treatment of Aboriginal interests here to be used as the basis for *decisions* that might alter the present situation. However, I present it in the hope that it will encourage better informed *discussion*.

2.4. A brief discussion of the Aboriginal interest

It is important for all other users of the Buccaneer Archipelago to understand that Aboriginal people have particular rights and needs in the area and that they are determined to defend these.

There are two Aboriginal communities located on Aboriginal reserve land in the north end of King Sound. The population of One Arm Point is about 350. The community has been located at One Arm Point since 1972, when people who had re-settled the old mission at Sunday Island in 1967 moved to the mainland. The community has substantial infrastructure including a school,

¹ Letter to Guy Wright from Bradley Nesbitt, Coordinator GNAC, Lorna Hudson, Buccaneer Sub-committee, and Alfie Umbugai, Chairman, Larinyuwar Community.

store, airstrip, telephone, housing and substantial community buildings. Larinyuwar, at the head of Cone Bay is a new community and much smaller, at the end of a long and rugged four wheel drive track, eight hours or more from Derby. The road can be impassible in the wet; there is not yet an airstrip; the particular configuration of the harbouring facilities means access by boat is realistically limited to high tide. However, the ATSIC sponsored improvements to Larinyuwar will provide a jetty and as the community expands, an airstrip and better road access are likely to eventuate.

The two groups of people living in these communities are well known to each other but have somewhat different histories. After World War Two Worora, Wunambal and Ngarinyin people, "... lived in two major mission settlements, Kunmunya and Munja. Some people had travelled to Kalumburu and the Forrest River Mission (Oombulgari) prior to this period. The former people moved eventually to the Wotjalum in Coppermine Creek and thence to Derby to be resettled at Mowanjum."¹ It is from these people that the Larinyuwar community has developed.

The core of the One Arm Point community is made up of Bardi/Djawi people who were resident at the Sunday Island Mission which operated between 1899 and 1957. Between 1957 and 1967 these people were in Derby. This decade is described by Green as

... one of great unhappiness. Living on the town reserve at the edge of the salt flats, many people were for the first time exposed to alcohol and boredom. The lack of fish (the previous dietary staple), the number of sandflies and

¹ Green, N., 1988. Aboriginal Affiliations with the Sea in Western Australia, in F. Gray and L. Zann (eds.) *Traditional Knowledge of the Marine Environment in Northern Australia*, Proceedings of a Workshop held in Townsville, Qld., July, 1985. Great Barrier Reef Marine Park Authority, Workshop series #8. pp.19-27.

mosquitoes, inadequate housing and being away from their traditional homeland, prompted their move back to Sunday Island in 1967, and then to One Arm Point in 1972.¹

In recognition of the extent to which the Bardi/Djawi and other people on the Dampierland Peninsula side of King Sound used the sea in traditional and modern times, the communities of Beagle Bay, Lombadina/Djarindjin, and One Arm Point made a joint submission to the Aboriginal Land Inquiry in 1984 for sea, as well as land rights.² Justice Seaman recommended that

...water should be protected for Aboriginal people for uses which were still a part of traditional life. Traditional life was defined to include access to traditional activities connected with significant area in , or associated with, the sea, or customary modes of foraging or fishing in or near the sea.³ Seaman accepted that these Aboriginal people had due claim on a traditional basis to areas of seas in and around the Dampierland Peninsula and he recognized that people who today hunted dugong and turtles with dinghies and outboard motors were still hunting in a traditional mode.⁴

The Seaman recommendations were rejected by Government in 1985. This greatly disappointed Aboriginal people throughout the state, who had been confident that Justice Seaman had "got it right," and that their rights in land would finally gain genuine recognition. Confusion as to why the government should

¹ Ibid., p.20

² Green, Nicholas and Jan Turner, *Aboriginal Rights to the Sea in the Dampierland Peninsula - King Sound - Buccaneer Archipelago Area of Western Australia*. A Joint Submission for Sea Closure to the Aboriginal Land Inquiry. Bardi Aborigines Association, Lombadina Community Inc., Beagle Bay Aboriginal Council Inc.

³ Seaman quoted in Green, Op. cit. p.27

⁴ Green, Loc. Cit. p. 27

backpedal so resolutely on what was felt to be a promise to deal sympathetically with Aboriginal land issues has, in a general sense, probably led to much of the confusion and distrust surrounding this present study. As one of my informants of the October trip stated, in reference to this study, while he attended the Kimberley National Parks and Reserves Committee meeting in Derby in April,

All this mob born on Sunday Island, but from different areas. I am the oldest for One Arm Point. [We] don't want those islands damaged by people, they got to stay the way they are. Paul Seaman got it all, what happened to that? Now we got to start again.¹

The most pervasive apprehension of Aboriginal people with interests in the Buccaneer Archipelago is that access to the islands themselves will be restricted as a result of new vesting arrangements recommended in the forthcoming planning strategy. Who can blame them for being distrustful given the duplicity (at least from their perspective) with which they have seen Aboriginal land matters dealt with in the past.

At the February 27 meeting at One Arm Point, a general discussion about the historical differences in the approach of the One Arm Point community and the Larinyuwar people took place. Senior members of the Bardi Aborigines Association, including past and present chairmen, and the community advisor, outlined the history of their attempts to gain recognition of their rights to the islands of the Buccaneer following the rejection of the Seaman land rights inquiry recommendations. A chronological sketch of the main events is contained in the box below.

¹ Transcript of meeting

**Chronology of significant events: based on
correspondence provided by BAA.**

- 3/83 Dr. Burbidge of the Department of Fisheries and Wildlife recommends "A" Class reservation of Hidden, Long, Irvine, Conilurus, Gibbings, Chambers, Pascoe, Flora and Kathleen islands, plus "the group between King Hall and Caffarelli."
- Recommends "B" Class reservation of Admiral, Powerful, Bruin, Sir Frederick and Lachlan.
- 1985 Seaman recommendations rejected.
- 10/85 Noting that the Seaman recommendations were rejected and stating that their position remains the same as their submission to the Seaman inquiry, Bardi request Aboriginal Lands Trust lease (type of lease is unspecified) covering Long, Mermaid, High, Dorney, Hidden, Bathurst (and it is assumed Irvine), Caffarelli and Cockatoo. Letter written by Eric Hunter as Chairman of BAA.
- 2/86 Department of Lands and Surveys notes that three of the islands requested for Aboriginal lease have also been recommended for "A" Class reservation: Hidden, Long and Caffarelli.
- Letter notes that CALM had requested that the reservations proceed.
- Notes that "all the islands in the Archipelago have some nature conservation value and further, that there would be compatibility between the conservation aspect and aboriginal interests.
- 5/86 Department of Mines notes that tenement applications exist on Bathurst, Irvine, Cockatoo and Long Island. The tenement on Long Island covers only a small part of the southern end of the island.
- The remaining islands would be available for lease, but only so long as they remain available for exploration. It was assumed the special grazing lease which would allow this would be unacceptable to the Aboriginal interests.
- 2/88 New chairman of BAA, Dennis Davey, writes to ALT noting that a reply to the letter of 10/85 does not appear to have been received.

The Bardi Association representatives explained that they have viewed their positive relationship with CALM as a realistic way to gain protection for the islands against mining and other potentially destructive activities, noting that there is not necessarily a conflict between the needs of conservation and the needs of Aboriginal people.

It has become clear to me over the course of this project, that protection of the islands and waters of the Buccaneer is only a part of the goal. There has also been an unwavering commitment that Aboriginal prior entitlement must be recognized by government by granting tenure under some form of Aboriginal title, and that title should extend to areas of the sea as well as the land. These expectations were clearly stated during the Seaman investigations and have not appreciably changed, despite a realisation by politically astute community members, that "land rights" *per se* is not possible in the present political climate.

The term "joint management" has been invoked to describe the desired outcome of a sense of joint purpose between Aboriginal people and CALM. Both see benefit in achieving mutually desirable goals in protecting the Buccaneer Archipelago against other interests. The general expectation of joint management seems to be that it would give Aboriginal people at least parity with CALM and the rest of government in terms of authority over management in the area. In legalistic terms this means for every vote the government has, there would be an Aboriginal vote. In management terms it means the joint management partners should work towards genuine agreement as to the philosophy and direction of desired outcomes.

Some Aboriginal people have had a significant history of working with CALM on various projects in a cooperative and meaningful way. They want any legalistic problems to be worked out as soon

as possible so that they may again work in a spirit of cooperation and joint purpose, and get on with the job of protecting the Buccaneer. Other Aboriginal people are much more suspicious of CALM's motives and fear that their concerns will be pushed aside by this large department, or that rules will be developed that will restrict their use of the Buccaneer Islands.

3. The Commercial Interests

3.1. Mining and exploration

It was agreed at the start of the project that the question of mining and exploration leases in the study area was very sensitive and that contact with the companies should be handled directly by CALM. I have simply made a search of Mines Dept. files for leases within the study area.

There are three exploration leases in the study area:

In the sea off the south end of Long Island.

Held by: Cottesloe Corp. (WA) Pty. Ltd.
Kimberley St.,
West Leederville, 6014
(Expires 18/08/92)

The land and sea surrounding Coppermine Creek, and including Margaret Island.

Held by: Eon Metals Ltd.
London House, First Floor
St. George's Tce., Perth
(Expires 26/1/93)

The BHP leases covering Irvine and Bathurst Islands.

Held by: BHP Minerals Ltd.
Level 3
Plain St., East Perth
(Expire 29/12/92).

The BHP leases cover known iron ore deposits on Irvine and Bathurst Islands. The Bardi Aborigines Association entered an agreement with BHP in 1984 to conduct a survey for Aboriginal sites on the islands. The conclusion of the survey report was that the islands needed to be protected in their entirety given their extreme regional importance to Aboriginal culture in the region.¹ Obligations are specified in an agreement between BAA and BHP. It is noteworthy that BHP has retained the leases. They may have some intention of eventually resuming their interests.

There are a large number of mining leases covering Cockatoo Island. These are obviously left over from the days of active operation of the mine there.

3.2. Tourism

It is worth beginning this section on tourism with the conclusions of the 1987 report of the Pacific Asia Travel Association (PATA), *Broome and the West Kimberley: Practical Tourism Issues*.² The report was commissioned by the Western Australian Tourism Commission (WATC) and was written by an international team of experienced tourism experts. It was recommended by WATC in Kununurra as the most comprehensive and useful study of tourism in the Kimberley to date. The conclusions are as follows:

- a. The continuing appeal of the Kimberley as a long-term tourism destination lies principally in the totality of the

¹ Green, N., 1984. *Anthropological Survey of Sites of Significance on Irvine and Bathurst Islands in the Buccaneer Archipelago, of Western Australia*. Unpublished report prepared for the Kimberley Land Council Inc., Bardi Aborigines Association, and BHP Pty Ltd.

² Pacific Asia Travel Association (PATA), 1987. *Broome and the West Kimberley: Practical Tourism Issues*. PATA, 83 Clarence St., Sydney.

experience it provides. That includes its geological past, its fossil record, its history - the exploration, the buccaneering, the pearl diving, the cattle droving - and its natural environment, comprising the spectacular coastal environment, the area's climate features, its rare and unique animals, birds and plants and the human cultures of the region.

- b. Not all forms of tourism are of equal value. Tourism markets that yield greater benefits for the 'host community' at lower cost, however defined, are to be preferred to markets that provide little benefit and have a significantly adverse impact on the destination. We believe that such a choice exists in this case.
- c. The Kimberley's special combination of geology, history, biology and human culture (aboriginal) is a tourism package that can be profitably and readily sold to visitors who will *respect the environment and will not be deterred by the cost.* (Emphasis mine.)
- d. In strictly conventional tourism terms, the Kimberley's appeal is limited. Better tropical beaches, more impressive gorges, seas as clear and coastlines as lovely are accessible to tourists from the world's major tourist-generating areas (North America, Europe, Japan and, increasingly, Asia) with greater convenience and lower cost.

Thus when everything is considered, the Kimberley is highly promotable, but to a selective and discerning tourism market rather than to a mass market. 'The Kimberley experience' is more than merely the sum of its parts. Yet its uniqueness as a tourist asset is fragile and the region could easily be damaged beyond recognition or recall by excessive insensitive tourist pressure (PATA, 1987).

The tourist operators and tourism officials interviewed were all aware that the special appeal of the Kimberley is in its

remoteness and its perceived inaccessibility. It is one of the world's "last frontiers" and it is this quality that makes it a world class tourist "product".

The Buccaneer Archipelago is protected by a number of inherent features: its ferocious tidal regime limits all but experienced (or foolhardy) seaborne visitors; it is difficult to fly to except via airstrips at One Arm Point, Cockatoo or Koolan Islands; the strong currents prevent much swimming and diving; and it is too distant from significant points of population for local people to venture for hastily planned day trips. It was the opinion of the tourist professionals I spoke to that the most likely future tourist interest in the Buccaneer will come from comparatively wealthy people who have an interest in viewing near pristine natural environments, probably combined with an interest in Aboriginal culture. These are likely to be comparatively small numbers of well-heeled people, mostly from overseas, who have had similar remote area experiences and who are well attuned to the need to "leave as few footprints" as possible.

The tourist professionals thought that because of their inaccessibility that the Buccaneer islands were unlikely to be significantly used by locally based day-trippers and "around Australia" caravaners and the like.

All tourist industry representatives were concerned that the sense of remoteness of the Buccaneer Archipelago needs to be preserved. As the PATA report suggests, to "open up" the area, by encouraging developments that allow easy access, would quickly destroy the very reason the area is interesting.

There are two potentially significant developments that might promote easier access to the Buccaneer by tourists, these are the existing facilities at Cockatoo Island and the rumoured plans for

Australian City Holdings (Lord McAlpine) to build a resort or tour boat facility of some sort at Deep Water Point (Map 1). Currently, both these projects appear to be in limbo. The Cockatoo Island resort has not been a success, and the state of McAlpine's plans at Deepwater Point are unknown. Broome tourism was significantly affected by the pilot's strike in 89/90 and this may have dampened the spirits of those who would promote facilities outside the Broome tourist core. The failure of the Kimberley Explorer boat tours was pointed out to me as an example of how overenthusiastic investment could go sour due to the present fickle nature of tourism in the Kimberley generally. This is especially so in a high interest rate economic climate.

WATC in Kununurra predicted that there would be a realistic need for small base camps for "bareboat"¹ and other charters, and that in 10 years or so there may be a call for "three star" accommodation facilities to service an interest in the Buccaneer. These small scale developments seem to be in keeping with the realistic chances for expansion of the existing style of charter boat tourism.

3.3. The Cousteau Connection

The Jacques Cousteau organization has spent quite a bit of time in Western Australia of late. I have heard unconfirmed reports that they were so impressed with the Kimberley waters that an initial commitment to one television programme has grown into about five. The consequences of this for tourism in the Buccaneer are that there may be a sudden demand for up-market tours as the profile of the Kimberley coast is raised as a result of the programmes being aired. It also should serve as a reminder that intense pressure to accommodate tourists can come rapidly and

¹ A bareboat charter is where the client charters just the boat, or just the boat with a skipper.

unexpectedly, as happened at the Purnululu (Bungle Bungles) a few years back.

The Buccaneer Archipelago has a unique and interesting biophysical environment, with a lot of very pleasant small beaches; it is relatively near Broome, it has a gateway in the Cockatoo Island resort, it even has a name that will appeal to adventure seeking tourists. It seems reasonable, given these circumstances, to assume that the Buccaneer may be in danger of receiving a sudden and somewhat unexpected burst of tourist pressure given an appropriate spark, such as the upcoming Cousteau programmes. The WATC representative in Kununurra made the point that large worldwide tour organizers such as Cook's can mobilize a substantial number of tourists very rapidly.

3.4. Current tourist operations:

Aside from the Cockatoo resort, those tourist operators who presently use the Buccaneer are very low key charter operators. Only two appear to use the Buccaneer on a consistent basis:

3.4.1. Buccaneer Safaris:

Owned and managed by Kim Keevil of Derby, who runs a 28 foot aluminium, diesel powered boat. He takes small charter parties of up to about six people from Derby into the southern portion of the Archipelago, into Cone Bay, and sometimes into Strickland Bay. Occasionally he takes parties on longer cruises, to Walcott Inlet or Prince Regent River. He says he is aware of some places of significance to Aboriginal people and avoids these and will not tell his clients about them. He has a number of favourite stopping places and tends to use these over and over rather than searching out new places. His clients are normally interested in either site seeing or recreational fishing.

3.4.2. Opal Shell Charters:

These are operated by Ron Chester of Perth who skippers a ketch of about 50 feet. Chester offers tours on his boat across the top of Australia and spends a few days cruising through the Buccaneer before making his regular, scheduled stops at Derby.

