1.0 EXECUTIVE SUMMARY

1.1 This report details the results of a study of the usage of marine resources by Hopevale and Lockhart River Aboriginal communities on the east coast of Cape York Peninsula (CYP).

1.2 The objectives of the study were:

- **To document** the current and historical marine hunting and fishing practices of the Hopevale Aboriginal community adjacent to the Cairns Section of the Great Barrier Reef Marine Park (GBRMP);
- **To compare** these practices with Lockhart River, another east coast Aboriginal community adjacent to the Far Northern Section of the GBRMP;
- **To acquire** indigenous knowledge of the biology and behaviour of tropical marine food resources of the GBRMP;
- **To use** the above information (a) to evaluate the reasons for differing fishing practices and knowledge between the two communities; (b) evaluate the factors that act to limit or encourage marine resource usage by those Aboriginal communities; (c) to assess the possible need for, and methods of, management of marine hunting and fishing practices, and the implications for the species involved; (d) to assess the need for further investigation of possible impact on the Aboriginal communities, due to marine resource management;
- **To provide** the Great Barrier Reef Marine Park Authority (GBRMPA) with recommendations that could be used in the development of a management programme for the usage of marine resources in areas of the GBRMP adjacent to these Aboriginal communities.

This report has been divided into ten sections of which this summary is the first. An outline of the other sections follows.

1.3 Research methodology

This section details the biological and ethnobiological methodology used for this study. Limitations and problems experienced during the field work, and how they affected the objectives are discussed. Four periods of field work were undertaken during the two stages of this project: January to March 1984 (Hopevale); May 1984 to March 1985 (Hopevale); September to December 1985 (Lockhart River); and January to February 1986 (Hopevale). Thus a total of 16 months were spent at Hopevale, and three months at Lockhart River.

1.4 The current and historical marine hunting and fishing practices of the Hopevale community including a summary of the ethnobiological knowledge of marine food resources.

This section documents the historical aspects of marine resource utilisation by Hopevale Aborigines; describes the Hopevale region, its climate and marine habitats; and documents Aboriginal marine usage in the 1980s, including seasonality, locations used, boats and vehicles used, and fishing and marine hunting equipment. The usage of specific marine resources is documented in detail, a summary follows:

DUGONGS: Historically there have been three general phases of dugong hunting by the **Guugu Yimidhirr** people: (1) the subsistence hunting of pre-contact times until the mid-1920s; (2) the commercial hunting by the mission for dugong oil to sell to the Government from about 1928 until 1936, and again 1951 to 1953, and sporadically since then; and (3) the subsistence/recreational take from the mid-1950s to the present.

Dugongs are currently caught for the meat they provide, and for the oil which is used as a panacea for almost any aches, pains or illnesses. Since the introduction of the GBRMPA permits, hunting has been restricted to a four week period in late December to January. Most dugongs are caught from Lookout Point north to the Jeannie River. Hunting occurs from dinghies using a harpoon with a detachable head.

Between January 1984 and February 1987, a total of 74 dugongs (38 females(o); 33 males(o); 3 of undetermined sex(?)) were taken by Hopevale hunters. Biological data indicate that dugongs of all ages, including reproductively active females were hunted. The data obtained suggests that female dugongs may on occasions concentrate in the rich feeding grounds between the Starcke River and the Hummocks. A summary of the ethnobiological information obtained for dugongs is provided, including information on movements, feeding behaviour, and life history.

TURTLES: Turtles have historically been caught by the **Guugu Yimidhirr** Aborigines. Green turtles are currently caught for their meat. Hawksbill turtles are occasionally taken for their carapaces. Green turtles are caught all year, although their condition varies seasonally. They are caught both along the coast and on the reefs. They are taken by either harpooning or 'bulldogging'.