3.4.3. Other charters:

Two other charter companies, North Star Charter, and Western Invader Charters work out of Broome. These boats may make (on Kim Keevil's estimation) about two extended trips of about ten days per year, and travel to the Prince Regent River or Walcott Inlet. They would normally stop only at the northern Buccaneer islands.

3.4.4. Discussion:

The Buccaneer Safaris boat is purpose built for the charter operation. It has a fuel range that allows it to tour the Buccaneer and return to Derby without refueling. On the trips to the northern Kimberley coast it is able to refuel at Koolan Island. However, the boat is small enough that overnight accommodation would be more comfortable on land, meaning that normally an overnight trip is a camping trip. The Opal Shell charter boat also has substantial range, since it is a sailing vessel, and has onboard accommodation.

The environmental costs of the style of charter that now exist in the Buccaneer must be very light. There is no need for a proliferation of fuel dumps. Although passengers may camp

ashore the boat skippers see it as in their own interest to supervise clients to the extent that they would not tolerate environmentally insensitive behaviour. Tourists walking over the reefs at low tide might cause some damage, but at present, this is apt to be slight given the small numbers of people involved. Kim Keevil said that he takes most clients to particular known places and steers them away from areas where they might be in danger of causing damage.

It seems likely that charter boat style tourism will be the model for future tourism in the Buccaneer. Both Derby and Broome are potential bases for these operations. Derby is clearly the closest port, and provides relatively sheltered waters for the trip to the Archipelago.

The distance between Derby and Mermaid Island is about 100 kms. If the demand for charters in the Buccaneer proliferates, a base of some sort within the study area may need to be established to service the charters, as predicted by the WATC Kununurra office. The base would need to be capable of holding fuel and supplies; it would probably need accommodation for a small staff; it would be a turnaround depot for the tourists. The tourists would likely fly into the base, meet the charter, spend three or four days touring the area and return by air to Derby or Broome.

Two sites appear most suitable for such a base subject to the approval of the parties concerned.

- a. Cockatoo Island, providing it is operating as a going concern will need to be serviced with food and supplies. The Buccaneer charter businesses could use the island for a base since it would have the required infrastructure built in. The charter business would likely add to the economic viability of the whole enterprise by sharing some of the costs of servicing the island.

- b. One Arm Point has an airstrip and a reliable dry season link by road, which may soon be upgraded. In return for financial compensation, and subject to strict controls on the behaviour of the tourists, the community might be amenable to allowing charters to use it as a base. In fact, given certain conditions, say, for example, the exclusive right of access for charters being through the community, subject to Aboriginal guidance, and subject to a set of rules jointly worked out between Aboriginal people, conservation interests and the charter companies, such an arrangement might help towards giving Aboriginal people the sort of control over activities in the Archipelago that they feel they need.

The One Arm Point option would favour Broome over Derby as the town that services the charters since the road goes to Broome and there would be no big difference in flight times.

Other possibilities for a base would include Deepwater Point, as has apparently been suggested by Lord McAlpine's company, although the distance from the Point into the Buccaneer islands is still substantial at about 45 kms. to High Island. Because the Deepwater Point base is outside the study area, and because the operation would work on a purely enterprise basis, there may be a concern from both conservation and Aboriginal interests that it would be more difficult to control access through it.

Cone Bay has a very rough 4WD road, and will probably have an airstrip in the future but it has poor harbouring possibilities. However, with a new jetty, which is apparently about to be built, and a new airstrip, then Cone Bay would have advantages over One Arm Point as a base for charter operations, since it is closer to the more interesting coastal features and sheltered waters.

3.5. Aboriginal people and tourism

Aboriginal people will be worried about the effects of increased tourism in the Buccaneer that may occur whether or not the area becomes some sort of park or other protected area. As a report on tourism and Aboriginal heritage in the Kimberley produced for the Department of Aboriginal Sites (DAS) by former Aboriginal Legal Service lawyer Clive Senior makes plain, Aboriginal people in the area are not well prepared for a sudden influx of tourists.¹

There are concerns that Aboriginal people are not in an appropriate position at present to gain many of the benefits that could flow from increased tourism, while they would be saddled with an inordinate number of the worries. There is little direct experience of tourism in the Kimberley generally and where communities such as One Arm Point and Lombadina/Djarindjin have tried to capitalize on the potential of their area to attract tourists by creating Aboriginal owned and controlled enterprises, the results have been less than thoroughly successful.² For example, Senior remarks that much of the consultation over the Guljiman development at Cape Leveque happened "...in a conceptual vacuum: Aboriginal people have been asked to make decisions about matters that are outside their experience and this has generated confusion and apprehension."³ Aboriginal people did not have a clear idea of what tourism is and how it might benefit them. In this situation it is more likely to be Europeans who gain from tourist enterprise.

¹ Senior, Clive, *Tourism and Aboriginal Heritage with Particular Reference to the Kimberley*, unpublished report, Department of Aboriginal Sites, Perth.

² However, since the time of the fieldwork the Guljiman enterprise has blossomed. During the 1990 dry season, it has had a turnover which if sustained would give it a gross income of about \$200,000 per year. Funding, worth \$600,000 is currently being negotiated with ATSIC. Key personnel changes are probably responsible for the turnaround.

³ Ibid., p. 86

Aboriginal people from One Arm Point and Beagle Bay who visited Bathurst Island in the Northern Territory [as part of the consultations about the Cape Leveque development] were not impressed by what they saw. In their opinion Aboriginal people were only being exploited. They saw the major profits from visits to the island being taken by the white tour operator while the islanders only made minor profits from the sale of artefacts and making "billy-can tea."¹

Senior points out that most employment in the tourist industry is in service roles of various sorts and that, generally speaking, Aboriginal people are not comfortable in this sort of employment. However, recognition of the Aboriginal component in the tourist "product" does create a situation where Aboriginal people may be engaged in showing off their country to outsiders by acting as guides for small tour parties, by showing some of their traditional practices, or acting as rangers to police the increased activity.

Another way for Aboriginal people to benefit from increased tourist activities is through various community owned enterprises such as the Bardi Hire Car service. This service now operates three vehicles and shows a healthy profit which is returned to the community. Like the Guljiman project (when it is working well) it could be a useful model for increased local involvement in tourism through Aboriginal operated enterprise. Perhaps the biggest hurdle in establishing such enterprises is finding local people with the dual attributes of having the entrepreneurial flair to run a small business, and the commitment to use their skills towards the advancement of the community generally.

¹ Ibid., p.89

It is an unfortunate truism that most of the community based enterprises rely on non-Aboriginal expertise. Although the community benefits in terms of taking profits from the enterprise, and employment in them, the best potential career paths are not taken by Aboriginal people.

Senior notes there is likely to be little progress in terms of Aboriginal involvement in tourism until a suitable solution to the matter of land tenure is found. Nothing in this regard has changed since he wrote, in 1987,

...let us put tourism in context. Tourism is not the thing which preoccupies most Aboriginal people in the Kimberley... their hopes are still pinned on acquiring land. Land is still the single most important issue. Tourism is relevant [only] as a competing issue.¹

3.6. Aboriginal sites

From the Aboriginal perspective, the most serious problem with any increased activity in the Kimberley is that there are insufficient mechanisms in place to protect Aboriginal sites. There are countless sites throughout the area, both archaeological² and ethnographic, and many of the latter are considered dangerous to anyone with inappropriate ritual

¹ Ibid., p.90

² O'Connor, Sue, 1990. *Thirty Thousand Years in the Kimberley: A Prehistory of the Islands of the Bucc. Arch. and adjacent mainland, West Kimberley W.A.* unpublished Ph.D. thesis, Dept. of Archaeology, University of Western Australia.

qualifications. The sites occur in the sea, on the sea bed, and in the inter-tidal zone as well as the land. There is a concern among people who hold traditional knowledge that even ill-educated Aboriginal people may stumble upon mythologically powerful sites and be seriously harmed by them. Many of the most important and/or dangerous sites are not obvious to those who may view them with Western eyes and Western sensibilities. Consequently, unguided travel is, from an Aboriginal perspective, very worrying.

Sites of cultural significance to Aboriginal people are protected by the State Aboriginal Heritage Act 1972-80 and similar federal legislation, the Aboriginal and Torres Strait Islander Heritage (Interim Protection) Act 1984.

An Aboriginal site is defined by the Aboriginal Heritage Act, 1972-1980, (Section 5) as:

any place of importance and significance where persons of Aboriginal descent have, or appear to have, left any object, natural or artificial, used for, or made or adapted for use for, any purpose connected with the traditional life of the Aboriginal people, past or present;

any sacred, ritual or ceremonial site, which is of importance and special significance to persons of Aboriginal descent;

any place which, in the opinion of the Trustees, is or was associated with the Aboriginal people and which is of historical, anthropological, archaeological or ethno-graphical interest and should be preserved because of its importance and significance to the cultural heritage of the State;

any place where objects to which this Act applies are traditionally stored, or to which, under the provisions of this Act, such objects have been taken or removed.

Central to the general administration of this legislation is the maintenance of a Register of Aboriginal Sites. The register is kept by the Department of Aboriginal Sites of the W.A. Museum (DAS). Normal practice in the past has been for officers of the DAS, Anthropological consultants, Aboriginal groups and the public, to register sites as they are discovered. There is an obligation under Sect. 15 of the Act to report sites to "...the Trustees, or to a police officer." A result of this practice has been the accumulation of a database of about 10,000 sites throughout the state. The registration system offers some protection of Aboriginal sites, especially as it provides other land users with quick reference as to the location of protected sites within specified areas. There is a significant danger, however, that the other land users will assume that because they have consulted the register, they will have been briefed on the whereabouts of *all* sites in the area. It is virtually impossible to determine once and for all where all the Aboriginal sites are in any large area of the state.¹ This is partly due to the difficulty in finding all the people who know all the information and have all the authority over all the sites, but it is also due to the fact that Aboriginal culture is not static. It did not stop evolving at some moment in time - it continues.

As Senior points out:

For non-Aboriginal experts to assume control of sites to preserve them for future generations is as damaging for

¹ Witness the continuing confusion over Aboriginal sites in the comparatively tiny area of the Perth metropolitan area.

Aboriginal culture as the previous intrusions which threatened them, if it is arbitrarily imposed. For Aboriginal people the sites are alive; they are not yet (in the Kimberley anyway) artistic relics, to be preserved without a spiritual context.¹

In recent years some groups of Aboriginal people, especially those who have been able to retain quite strong ties with their traditional cultures, have chosen not to participate in the registration of Aboriginal sites in the centralized register. These groups argue that the cultural information is private to them and should not be revealed. Groups, such as the Western Desert Puntukurnuparna Aboriginal Corporation (WDPAC) in the Rudall River area, maintain their own register of sites.² When there is a conflict with other user groups in which the Aboriginal Heritage Act is in danger of being contravened, this information may be used to engage the AHA legislation to protect the site.

The GNAC Sub-Committee points out that ***"... the issue of protection of cultural information is of major concern to all Gulingi Nangga members. Gulingi Nangga provides support and where necessary assists Aboriginal people to make their own decisions about how they want to address the issue of protection of their cultural information."***³

If Aboriginal people identify all their sites (assuming this were possible in any case) then other land users are obligated only to avoid the specific sites, (perhaps by placing a chain link fence

¹ Senior, p. 55

² Western Desert Working Group, 1989. *The Significance of the Karlamilyi Region to the Martujarra of the Western Desert*. Unpublished resource document, CALM, Perth.

³ Letter to Guy Wright from Bradley Nesbitt, co-ordinator GNAC, Lorna Hudson, Bucc. Arch. Sub- C'ttee., and Alfie Umbugai, Chairman, Larinyuwar Community.

around them as happens in parts of the Goldfields) and may otherwise carry on as if they didn't exist. There is a dearth of legislation in Western Australia to protect Aboriginal interests in land and the site identification approach to cultural management effectively disenfranchises the Aboriginal people from their more general interest in the land. Depending on the significance of the particular site, identification may result in it being trivialized quite unreasonably. It was interesting to me that the Derby/West Kimberley Shire representatives I spoke with were very quick to realize that to attempt to identify the Aboriginal interest in this way is to give it away: "Who can blame them [for refusing to divulge cultural information] they've sure been burned in the past."

The State government is re-writing its Aboriginal heritage legislation and it may be important for the perspectives being developed by GNAC to be communicated to the committee overseeing this re-writing. *It seems appropriate that CALM should discuss mutual needs in regard to the management of cultural heritage, with GNAC and a range of other Aboriginal organizations, perhaps with the intention of developing a set of prescriptions for cultural management in lands managed by CALM.* These could provide a valuable help to those who are re-writing the heritage legislation.

4. Fishing Industry

The study area rather neatly fits into the Fisheries statistical block number 1623. The Department of Fisheries has provided data on catches between July 1985 and May 1988 (See Appendix 1).

Although there is a fishery for a range of species, the total catch is very small. Barramundi, sea mullet and mud crab are the only economically significant catches. In the three year period a total of 14,780 kg. of barramundi, 11,170 kg. of sea mullet, and 2,047 kg. of mud crab were recorded.

There is presently one full time barramundi fisherman living in Derby, and one other who visits the area from his base in Broome. Another barramundi fisherman has a camp near the entrance to the Coppermine Creek inlet at the top of the Yampi peninsula. This fisherman apparently has leasehold title to a small area excised from the Aboriginal reserve.

There is one fishing unit, comprising at least two men, who want to catch mullet in King Sound and sell them whole and fresh to Aboriginal people. These people have been trying to get a suitable base for their operation on the King Sound side of the Dampierland peninsula, but have so far been unsuccessful.

5. Pearling

5.1. History

The pearling industry is one of the oldest and most colourful in the state. It began about 1850 in Shark Bay collecting natural pearls from the small oyster *Pinctada albina albina*. The pearl industry progressed northwards from Shark Bay until in the 1870's there were about thirty boats operating in W.A. employing about 1200 divers, of which 800 were Malays. Japanese divers, wearing forced air diving gear began to dominate the industry

from about 1885.¹ By 1910 Broome had become the Australian pearling centre, employing 350-400 luggers and over 3,500 people. In its heyday Broome supplied 75% of the world production of pearl shell.²

The pearling industry was principally based on mother of pearl buttons and not individual pearls. Pearls were a limited by-product of the industry. The advent of plastic replaced the need for mother of pearl buttons and the industry declined through much of the 20th century. By the end of the 1970's annual catches were in the order of 2-300 tonnes by about 12 boats, where about 2000 tonnes was being taken in the early days.³

5.2. Economic Value

In the past five years or so there has been a resurgence in the pearling industry as Australian cultured pearls command top prices at the quality end of the jewelry market. The Pearling Industry Review Committee estimated in 1988 that the pearl shell stocks were a national asset worth "approximately \$55,000,000 with scope for major expansion."⁴ This makes it the second most valuable fishery in the state, after the rock lobster fishery.

5.3. Harvesting and husbanding

There are two distinct phases of cultivated pearl production. Firstly, the oysters are fished from their natural environment;

¹ Report of the Pearling Industry Review Committee, F.J. Malone, et.al., 1988, p.14

² Ibid, p.15

³ Ibid. p.15

⁴ Ibid., Preface

then they are seeded with pearl nuclei and left to cover the nuclei with nacre. Consequently, there are two aspects to management of the industry. The first aspect is principally sea based and essentially involves fishing for a natural, sedentary, bivalve. The second aspect involves human manipulation of this natural resource as it is husbanded to produce a number of crops of pearl products through its lifetime.

5.4. Limited entry

Western Australia is justifiably well known for early recognizing the advantages of limited entry management in fisheries. By limiting the maximum number of fishing units in a given fishery a situation is created where each unit holder can see he has a vested interest in maintaining the overall health of the fishery.

The Western Australian pearl industry is limited by the total number of oysters that are allowed to be taken annually by each of a number of companies operating in the Northwest. Each company has a total catch quota. Companies may split their quotas in order to sell the right to harvest oysters, except that no company may operate with a quota of less than 10,000 oysters,¹ and new entrants must buy an existing licence. Consequently, few new entrants to the industry are likely in the foreseeable future.

5.5. Zonal management

The fishery component of the pearling industry is divided into three zones.

¹ This provision is likely to increase, according to Dept. of Fisheries spokesman, to 15,000, but will not decrease.

Zone 1 is south of where the coast intersects 119 deg. E. Long. This is a point just west of the mouth of the De Grey River.

Zone 2 is north of this point to Sandy Point at 18 deg. 14 min. S. Lat., just south of Broome.

Zone 3, which includes the study area stretches from Sandy Point to a point just east of Bigge Island at 125 deg. 12 min. E. Long.

There are 11 companies with Zone 2 and 3 licences, and two companies with Zone 1 licences.¹

The zone system recognizes that the Eighty Mile Beach area, in zone 2, is the most productive pearl oyster fishing ground and attempts to protect the stocks there, while encouraging fishing effort in Zone 3. Most companies have the bulk of their quota allocated in Zone 2. This allocation allows them to take "shell" from Zones 2 or 3. Some of these companies have a percentage of their shell allocated as Zone 3, in which case they must take that portion of their total allocation only from Zone 3.

Two new entrants have licences only for Zone 3 shell. These companies may not take shell in Zone 2.

The detail of the breakdown in shell quota is published in the Report of the Pearling Industry Committee. Apparently only minor changes have occurred since its publication in 1988, and the detail need not be repeated here. However, the total quota recommended by the committee for the two areas is as follows:

Zone 2 = 380,000

¹ Taken from Ibid., p. viii as of 1988.

Zone 3 = 65,000

5.6. Companies with pearl farm leases in the Buccaneer Archipelago Study Area

The Department of Fisheries has asked to be contacted prior to information regarding 1990 lease approvals being made available to Aboriginal communities. This is due to meetings to be held in September. The companies concerned are marked with () below.*

The following companies presently (as of August 1990) have pearl farm leases within the study area:

Pearls Pty. Ltd.
Box 239, Applecross, W.A. 6153
(contact Neville Crane)

Maxima Pearling Co. Pty. Ltd.*
- Somes and Cooke, 1304 Hay St., West Perth, W.A.
(contact John Cooke)

Cygnets Bay Pearls, P.O. Box 70, Broome, W.A., 6725
(contact Bruce or Lyndon Brown)

Barrow Pearling Co. *P.O. Box 1236, Broome, W.A., 6725
(contact Stephen Arrow)

Clipper Pearls*P.O. Box 660, Broome, W.A. 6725
(contact Mark Walsh or Larry House)

Broome Pearls P/L* C/- Kailis Group, P.O. Box 353, Stirling
Highway
Nedlands, W.A. 6009
(contact George Kailis)

5.7. Needs of pearlery within the study area

The pearling industry needs areas of clean water that contain a suitable balance of nutrients to keep the filter feeding oysters healthy. Australian pearl products command comparatively high prices because they are able to produce pearl products of consistent creamy colour and lustre. These qualities are related to the good health of the oysters, which is promoted by good quality water. Thus pearl oyster farming appears to be an industry that is inherently concerned with marine environmental health.

Oyster farmers appear to spend considerable time and energy determining where to place their leases. They look for relatively sheltered waters with a significant rate of water turnover. Aside from these hydrological features farmers are also constrained by rules limiting the size of leases to four square nautical miles, and an industry generated rule that no farm should be within 10 nautical miles of any other farm.

Pearl oysters are susceptible to disease and the ten nautical mile rule was requested by the industry to lessen the likelihood of cross-contamination of pearl oysters between pearl farms. On

the eastern shore of King Sound many of the pearl leases are closer to each other than ten miles, but they are also normally separated by a land formation of some sort, which may be as effective as distance in protecting against cross-contamination. The ten mile rule is enforced by the Department of Fisheries who will act on the basis of a complaint. Apparently there have been no such complaints in the study area. The pearling industry representative stressed that most suitable areas for pearl farming in the study area have now been taken up with leases.

5.7.1. Small areas needed

It is probable that the only technique used for holding oysters in the study area will be by longlines. Oysters are held in pockets on plastic mesh panels that are suspended from a floating surface line. By this technique a great number of oysters can be held within a comparatively small area. Boats can travel through these lines without disturbing them.

The longlines may need to be moved at intervals because of a build up of oyster excrement on the bottom. This build up will of course vary with the amount of natural flushing available in a particular location. The EPA may suggest that monitoring of changes in the marine benthic communities be a requirement of leaseholders.

5.7.2. Security of tenure

The pearling industry requires investment of a great deal of capital for a potentially very lucrative, but uncertain return. Disease in the oysters, or a sudden downturn in the market, as

happened in 1983 when 60% was wiped off the value of pearl products in six months, can rapidly alter the current sunny outlook of the industry.

Pearl producers feel it is crucial that they be given a secure tenurial basis on which to plan their farming operations. Presumably this is supplied by the Department of Fisheries pearling leases, although there will be a significant worry that CALM's interest in the area may, in the future, alter the ground rules for security of tenure.

5.7.3. Water based maintenance and security

Pearling companies with longlines in the study area will need full time crews maintaining a presence for security reasons.

Maxima Pearling has a lease area on a small un-named (it does have a Djawi name) island about halfway along the southern shore of Cone Bay (map ref. WB560767). The other pearl farm leaseholders are apparently planning to use water based accommodation and working platforms for maintenance and security. The reason for this apparently stems, in part, from perceptions that land based stations on the adjacent mainland would be at the mercy of requirements affecting Aboriginal Reserves. The experience of some companies in the Northern Territory is that Aboriginal people have expected rents to be paid for pearling companies using Aboriginal land. The pearling companies apparently regard this as unjustified "extortion".

5.8. Prospects for the future

If the pearling industry continues to be dependent on natural oyster stocks, and if the 10 mile distance rule continues to be upheld, then the number of pearl farm licensees in the study area

should not increase. There are not many more suitable sites for farms in King Sound, and the intake of new oyster to the farming operations will be limited by quota to something above present total numbers of shell, but not orders of magnitude higher.

However, this year the Minister for Fisheries has apparently stated that he may favour the development of hatcheries for *Pinctada maxima* in the future. If this were to happen and be successful, the result could be a nearly unlimited supply of pearl oysters. The pearling industry has very mixed feelings on the hatchery idea, since there is an economic need to keep the availability of the quality Australian pearl products low, and the market value correspondingly high.

6. Local Concerns

The Buccaneer Archipelago is in the Shire of Derby/West Kimberley. I held discussions on 26 June with the Shire Clerk, Mr. Phillip Andrew and councillor Peter McCumstie, and addressed the Shire Council that evening.

The attitude of the Shire, as expressed by Mr. Andrew and Mr. McCumstie is that the "last frontier" quality in the Kimberley needs to be preserved. Where Broome Shire has encouraged development as the Kimberley's top tourist destination, Derby Shire seems to be more interested in preserving what they consider a unique lifestyle based on the traditional values of the outback. "Broome and us are like chalk and cheese," I was told. The sense I got at the Shire meeting was that many of the Shire councillors were ready to fight hard to preserve the "rugged and real" image that is inevitably under threat by encroaching modern

convenience mentality. Undoubtedly the councillors recognize that Derby is without obvious tourist drawing cards -- the mud flats can scarcely compare with Cable Beach for standard tourist expectations, but the annual mudflats football game could well appeal to a smaller audience.

The PATA report on tourism (pp. 63-4) gives Derby a rather lukewarm review in general, noting that it is a government and health centre and has a few under utilized tourist attractions such as the Prison Boab tree and the longest cattle trough in the southern hemisphere. It's best tourism possibilities rest in its function as a staging post for trips into the Kimberley interior, the Windjana Gorges and the Gibb River road etc. The report also mentions, in more enthusiastic language, the possibility that Derby could function as a "centre for seaborne adventure" based in the Buccaneer Archipelago:

An alternative scenario for Derby might involve its use as a base for sightseeing and seaborne adventure touring in King Sound, among the islands and reefs of the Buccaneer Archipelago and into the spectacular tidal races of Talbot Bay. The turtles, sharks and other large marine life to be seen in these waters should add to the attraction for adventure- and nature- oriented tourists.

These possibilities have been scarcely mooted, as far as the PATA study group is aware But in view of the extremely attractive scenery and the novel and challenging sea conditions, such 'safaris' should enjoy considerable appeal (PATA: 64).

The Derby Shire appears to have reached a similar view to the PATA study team. They are very much concerned to ensure that

appropriate controls are in place that will preserve the wilderness aspect of the Buccaneer.

6.1. Koolan Island

There are more than 600 people living on Koolan island, who own a total of about 60-70 boats and are weekend tourists and fishers. Most of these boats are outboard powered runabouts and dinghies. The Koolan people apparently have some favorite fishing spots in the northern end of the Buccaneer Archipelago, and like to go into Talbot and Dugong Bays. They make occasional trips into the Prince Regent area.

The Gulingi Nangga organization noted that they were concerned about the numbers of unrestrained travellers from Koolan Island in terms of their abilities to desecrate places of importance to Aboriginal people. The area of mainland immediately adjacent to Koolan Island is Aboriginal reserve. As Aboriginal reserve, people landing are required to have a permit from the Aboriginal Affairs Planning Authority. This requirement could be enforced, if it could be policed. It could be effectively policed if the mine management required personnel to obtain the relevant permits before entering Aboriginal reserve.

The shire representatives suggested that there was a need to have a central authority to give permission/advice on entering culturally sensitive areas. They noted that in the past such advice is presently taken on an informal basis from Aboriginal people in Derby known to have a traditional connection with the area to be travelled to. They expressed confidence in the present Department of Aboriginal Sites Heritage Officer, Marlene Bruce and suggested that she would be a good person to fill such a role.

The shire people noted that a considerable amount of distrust towards the intentions of government was generated when the Aboriginal reserve covering the Yampi Peninsula was declared in the early 1970's. Their main complaint about this vesting is that they were not kept up to date on the progress of the vesting arrangements and consequently were surprized by the eventual declaration. They asked to be kept informed of CALM's intentions in the area.

6.2. The Derby Boat Club

As president of the Derby Boat Club, Kevin Johnson is particularly concerned that the Buccaneer Islands be kept free of commercial activity that could spoil the area for recreational boating. In 1981-82 the boat club made suggestions to government that the Cascade Bay and Cone Bay areas be set aside for their recreational values and that no commercial activity be allowed. The club is particularly concerned that the pearling industry may represent the "thin edge of the wedge," for commercial use of the Buccaneer.

The Derby Boat Club has 30 family members, most of whom have small outboard powered runabouts. The largest boat in the club is 21 feet. The club members use the Cascade Bay and Cone Bay areas, plus some of the southern islands for recreational camping and fishing trips usually lasting at least two days. Because of the small size of the boats and the distance from Derby they must build up caches of fuel and other supplies in the study area. There are at least two such caches on the north side of Cone Bay. These are apparently known and approved by people at Larinyuwar.

The boat club wants to continue to have easy access to the Buccaneer, but Mr. Johnson suggested there would be little objection to a management regime that operated to protect the area from "larger commercial interests."

7. Conservation Issues

This section summarizes observations and recommendations made by natural scientists on the conservation values of the Buccaneer Archipelago. I had hoped to complement these Western science observations with the observations of Aboriginal people, but this has been disallowed, as discussed in 2.0 above.

The Dept. of CALM has made recommendations to the Kimberley Region Planning Study, based on work carried out in 1982 by what was then the Department of Fisheries and Wildlife. However, the study of the conservation values of the area are not complete and the results of this preliminary work has not been published. Among the recommendations were that:

The following islands, to low water mark, be declared Class A reserves for the Conservation of Flora and Fauna and be vested in the Western Australian Wildlife Authority: Hidden, Long, Irvine, Conilurus, Gibbings, Chalmers, Pascoe, Flora, Kathleen and the group from King Hall to Cafferelli.

That the following islands be declared Class B reserves for the conservation of flora and fauna, be vested in the Western Australian Wildlife Authority and extended to the low tide line: Admiral, Powerful, Bruin, Sir Frederick, Lachlan.¹

and that the Department:

¹ Burbidge, A.A., McKenzie, N.L., and Kenneally, K.F., 1987. "Nature Conservation Reserves in the Kimberley, Western Australia." Submission of Dept. of CALM to *Kimberley Region Planning Study*. Unpublished report, Dept. CALM. pp.88-91

... continue negotiations with the Bardi¹ people with the aim of having the whole of the Buccaneer Archipelago and surrounding waters declared a Marine Park, zoned for multiple use according to a management plan developed by the two organizations.²

A notable feature of these recommendations is that two types of reservation are suggested:

- a. A number of discrete islands are recommended for vesting as A and B class reserves. Reservation of these areas may result in protection being given to the flora and fauna of these specific islands, but there is little attempt to provide a geographically continuous area, with the possible exception of the series of islands from Sir Frederick to Caffarelli at the north end of the study area.
- b. An over arching marine park, that would comprise all the water in which these islands are located, and zoned for multiple use, is recommended after negotiations with relevant Aboriginal people.

A number of people with whom I have spoken about the project, have questioned whether it is really necessary to create a large geographic area and designate it for some form of special management. They point out that the extremely robust tidal flow means that only hardy forms of coral or other marine biota will be able to survive below the low water mark, and that the potential for much human damage is also restricted by the strong flow. These people argue that the reef flats associated with the islands have been walked over by trochus pickers and others for

¹ By this reference, I assume CALM means that it will negotiate with all appropriate Aboriginal people with an interest in the area.

² Op.cit. 91

many thousands of years,¹ but the area is so large and the reef flats so extensive that the concentration of people walking on the reefs is relatively light, with the possible exception of the areas adjacent the One Arm Point community. The populations of known flora and fauna of scientific interest, or that may be endangered in some way can be protected by the recommended reserves.

As a result of these concerns I have sought to provide material that may be useful in finding an answer the question: Is there sufficient reason to propose a nature and wildlife management regime that encompasses the study area?

The answer must refer to the geophysical, hydrodynamic and biological characteristics of the environment and the human expectations for use of the area. The relevant questions must ask,

- a. Are there natural systems that require protection and management at the scale of hundreds of square kilometres, or that need buffers of this scale to protect them?
- b. What human activities are likely, now and in the future, and what will be their chances for affecting the natural systems? Does a large scale management unit offer an advantage in terms of managing human interaction with the local environment?

We must realize that many of the natural systems are non-renewable resources. Lost habitats are forever gone for scientific study, and personal wonderment. Consequently, those charged with protecting areas for conservation have a duty to be conservative in their estimations of potential impacts.

¹ O'Connor, Loc. Cit.

7.1. Terrestrial Environment

7.1.1. Islands as refugia

Kimberley islands are particularly important biological refugia. Species that have been destroyed or severely disrupted on the mainland are preserved on the islands where they have been protected against the effects of European activities¹ and large fires. Sometimes islands also produce genetic variation as a result of separate evolution from mainland populations. Because the nearby mainland is relatively undeveloped compared with other islands in Western Australia, Kimberley Islands have a particular importance in that they may be able to provide keys to biological puzzles now and into the future.²

Burbidge has provided a ranking of biologically important islands in Western Australia in which a subset of the Buccaneer Archipelago islands recommended for A Class reservation (Bathurst, Hidden, Irvine and Long) are given his third and lowest priority for management. They are in his category "High value," following "Very high value" and "Extremely valuable."³

¹ The Aboriginal people have been in the area so long (30,000 plus years) that it is likely that at least some of the results of evolution have happened in conjunction with Aboriginal activities.

² Norm McKenzie (pers. comm. 7/90)

³ Burbidge, A.A. 1989 "The Value of Western Australian Island as Biological Reservoirs and the Development of Management Priorities," in Burbidge (ed.) *Australian and New Zealand Islands: Nature Conservation and Management, Proceedings of a Technical Workshop, Barrow Island, W.A., 1985*, Dept. of CALM, Perth.

7.1.2. Geomorphology

The Buccaneer Islands are made of the same material as the adjacent coastal mainland and were formed with the coastline was flooded just prior to the Holocene¹. The islands are thought to have been part of the mainland as recently as 8,000 to 10,000 years ago.²

Geological surfaces exposed on the island include King Leopold Sandstone (Hidden, Sunday, Lachlan, Long, Pasco, King Hall, Sir Frederick, Cafferelli), Elgee Siltstone (Gibbings, Koolan), Penetcost Sandstone (Irvine, Bathurst), Yampi Member including hematitic quartz sandstone (Koolan, Cockatoo), Hart Dolerite (Lachlan), and Wotjulum Porphyry (Conilurus). These surfaces are partially mantled by shallow skeletal to clayey soils.

The marine environment is diverse with rocky island shores, coral reefs, algal reef flats and shallow sandy banks with extensive sea-grass beds. Sandy beaches are sparse and confined to small sheltered bays, though tidal mudflats border most embayments. Tidal channels contain coarse-grained sands that often form cross-bedded tidal megaripples (e.g. Sunday Island). Small areas of alluvium are found on a few islands (e.g. Gibbings) where beach dunes have truncated outwash valleys. An intra-tidal lagoon, cut off from the sea by a sand-bar, occurs on Macleay Island (Ibid.:88).