During the field work (January 1984 to February 1985; January to February 1986) at least 109 green turtles were taken (39o; 8o; 62?) and at least two hawksbill turtles. Biological data indicate that the Starcke River region is a feeding area, from which breeding females migrate out prior to mid-September. A summary of the ethnobiological information on turtles is provided, including information on life history, movements, seasonal condition and behaviour.

STINGRAYS, SHARKS AND FISH: Fish have historically been caught by **Guugu Yimidhirr** Aborigines. Western style nets have been used by mission Aborigines since 1898. Fish are currently caught for food, with some low quality fish being used as bait. Some excess fish caught was sold via the butcher's shop in 1984. Stingrays are caught seasonally from October to January. The major seasonally-caught fish are blue-tailed mullet from September to mid-December. Coastal areas from the Annan River to the Jeannie River are used for fishing activities. The main areas are the McIvor and Endeavour Rivers, 'Wharf' creek at Cape Bedford, and the beaches from Elim to the McIvor River. Fishing techniques include spearing, netting, line fishing and spear- guns. A summary of the ethnobiological information on fish is provided, concentrating on stingrays, mullet and barramundi. A total of 121 ethnoclassification terms were recorded.

INVERTEBRATES: Historically invertebrates have been caught and collected by **Guugu Yimidhirr** Aborigines. The mission became involved in the beche-de-mer, trochus and pearl shell fisheries in the early to mid-1900s. These fisheries provided a major portion of the mission's income. Currently invertebrates are used only for food or bait. A summary of the ethnobiological information is provided on the major species currently used, mainly oysters, mussels, crabs, crayfish and sea urchins.

1.5 The current and historical marine hunting and fishing practices of the Lockhart river community including a summary of the ethnobiological knowledge of marine food resources: a comparison with Hopevale.

This section documents the historical aspects of marine resource utilisation by Lockhart River Aborigines; describes the Lockhart region, its climate and marine habitats; and documents Aboriginal marine usage in the 1980s, including seasonality, locations used, boats and vehicles used, and fishing and marine hunting equipment. The usage of specific marine resources is documented in detail, a summary follows:

DUGONGS: Dugongs have historically been exploited by Aborigines in the Lockhart River region. They are currently caught for the meat they provide, and to a lesser extent for oil. Dugongs are hunted all year, but more so from October to January. They are mostly caught south of Cape Direction, and north of the Pascoe River. Harpooning is the most common technique used to catch dugongs, although 'lassoing' is gaining popularity amongst younger hunters.

From late September to late December 1985, 15 dugongs (4o; 11o) were caught. In addition there was a report of two dugongs being caught just prior to this, and at least four being taken by Weipa Aborigines in the Pascoe River area during October. Estimates of annual catches cannot be extrapolated from these data due to the seasonal variability of hunting, and the unpredictability of the availability of boats for hunting. Biological data indicates that dugongs of all ages, including reproductively active females, were hunted. A summary of the ethnobiological information obtained for dugongs is provided, including information on movements, feeding behaviour, and life history.

TURTLES: Green turtles are currently caught primarily for their meat. Hawksbill turtles are occasionally taken for their carapaces. Eggs are collected opportunistically. Green turtles are caught all year, although their condition varies seasonally. They are caught along the coast and on the reefs. They are primarily taken by 'bulldogging', and to a lesser extent by harpooning.

From late September to late December 1985, at least 30 green turtles (11o; 3o; 16?) and one hawksbill turtle were caught. In a similar three month period at Hopevale, at least 27 green turtles (11o; 0o; 16?) were taken. A summary of the ethnobiological information on turtles is provided, including information on life history, movements, seasonal condition and behaviour.

STINGRAYS, SHARKS AND FISH: Fish are caught for food, with some smaller fish being used as bait. Stingrays are caught seasonally from October to January. The Cooktown salmon and blue- tailed mullet are major seasonal fish resources. All coastal areas and rivers are fished, especially the beach and rocks adjacent to the community, and the Lockhart and Claudie Rivers. Fishing techniques include spearing, netting, line fishing and hand-spears. A summary of the ethnobiological information is provided, concentrating on a comparison with Hopevale.