¹ Burbidge et. al., Op. cit. p. 88

² Ibid.p72

7.1.3. Vegetation

Each of the geological surfaces supports a different plant community. The characteristic vegetation of the islands is found in shallow sandy soils over sandstone....¹

(More detail on Vegetation is available in Appendix 3)

7.1.4. Mammals

Nineteen species of native mammals are known from the archipelago. Of particular biogeographic and conservation interest are populations of the Little Rock-Wallaby (*Peradorcas concinna*), Golden-backed Tree-rat (*Mesembriomys macrurus*), Grassland Melomys (*Melomys burtoni*), Ghost bat (*Macroderma gigas*) and Lesser Warty nosed Horseshoe Bat (*Hipposideros stenotis*).²

7.1.5. Birds

Ninety six species of birds have been recorded including the Mangrove Kingfisher (*Halcyon chloris*) and Brown-tailed Flycatcher (*Microeca tormenti*).³

7.1.6. Reptiles

There are twenty-five species of reptiles known from the islands.⁴

1 Ibid.p. 88
2 Ibid.p. 88-9
3 Ibid.p. 89
4 Ibid. p.89

7.1.7. Introduced species

The study area appears to be relatively free of introduced species, with some notable exceptions. The Northern Australian Quarantine Strategy recently undertook a study of introduced species in the study area. They found:¹

- a. A population of feral pigs on Sunday Island. (The Agricultural Protection Board is currently trying to eradicate this population.)
- b. Feral cattle and pigs on the mainland Yampi Peninsula
- c. Some mango trees near the old Watjulum Mission in Coppermine Creek.
- d. Some Banana, Mango, African mahogany and citrus trees left by a local European who was growing a small amount of marijuana on the southern shore of Cone Bay.

The study included a study of insects. If information is required on this the contact is David Yates, Quarantine Entomologist, Department of Agriculture, South Perth.

7.2. Marine environment

The marine environment of the Buccaneer Archipelago contains a diverse range of habitats, dominated by a tidal range in the order of ten metres. The bulk of the marine area is subject to the scouring effect of the extremely powerful tidal currents that fill King Sound twice daily. However, given the convoluted topography of the islands and adjacent coastline, the range of

¹ John Collins, Quarantine Officer, pers. comm. 23/6/90

hydrodynamic regimes ranges from very high energy areas to comparatively sheltered embayments and small niches that are protected from the current. Very little scientific work has been conducted on the Buccaneer marine ecology as yet. It must be assumed that as one of the largest groups of islands in the Kimberley it is potentially very interesting in terms of the marine ecosystems yet to be discovered. Obviously a management objective will be to provide realistic protections for these systems while acknowledging the very important local trochus and pearling industries.

Most of the Buccaneer islands have associated fringing reefs, some of which appear to have quite extensive and interesting reef communities. According to W.A. Museum staff, many of the high energy areas of reef, subject to the tidal stream, contain robust assemblages which are relatively impervious to the normal range of human activities that can be expected at present, such as walking over the reef flats to sightsee or to collect trochus.

The following is a summary of preliminary observations made by W.A. Museum staff following field trips to the area in 1988/89 and provided courtesy of Dr. Gary Morgan, Curator of Crustacea:

7.2.1. Irvine Island

Downshore rocks and live coral. Upshore headlands of rock fringed by mangroves. Very extensive reef flat -- especially brain and platform corals, latter very delicate and easily damaged underfoot. Upshore of reef -- fine brown mud flat ending in mangroves. central lagoon in flat -- bright green-blue, probably sandy bottom. Tridacna very common. Trochus present. Delicate site, easily damaged.

7.2.2. Dorney-Shirley Islands

Rocky headlands -- heavy growth of oysters and barnacles. Broad intertidal flat -- distinct reef crest with obvious (30 cm.) downshore drop to sand, upshore coral and sand. Flat largely a platform of limestone with large areas of sand; upshore mud with mangroves. Robust site -- easily walked with variety of habitats.

7.2.3. Bedford Islands

Broad reef flat between islands. Mostly limestone platform with live coral in area. Layer of silt extensive. Upshore tidal pools with live coral. Two degree tidal rise encrusted with coralline algae, then upshore mangrove fringe on mud. Relatively robust; coral can be viewed in tidal pools.

7.2.4. Admiral - King-Hall Islands

Similar to Bedford Islands -- Two degree tidal rise with coralline algae. Lower flat of limestone pavement with some live coral at edge. Sand patches increase upshore. some tidal pools. Upshore of two degree rise a broad lagoon of coral rubble, sand, some coral and brown macrophytes. Sand spit nearby. Robust site.

7.2.5. Gregory Island

Gradual dropoff at reef edge. Lower platform of limestone, some loose rubble. Pools with sand and silt, some poor seagrass especially *Halophila*. Patches of algae on rocks. Coral at reef edge and upshore in tidal pools - branching and plate corals. Several terraces across platform. Upshore mangroves relatively well developed - especially broad band of *Rhizophora*. Robust site; can view coral in pools (G. Morgan, pers. comm., 1990).

The delicate coral structures contained in the Irvine Island reef flat are probably made possible by the dual shelters provided by Irvine and Bathurst Islands, which protect the coral from both the outgoing and incoming tides¹. There are few other places within the study area where there is such an extensive reef flat that is both protected from tidal scouring and is at the same time subject to constant flushing. The reefs between Sunday Island and the mainland between Swan and One Arm points, may be the other extensive area subject to these conditions. However, due to their proximity to One Arm Point community they can be assumed to undergo a significant amount of human use.

The other extensive protected areas are contained in embayments such as "The Graveyard" in Strickland Bay and the "Inland Sea" in Cascade Bay. These embayments, which have restricted entries, may be expected to have low rates of flushing and nutrient exchange, and consequently appear to represent different environments than the sheltered but highly active environments referred to above. They usually contain large mangrove thickets.

¹ Near the entrance to Talbot Bay a similar situation occurs where there are extensive reef flats protected between two land masses. Aboriginal informants have told me that these areas contain large numbers of dead *Tridacna*.

7.2.6. Corals

Preliminary observations of coral cover, especially near Sunday Island have been made by Barry Wilson of CALM, and Loiset Marsh of the W. A. Museum. The results of these studies will be available to CALM and need not be summarised here.

Four genus' of coral that are potentially of particular interest in the Buccaneer are shown by Veron (1986) to have the study area near the extent of their range (descriptions are summarised from Veron).

Genus *Coeloseris*: A massive, rounded, hillocky coral, pale green, yellow or brown in colour with darker calices. Are found on the Rowley Shoals and Scott reef. Buccaneer Archipelago may be near the southern extent of the range of this coral on the Australian west coast. "May be common on some upper reef slopes and lagoons of the northern and central Great Barrier Reef. Rare elsewhere".¹

Genus *Heliofungia*: Solitary, free living, flat with a central mouth. Septa have large lobed teeth. Very conspicuous. On Australian west coast known to extend to Admiralty Gulf. ²

Genus *Australomussa*: Genus has only one species, *A. rowleyensis*. This coral was viewed by Veron at the Rowley Shoals. "It was then seen at several places down the Western Australian coast and was thought to be endemic to the coast (hence its name). However, one of the most common mussids of the Mergui Archipelago and western Thailand and is now known to have a wider Indo-Pacific distribution." Colonies are helmeted or dome shaped and covered

¹ Veron, J.E.N. *Corals of Australia and the Indo-Pacific*, Angus and Roberson, North Ryde, N.S.W. p.310

² Ibid. p.328

with shallow valleys 8-20 mm wide and separated by thick walls. In Australia these corals are a uniform blue-grey colour. They are rare.¹

Genus *Montigya*: This is another genus in which there is thought to be only one species, *M. kenti*. It is known only from the Lacepede Islands. It is known only from a single specimen and is obviously very rare. Given the proximity of the Lacepedes to the Buccaneer study area, it seems possible there may be other examples in the study area.²

8. Turtles Dugong and Trochus

There are five species of turtle found in the study area, green, flatback, loggerhead, hawksbill, and leatherback. Green turtles are by far the most abundant, and are the principle target for Aboriginal hunting. CALM undertakes a regular tagging programme of these turtles.

Green turtles are thought to migrate from other areas in the coastal Kimberley and the Northern Territory to the Lacepede Islands for nesting. There is some evidence of intermixing of Australian and Indonesian populations, although others are thought to be resident in the study area (R. Prince, pers. comm, 1990). The matter of potentially regulating Aboriginal hunting in the study area needs to be tempered by the knowledge that many

¹ Ibid. p.404

² Ibid. p.556

of the the turtles are also subject to hunting in other parts of northern Australia, and perhaps Indonesia.

There is a major flatback turtle rookery on the Helpman Islands, south of Usborne Point (See Map 1). Dr. Prince of CALM believes that these turtles nest diffusely and that the Helpman rookery is simply a popular rookery among others. The eggs are laid in the sand in clusters of about 40-50. The eggs are larger than the eggs of green turtles and are a delicacy to local Aboriginal people (R. Prince, pers. comm, 1990).

Little is known about hawkesbill turtles. They are very rarely found in the King Sound area. There is apparently an Aboriginal notion that adults are poisonous, although Dr. Prince knows of no other direct evidence for this. They eat sponges which may account for some toxicity (R. Prince, pers. comm, 1990).

Loggerhead turtles are seasonally visible but little is known of their habits in the study area. (R. Prince, pers. comm, 1990).

Two local men from One Arm Point found a tagged leatherback turtle in October 1986. As a non-nesting migratory species they are probably seasonal visitors to the study area. They are not taken by Bardi/Djawi people although they may be hunted in the Northern Territory.

8.1. Dugong

Dugong dugon are present in the study area in unknown numbers. According to Dr. Prince there are two schools of thought on the reasons why there appear to be few Dugong in the north end of King Sound.

Some local Aboriginal people who have substantial experience in hunting dugong postulate that there are larger populations of dugong outside of King Sound in areas like the Montgomery Islands and Talbot and Dugong bays. Since dugong are so shy they keep well away from areas where there is any human activity. They are also thought to be "gun shy," remembering the usual outcomes of their encounters with humans.

More likely, in Dr. Prince's estimation, is that the local populations of dugong were hunted quite vigorously following the re-settlement of Sunday Island and One Arm Point in the early 1970's, and the local population was reduced. Given that dugong are very slow reproducers the local population has failed to recover. Consequently, any increased hunting drastically reduces the ability of the local population to reproduce (R. Prince , pers. com).

The two explanations of course offer justifications, 1. for continued hunting and 2. for greater conservation. Dr. Prince has suggested that sanctuary areas against hunting dugong may be helpful in restoring numbers. Unfortunately, as he also notes, not enough is known about dugong sociology to know whether this sort of concept would be effective. Much may depend, for example on how territorial the males are (R. Prince , pers. com).

8.2. Turtle and dugong management

There is a need to determine whether it is desirable to create a legislative framework that allows for turtle and dugong management. Turtle and dugong are presently taken only by Aboriginal people for their own consumption. There are currently few restrictions on Aboriginal people taking these animals.

There are culturally based restrictions, for example on the timing of hunting seasons, that may serve some conservation purposes.¹

As R.E. Johannes reminds,

Understanding a conservation system means understanding not only the nature of what is being conserved, but also the viewpoint of the conserver. Knowledge of this second element is essential if we are to comprehend a system of resource management employed by a people whose perception of their environment differs from our own.²

8.3. Implications for management

Reservation of the study area as a whole may help enable CALM to participate in management aimed at conserving stocks of turtle and dugong. As CALM's turtle and dugong specialist Dr. Bob Prince writes, of dugong:

Management of hunting is necessary in those situations where current levels exceed a sustainable limit if exploitation and cultural traditions of the people concerned are to be maintained. Achievement of agreement on, and adherence to, necessary management constraints is not an easy task, but must be, and is, pursued.³

¹ Smith, Moya 1987. Dots on the Map: Sites and seasonality, the Bardi Example. *Australian Archaeology*, # 25 pp. 40- 52

_____ 1984. Bardi relationships with Sea. *Anthropological Forum* Vol. V(3): 443-447.

² Johannes, R.E. 1978. Traditional Marine Conservation Methods in Oceania and Their Demise, *Annual Review of Ecological Systems*, 9, 2349-64

³ Prince, R.I.T., 1989. Dugongs: Conservation and Management, presented to, Australian Veterinary Association Conference, Perth.

In order to convince Aboriginal people in the Buccaneer Archipelago to participate voluntarily in green turtle management it may be necessary to engage in a management programme that protects this wide ranging species in other areas of its range as well.

8.4. Trochus

The trochus fishery is of crucial importance in the study area, producing over \$500,000 of revenue annually to the One Arm Point community. Most of the product is exported. What is particularly important, is the fact that it is an industry ideally suited to the lifestyle of the people of One Arm Point. It is a maritime industry for these "people of the sea," it involves a similar process to traditional gathering techniques, the work can be done when it suits the worker, and the economic benefits are usually a direct reflection of the effort expended. It is ideal industry for an Aboriginal community.

The catch fluctuates between about 50 and 100 tonne per year. The price paid to pickers by the community has recently risen to \$7 from \$5 per kilo for cleaned, sorted shell. The community markets the shell to a number of wholesalers and arranges transport.

Recently the community has built a shed, and equipped it with \$10,000 worth of polishing and cutting equipment in an attempt to set up a secondary processing industry. They expect to cut earrings, bangles and other value added products, and optimistically hope to add about a tenfold value to a bag of trochus.

8.4.1. Trochus fishery statistics

The Department of Fisheries has collected some very rough estimates of catch and effort through the community advisor providing them with the amount caught per family. As a result of my observations as to how the trochus industry works, I suggested the programme outlined in 2.2 above.

Since this project has started, a Ph.D. candidate with the Department of Zoology at the University of Western Australia, Ms. Karina Magro, has begun work on trochus biology and population dynamics in the study area. Ms. Magro receives support from the BAA on the condition that a portion of her work be useful towards the better management of the fishery. She has agreed to implement a catch/effort data collecting system based on the one I designed at the start of the project.

8.4.2. Where are trochus found ?

Trochus (*Trochus niloticus*) are found throughout the tropical waters of the Indo-Pacific region.¹ There is a large resource on the Great Barrier Reef, and much more scientific work has been done on them there than in Western Australia.

Work by Nash in the Great Barrier Reef area shows that trochus,

...occur in shallow (less than 5m) water on the exposed coral reef margins. It feeds on the fine epilithic algal turf which grows on bare coral surfaces in this part of the reef. Trochus are found in greatest numbers on reefs which are regularly exposed at low tide, and on those with a storm-tossed boulder edge. They are scarce or absent in areas of moderate to high sand cover, or where macroalgae (for example *Halimeda* species) are found. Trochus are also negatively associated with non-

¹ Heslinga, G.A., O. Obichank, M. Ngiramengior, 1984. "Coral Reef Sanctuaries for Trochus Shells, *Marine Fisheries Review*, V.46(4) pp.73-80.

encrusting soft corals (such as species of *Sinularia* or *Xenia*).

Nash also notes that trochus does occur in "... short branching coral (especially *Acropora* species) found on the reef top near the reef crest."¹

Despite being found in association with *Acropora* corals in the Great Barrier Reef, Heslinga *et. al.* write that in Palau,

Locomotion across live coral is undesirable because it would expose the foot to stinging nematocysts. We have never observed *T. niloticus* crawling on or adhering to live coral in nature. Perhaps more important, live coral and loose sand do not promote growth of the low filamentous algal species which form a principal part of the *T. niloticus* diet.²

Nash writes, of trochus in the Great Barrier reef:

There is a clear zonation by size of trochus on the reef: juveniles live in the intertidal zone on the reef top behind the reef crest, while adult trochus occur subtidally. Although adults may be found on the reef top, juveniles are never found on the reef slope.³

and

Juveniles occupy the shallow intertidal zone immediately adjacent the seaward edge. They are most common in areas of coral rubble, which presumably provides shelter from predators.⁴

1 Ibid., pp. 12-13

2 Ibid., p. 78

3 Ibid., p. 12

4 Nash, W.J., 1985. "Aspects of the biology of *Trochus niloticus* and its fishery in the Great Barrier Reef region. Unpublished report to the Queensland Dept. of Primary Industries and the Great Barrier Reef Marine Park Authority. 210pp., pp. 4-5.

Heslinga *et.al.* studied a number of trochus sanctuary areas that were set up in Palau in 1960. They found in 1982 that the sanctuaries were spectacular failures, containing less than half as many trochus as adjacent exploited areas.¹ The reason was a failure to understand that *T. niloticus* need a high energy environment, and a failure to understand that human predators need effective management. The numerous, widely scattered sanctuaries were apparently not locally respected by people, and were poorly located in relatively calm water with a heterogeneous substrate containing sand.

Another relevant feature of the trochus life cycle is that larvae spend only a few days circulating in the plankton,² which means their dispersal range is relatively limited.

8.4.3. Implications for management

The specific conditions of trochus reproduction and distribution in the study area are not yet understood. Karina Magro's work should be of great interest for anyone charged with a management interest in the area. From what we can learn from other areas where trochus are harvested we know that Trochus are found in highest numbers in high energy marine environments and in lesser numbers in calmer conditions. They are sometimes found in association with branching corals, and juveniles like dead coral, but they are never found on live coral. Given these features there may be little cause for concern that trochus fishermen cause damage to corals.

1 Op.cit., 73

2 Ibid., 74

9. General Conclusions and Suggestions

The first term of reference for this study is that I should:

Identify the relevant stakeholders and account for their interests and expectations, and suggest how these concerns maybe reasonably considered in the planning study.

Following are the main conclusions of the study, followed by a series of suggestions as to how the interests of the various stakeholders may be considered in a planning study.

I wish to make clear once again, that this study was never meant to be a "be all and end all" study of the Buccaneer Archipelago. As such it would be dangerous for planners to conclude that specific zoning, or other arrangements can be made on the basis of this report only. This is particularly true for the Aboriginal interests, where I was prevented from undertaking as full an account as was planned. Especially in relation to cultural interests, the Aboriginal people of the area wish to undertake a detailed accounting of the cultural "inventory" before making decisions as to how best to protect these interests (B.Nesbitt, Pers.Comm. 7/11/90).

9.1. What the European stakeholders appear to want:

9.2. Mining industry

- Undoubtedly the mining industry would like the status quo to remain, or even for the heritage provisions that

are preventing BHP from mining Irvine and Bathurst Islands to be relaxed.

- The mining industry and the Mines Department are likely to insist that any changes in the administration of the study area not encumber exploration and mining.

9.3. Tourist industry

- As the PATA experts pointed out, it is crucial for the health of the Kimberley tourist industry as a whole that the unspoilt wilderness aspect of the Kimberley coast remain intact.
- There will always be pecuniary tourism interests with plans that may not be consistent with the above.
- Therefore it is in the long term best interest of the tourist industry as a whole, that the area is clearly recognized as having a primary purpose consistent with keeping it in as unspoilt a condition as possible.

9.4. Fishing

- Except for pearling the fishing industry in the study area is presently very small. Barring the unlikely event that a major new stock of economically viable fish is discovered in the area, it is unlikely that the commercial fishing will expand appreciably.
- The matter of amateur netting of fish is currently under review by the Department of Fisheries.

- The community of One Arm Point have tried commercial fishing in the past and might take it up again given the right conditions. The Larinyuwar community may do likewise. These would likely be managed by the Dept. of Fisheries on a sustainable yield basis.

9.5. Pearling

- There are six pearl farm licences in the study area.
- Pearl farms are dependent on very good water quality to maintain healthy oysters that produce pearls of maximum value.
- Longlines need to be moved at intervals to rest the sea bed from possible build up of oyster excrement. This may be less of a problem in the well flushed waters of the study area.
- Because of the danger of cross-contamination of oysters with disease, it is recognized by industry and the Dept. of Fisheries that each pearl farm should be at least 10 nautical miles from any other pearl farm. Given that this requirement is already exceeded on the eastern shores of King Sound, it seems undesirable and unlikely that more leaseholders would be invited into the area
- Because of the value of the shell, each pearl farm licensee must maintain a permanent presence for security, as well as for cleaning and maintaining the shell.

- Because of the time required to produce an oyster crop, pearl farmers need a guarantee of secure tenure over their leases.
- There is a well founded perception that it would be difficult to get permission to use Aboriginal reserve land adjacent most pearling leases in the study area. Consequently, most companies are geared up to provide floating accomodation and working platforms. One company has a lease for pearling support facilities on an island on the south shore of Cone Bay.
- If there were more trust developed between all parties in the Buccaneer area, then it is conceivable that pearling lessees and Aboriginal people may be able to work out arrangements that would allow for land bases.

9.6. The Shire of Derby/West Kimberley

- Wants to maintain the wilderness aspects of the Buccaneer Archipelago while allowing for a reasonable level of tourist activity and for local recreation.
- Would like to see Koolan Island developed as a naval base, but does not necessarily see a conflict between this and the item above.
- Some councilors may also favour iron ore mining of Irvine and Bathurst islands.

9.7. Local recreationists

- Want continued access to the Buccaneer while retaining its relatively unspoilt wilderness aspect.
- Protection from commercial exploitation.
- There is a worry that the pearling leases is the "thin edge of the wedge" and that further commercial development will follow.

9.8. What the Aboriginal stakeholders appear to want

It needs to be noted that my assessment of the wants and needs of the Aboriginal people in the study area has been curtailed by the events, outlined in the Introduction, that prevented me from investigating them as fully as was planned. However, certain general conclusions as to the needs and wishes of Aboriginal people in the area have become apparent during the course of the study, and I will limit my comments to them.

9.8.1. Recognition of rights in land and sea

- Aboriginal people have always considered that the islands, waters and coastline of the study area belong to them, and that this should be recognized by granting inalienable Aboriginal freehold title over both land and waters. This position was put by the Dampierland Aboriginal communities to the Aboriginal Land Inquiry headed by justice Seaman in 1984,¹ and does not appear to have been substantially modified.
- When the Aboriginal Land Bill was defeated the BAA quickly made a submission to government requesting

¹ Green, Nicholas and Jan Turner, *Loc. cit.*

that many of the Buccaneer Islands be reserved for the "use and benefit of Aborigines."

- The community of Larinyuwar has established itself at the head of Cone Bay and people resident there claim traditional authority over mainland, islands and waters within the study area on the eastern side of King Sound.

9.8.2. Joint management

- The term "joint management" has been invoked to describe the desired outcome of a sense of joint purpose in providing effective management of both the cultural and natural resources of the study area.
- Despite some differences in the interpretation of the concept, Aboriginal people generally appear to mean that "joint management" would give them parity with CALM and the rest of government in terms of authority over management of the area. In simple terms, for every vote the government has, there would be an Aboriginal vote.
- Some of those Aboriginal people who have experience working with CALM in the past, would prefer that legalistic problems can be resolved quickly so that "joint management" could work in a spirit of cooperation and joint purpose. Others are worried that CALM will exert a hegemony in the area that might overrule Aboriginal interests.

9.8.3. Specific needs of Aboriginal people

Trochus

- The trochus fishery is an economic mainstay of the community of One Arm Point. It is managed by the Department of Fisheries as a limited entry sustained yield fishery, and is about to have the advantage of a full time Ph.D. study on the biology and population dynamics of the trochus animal. This research is supported by the community in return for a commitment that a portion of the work will be useful for management purposes.
- Trochus pickers need access to many, perhaps most, of the intertidal reef flats in the study area. Although I have not been able to discover just which reef flats are used by trochus pickers, due to the difficulties described in 2.0 above, or which type of flat is best for pickers, it is clear that not all reefs in the area are uniformly used for picking trochus.
- Trochus tend to be found in areas of dead coral surface or limestone pavements, or on "turving algae," sometimes in association with branching corals, but never on live coral. Further research needs to be done but it seems likely that the best trochus grounds are found in areas that are relatively impervious to the sort of damage one would expect from trochus fishing.
i.e.
 - walking on the reef
 - resting a dinghy on the reef

- The Museum representatives noted that most of the areas they visited were relatively impervious to the types of damage that would be associated with trochus picking. The exception being the reefs between Irvine and Bathurst Islands.
- There may arise a desire to harvest *beche de mer* or other species from the reefs in the future.

9.8.4. Future economic needs

- The One Arm Point and Larinyuwar communities will be permanent occupiers of the study area. No doubt in the future there will be a need to assess the environmental impacts of proposals for economic activities. There are already reasonably effective environmental guidelines which relate to any new projects in the state. If the study area is given special status of some form, then we can expect that specific and quite stringent rules regarding the environmental impact of any new enterprises will be enforced.
- Notwithstanding the above, many Aboriginal people in the present appear willing to work towards producing a plan that would see an appropriate vision for the future of the area put in place. Most Aboriginal

people think they are good managers of the land, and deeply feel a need for responsible conservation. There is little doubt that Aboriginal people feel that now is a good time to set a wise course for the future use of the area. It may yet take months, or (more likely) years to accomplish this, but the momentum that now exists should be maintained.

9.8.5. Subsistence hunting, fishing, and gathering

- The harvest of turtles, and to a much lesser extent, dugong, is a very important facet of the lives of the Aboriginal people, especially those living at One Arm Point. The hunting provides important recreational focus, it provides fresh meat that is considered a delicacy and it is important culturally. In an important, if less obvious sense, it seems to help maintain a sense of connectedness with oral traditions and activities of the past. For these reasons I consider it very important that this hunting continue.¹
- Aboriginal people have their own ideas as to the relative abundances of turtle and dugong. These ideas should be taken into account and a reasoned discussion take place between Western scientists and Aboriginal managers before restrictions are placed on the take of these animals.

¹ For example, the story of Gadiman Jawal tells of how the shape of One Arm Point was made by fights related to turtles. See S. and E. Paddy with Moya Smith, *Gadiman Jawal*, W.A. Museum

- More research into the population dynamics of turtle and dugong needs to be done. Specifically, the two cases postulated under the discussion of dugong above, need to be researched. The Aboriginal communities may need to be convinced that it might be in their interest to collect accurate information on the take of turtle and dugong, and work out some form of management, with the help of Western scientists.

There does not appear to be conclusive evidence that Aboriginal hunting is causing a decline in green turtle populations. However, given the potentially fragile nature of small dugong populations it may be necessary to convince Aboriginal people of the need to stop or reduce hunting while appropriate assessment of the population occurs.

- There apparently has been some interest shown by Aboriginal people from One Arm Point in fishing for shark and other species in the study area. Presumably this would be managed by the Department of Fisheries on a sustainable basis.
- Aboriginal people, especially women, continue some traditional gathering practices in both marine and terrestrial environments. People have been conducting these activities for so long that the significant question is not, "what is the effect of this?" but "what has been the effect of lessened gathering on the environment since contact with European society?"

9.8.6. Ceremonies, cultural activities and Aboriginal sites

- Sections of the islands, waters, reefs, sea-bed and mainland within the study area are of extreme importance to the cultural and spiritual well being of the Aboriginal people in the area. These must be dealt with in a manner that recognizes they are part of a system, and worthy of management in a manner that treats the whole of the study area (and perhaps other adjacent areas as well) as a unit.
- The question, "Will this activity disturb a matter of cultural importance?" needs to be asked by every person who uses the area for any purpose.
- In their letter to me, Nesbitt, Hudson and Umbugai suggest that *"... procedures/mechanisms whereby consultation with Aboriginal people would occur on a regular basis to determine whether proposed developments or management practices by CALM [or anyone else] could have a deleterious effect upon the cultural values of the area"* be established
- The nature and scope of such procedures will need to be the subject of further discussions with Aboriginal people through their representative organizations.

9.9. What CALM appears to want

- CALM appears to want some resolution to the outstanding recommendations for reservation of a number of the islands as A and B Class reserves for the preservation of nature.

- CALM appears to want to treat the area as a unit, while designing strategies for a multiple use philosophy within the unit. One suggestion is that a Marine Park could be created, which would allow for zoning for multiple uses, and would give the Department a leading role in management of the area.
- CALM wishes to involve Aboriginal people in the management of the area.

9.10. Irresolvable conflicts

9.10.1. Mining does not fit with other needs

- Iron ore mining does not fit with the needs of any of the other stakeholders, or with the conservation interests. The possible exception may be some local people would be in favour of a mining centre similar to Koolan Island when the reserves there run out.
- Despite the efforts of mining companies to operate in an environmentally sensitive manner, and to rehabilitate areas after their use, it does not seem likely that mining in the study area would ever be viewed as a desirable thing by most of the stakeholders. The technical difficulties of "environmentally sensitive" mining in the Buccaneer islands seem to me to be very great.
- The Irvine and Bathurst group of islands contain known iron ore reserves and are covered by ELs held by BHP. They are also covered by an agreement with the BAA regarding the highly significant ethnographic

sites on them. Irvine, Kathleen and Flora are recommended for A Class reservation for the protection of nature. The W.A. Museum has identified the reefs between the islands as containing the most interesting and fragile corals in the area.

9.11. All other interests should be compatible

- There are no other stakeholders in the area that have interests that appear to be inherently incompatible.
- Therefore it should be possible to negotiate an agreement between the stakeholders that accounts for most of their needs, while respecting the needs of the other stakeholders and the need for conservation in the area.
- The crucial aspect of working out the needs of the stakeholders with each other is that the vesting arrangement satisfies the basic needs of the most important stakeholders. In this, the needs of some stakeholders will need to be ranked as more relevant or important than others.

It really is a matter of philosophy and ideological leaning as to how the ranking of stakeholders needs would proceed. Mining and pearling will be seen by economic "drys" as the most relevant activities for the area since they contribute so much to national wealth. Tourism is also a potential "earner."

Some representatives of local and commercial interests were concerned that Aboriginal people would have more say in how the

area is managed than they. Other people asked why was there any need at all for active nature conservation policies in the area.

It has become clear that the Aboriginal and conservation interests may accomodate all but one of the other interests (mining), but the other interests would not, on their own, be able to accomodate either the mining or the Aboriginal interests. It is also true that the Aboriginal and conservation interests are the only obvious permanent interests. The others are based on perceived financial need, and can evaporate with a sudden plunge in pearl prices, or an economic recession that reduces tourism, or the discovery of a more easily extracted iron ore deposit. *It therefore seems an objective assessment that the Aboriginal and conservation interests should have some form of primacy over the other interests.*

It is crucial that any vesting arrangement recognize the prior entitlement of the Aboriginal people, who are the only permanent users of the Archipelago and who have demanded and will continue to demand that any management regime recognize their interests and their entitlement as having primacy.

Without such primacy there can be no guarantee of cooperation. Without cooperation of local Aboriginal people there can be no proper management. Other users, such as the pearling industry, and land managers, would find it very difficult to operate in such a remote area if the local Aboriginal communities were openly antagonistic towards them. With cooperation, however, the Aboriginal communities could be a positive boon for the other interest groups. It is clear, for example, that CALM's people in the Kimberley already have a mammoth task in providing management to the land in the region under CALM's care. The addition of a huge maritime area with many special problems would require additional "on the ground" help. Also, a solution to

the problem which clearly recognizes the Aboriginal presence may attract Aboriginal funding from state and federal (and perhaps international) sources.

9.12. A problem for Solomon?

The balance to be struck between the Aboriginal interest and the conservation interest will be the subject of continuing negotiation. These negotiations have, in real terms, already begun. As noted above they will revolve around the terms of vesting which may be proposed by a planning strategy, at the end of a consultative process.

Two powerful and salient remarks regarding vesting have made a particular impression on me during the study and I wish to repeat them here. One is from a traditional owner of *Ungalian* (Long Island). The other is from a member of the team that recommended that Long Island be reserved for the conservation of flora and fauna.

Traditional owner:

Next time you come I won't talk to you because I'm traditional owner for that country Long Island. Unless you going to make it Aboriginal Reserve Class A then I don't want to talk to you.

Conservationist:

It can't be made Aboriginal Reserve, that's a sellout. Vesting is everything and it needs to be vested for conservation in the National Parks and Nature Conservation Authority. If it is vested for the use and benefit of Aborigines then it means the primary purpose is for the benefit of Aborigines. That may well conflict with the needs of conservation in the future. We have a responsibility to all the people of Australia to manage this area properly.

Both these statements stem from important wisdoms. These wisdoms are not necessarily in conflict. In fact, both men would almost certainly come to agreement on a common vision for the future management of Long Island.

The failure appears to be legislative. There has been a protracted debate over equitable sharing of management responsibilities in various national parks in Western Australia, but in many of these cases, considerable rancour continues to exist because the land is not fundamentally recognized as Aboriginal; it is vested in the NPNCA. An example of how close CALM can come to actual parity in authority over a National Park is the Purnululu example. Here, through the Park Council, conservation and Aboriginal interests are nearly equally represented. The rub comes at the ministerial level, and the debate continues (so far as I know) as to whether the Minister for CALM *may* or *shall* consult the Minister for Aboriginal Affairs in the event of a deadlock. The point of contention is, of course, about who holds the whip hand.