INVERTEBRATES: Invertebrates are currently used for food, fishing bait and in material culture activities. A summary of the ethnobiological information is provided, concentrating on a comparison with Hopevale.

In considering the transfer of marine resource knowledge between generations, it is primarily information that is relevant to the prevailing circumstances that is passed on. Information which is superfluous to the current activities remains stored in the minds of older people. Unless a situation arises where that particular knowledge is required, then it may be lost when that generation dies. At the same time, however, new knowledge is continually being accumulated from various sources, and often assessed in terms of the traditional information.

Aborigines perceive the marine environment and its resources in more than merely economic terms; they are an integral part of their cultural system. There are, however, dangers in generalisations. Some hunting and fishing may be a recreational activity and a chance to enjoy particular foods. This is discussed in relation to dugong hunting.

1.9 Management Issues

ABORIGINES AND THE GBRMP: THE NEED FOR PUBLIC EDUCATION: There are basically three areas which still appear to require elaboration in these communities: (1) the need for the Park; (2) its purposes and uses; and (3) its relevance to the communities.

The problem of trawlers working within areas closed to trawling in the GBRMP adjacent to Aboriginal communities has caused resentment at Hopevale. The enforcement of dugong permits and the non-enforcement of trawling restrictions is seen as a double standard.

DUGONG HUNTING: THE NEED FOR MANAGEMENT: The major issues concerning legislation, conservation and politics of dugong hunting are discussed in relation to management.

The history of dugong management at Hopevale is summarised, and the major problems and their causes are discussed. The combined dugong harvest by Aboriginal hunters from Hopevale and Lockhart is substantially less than the estimated sustainable yield, based on recent population estimates. Therefore the present harvest level is unlikely to be damaging the dugong population in the eastern Cape York Peninsula region.

TURTLE HUNTING: A POTENTIAL PROBLEM: With restrictions applied to dugong hunting, there is the potential for greater utilisation of green turtles as an alternative. An outline is given of the biological knowledge necessary for management which is still lacking. Turtle management needs to be planned on a long-term basis. An added complication is that the green turtles of the GBR breeding and feeding grounds are a shared international resource. Should management of Aboriginal turtle hunting be considered, substantial work will be required in public education and extension programmes. The potential for culturally and socially orientated management problems is considerable.

MANAGEMENT OF OTHER MARINE RESOURCES: Other fishing activities occur in estuaries and intertidal zones not under GBRMPA jurisdiction, but may be covered by the Queensland Government's complementary marine park zoning. One possible problem at Hopevale may be the extensive use of nets.

FURTHER INVESTIGATIONS: THE NEED FOR A STRATEGY: It was evident from the problems I encountered at Hopevale (see Section 3.6.3), which were not repeated at Lockhart River, that a strategy needs to be developed to avoid similar situations from occurring again. I would suggest the following be considered when preparing proposals for management or education/extension programmes in Aboriginal communities:

- The GBRMPA should undertake to support an anthropological study, or studies, in all the Aboriginal communities adjacent to the Marine Park, aimed primarily at determining how the Aboriginal communities perceive the GBRMP; and to provide guidelines on how best the GBRMPA/QNPWS can present their aims and aspirations to those communities, so as to prevent confrontationist situations from developing.

- If Coastwatch flights are to be used for monitoring the GBRMP, including dugong hunting permit conditions, then Coastwatch observers should be encouraged to record the race of dinghy and runabout occupants in the areas adjacent to Aboriginal Trust Areas and hunting/fishing areas.

- That future ethnobiological studies in Aboriginal communities consider adopting a research strategy concentrating on specific topics in a geographically-broad range of communities.

- That a copy of this report be sent to the Hopevale and Lockhart River Councils for review as soon as possible.