For Aboriginal people, vesting of the area in the NPNCA would bring about real changes. As Stan Stevens sums up,

National parks bring outside administrators and outside priorities to what was previously local land and locally managed resources. The result is the imposition of outsiders' demands for recreation, tourism revenue, and national symbols on lands which had been fundamental

sources of subsistence and identity for indigenous peoples. ¹

If the Buccaneer is vested principally for conservation then the conservationist, with the very best of intentions, will undoubtedly alienate the traditional owner from what he considers his. This will happen in the concrete sense that the traditional owner may have restrictions of some form placed on him, or that his traditional country may be used for purposes he is not able to control, and also in the sense that his "feeling" for the land will be altered. The traditional owner feels that he really "owns" Long Island, with an entitlement that has come to him from the beginning of time. To suddenly determine that the Government of Western Australia has placed a sort of encumbrance upon the island will undoubtedly diminish the quality of the relationship the Aboriginal person has to it.

Further, with the strength of Western science and the dynamics of the Western way of doing things, the traditional owner will likely be swamped with proposals and intentions, good and bad. What begins as *cooperation* may end in *co-optation* unless there is a real and concerted effort to develop formal structures that provide guarantees of real parity in joint management.

In the Canadian experience with the James Bay Cree Indians, a well regarded structure for joint resource management, the James Bay Agreement, has been in force for more than ten years. It is distinguished by,

... a formal political mechanism... for user participation in management decision making; harvesting priorities... and the allocation of the harvests [which have been]

¹ Stevens, Stan, 1986. *Inhabited National Parks: Indigenous Peoples in Protected Landscapes*. East Kimberley working paper No. 10. East Kimberley Impact Assessment Project.

made explicit and agreed upon by government and Native parties.¹

The result has been less than perfect harmony between the various players. However, it does seem to have provided the formal structure for sorting out differences between user groups and government instrumentalities without the Cree being disenfranchised by the process, and with a reasonable level of protection for the environmental values ensuing.

In a recent paper on the rights of indigenous people in the U.S.A. and U.S.S.R. Barry Wilson refers to "co-management" (which is the equivalent of joint management) being an "in-word" at a symposium on Indian fishing rights in Seattle. He noted that,

"... no-one was sure what this term means in practise but there was an obvious desire of all parties to 'bury the hatchet' and get on the with business of managing and conserving the resource as allies in the face of environmental degradation caused by [other] interests."²

This is quite obviously the attitude that needs to be brought to the Buccaneer Archipelago. The conservationist and the traditional owner must come together in a way that leaves neither with a whip hand. There needs to be a genuine marriage. Marriage is about containing and balancing a structural opposition within a legally recognized contract which is designed to help the relationship proceed. Cross culturally, the practice, in some form, is a human universal. Although there are problems and

¹ Berkes, Fikret, 1989. "Co-Management and the James Bay Agreement," in E. Pinkerton (ed.) *Co-operative Management of Local Fisheries: New Directions for Improved Management and Community Development*. University of British Columbia Press, Vancouver. pp. 204-05

² Wilson, Barry R., *Subsistence Hunting, Fishing and Gathering Rights of Native People in the U.S.A. and U.S.S.R.* Department of Conservation and Land Management, Perth. p. 11.

failures, the ideal is that neither partner dominates the other, and the force of law encourages the partners to reconcile those differences for which there is a reasonable outcome. Divorce is usually possible for overwhelming irreconcilable differences.

The various possibilities for vesting will be well known to CALM, but I will list some of the more salient here, and very briefly outline what I see as the advantages or disadvantages in relation to the problem of creating a relationship based on equality between conservation and Aboriginal interests.

9.13. Vesting possibilities

- a. In the NPNCA as a marine park over water and a conservation reserve or other reserve under the CALM Act over the islands.**

Advantage: Gives CALM clear scope to manage as a multiple use area subject to other Acts such as the Fisheries Act (1905) and the Mining Act (1978).

Disadvantage: Does not recognize Aboriginal prior entitlement, and would rely on the goodwill of Aboriginal people to participate in a joint management arrangement. While this is the sort of arrangement that may have been envisaged at the start of this project, the intervening events have shown that it would probably be rejected by enough Aboriginal people as to make it untenable.

Expected Aboriginal outcome:

A split in the Aboriginal communities between those who are willing to accept a compromise to provide some protection to the study area, but rejected by many.

- b. **In the Aboriginal Lands Trust (ALT) for the use and benefit of Aborigines on condition that CALM provides management for conservation under Section 16 of the CALM Act.**

Advantage: Clearly recognises Aboriginal pre-entitlement and provides for management of the area as if it were subject to Number 1 above.

Disadvantage: Is vested in a body that does not specialise in the conservation of nature. This could create difficulties between the vesting body and the department responsible for implementing policy. There is a question whether Section 16 could be used this way.

Expected Aboriginal outcome:

Initial satisfaction that Aboriginal prior entitlement is recognised, but this could dissipate with growing problems of dealing with two departments which may be at cross-purposes.

- c. **Held in trust for Aboriginal traditional owners by NPNCA who manage under the CALM Act in a manner similar to Number 1 above.**

A similar suggestion was made by John Cotton with regard to the Rudall River National Park in the resource document :The Significance of the Karlamilyi Region to the Martujarra of the Western Desert. see esp. pp. 76-77.

Advantage: Acknowledges Aboriginal prior entitlement.
Would create a legal framework where a joint

management agreement could be worked out and specified in a Deed of Trust.

Disadvantage: Cotton points to some uncertainty that this is possible under existing legislation.

There might be a need to formally define who is a "traditional owner." This is not anthropologically difficult, but it might result in a situation where some Aboriginal people have considerable influence in the area, while others become disenfranchised.

Expected Aboriginal outcome:

There could be a worry that this proposal smacks of paternalism ("Why should the land be held in trust, why not just give it back to us.") but this may be able to be worked out through the negotiations over the conditions of the Deed of Trust.

- d. **Vested in a newly created authority as an Aboriginal national park and an Aboriginal marine park, with a separate Act, or under appropriate ammendments to the CALM Act, that recognizes its function as Aboriginal land and waters, where the primary purpose is multiple use of the area consistent with the conservation of both nature and Aboriginal culture, and managed by a joint authority with at least 50% Aboriginal membership.**

This is a somewhat radical and challenging solution, but I think it provides the best overall conditions to manage the area in a way that unites the two most important interest holders.

Advantage: Clearly recognizes Aboriginal pre-entitlement. Clearly defines conservation as the major purpose of area. Creates the conditions for genuine equality between nature conservation and Aboriginal interests. Allows refining of problems of the CALM Act relating to Aboriginal interests; for e.g., Section 56(c) where "archaeological" should be complemented with "ethnographic."

Disadvantage: May be a departure from existing policy. Requires the consent of the Legislative Council which might object, if the government were willing to support it. ¹

Expected Aboriginal outcome:

Should create a substantial amount of goodwill which would have a flow-on effect in terms of beginning a genuine joint management effort. Over time negotiation of the joint management agreement might become a more difficult task, but Aboriginal people and conservation administrators would be constrained to work towards mutually recognized goals.

I think it is necessary to take a bold step in relation to resolving the needs of Aboriginal people and conservation managers in the Buccaneer Archipelago. Without a bold step, the seemingly endless negotiation over the minutiae of the relationship between conservation and Aboriginal interests is bound to continue. There is danger in allowing this to happen. Already one important

¹ If this suggestion were to be undertaken, it might be expedient to put the park boundary west of Cockatoo Island. It was suggested by one of my tourism informants, that Cockatoo and Koolan Islands are traditionally considered a unit, in Euro- Australian culture. My guess is that the owners of Cockatoo Island would not be interested in joint management with Aboriginal people until the programme was shown to be successful.

project - this one - has been seriously clouded, not by matters of substance, but by disputes about who should own and control the information and the direction of the research. In my view the present state of affairs threatens the basis upon which conservation interests and Aboriginal interests might find mutual agreement and developing trust. Without a basis of trust between these two crucial stakeholders the current unruly situation will prevail and the necessary protections may fail to be implemented. I see little chance of the necessary trust being developed unless there is a structural change that places the two primary interest holders on equal terms and constrains them to remain on equal terms.

CALM appears to be working hard, at a corporate level, and through the efforts of individual officers, to achieve management goals that should be acceptable and of real benefit to Aboriginal people in the Buccaneer. However, Aboriginal people, backed by their advisors, are becoming increasingly wary of any arrangements that fall short of giving them a significant degree of *control* over land and waters that they consider inalienably theirs. This attitude is likely to get stronger in the future. It must be considered a healthy attitude because it encourages these otherwise quite powerless people to stand up for their beliefs. As their beliefs intrinsically involve the land and sea, and access to, and control over resources and cultural sites, this growing strength of purpose must be reckoned with by CALM and others.

Both Aboriginal people, and those who would look after the conservation values of the Buccaneer have responsibilities to ensure the area is well managed. The needs of both groups appear to be very closely matched, even to the extent that there is some geographic overlap of those areas that Aboriginal people and

nature conservationists may view as worthy of special protection (See 10.1 below).

Creation of an Aboriginal National Park would recognize that good management is a responsibility that overrides pecuniary interests. An Aboriginal National Park would have the advantage, from the conservationist's point of view, that the area could be defined in such a way that it would not be available for living area leases and other small area titles that could erode overall management authority. At the same time it would strongly recognize the collective rights of Aboriginal people.

If this proposal for an Aboriginal National Park and Aboriginal Marine Park is considered workable, then the newly formed Authority could work in a similar fashion to the NPNCA, but with an assurity that at least 50% of the voting membership would be held by Aboriginal people. Other places could be held by relevant interests such as local government, a representative of the pearling industry, a tourist industry representative and so forth. In the event of a deadlocked vote, there could be an acceptable procedure specified in the Act to arrive at a decision. CALM would likely be its administering department. One, well chosen, Park Manager with relevant support, should be able to begin building trust between all the parties concerned, and establishing a management presence in the Park.

9.13.1. Aquatic Reserve under Fisheries Act (1905)

It may be possible to reserve parts of the study area under Section 30 of the Fisheries Act (1905). By zoning the eastern side of King Sound on a headland to headland basis it would be easy to include the pearling interests in it, while excluding most of the islands. This might make the pearlers feel somewhat more secure, but in real terms I don't see what advantage it gives them, given the provisions of Section 13(3) of the CALM Act,

assuming that reservation as a Marine Park is a likely possibility for the bulk of the marine portion of the study area. Reservation as an Aquatic Reserve might also have the unwanted result of increasing feelings of insecurity of the Aboriginal people and local recreationists.

10. Specific suggestions

- 1. There needs to be a thorough study of traditional and modern Aboriginal land and marine use practices in the study area.**

This is work that was to have been started by this project, but was prevented by the various concerns described in 2.0 above. It still urgently needs doing. Ideally it would be initiated and controlled by the Aboriginal people themselves with help from outside only as necessary.

- 2. The group of islands including Irvine, Bathurst, Flora and Kathleen Islands and the adjacent reef to the low water mark on a spring tide, could be made a sanctuary area for the preservation of its cultural and natural values.**

Given the treble concerns that Irvine and Bathurst Islands contain cultural sites of extreme regional significance, that the most fragile and easily disturbed marine coral environments are found there, and that both Islands are noted by Dr. Burbidge in his subset of Buccaneer islands of high importance for management and conservation, it seems reasonable that they should be given some special priority. Protection in a sanctuary type of zoning may provide added protection against tourist travel from the

nearby Cockatoo resort and Koolan Island. It should be remembered that the cultural sites here are prone to desecration by otherwise well meaning tourists, as are corals and other fragile biota.

There are two economic concerns on these islands, mining and trochus picking. The Mines Department is likely to object to any arrangement which restricts mining, but because of the cultural interest in this case there may be a way of persuading them otherwise. It is hard to imagine conditions where BHP would be given Aboriginal blessing to break their agreement with the BAA and procede with mining, or where the Minister for Aboriginal Affairs would allow disturbance of these particular sites under Section 18 of the AHA.

The Museum researchers indicated that trochus was present at Irvine and Bathurst Islands, and Doug Wasley of One Arm Point is of the opinion that the islands are used, to an as yet unknown extent, for trochus collection. We know that trochus are less likely to inhabit live coral structures than hard reef pavements. Karina Magro will undoubtedly be able to tell us more.

- 3. Unless it is already doing so, CALM should enter specific discussions about mutual needs in regard to the management of cultural heritage, with GNAC and the BAA, with the intention of developing a set of procedures and mechanisms for cultural management in the study area.**

The content of these discussions could provide a valuable help to those who are presently re-writing the Aboriginal heritage legislation.

- 4. Research should be conducted to determine the effects of pearl farm longlines on the nearby marine environment.**

This could be accomplished by funding a marine biologist to monitor a range of pearl farms both within and outside the study area. Perhaps this could be funded by the Fishing Industry Research Development Committee (FIRDC) since it is a fisheries problem and there would be potential benefits in terms of advising pearl producers on ways to ensure environmental quality.

- 5. Research should be conducted in order to better understand the effects of pearling longlines on turtle and dugong movements.**

The orientation of longlines, (whether parallel or perpendicular to the shore) is likely to have an effect on turtle and dugong movements. This should be looked at, probably by Dr. Prince.

- 6. A thorough study of the West Kimberley dugong population is needed.**

Especially the sociological aspects of Dugong behaviour in the area needs to be established.

- 7. Biosphere reserve**

Once a management plan is in place that protects the conservation values in the Buccaneer Archipelago, while at the same time allowing for both traditional and modern Aboriginal activities, and important commercial activities, then the study area may meet the requirements for recognition as an International Biosphere Reserve.

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Appendix 1

Total fish catches (excluding trochus and pearl oyster) in Fisheries Statistical block 1623 from July 1985 to June 1988

Western Australian Fisheries Department
Catch and Effort Statistics System

Species	total catch over three years in kgs.	average annual catch over three years in kgs.
Barramundi	14780	4927
Bream, black	125	42
Cod	221	74
Mud crab	2047	682
Sand crab	20	7
Black kingfish (cobia)	667	222
Mackerel (other)	2378	340
Spanish Mackerel	868	289
Bluetail mullet	1005	335
Sea mullet	11170	3723
Yellow eye mullet	732	244
Mulloway	32	11
Other varieties	1098	336
Queenfish	79	26
Red emperor	194	26
Scaly mackerel	190	63
Snapper	533	178
Threadfin (by catch with barramundi)	4837	1612
Giant threadfin	1065	355
Gold spotted trevally	176	59
Golden trevally	1058	353
Skipjack trevally	44	15
Coral trout	114	38
Combined total	43503	14501



Appendix 2

Interviewer to take a map with the nine sectors marked and ask people the following questions:

Family group..... / Age: Y M
O man woman

- 1) How many times do you think you went out to the islands in a boat in the past year?

1 time
2 -5 times
5-20 times
20-50 times
more than 50 times

- 2) Look at the map and see which sectors did you go to?

Sectors: 1 2 3 4 5 6 7 8 9

- 3) What did you mostly do there? Tick more than one if you want.

Camping	
Visiting other people	Picking trochus
Fishing	Hunting for dugong
Hunting gulil	Sight seeing
Ceremonies	

- 4) Do you have traditional country in the area?

Yes No

4a. Which Island, or part of the mainland is your traditional country?.....

.....

.....

4b. Do you often go to your traditional land?

Not very often.

Quite often, but not as much as I would like.

I go there every chance I can get.

4c. Do you have plans to go and live in your traditional country?

Yes

No

Don't know

4d. Are you already living there, at least part of the year?

Yes

No

5) Have you seen any rare animals, or birds or shells that you are not used to seeing? Do they have a Bardi/Djawi name?

.....
.....
.....
.....

Where do you see them?.....

.....

When do you see them?

.....
.....

Can you say something about them so the interviewer can write down what they are?

.....
.....
.....

7) Do you think there are as many gulil around now as there were ten years ago?

Yes No Don't know

7a) If you think there are less gulil now, what do you think has happened to them?

Too much hunting by Aboriginal people
Too much hunting by other people
Natural reasons -- gulil getting sick
Ceremonies for gulil not being done properly any more

8) Are there as many dugong as there were ten years ago?

Yes No Don't know

8a) If you think there are less dugong now, what do you think has happened to them?

Too much hunting by Aboriginal people
Too much hunting by other people
Natural reasons -- dugong getting sick
Ceremonies for dugong not being done properly any more

9) Do you collect trochus? Yes No

If yes, would you please look at the map and answer these questions:

9a. Which sectors are best for trochus? Tick more than one if you want.

Sectors: 1 2 3 4 5 6 7 8 9

9b. Do you think there are as many trochus now as there were 10 years ago?

Yes No don't know

9a) If you think there are less trochus now, what do you think has happened to them?

Too much picking by Aboriginal people
Too much picking by European people
Too much picking by Indonesian people
Natural reasons -- trochus getting sick

10) Did you know that the Department of CALM is making special plans for the islands and waters of the Buccaneer Archipelago?

Yes No Don't know

10a) Do you think that the Department of CALM will be able to help Aboriginal people to look after the islands and waters?

Yes No Don't know

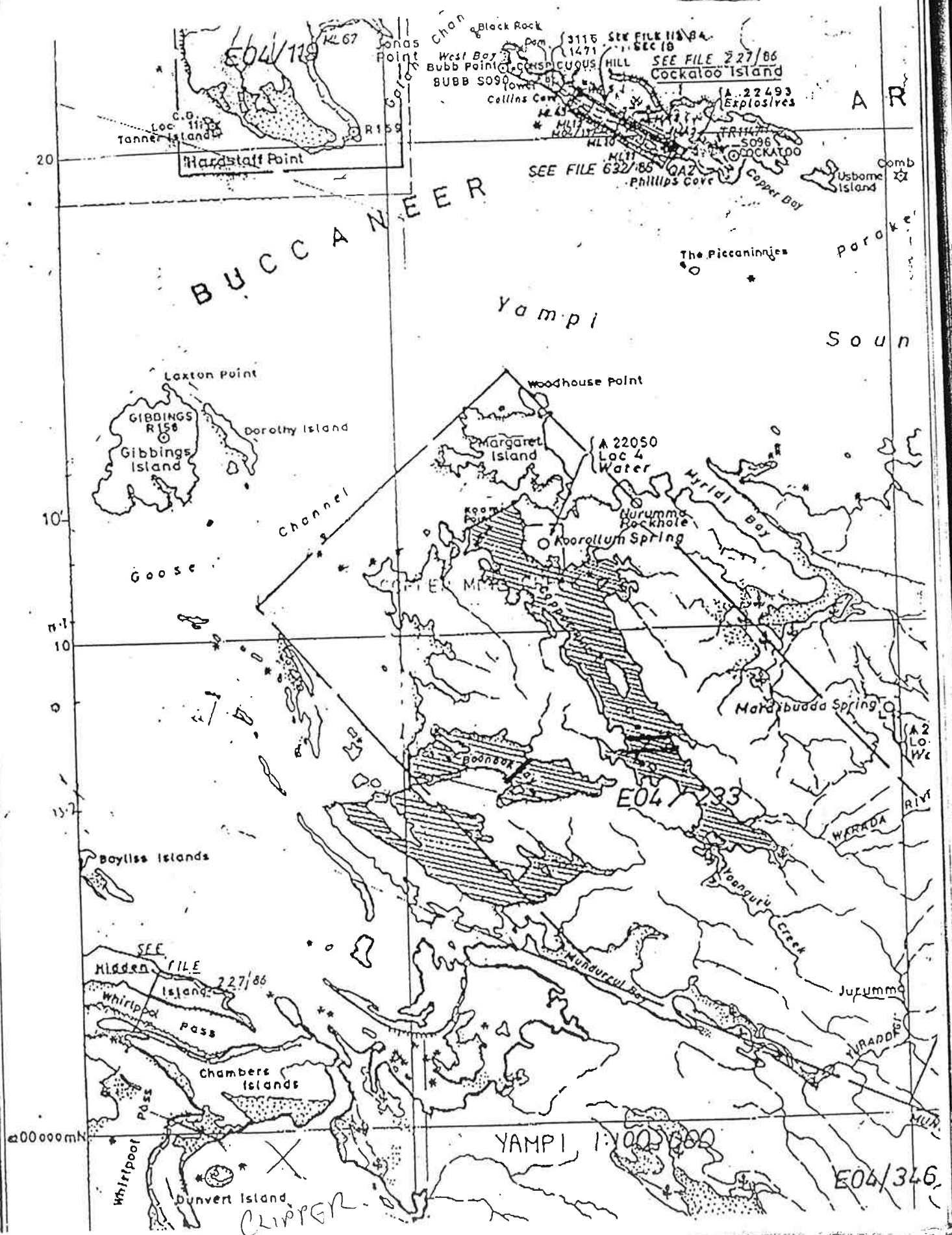
Guy Wright will be in One Arm Point after the first of May. He would like to meet with you.

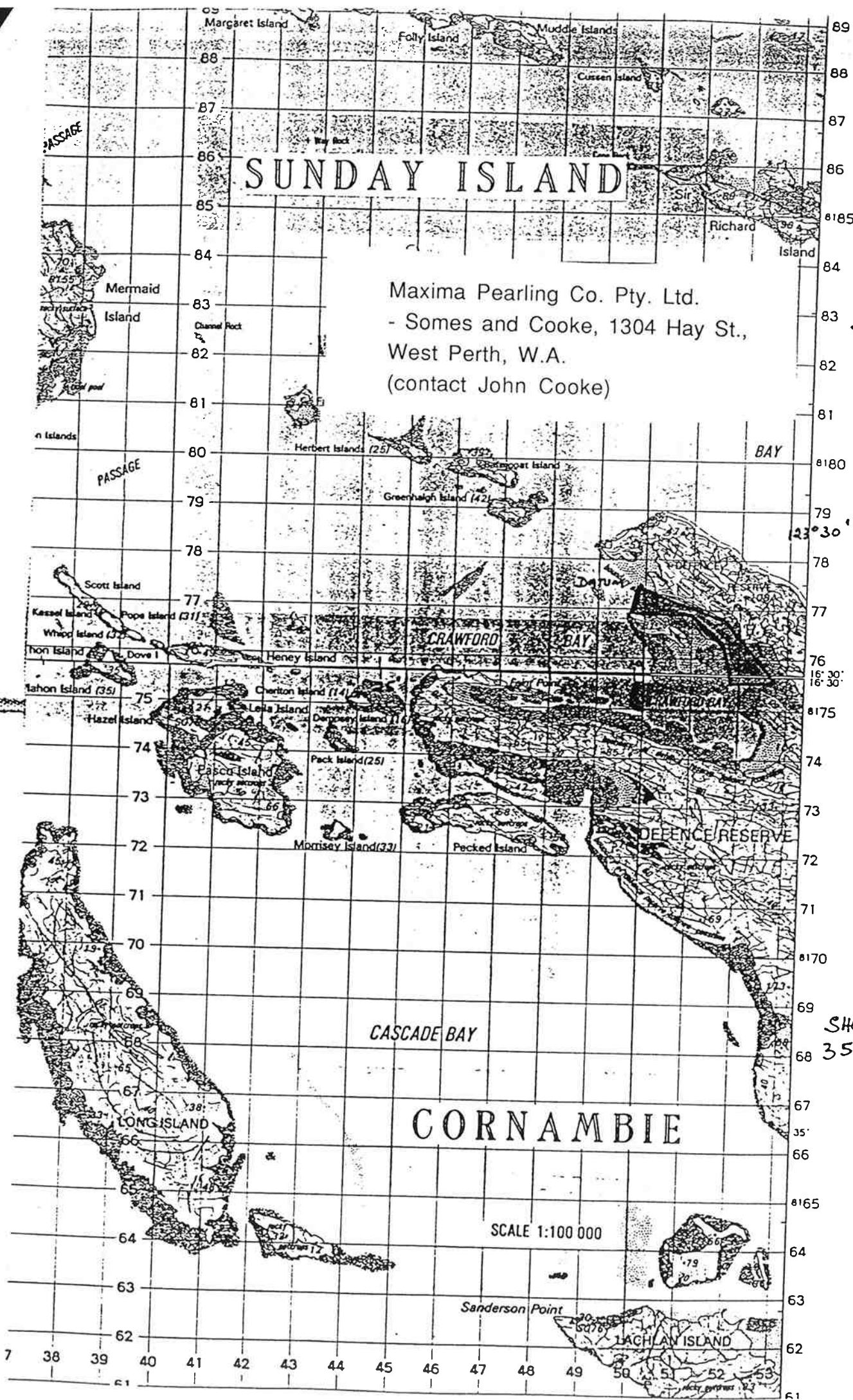
Guy has been to One Arm Point a couple of times and has been taken around the islands with the rangers, and Kharki Stumpagee, David Wiggan and Peter Angus. He was at the meeting with the Mowanjum and Cone Bay mob in February. He would like to talk to as many people as he can and hear what people have to say.

He will be able to explain what CALM is doing, and the stages in their planning strategy.

APPENDIX 3
PEARLING LEASES
WITH CONTACTS.

VIEW IS
BROOME PEARLS
OPPER MINE CREEK
All areas hatched





SUNDAY ISLAND

Maxima Pearling Co. Pty. Ltd.
- Somes and Cooke, 1304 Hay St.,
West Perth, W.A.
(contact John Cooke)

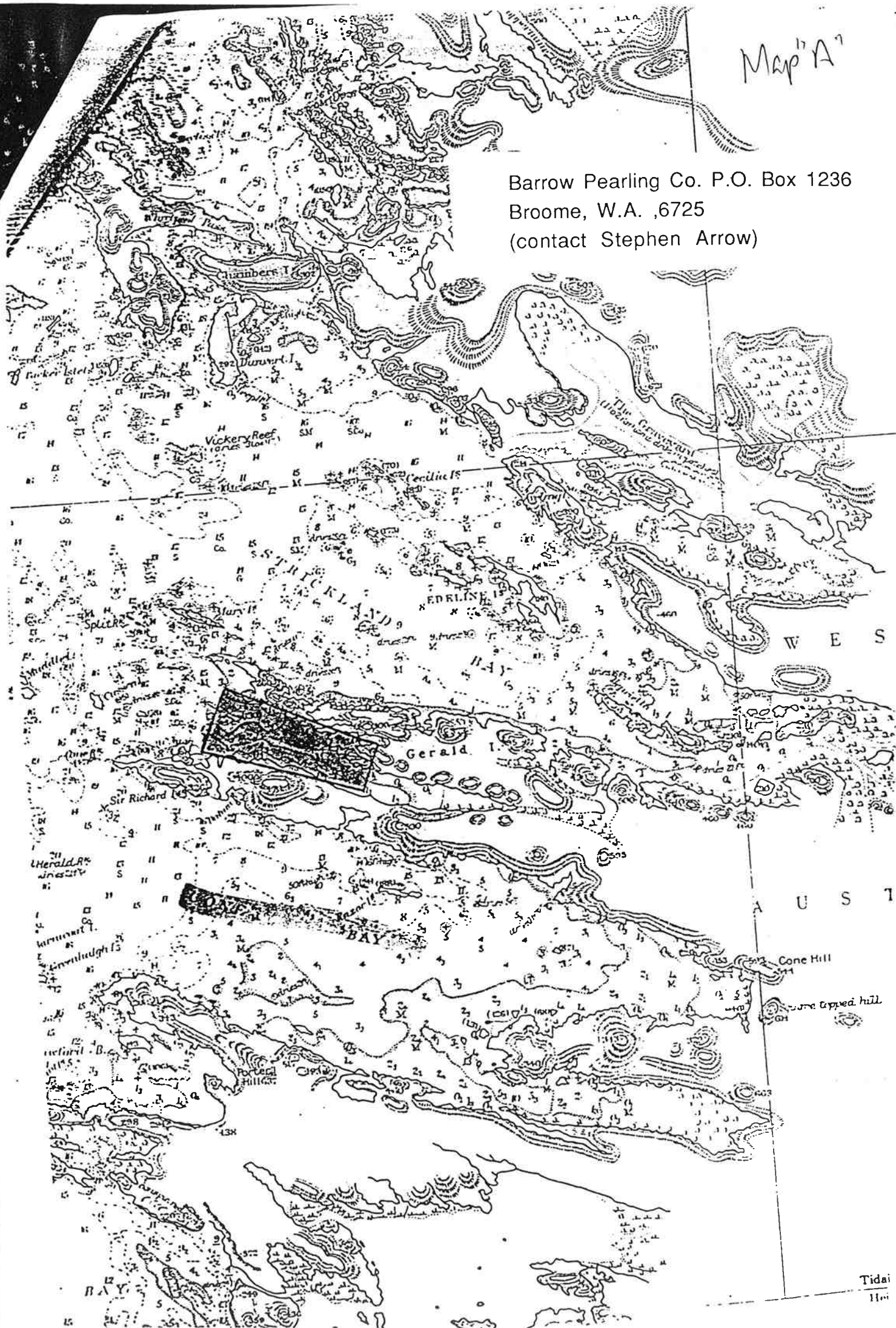
CORNAMBIE

SCALE 1:100 000

SH
35.

SH
356

Barrow Pearling Co. P.O. Box 1236
Broome, W.A. ,6725
(contact Stephen Arrow)



BUCCANEER ARCHIPELAGO

SCHEDULE OF APPLICATIONS FOR NEW PEARLING LEASES 1990

CONTACT NAME AND COMPANY	AREA	CO-ORDINATES	MAP ATTACHED
Stephen Arrow Barrow Pearling Co P O Box 1236 BROOME WA 6725 091 922059	Northern Peninsula Cone Bay	Point A 16°23.5' Point B 16°25.5' Point C 16°25.5' Point D 16°26'	123°30.9' 123°30.9' 123°30.9' 123°34.6'
John Cooke Maxima Pearling Co Pty Ltd C/- Somes & Cooke 1304 Hay Street WEST PERTH WA 6005 3224853	Crawford Bay	Datum 8,177,400 N Long from Datum 1,900m Bearing 1,700m " 900m " 850m " 900m " 1,300m " BTD 550m "	123°28.3' 109°30' 139° 270° 346°30' 313° 270° 16°
Larry House P O Box 660 Mark Walsh P O Box 369 Clipper Pearls Pty Ltd BROOME WA 6725 Larry 091 921 981 Mark 091 922 271	South of <i>Chamber</i> Chalmers Islands	16°17.1'S 16°17.1'S 16°18.1'S 16°18.1S	123°31'E 123°33'E 123°31'E 123°33E
George Kailis Broome Pearls P/L C/- Kailis Group P O Box 353 Stirling Highway NEDLANDS WA 6009 389 1277	Application made in 1989 - Approved in 1990 Coppermine Creek) Boonook Bay) Unnamed Bay)	None Provided	D

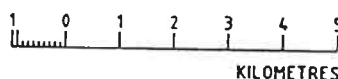
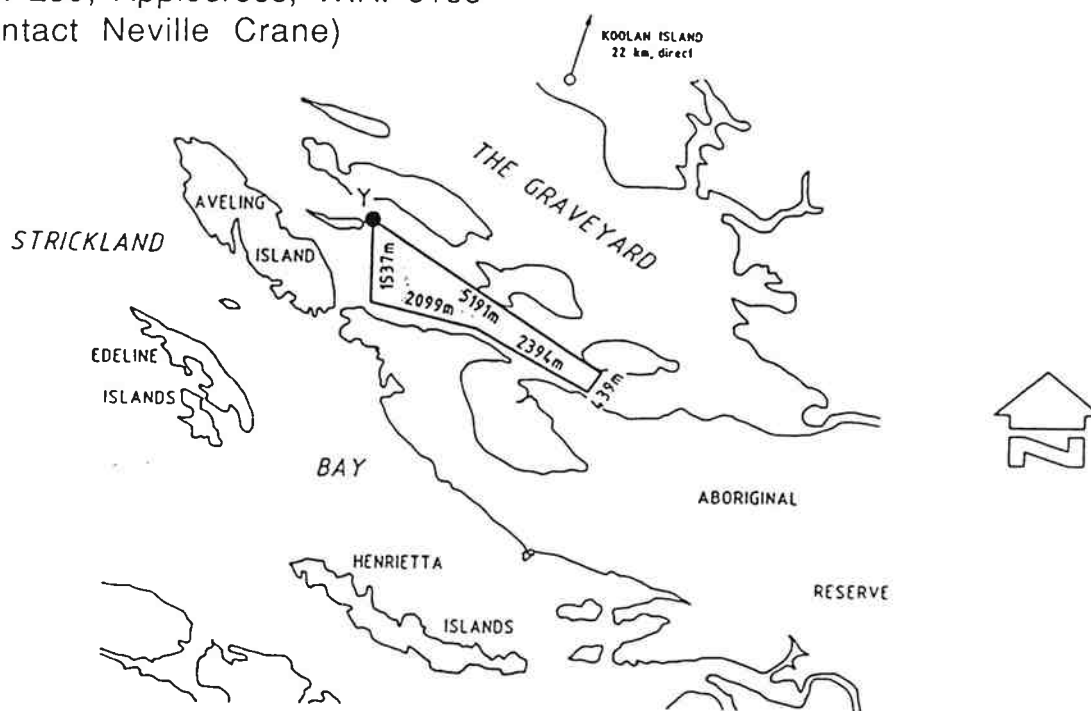
THE GRAVEYARD (STRICKLAND BAY)

EXCLUSIVE LICENCE UNDER PEARLING ACT

ALL THAT PORTION OF TERRITORIAL WATER WITHIN THE BOUNDARY DESCRIBED HEREUNDER AND SHOWN COLOURED GREEN ON THE PLAN BELOW.

COMMENCING AT A POINT ("Y") AT LATITUDE $16^{\circ}20'37''$ SOUTH AND LONGITUDE $123^{\circ}38'03''$ EAST;
 THENCE DUE SOUTH TO A POINT AT LATITUDE $16^{\circ}21'27''$ SOUTH AND LONGITUDE $123^{\circ}38'03''$ EAST;
 THENCE IN AN EASTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}21'42''$ SOUTH AND LONGITUDE $123^{\circ}39'12''$ EAST;
 THENCE IN A SOUTH-EASTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}22'19''$ SOUTH AND LONGITUDE $123^{\circ}40'23''$ EAST;
 THENCE IN A NORTH-EASTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}22'07''$ SOUTH AND LONGITUDE $123^{\circ}40'31''$ EAST;
 THENCE IN A NORTH-WESTERLY DIRECTION TO THE POINT OF COMMENCEMENT AND COMPRISING A WATER AREA OF ABOUT 1.06 SQUARE NAUTICAL MILES.

Pearls Pty. Ltd.
 Box 239, Applecross, W.A. 6153
 (contact Neville Crane)



EXAMINED

Swellane 10.7.89
 MNGR. S & C S, D.M.H.
 D.M.H. PLAN 416 - 15 - 1

FISHERIES DEPARTMENT
 WESTERN AUSTRALIA



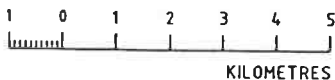
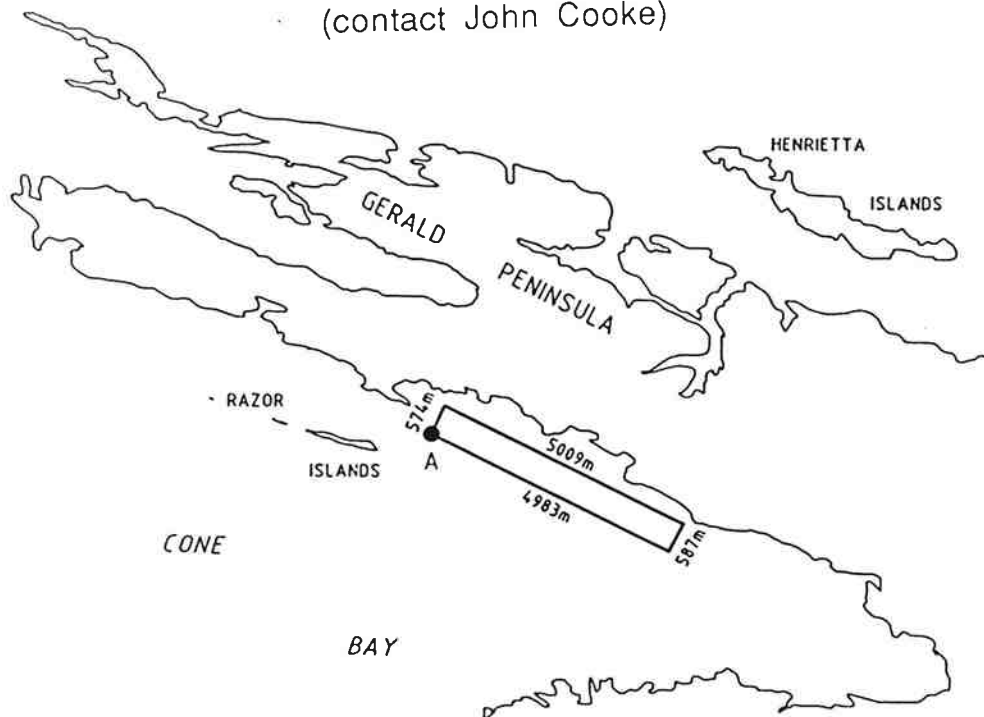
CONE BAY "A"

EXCLUSIVE LICENCE UNDER PEARLING ACT

ALL THAT PORTION OF TERRITORIAL WATER WITHIN THE BOUNDARY DESCRIBED HEREUNDER AND SHOWN COLOURED GREEN ON THE PLAN BELOW.

COMMENCING AT A POINT ("A") AT LATITUDE $16^{\circ}27'06''$ SOUTH AND LONGITUDE $123^{\circ}34'21''$ EAST;
THENCE IN A NORTH-EASTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}26'49''$ SOUTH AND LONGITUDE $123^{\circ}34'29''$ EAST;
THENCE IN A SOUTH-EASTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}28'00''$ SOUTH AND LONGITUDE $123^{\circ}37'01''$ EAST;
THENCE IN A SOUTH-WESTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}28'17''$ SOUTH AND LONGITUDE $123^{\circ}36'52''$ EAST;
THENCE IN A NORTH-WESTERLY DIRECTION TO THE POINT OF COMMENCEMENT AND COMPRISING A WATER AREA OF ABOUT 0.84 SQUARE NAUTICAL MILES.

Maxima Pearling Co. Pty. Ltd.
- Somes and Cooke, 1304 Hay St.,
West Perth, W.A.
(contact John Cooke)



EXAMINED

Wallace 28.9.89
MNGR. S & CS, D.M.H.
D.M.H. PLAN 416 - 18 - 1

FISHERIES DEPARTMENT
WESTERN AUSTRALIA



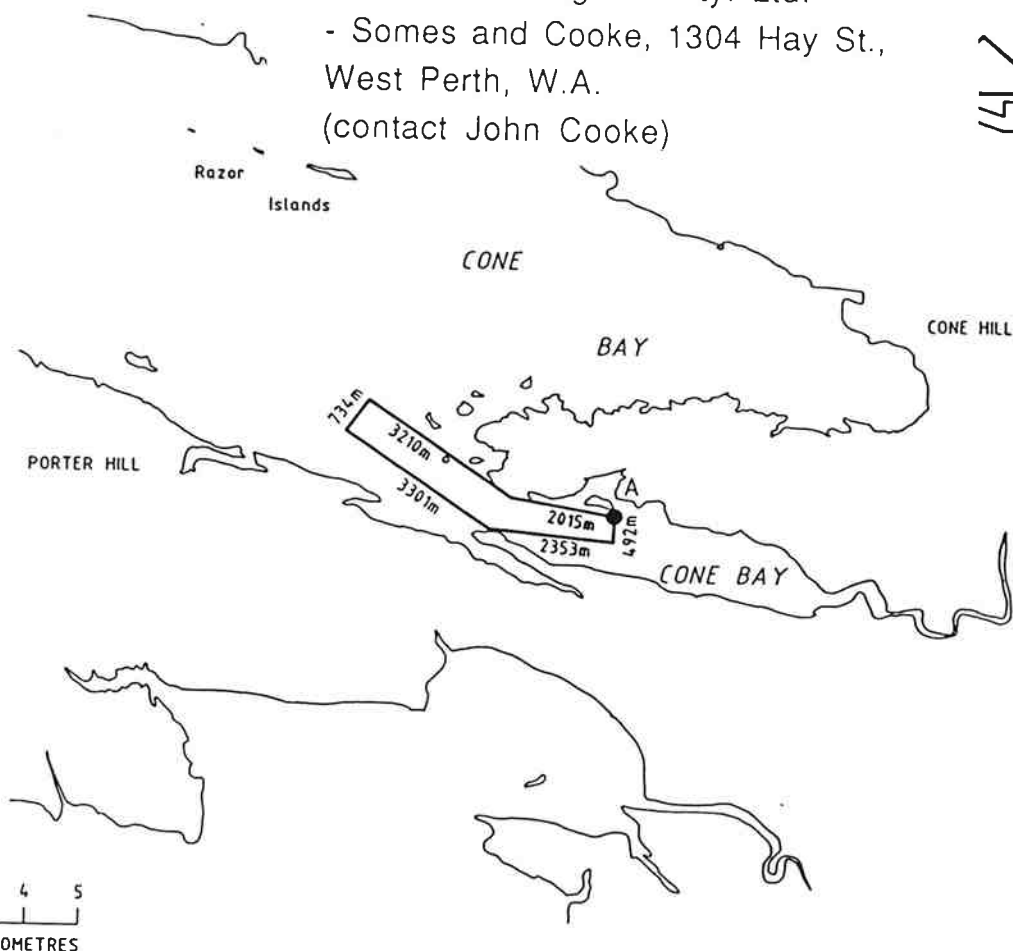
CONE BAY "B"

EXCLUSIVE LICENCE UNDER PEARLING ACT

ALL THAT PORTION OF TERRITORIAL WATER WITHIN THE BOUNDARY DESCRIBED HEREUNDER AND SHOWN COLOURED GREEN ON THE PLAN BELOW.

COMMENCING AT A POINT ("A") AT LATITUDE $16^{\circ}30'54''$ SOUTH AND LONGITUDE $123^{\circ}36'26''$ EAST;
THENCE DUE SOUTH DIRECTION TO A POINT AT LATITUDE $16^{\circ}31'10''$ SOUTH AND LONGITUDE $123^{\circ}36'26''$ EAST;
THENCE IN A WESTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}31'03''$ SOUTH AND LONGITUDE $123^{\circ}35'07''$ EAST;
THENCE IN A NORTH-WESTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}30'04''$ SOUTH AND LONGITUDE $123^{\circ}33'34''$ EAST;
THENCE IN A NORTH-EASTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}29'45''$ SOUTH AND LONGITUDE $123^{\circ}33'49''$ EAST;
THENCE IN A SOUTH-EASTERLY DIRECTION TO A POINT AT LATITUDE $16^{\circ}30'43''$ SOUTH AND LONGITUDE $123^{\circ}35'19''$ EAST;
THENCE IN AN EASTERLY DIRECTION TO THE POINT OF COMMENCEMENT AND COMPRISING A WATER AREA OF ABOUT 1.05 SQUARE NAUTICAL MILES.

Maxima Pearling Co. Pty. Ltd.
- Somes and Cooke, 1304 Hay St.,
West Perth, W.A.
(contact John Cooke)



EXAMINED

Wallace 28.9.89

MNGR. S & CS, D.M.H.

D.M.H. PLAN 416 - 19 - 1

FISHERIES DEPARTMENT
WESTERN AUSTRALIA



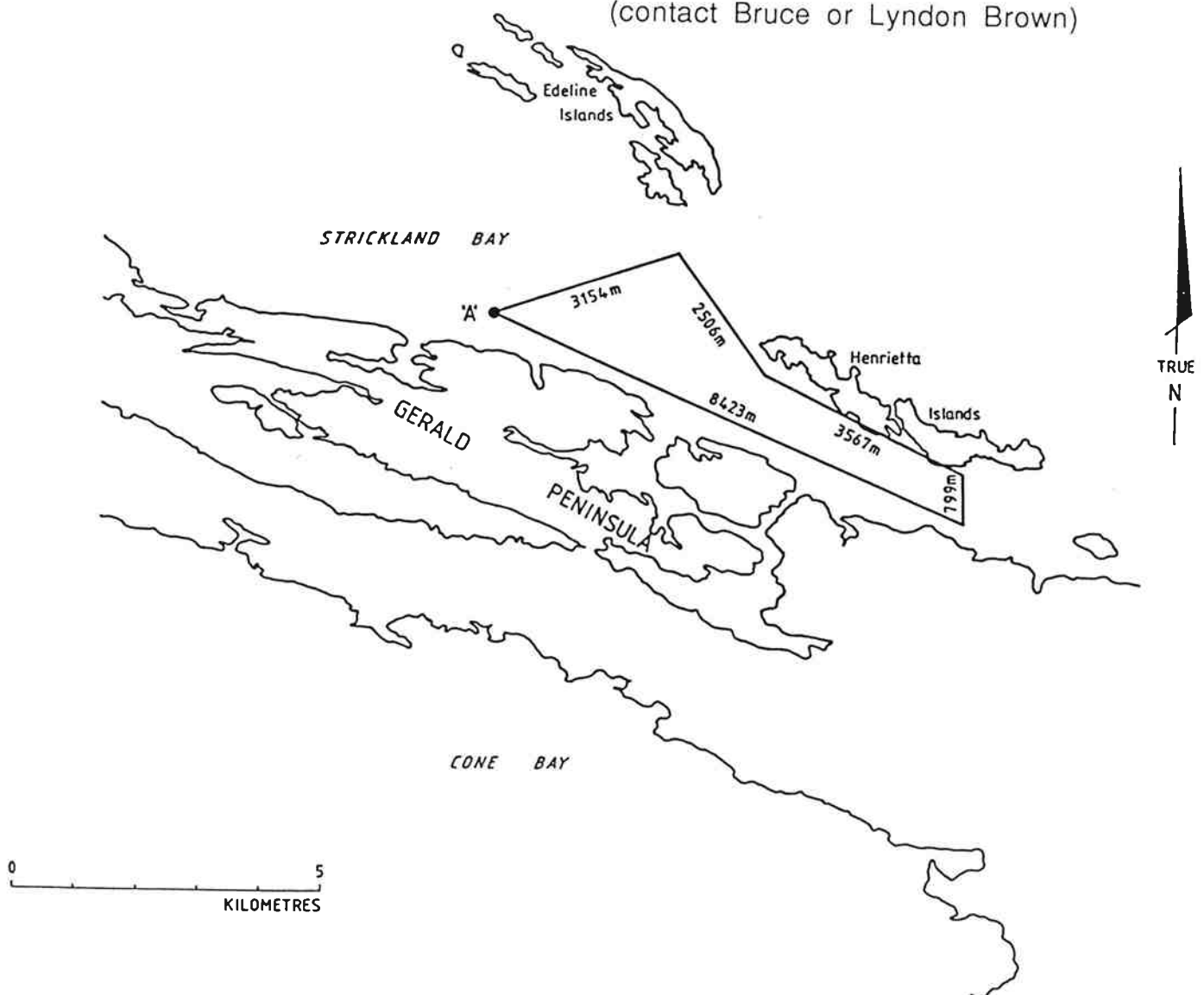
STRICKLAND BAY

EXCLUSIVE LICENCE UNDER PEARLING ACT

ALL THAT PORTION OF TERRITORIAL WATER WITHIN THE BOUNDARY DESCRIBED HEREUNDER AND SHOWN COLOURED GREEN ON THE PLAN BELOW.

COMMENCING AT A POINT ("A") AT LATITUDE 16° 23' 50" SOUTH AND LONGITUDE 123° 34' 50" EAST;
 THENCE IN A NORTH-EASTERLY DIRECTION TO A POINT AT LATITUDE 16° 23' 18" SOUTH AND LONGITUDE 123° 36' 31" EAST;
 THENCE IN A SOUTH-EASTERLY DIRECTION TO A POINT AT LATITUDE 16° 24' 23" SOUTH AND LONGITUDE 123° 37' 22" EAST;
 THENCE IN A SOUTH-EASTERLY DIRECTION TO A POINT AT LATITUDE 16° 25' 14" SOUTH AND LONGITUDE 123° 39' 10" EAST;
 THENCE DUE SOUTH TO A POINT AT LATITUDE 16° 25' 40" SOUTH AND LONGITUDE 123° 39' 10" EAST;
 THENCE IN A NORTH-WESTERLY DIRECTION TO THE POINT OF COMMENCEMENT AND COMPRISING A WATER AREA OF ABOUT 2.5 SQUARE NAUTICAL MILES.

Cygnet Bay Pearls, P.O. Box 70
 Broome, W.A., 6725
 (contact Bruce or Lyndon Brown)



EXAMINED

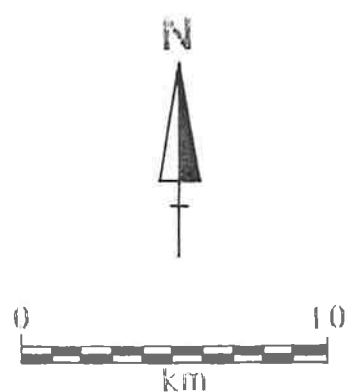
R. Mahony 9.5.89

D.M.H. CHIEF CARTOGRAPHER

D.M.H. PLAN 416 - 6 - 1

FISHERIES DEPARTMENT
 WESTERN AUSTRALIA





MAP 1: BUCCANEER ARCHIPELAGO
SHOWING NON-ABORIGINAL
INTERESTS.

